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Building Bridges, Blurring Boundaries: The Milwaukee School in Environment-Behavior Studies

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Foreword by

Jerry Weisman

Dedicated to the good and inspiring memories
of our friend and colleague,
Jeff Lackney

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Foreword

*It is good that one's deeds should exceed
one's understanding, for the deeds will inspire one to
learn the meaning of what one has been doing.*
—Rabbi Elazar ben Azariah

It was my good fortune to come to Milwaukee in the autumn of 1983 after eight years of teaching at two universities—one quite large, in a middle Atlantic state, the other smaller and very much of the Great Plains. Let's discreetly call them Universities X and Y. While the programs at X and Y differed in many ways, both began with a commitment to an interdisciplinary environmental design curriculum staffed by an interdisciplinary faculty. Thus I taught with colleagues whose backgrounds were in psychology and planning, architecture and sociology, landscape, interior and graphic design. Despite their earnest intentions neither program succeeded or survived. The reasons for their shared fate were undoubtedly complex and multiple: decline in the economy, diminished societal interest in the 1980's in innovative interdisciplinary programs, conflicting claims on the same academic territory. In short, I came to Milwaukee with some concern that the School of Architecture & Urban Planning, with its new Ph.D. program focused on environment-behavior studies (EBS), might be at risk. I surely didn't want UWM to be my University Z.

I needn't have worried. Upon arrival I found myself almost immediately immersed in an active and congenial academic environment. SARUP was at least as multidisciplinary as the programs at Universities X and Y. Indeed many faculty members were of what one might call "mixed lineage"— anthropology and architecture, architecture and psychology, psychology and geography. Our focus, however, wasn't on discipline but on the problem at hand, and the multiple perspectives from which it might be approached. With the benefit of hindsight I can now see that my colleagues at neither X nor Y never coalesced into an effective working group. We each employed different conceptual frameworks, different vocabularies, and fundamentally different views of our world. Translation, let alone integration of these multiple worldviews, was clearly no simple task. At University X, I was viewed as the social scientist among the designers and at University as the designer among the social scientists. At UWM it has never been an issue. In short, Milwaukee has not been University Z.

Now, almost three decades later, what lessons have been learned? To confront the Rabbi's question, is there meaning to what we have been doing? In just a few pages a dozen colleagues, faculty and graduates will have more to say about their life and times in Milwaukee. For the moment let me quickly sketch out some of what I've done and hopefully learned:

Problems and personalities. The mix of backgrounds and personalities of the individuals who constitute any program or project in a fundamentally cross-disciplinary field such as EBS matters more than we might think. Allegiance should be to the collective program/project, not just one's own field.

The Avis paradigm. Milwaukee is a rich and diverse city and UW-Milwaukee is an excellent urban university. And while it doesn't have the academic resources of a Madison or an Ann Arbor, there is a long history of town and gown cooperation. Thus the Milwaukee School "tries harder" by providing students unique opportunities to engage with faculty in research, consulting and service projects, and unparalleled access to city agencies and foundations.

Under/over staffing. Gump and Barker had it right. Size does matter and under and over staffing are real. When students and faculty teach and conduct research with a range of faculty, type casting becomes more difficult.

Three degrees of separation? Who could imagine that lunch with a former UW-Milwaukee Visiting Scholar in the delightful medieval university town of Tubing would provide the opportunity to meet a German ecological psychologist who was able to provide a link to an American ecological psychologist—then teaching in Kazakhstan—who could provide an introduction to the concepts of pragmatic psychology, which have contributed significantly to a problem oriented approach to EBS. In short, location has less and less impact on building a network of colleagues.

Design-based evidence. It is fascinating to watch the current courtship between EBS and EBD (evidence-based design). Can these two paradigms compliment one another? Are the strictures of random assignment and double blind trials compatible with problem based case studies focused on what does, and what doesn't work?

So, we are shaped by our times, and our location as well. While the beginnings of EBS were in large part on the coasts (East and West) it seems fitting that a good bit of its development took place on the "third coast" at UWM.

MIlwaukee, August 2012   Gerald Weisman

Introduction:

The Milwaukee School in Environment-Behavior Studies

Brian Schermer, Sherry Ahrentzen, Carole Després

For over a quarter-century, the PhD Program in Architecture has been the cornerstone of the University of Wisconsin-Milwaukee's reputation for leadership in architectural research and research-based design education. This legacy is founded in large measure upon the program's pioneering efforts in the area of environment-behavior studies, or EBS.

As an approach to scholarship, EBS examines the relationships between people and place with the intention of improving the quality of physical settings in order to enhance people's lives. Historically rooted in the social sciences, but now broadly incorporating other academic traditions, the strength of EBS lies in its focus on specific populations and place types, and by shedding light on environmental design implications for human needs and activities. EBS includes the study of both natural and built settings, and covers a broad range of scales and issues: from what makes environments physically accessible and cognitively congenial for individuals, to the connections between organizational and architectural change, to the macro-scale of social and cultural aspects of urban form and human settlement.

This book celebrates the nature, history, and ongoing contributions of UW-Milwaukee's PhD Program in Architecture. This includes the scholarly community that its associated faculty and over 50 graduates have developed and maintained over the years through lively exchanges across disciplines and international borders. It also celebrates the

values they share—namely an understanding of architecture and urban settings as the locus of human endeavor and the conviction that research and design application can enhance the quality of people's lives. Finally, it reinforces the relevance of environment-behavior studies as an approach to scholarship and application at a time when the complexity of societal issues (aging, environmental justice, sustainable development, globalization, and so on) demand not only bridging between research and practice but also blurring of worn out conceptual boundaries that hinder fuller understanding.

What is the Milwaukee School in EBS?

The Milwaukee School in environment-behavior studies represents the collective interests, ideas and accomplishments of the alumni, faculty, and current students who have been formally associated with the PhD Program in Architecture, as well as others who have been influenced by it. Because of its position within the School of Architecture and Urban Planning, the Milwaukee School couples questions about how people experience and act upon their environments with inquiry about the context, processes, and consequences of environmental change.

The moniker "Milwaukee School" may sound like a stretch; however, no claim is being made here to equate it with, say, the Chicago School of sociology. But, after nearly 30 years and over 50 graduates, it is only fitting to call it something. It is accurate to say that the Milwaukee School represents a small but diverse band of designers, social scientists, educators, social historians, reflective practitioners, social activists, environmentalists, public administrators, and hybrids thereof. Though they identify with a broad range of disciplines and professional orientations, the Milwaukee School's alumni and faculty share in a common knowledge base that continues to influence their research, teaching, and practice. Virtually all self-identify themselves with EBS and define their work as contributing to it.

Situated within a professional school of architecture, the Milwaukee School in EBS is both curiosity-driven and action-oriented. It is these twin imperatives—to both understand the world and to influence it through design, planning, and policy—that shape the Milwaukee way of thinking. By setting its sights on both understanding and action, it embraces intellectual inclusiveness, multi-disciplinary collaboration, use-inspired research, and social and environmental improvement as foundational

imperatives. The challenge that the Milwaukee School has thus positioned for itself is no less than to leverage understanding of the material, social and experiential worlds in order to create more humane, socially just, culturally responsive, environmentally sustainable, and beautifully crafted settings.

This introduction describes the distinctive characteristics of the PhD program; and how the Milwaukee approach permeates not only the discipline and practice of architecture but of other disciplines and professional initiatives as well. Following this introduction is a collection of original, never before published chapters from twelve of the graduates. These chapters portray the distinctive nature, scope, diversity and multi-disciplinary orientation of the Milwaukee School. Following these chapters is a genealogy of the Milwaukee School, coupled with short intellectual biographies from many of the alumni.

The Graduates

Between the commencement of the program in 1982 and 2009, the year of its 51st graduate, the Program attracted students from around world, including from the nations of Bangladesh, Brazil, Bulgaria, Canada, China, Egypt, Indonesia, Iran, Israel, Japan, Kuwait, India, Nepal, South Korea, South Africa, Sri Lanka, Taiwan, Turkey, and the United States. Its graduates have a strong track record of employment, landing top positions in academia as well as industry and government. The vast majority of UWM School graduates have been appointed to university positions in North America, the Middle East, East Asia, and Europe, while others contribute to EBS through their practice and consulting work. From their various positions and locales around the world, alumni from the program continue to develop and strengthen new avenues of research as well as disseminate critical knowledge to broad academic and professional constituencies.

The impact of the alumni of the Milwaukee School is readily seen in the breadth and depth of their teaching, practice, and publications. In addition to highlighting the human side of design, Milwaukee School graduates also bring the physical environment to the forefront of other disciplines for which the physical environment is all too often taken for granted, such as gerontology, nursing, occupational and physical therapy, women's studies, education, organizational studies, as well as psychology, sociology, and cultural studies.

Most of the Milwaukee School graduates who have moved on to their own academic positions teach in fields related to environmental design, and the majority of these are in architectural education, with the others teaching in landscape architecture, or interior design. Most of those not teaching directly in departments of design are involved in fields such as gerontology and occupational therapy, or environmental psychology and socio-cultural studies. Regardless of discipline, virtually all emphasize the importance of understanding people in places. Quite a few teach their own EBS courses, either to design students or for more general student audiences. These courses include varied topics that are informed by an environment-behavior perspective: housing, environmental controls, research methods, and specialized seminars. Graduates teach at all levels: undergraduate, Master's and PhD. Of particular note are the many design studios that are taught from an EBS perspective. A few examples include: Al-Jassar's studio at Kuwait University which addresses historic preservation from a social and cultural perspective, McCoy's studio at Washington State University on rural communities, Bose's landscape architecture studio on community design at Penn State, Gabr's studios at Cairo University that focus on architecture and human behavior, and Fernando's evidence-based interior design studio at UW-Stevens Point.

While the majority of graduates have joined the ranks of the academy, other graduates are making their mark in practice or government. These include: Calkins, principal at IDEAS, which specializes in research and consulting for environments and aging; O'Neill, who directs research on the workplace for Knoll; Bunker-Hellmich, who conducts health care research at the architecture firm Ellerbe Becket (an AECOM company); Murray, who works at the Wisconsin Department of Licensing and Registration; Geboy, an independent consultant on health care and aging; and Kiyota, whose nonprofit *Ibasho* provides consulting on global aging.

The intellectual yield of the graduates, in the form of publications, is also impressive. Beyond the many journal articles, book chapters, and edited volumes are several notable books including: Calkins's *Creating Successful Dementia Care Settings*; Chaudury's *Remembering Home: Rediscovering the Self in Dementia*; Childress's *The House of Ennui: The 20th Century Spends a Month with the 21st* and *Landscapes of Betrayal, Landscapes of Joy*; Dearborn and Stallmeyer's *Inconvenient Heritage: Erasure and Global Tourism in Luang Prabang*; Fortin, Després & Vachon, *(2002) La banlieue revisitée* and Fortin, Després & Vachon *(2011) La banlieue s'étale;* Diaz-Moore, Geboy and Weisman's *Designing a Better Day: Guidelines for Adult and Dementia Day Services Centers*; Downing's *Remembrance and the Design of Place*; Elsheshtawy's

Dubai: Behind an Urban Spectacle; Nair, Fielding and Lackney's *The Language of School Design*; O'Neill's *Measuring Workplace Performance* and *Ergonomic Design for Organizational Effectiveness*; and Ramasubramian's *Geographic Information Science and Public Participation*.

The Program

From its inception, UWM's PhD Program in Architecture has held a unique sensibility about what constitutes scholarship in architecture and how a doctoral program within a school of architecture and urban planning ought to operate. Most student cohorts enjoy the experience of learning among like-minded individuals who share a common knowledge base rather than adopting an individualized course of study. Students explore connections between the physical environment and the mind, the body, organizations, communities, and cultures. They utilize the broadest possible spectrum of methodologies (sometimes purposefully oscillating among two or more), from positivism and pragmatism to phenomenology and feminist critical theory.

Thinking as a collectivity of individual researchers, the program allows no singular theoretical dogma to dominate, although clearly some faculty hold to specific and singular research orientations and epistemologies. Being a follower is neither an option nor advocated. EBS has been seen as an evolving area of study, and students are expected to define for themselves what it means to conduct scholarship within it.

The first two years of the program are structured to expose students to a wide range of research epistemologies and methodologies. The theories, epistemologies, and methodologies constitute the "devices" in the toolbox of research inquiry. This toolbox has evolved and multiplied as disciplines and fields in social inquiry, social sciences, design research, and critical inquiry likewise broadened their spectrum of viable approaches in the 1990s and 2000s. In general terms, modes of inquiry included empirical and archival approaches such as ethnography, interviews and surveys, quasi-experiments, case studies, morphological analysis, observational approaches such as behavioral mapping or participant observation, historical analysis, and others. But it has become increasingly rare to witness a study that uses a singular technique. Historical analysis is coupled with interviews and environmental quality analysis; morphological analysis is augmented with surveys and interviews; behavioral mapping supplements interviews and visual analysis; and quasi-experimental designs combine with action research.

Importantly, the exposure to this potent combination of shared knowledge base, eclectic toolbox of inquiry, and integrative research design is situated within an institution dedicated to training design and planning professionals. The "so what?" question posed to a student's (or faculty's) research targets the eventual social or environmental application of the results. The problem-solving nature of architecture historically lends itself to application. What is distinctive about the Milwaukee School is the extent that a broad scope of research application—public policy, standards for professional practice, organizational intervention, design guidelines for a building type, or an actual design informed by research—are open to inquiry.

The compelling research that has emerged from the Milwaukee School clearly reflects the emphasis on integration, shared knowledge, and eventual application. Examination of the topics addressed by our students over the history of the program reveals a distinct evolution from a foundational phase that established and elaborated key concepts in EBS, to more integrative, embedded, and applied approaches within the discipline architecture. The graduates during the first ten years were more likely to focus on specific environment-behavior concepts such as legibility and wayfinding (O'Neill, 1989), environmental control (Paciuk, 1989), and environmental meaning (Downing, 1989). Over time, dissertations became more integrative in their orientation, encompassing and combining perspectives and research approaches to address a wide range of substantive areas within the discipline and practice of architecture. These include: thermal comfort in historic Cairene palaces (Elzyadi, 2001); urban cognition and historic preservation in a world heritage city (Silva, 2004); immigrant choice in housing and real estate strategies (Dearborn, 2004); and organizational and architectural change in an adult day service center (Geboy, 2005). This trend continues with our most recent graduates who pursue equally integrative avenues of research: design of nursing work and nurse stations (Keddy, 2006); culture and aging in relation to thermal comfort (Shin, 2007); and concomitant changes in architecture and institutional culture in long-term care settings (Chapin, 2008). As graduates continue to mature in their positions and pursuits, we anticipate more of this flourishing, resulting in research and ideas that contribute to the Milwaukee School.

Bridging and Blurring

Over the course of compiling and editing this monograph, the editors held numerous conversations about what its title should be. The "building bridges, blurring boundaries" theme arose early, and it held its position throughout the process. Here is why. We see the Milwaukee School as exemplifying two key values: to understand the world and to influence it for the better.

Understanding the world, with an emphasis on people and place, especially while situated within The School of Architecture and Urban Planning, requires blurring the boundaries among the academic traditions associated with the physical sciences, social sciences, and arts and humanities. Within the discipline of architecture, the Vitruvian triad—commodity, firmness, and delight—has had a long shelf life. User needs are typically relegated under commodity as a functional concern—issues that are best dealt with from a social science perspective. But, the Milwaukee School does not channel Vitruvius. Indeed, the approach is characterized by an integrative and holistic approach that challenges the tired conceptual firewalls that balkanize much architectural research. If there is a triad associated with the Milwaukee School, it is one that seamlessly integrates the three different domains that constitute human environments: the material, the socio-cultural, and the experiential.

Influencing the world, on the other hand, requires building bridges within the design disciplines and professions as well as establishing discourse with other fields. The Milwaukee School seeks to directly influence the design of places through better understanding of everyday human experience, program, policy and environmental performance. Thus, we see the research about the human experience of place generated through the Milwaukee School directly utilized in the design of specific settings for older people, schools, housing, healthcare, the workplace, and so on. Other research helps to broadly shape the design of places by addressing such issues as environmental sustainability, cultural heritage preservation, differences in age, gender, and ethnic identity, as well as design education and design theory.

The dual pursuits of understanding and influencing the relationship between people and place are reflected in the twelve chapters by Milwaukee School alumni assembled for this monograph.

The first contribution, by Keith Diaz Moore, helps to frame the chapters for the rest of the monograph. Diaz Moore describes one set of theoretical underpinnings that underlie the Milwaukee School and reflects on the resulting patterns of inquiry and action that blur the boundaries between research and application and bridge the gulf between the discipline and practice of architecture. These patterns include the adoption of an epistemology based on pragmatism, embracing the consensual realm of understanding (based on program, place, and patterns), broadening the scope of inquiry beyond the individual as unit of analysis to one that includes organization and culture, and acting upon the world as a means to understand it.

The search for a proper paradigm for understanding environment-behavior relationships is also the subject of the next three contributions. Herb Childress questions whether over-reliance on analytical thinking inadvertently diminishes our capacity for care. By example, he cites the architectural practice of South Mountain Company on Martha's Vineyard as well as his own research with teens. He argues for an epistemology based on relational knowledge, one that understands places and the people through dialogue and co-narration, and above all, values the bonds that form between researcher and researched, designer and client, and place and inhabitant.

In the next chapter, Susana Alves argues for a more situated understanding of the connections between people and outdoor space. A situated approach to understanding human-environment relationships highlights people's strategies and actions in the conduct of the "small doings" of their everyday lives. The "Inclusive Design for Getting Outdoors" research project, of which Alves has been a part, illustrates the strategies that older people use in appropriating the affordances provided in well-designed outdoor settings.

Karen Keddy argues for a feminist perspective for her exploration of the bodily experience of nursing work and the temporal, spatial, and relational aspects of hospital settings. This approach, along with her innovative experiential collage method, focuses attention on nursing actions, as opposed to a more conventional focus on nurses' "needs." The findings reveal activities that would otherwise remain hidden from the researcher's view, and lends support to the idea of providing spaces for nurses to attend to their own recovery. This chapter also provides a segue for the next two chapters which consider the role of stress in other work settings.

Gowri Betrabet's study of teachers considers the notoriously high stress and high turnover rates among schoolteachers. She employs a dramaturgical perspective to speculate about how the school setting might better serve their psycho-social needs. Based on interviews and analysis of school floor plans, she finds that teachers' stress-inducing experiences occur in "frontstage" classrooms, hallways and instructional areas. She finds ample evidence to warrant further investigation about the value of incorporating "backstage" spaces and corresponding organizational and social support as a means for teachers to restore balance.

Stress in the workplace is also the subject of Michael O'Neill's chapter, which reflects on the many studies he has conducted on ways environmental control can be exercised at the level of the individual knowledge worker, the work group, and the organization. O'Neill sees environmental control as an absolute necessity—the silver bullet, as it were—for those with high stress, high strain jobs. Moreover, his review of his own body of research over the last 15 years demonstrates how workplaces designed to enhance choice and control not only reduce stress, but also increase efficiency and boost worker productivity.

The next four chapters shift the focus from workplace to broader considerations about the role environments play in the defining society and culture. Kris Day addresses the topic of public art and its potential for promoting social and racial equity. While focusing on the Civil Rights Memorial in Montgomery, Alabama designed by the artist Maya Lin, Day analyzes how public art can, through messaging, symbolism, and aesthetics, challenge existing power relations, educate, and promote meaningful discourse.

Jung-Hye Shin examines the current interest in South Korea among designers, builders and developers about the significance of authentically Korean architecture. She examines discourse about the *hanok*, or traditional courtyard house, as well as preservation of the Bukchon neighborhood in Seoul, where traditional houses from the Japanese colonial period (1910-1945) co-exist amidst the high-rises. This debate, which touches on cultural tradition, national identity, well-being, and ecology, is also noteworthy for the way it plays out against the backdrop of rapid economic expansion and globalization.

The discussion of linkages between development and cultural change and transformation continues with Lynne Dearborn's research in rural Hmong villages in Thailand. Applying Amos Rapoport's notions of cultural core and systems of activities and settings,

she suggests that while large-scale development serves the policy ends of the Thai government, it also marginalizes minority groups. She calls for a careful examination of the discourse surrounding the wholesale importation of western development models, and for new development models that are supportive of core cultural characteristics and local control.

The connection between local inhabitants and the preservation of world heritage cities is the subject of Kapila Silva's chapter. Drawing on the work of Kevin Lynch, he advances the concept of "imageable heritage," as an antidote to the more traditional monument-centric approaches that ignore the symbolic dimensions that connect built heritage to their local communities. His research directly examines both the theoretical base of the preservation field and holds important implications for the policies of the United Nations Education, Scientific, and Cultural Organization (UNESCO) and the preservation professionals associated with it.

The remaining two chapters bring the chapters back full circle to the role of EBS research in shaping both academic research and professional practice. In the penultimate example, Barbara Cooper recounts the collaborative process that she and her colleagues undertook to bring EBS literature into the field of occupational therapy, culminating in the Person-Environment-Occupation model (PEO), which has become widely accepted and advanced within the academy and in bringing an environmental perspective into treatment protocols. Working with like-minded researchers, we see how ideas from different fields are collected, analyzed, synthesized into a new framework, and finally tested and critiqued by others.

In the concluding chapter, Carole Després reflects on how her multidisciplinary experiences at UWM led to the establishment of the Interdisciplinary Research Group on Suburbs at Université Laval in Québec City, Canada. The group's sustained focus has yielded a richer understanding of the suburbs as phenomenon and the critical challenges that they present: aging suburbs, urban sprawl, and the necessity of sustainable development. The group evolved from producing multidisciplinary and interdisciplinary research, architectural and urban design schemes, and contractual applied research, to a now transdisciplinary program of research and action. The result is improved collaboration among scientists, professionals and policy decision-makers, as well as better training of urban planners, architects and social scientists to work together and become agents of change. As former head of graduate programs in architectural sciences and urban design at Laval, she contributed to the restructuring

of the professional programs in architecture and urban design, making the case that both are "undisciplined" disciplines predisposed to interdisciplinary collaboration.

These chapters, though just a snapshot in time of the research agendas of a dozen alumni, attest to the commitment, vigor, and persistence with which Milwaukee School alumni seek to understand the environment-behavior relationships and to create—whether through basic research, policy, or design—more humane, productive, and culturally responsive places.

Members of the Milwaukee School rightfully take pride in their advocacy of social and environmental change. But we would be remiss if we failed to allow a last word on the subject from our distinguished colleague, teacher, and friend, Professor Amos Rapoport. After review of a set of abstracts compiled for this monograph, he wrote:

> *Most contributions emphasize changing the world in different ways. But to change the world in predictable ways (and design is prediction to be tested) one must first understand the world. That demands that EBS not be seen as an ad hoc aid to environmental design, but as a new scientific discipline, which develops explanatory theory, becomes cumulative and can turn environmental design into a science based profession.*

Only time will tell how EBS will evolve as an explanatory, interpretive, emancipatory, or action science, or combination thereof. But, the legacy of the Milwaukee School, as exemplified by the more than 50 dissertations to date, the research agendas and accomplishments its faculty and graduates, and the chapters assembled for this monograph attests that there are many boundaries blurred and bridges to be built, as well as much intellectual terrain still waiting to be explored.

Chapters

From Environment and Behavior to Place and Experience
Four Contributions for Change

Keith Diaz Moore

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.
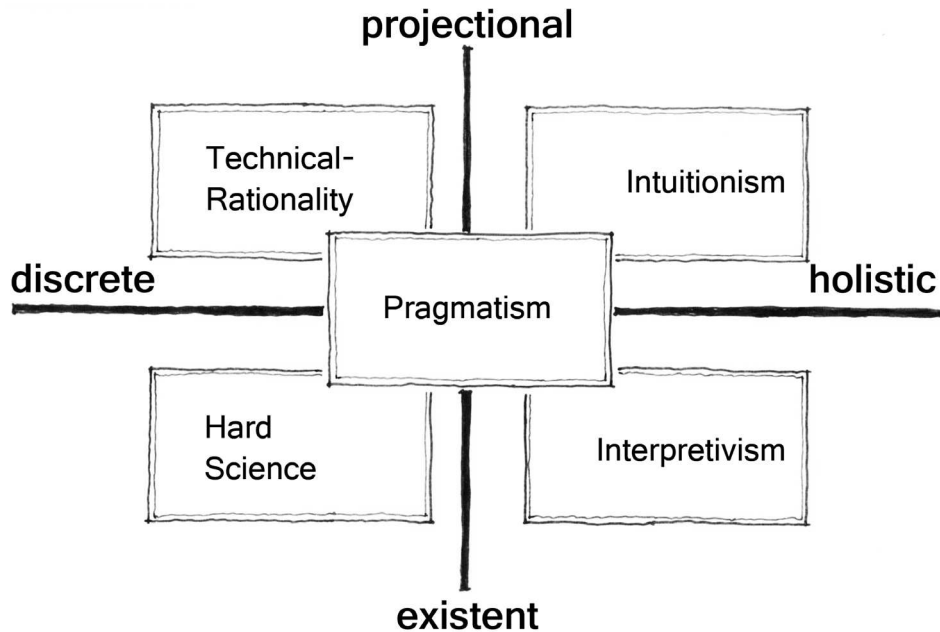
Figure 1: Conceptual map of the five worldviews in relation to the nature of the problem [Adapted from Diaz Moore, K. & Geboy, L. (2010). The question of evidence: Current worldviews in environmental design research and practice. Architectural Research Quarterly, 14 (2), p. 109].

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 emvironment…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
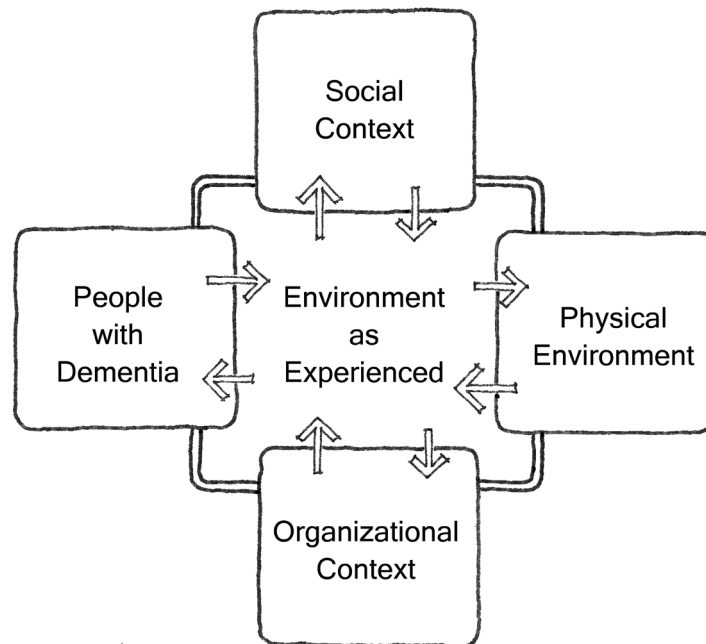
Figure 2: Integrative Model of Place [Adapted from Figure 8.1 in Calkins, M. & Weisman, G.D. (1999). Models for environmental assessment. In B. Schwarz & R. Brent (Eds.), *Aging, Autonomy and Architecture: Advances in Assisted Living*. Baltimore, MD: Johns Hopkins University Press].

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

Social Context
Individual
Social
Organizational
Institutional

Experiential
Quality

Activity
Type
Ritual or Routine
Temporal, Procedural
Symbolic Characteristics
Social Purpose

Physical
Environment
Spatial Organization
Communication Systems
Semifixed Feature Amenities
Ambient Properties
Architectonic Details

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 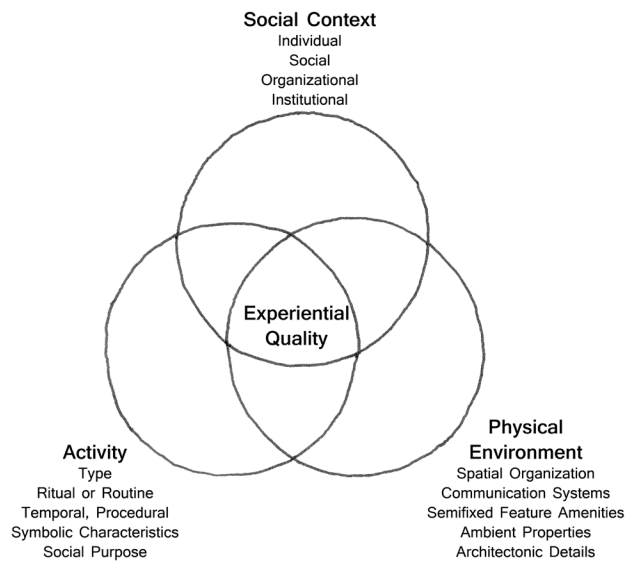as having five levels of competence (novice, advanced beginner, proficient, expert, and world class). In adopting the ecological perspective, the organizational environment is viewed as an exosystem (c.f. Bronfenbrenner, 1976), hence environmental press at the organizational level of analysis is conceptualized 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.
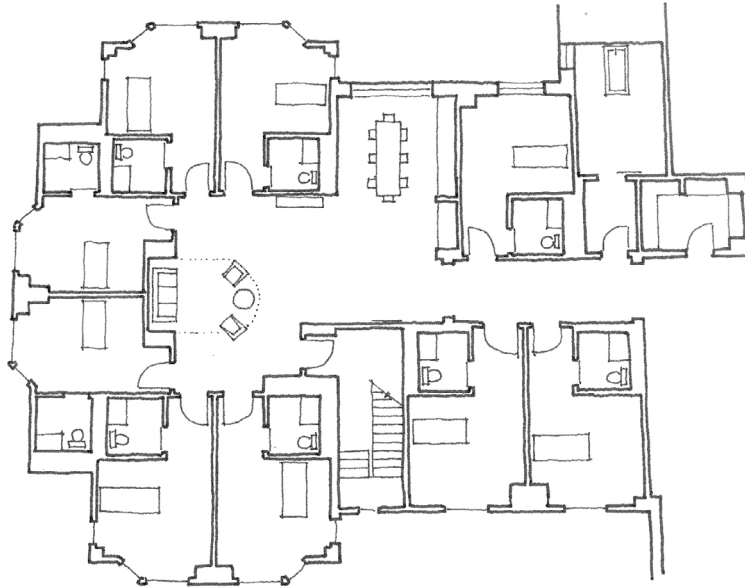

Figure 4: Floor Plan of one cluster in the Madlyn and Leonard Abramson Center for Jewish Life, Horsham, PA.
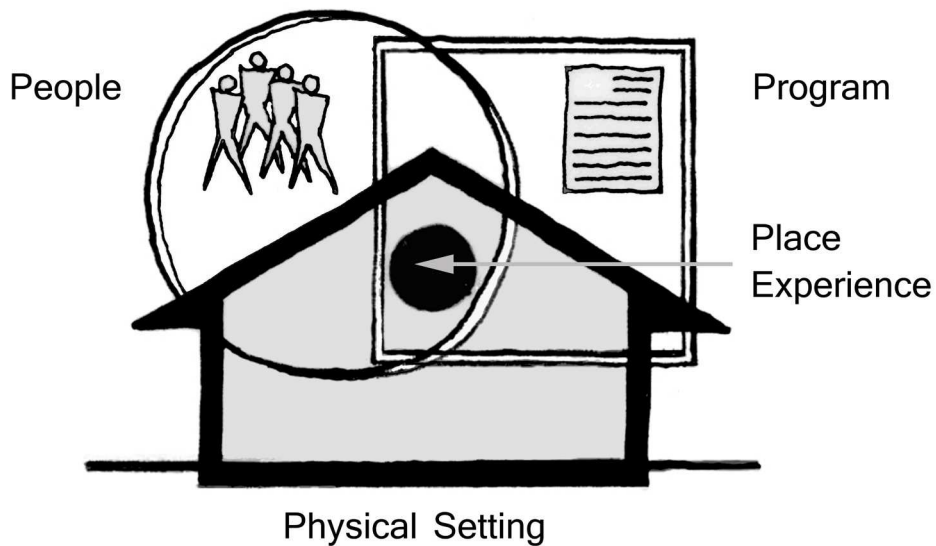

Figure 5: Model of Place [Adapted from Figure 4.4 in Diaz Moore, K., Geboy, L.D. & Weisman, G.D. (2006). *Designing a better day: Guidelines for adult and dementia day services centers.* Baltimore, MD: Johns Hopkins University Press].

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.

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Full Encounter

Some Thoughts on Wholeness and Dialogue

Herb Childress

Even as a melody is not composed of tones, nor a verse of words, nor a statue of lines – one must pull and tear to turn a unity into a multiplicity – so it is with the human being to whom I say You. I can abstract from him the color of his hair or the color of his speech or the color of his graciousness; I have to do this again and again, but immediately he is no longer You. (Buber, 1923, p.59)

In Western education, we gradually learn to think analytically, to resolve complex things into their constituent parts. But those "parts" depend entirely on one's definition of a phenomenon; like a hungry dog at a picnic, we see only those things we wish to consume. It is true that a building is made up of physical materials, which can be listed and specified. But a building is also made of money and politics; of culture and history; of relationships and business practices; of fears and dreams. No one can say that their mode of analysis is the "correct" one; they are all simultaneously correct, and simultaneously limiting. We choose one or a few to discuss based on our own interests, and the interests of those to whom we wish to speak. The thing is commodified, converted to the currency of our particular market.

And this is not only true of objects; it is equally true of circumstances and people. Each of us is part of a demographic, and a compilation of physical behaviors and of expressed attitudes. But we are also a thick compendium of history, the accumulated

record of lives. In order to name someone a student, or a woman of color, or an interior designer, we must decide on a categorization system – and eliminate "extraneous" information.

What if we were to believe that nothing about our lives was extraneous? What if we were to believe that we have hyper-developed our analytical capabilities, and have reduced our capacity for care?

Places as Indivisible Wholes

The 1961 movie *The Hustler* is typically remembered as a story of hubris and loss, of failure and rebirth, and of a very handsome young Paul Newman. But one of the elements that gives the film its power is the primary setting, a dark poolroom in New York. Ames Billiards is not merely the neutral stage set before which a drama is played; it has its own crucial role to play in the story. Were the story set in the poolrooms of the 21st century, hidden in strip malls under decaying ceiling tiles and buzzing fluorescent lamps, Eddie Felson would be a different kind of character—less literate, more brash, resentful of the Filipinos and Latinos who were squeezing him out both in pool and in the labor market—and *The Hustler* would be a different tale. But at least in part because of the poolroom's physicality, the film speaks of a former age of grandeur, of great skills and expensive tools being slowly rendered obsolete, and of the empire of Minnesota Fats, who rules that grand, decaying palace like Louis XIV.

Walter Tevis' original novel from 1959 (calling the poolroom "Benningtons" and setting it in Chicago) takes its opening chapter to tell us the story of the room's emergence from quiet morning to sharp-focused evening:

> *A poolroom in the morning is a strange place. It has stages; a daily metamorphosis, a shedding of patterned skins. Now, at 9 A.M., it could have been a large church, still, sun coming through stained windows, wrapped into itself, the great tables' timeless and massive mahogany, their green cloths discreetly hidden by gray oilcloth covers. The fat brass spittoons were lined along both walls between the tall chairs with seats of honest and enduring leather, rump-polished to an antique gloss, and, above all, the high, arched ceiling with its four great chandeliers and its many-paned skylight—for this was the top floor of*

an ancient and venerable building which, squat and ugly, sat in eight-story insignificance in downtown Chicago. The huge room, with the viewers' chairs, high-backed, grouped reverently around each of the twenty-two tables, could have been a sanctuary, a shabby cathedral.

But later, when the rack boys and the cashier came in, when the overhead fans were turned on and when Gordon, the manager, would play music on his radio, then the room would adopt the quality that is peculiar to the daytime life of those places which are only genuinely alive at night—the mid-morning quality of night clubs, of bars, and of poolrooms everywhere—the big, nearly empty room echoing the shuffling of a few feet, the occasional clinking of glass or of metal, the sounds of brooms, of wet rags, of pieces of furniture being moved around, and the half-real music that comes from radios. And, above all, the sense of the place's not yet being alive, yet having now within it the first beginnings of the evening resurrection.

And then, in the afternoon, when the players began to come in in earnest, and the tobacco smoke and the sounds of hard, glossy balls hitting one another and the squeaking sound of chalk squares pressed against hard leather cue tips would begin, then would start the final stages of the metamorphosis ascending to the full only when, late at night, the casual players and the drunks would all be gone, leaving only the intent men and the furtive, who watched and bet, while certain others—a small, assorted coterie of men, both drably and brightly dressed, who all knew one another but seldom spoke—played quiet games of intense and brilliant pool on the tables in the back of the room. At such times this poolroom, Bennington's, would be alive in a distinct way. (Tevis, 1959)

"...this poolroom...would be alive in a distinct way." Indeed so, as all rooms, all places, are alive in a distinct way if we allow ourselves to slowly absorb them, to have them whole. "Bennington's" is to "poolroom" what "home" is to "house:" the specific case, the precise image, the material repository of habit and ritual. And it is exactly those stories that make places—and research about places—matter so deeply to us. The stories themselves deserve focus in our creative work, and in our scholarly attention.

Looking, Writing, and Designing as Dialogue

The norms of most professions stem from a reliance on analytical and deductive logic: setting premises prior to entering the descriptive space, a heightened precision of terms (not merely "women," for instance, but "single mothers of pre-school children"), arriving at the jobsite with a hypothesis awaiting resolution. We know that we cannot fully render an experience, so we pre-define those elements of a phenomenon to those that we find most important (itself a deeply subjective positioning, having to do with one's own values, life history, and current/desired identity within the broad array of professional roles and traditions). We look specifically at one isolated set of relationships between closely defined elements – relationships between, say, housing population density and "neighboring behavior" among women homemakers, or between noise and the stress experienced by elementary-school children. This deductive approach is antithetical to storymaking; it results in what writers often call "flat characters" who portray only a limited palette of action and thought. It is that approach that allows a doctor to see us as a presentation of symptoms, a banker to see us as a balance or a risk, a teacher to see us as a grade or an element of classroom management; and thus to miss a broader range of possible ways of working.

Deduction – beginning from theory and moving toward the specific – can often result in multiple participants who speak past one another, not sharing interests or even vocabulary with others who are equally involved in the phenomenon at hand. Architect and teacher Bill Hubbard Jr. claims that a building is the site of multiple discourses, and that disagreements about whether a building or a place is "good" are most often disagreements about which of these unstated, perhaps even covert discourses takes primacy. He names three common discourses: the designer's discourse about *order*, the investor's discourse about *results*, and a broader public array of discourses about *values* (Hubbard, 1995). These divergent discourses, and others, arise in every streetscape, as different of us look at the places around us and apply our own concepts and criteria to form an unspoken, subconscious evaluation of "goodness." And they are the products of deduction, of narrowly defining "what matters" about places (order and geometry, productivity and economic return, or reassurance and cultural familiarity) in ways that reduce their complexity and potential.

Sometimes, those tacit discourses and evaluations are made overt. In a study of how designers and laypeople rated major 20th century buildings, the researchers found that not only did the two groups rank the buildings differently, they also used

incompatible reasoning sets to achieve their rankings (Groat & Canter, 1979). The architects discussed the buildings in formal and compositional terms (employing Hubbard's discourse of *order*); the accountants framed their responses in how closely the buildings' images matched their cultural expectation of use types ("an attractive bank" or "a typical government building," comments that reflect Hubbard's discourse of *values*).

An inductive project leads to a different kind of looking. The inductive practitioner walks into a circumstance that seems likely to be fertile (for instance, if one wants to study how physical spaces influence the relationships between teenagers and adults, a high school seems likely to be fertile), and then suspends judgment and tries as fully as possible to just sit openly. One cannot know in advance which elements of a situation will come to the fore, but certain elements will rise to attention and occur in what will turn out to be knowable patterns. Our questions become more sophisticated simply by watching, thinking, and discussing what we see with those around us. In my case, elements of social class in teen (and teen-adult) spatial life became more central than I might have expected. Had I come in wanting to know about the difference in social gathering between teens with and without cars, I could certainly have learned that... and would have missed almost everything else.

Israeli philosopher Z.D. Gurevitch argues that the ethics of dialogue entail three responsibilities: the responsibility to speak, the responsibility to listen, and the responsibility to respond (Gurevitch, 1990). The deductive stance violates that ethic. The researcher is allowed to speak, but not the "subject," who merely consents to have behavior or questionnaire answers observed, recorded and tabulated. And once those data are safely stored, there is no response to the subject, no conversation about meaning or values. In fact, by reduction of person and place to predetermined variables, there is no value given to the specific individual; no dialogue is desired, or even possible.

The practices of deductive examination and inductive encounter each privilege a different kind of knowledge and a different practice of knowledge creation. I mistrust deductive examinations of social life at least in part because I find them demeaning – rich, complex people diminished to behavioral units for scientific consumption.   It is dialogue that animates me to study. I find people in their places to be infinitely interesting, isolated behaviors far less so. And in dialogue, research participants and I come to a greater richness and mutuality of understanding of what a phenomenon

is, what it means, why it matters. We actively challenge and elevate one another, intellectually and emotionally.

We must also consider the fact of writing as another act of dialogue with its own ethics. When we write, we are entering into a rhetorical circumstance that has a particular audience and motive. If we are writing for a deductive community which holds definitions and theoretical structures similar to our own, then the norm of problem statement–literature review–hypothesis–methods–evidence–discussion, all contained within a peer-reviewed journal, makes sense. It upholds a community norm, participates in the collective economy of tenure and promotion, and reifies a certain set of behaviors for a coming generation of scholars to inherit.

The inductive or dialogic researcher cannot do that, for several reasons. One is that several elements of the deductive template are missing or transformed – there was an informed curiosity rather than a hypothesis, the methods were probably messy and ad-hoc, most of the literature review (if it was any good) came after entering the field in response to phenomena as they were discovered, and the evidence and discussion are deeply interwoven. A second reason is that the original dialogue, that with one's research participants, has not ended and may never end. Taking that dialogue out of its native language and making it inaccessible to one half of the dialogic pair through focusing only on its narrow disciplinary "relevance" feels at the least ungenerous, and perhaps a breach of trust (Childress, 1998). And a third reason is that the nature of evidence is different: narrative rather than summary, authorial rather than dispassionate, and with the "moral of the story" embedded within rather than attached after the fact.

The inductive researcher is actually trying to broaden the dialogue in some ways, putting one group of people (the research participants) into a form of deliberation with a third group, a body of readers interested in learning about the lives of others and using those stories to illuminate or question or endorse their own. The reader is invited into the encounter as another guest, guided by the writer to see an approximated experiential wholeness as the participants and the researcher came to understand it.

The Absence of Dialogue in Design and Design Research

Many of the professions – medicine, law, psychology, social work, education – suffer from what has been called the two-community problem, in which a research community complains that practitioners don't pay sufficient attention to research, and a practitioner community complains that researchers don't understand the complexities and realities of practice. But the two communities are more similar than they realize, and those similarities are the core of the problem.

In the early 1970s, Horst Rittel and Melvin Webber introduced the concept of *wicked problems*, problems that can only be subjected to judgment rather than rules (Rittel & Webber, 1973). Rittel and Webber claim that wicked problems have a number of identifying characteristics that make them inaccessible to mechanistic thinking, among them:

- there is no definitive problem formulation, but each formulation of the problem matters because it largely names the available solutions;
- there is no stopping point;
- there is no way to effectively practice or simulate one's response to the problem;
- each problem is contextually unique, so that resolutions from one context do not fully resolve similar issues in another context;
- it is impossible to say what is the problem and what is the context of the problem, so fully are they intertwined; and
- each attempted solution has deep ramifications, so that "the planner has no right to be wrong."

The design practitioner works in the world of wicked problems. An architectural question such as "What is a good college dormitory?" cannot be answered, because it is merely a consequence of larger and equally unanswerable questions: "What is good college social life?" "What is satisfying housing?" "Where does learning happen?" and dozens of others.

In their professional practice of community development (which they specifically call "placemaking"), American design researchers Lynda Schneekloth and Robert Shibley pursue a dialogic method.

> *Placemaking is the ongoing work of transforming the places we find ourselves into places in which we can truly dwell as individuals and communities of people... What is profoundly important about a critical practice of placemaking is that it not only changes the world - unmaking places as much as making them - but that it makes communities and connects people with each other. In other words, placemaking is not just about the relationship of people TO their places; it also creates relationships AMONG people in places.* (Scheenkloth & Shibley, 2005).

Their practice is framed around opening the rich possibilities of dialogue rather than pre-framing a conversation around expert concepts and practices. The first and perhaps most central place that they make is that civic place in which diverse people can come together across lines of difference. Their attention to the physical, logistical and political realities of dialogue help people recognize their common concerns and develop richer arrays of possible resolution than they would have if they had remained in their own racial, class, age or professional isolation.

Others have found a similar outcome—that the more we embrace the wickedness of our problems, the more successful we seem to be. The political scientist Philip Tetlock examined twenty years of political punditry, looking at over 80,000 predictive statements to determine the accuracy of the analysts' forecasts. He found that almost all of the pundits were poor predictors, because they tended to believe the models and expertise they'd constructed rather than the facts on the table. But Tetlock also found that those who specialized most strongly performed least well. Using Isaiah Berlin's formulation of the hedgehog and the fox, he discovered that the foxes, wide-ranging and generalist, were much more likely to be correct in their predictions than the deeply burrowing specialist hedgehogs (Tetlock, 2006). When we acknowledge the complexity of what we face, and bring judgment rather than rules to its resolution, we seem to do better work.

But design practice is a business as well as a mode of thought, and businesses need to specialize in something in order to sell it. So many practitioners, out of economic necessity, attempt to tame their wicked problems into fields of specialty with

answerable questions: how to maximize dollars of sales per square foot of leasable floor area, how to design a prison to meet the staffing standards of the state's prison-guard union, and so on. We can say that design templates or even whole "building types" are repeated because they "work," but only if we define success narrowly and from the points of view of one or a few participants.

If design professionals begin from wickedness and become tame in their specialization, so too do most design researchers. Too much design research has been marked by tameness driven by a desire for analytic precision ("generalizability," "validity," "reliability," "falsifiability," and so on) that actively and intentionally eliminates most of the complex problem environment. And our structures of academic advancement encourage the same definition of specialized expertise, rewarding the disciplinary hedgehog drilling down rather than the broadly educated fox looking around.

In the cases of both design and design research, the everyday inhabitants of design are often left to the side while each community pursues its own minimized project. Designers have clients who represent a small spectrum of the project's ultimate use community but who exercise substantial control through their powers of initiation and funding. Designers also have codes to follow, which eliminate negotiation and dialogue around specific instances in favor of a baseline of "protection" that can generate innumerable poor outcomes (Ben-Joseph, 2005).

The research community is invested in notions of objectivity that actively stand in opposition to personal investment in the lives of our participants. Our field's writing guidelines, as laid out in the APA Manual, work to eliminate any sense of humanity and individual investment in the work. A sentence such as "This study was designed to examine the relationship between the proportion of vacant storefronts on a business street and pedestrian trips to transit centers" is a passive-voiced, third-person attempt to make authorship irrelevant. Even our citation methods, in which the author's name is reduced to a last name and an initial, are intended to make the author into nothing more than a locational device for finding articles. "Rubinstein, N.J." never wrote anything, but my friend Nora did. As my former journalism professor David Littlejohn once told me, "People read particular writers because they think there's an interesting person there." We read Alain de Botton and Joan Didion not merely for their content, but more centrally because we are presented with a whole person framing compelling ideas in a captivating way.

The economic and legal structures of professional-client relationships, and the academic structures of research objectivity and specialization, both act to suppress dialogue with inhabitants and readers. To use Gurevitch's formulation, we may speak, but only within our roles and not as ourselves. We may listen, but only to a narrow frequency from within the broad spectrum of life. And if speaking and listening are both delimited, are both defined as the work of a partial rather than a whole person, the possibility of response disappears altogether.

Pursuing a Dialogical Practice

> *We see things not as they are, but as we are.* — Anais Nin

Powerful design responses come from addressing a problem's wickedness straight on, working with larger systemic questions more centrally than the smaller and more immediate ones. A good example is that of the South Mountain Company design-build firm on Martha's Vineyard, Massachusetts. Architect and founder John Abrams has worked to build a corporate structure that fosters deliberation – all of the employees are eligible for ownership after five years, an ownership that has not only economic outcomes but also full decision-making participation. And they limit their design and construction work to the Martha's Vineyard community, believing that they have not only a deep understanding of the ecological and social nature of the place, but also a responsibility to uphold and improve the community to which they belong (South Mountain Company, 2010).

South Mountain's dialogues are ongoing, connecting time as well as people and place. The company prides itself on buildings intended to last for hundreds of years, and have conducted renovations to houses they originally designed, in order to meet changed family needs. One of their practices was noted by Stewart Brand in his book *How Buildings Learn* (Brand, 1994); during construction, once the framing, electrical and plumbing systems are installed but before wall sheathing hides it all, the construction team photographs every wall assembly and important construction detail and keys each photograph to an annotated floor plan. Owners who later want to do small modifications themselves can simply refer to the photographs in order to make changes without risk of larger system damage. This acts as a facilitator of a dialogic relationship between homeowner and home, and stands in strong contrast to most houses, the workings of which are largely unseen and mysterious to their residents.

Abrams recounts one of South Mountain's efforts, a small house from the 1980 for Madeline, a recently widowed librarian. The design team advised her on property purchase, site strategies for energy conservation and noise reduction, financing and federal programs, and energy-use analyses, as well as the normal services of design and construction. Madeline loved that house for fifteen years.

> In the mid 90's she met an older man named Edwin Heath, re-married, and reluctantly moved to Florida, where he was accustomed to the gentle climate. With a heavy heart Madeline sold the house, but she always stayed in touch with the buyer, a woman named Tillie, because the house was such a part of her. Tillie loved it too. Madeline was glad of that. (Abrams, 2010)

When her second husband died, Madeline returned to Martha's Vineyard, finding a new home (with South Mountain's help) in an affordable housing complex. On her return, she visited Abrams at the South Mountain office.

> After touring, we sat down in my office to rest, to talk, to have a glass of water. She said, "John, I don't know if I've ever told you this, but you and the others didn't just build me a house. It was so much more. I _found_ myself in that house. I loved everything about it, and everything about being there, and every day I lived there I found myself again, in some other way, and found something else in the house to bring me pleasure." That's what she said. (Abrams, 2010)

The South Mountain team, and Madeline (and Tilly, and the neighbors) built far more than a house. They constructed a thirty-year relationship between designer, builder, owner, subsequent owner, and landscape. They built a place.

I'll use my own work as an example of attempted dialogic practice in design research. For my dissertation/first book, I spent four years living in a small Northern California community, nearly two of those years in daily contact with a group of local teenagers (Childress, 2000). I attempted to listen to the full lives of those kids, to share with them my thinking about what I was seeing and hearing, and to talk through not only our perceptions but also what we thought those facts meant. In the process, many of us became friends —not only on a one-on-one basis between me and each participant,

but also between kids who at first only had me in common but who then came to discover commonalities.

In many cases, that friendship has spanned years since our face-to-face encounters. Sixteen years after I first met her, I've just attended the wedding of the girl I called Ida—then a high-school junior, now with a Masters in Environmental Management, two research years in Antarctica, and at work on urban creek restoration. At her wedding, I encountered another of my core participants, a serious young woman now wondering about how her marriage and work life hold together. That morning, I had already sought out a third at the farmers' market, a young man who has left behind his high-school "career" of raising marijuana and foraging for psychoactive mushrooms for a satisfying adult career as an organic farmer (and whose work I had eaten the night before in a wonderful salad). Two days before that, I had dinner and exchanged books with one of the teachers in the school, now divorced, a successful poet, about to return to his native Scotland to care for his disabled mother. We sat after dinner in my B&B room, and he and I and my fiancée talked and read to each other until late in the night. These relationships are not how "researchers" and "research subjects" interact, but they are an everyday extension of dialogue.

The successes that are born of these dense and ongoing relationships are more than personal; they are the same as the successes of the book as an intellectual and social object. It has spurred discussions among non-participants about how their own lives are similar to and different from the kids of Curtisville. Adult readers have told me that it helped them understand their own kids; young readers have told me that it helped them understand their own lives. In the city of Curtisville, it was used as required reading for the school board and for the recreation committee as they made plans for their community. As one reader told me, "You could have just told me about the ways that their days were compressed and determined, but here I could really see it, and it mattered to me."

Those relationships have also brought about a second book, about one of the boys from that high school who subsequently struggled with his emergence into adult life (Childress, 2010). Living with him and his housemates for a month was a revelation in the structures and definitions of adulthood, and caused me to question my own adult identity—career, marriage, even body. A dialogue that does not hold the possibility for change—for everyone involved—is not really a dialogue at all.

In the cases of the South Mountain Company and my own research, we actively set aside the norms of our professions, deciding that the messiness and struggle of the wicked problem was more than rewarded by the possibilities afforded by wholeness and dialogue. In so doing, we have each had to invent the "business model" that facilitated our ways of work. South Mountain Company has had to invent collective ownership structures that allow for full participation, and because of their goal of sustaining Martha's Vineyard, many of their staff have held elective or voluntary offices in the island's governance. And I've found a home outside the disciplinary tenure track, in an independent professional college where the life of the mind and the life of the world are intertwined for students, instructors and educational leadership.   If we're all going to work hard, we ought to work hard at things that matter to us and to others.

Where does analysis belong?

If you want to build a ship, don't drum up people to collect wood and don't assign them tasks and work, but rather teach them to long for the endless immensity of the sea. — Antoine de Saint-Exupéry

Along with being a writer and an academic dean and a SARUP doctoral alumnus, I also play pool and am a certified pool instructor. As an instructor, I break the skills of the game down into many constituent parts: stroke mechanics, speed control, visualization, eye patterns, collision angles, spin and friction. I use analysis to make the game seem possible to someone who is learning, who just wants to be able to make a ball go into a pocket more reliably than she could before.

That kind of thinking is also what I engage in when I practice. I set up drills and try to make one shot a dozen times, each time making the cue ball do something different after each shot. Can I make this shot and stop the cue ball dead in place? Can I make this same shot and draw the cue ball backward two inches? Eight inches? Four feet? What's the recipe of stroke speed and spin I need to accomplish each outcome?

But that's not how I think when I play. During a game, the table becomes a storyboard. It's a surface of opportunities and dangers, a sequence of tests and approximations, failures and rewards. It's an occasion of pride, or of disappointment. It's a study of my opponent, his attitudes and weaknesses, the ways that his strategies differ from

my own. It's a memory of the table—knowing that one pocket is soft and will accept approximations, that another is brittle and requires precision, that banking a ball hard into a rail reduces its angle of reflection. It's knowing (and not thinking about) the hundred dollars that will come to me with victory, or that I will surrender if I fail. It's knowing (and not thinking about) the spectators judging my skill and decisions, some of whom will be subsequent opponents.

And it's aesthetic. The balls are bright and perfect, the cloth unvarying, the click of ball on ball as sharp and specific as Brubeck. My cue is a marvel of decorative woodworking, and screws together with microscopic exactness. The room is dark and the table lights are bright, focusing our attention on the island of play.

If I thought only like an instructor or a student, I'd never really care enough to play the game. It's only that indivisible blend of narrative, the ecology of experience, that makes the game compelling.

So too with design and design research. We can use analysis to help teach novices to understand and appreciate the gross structures of our work, breaking design apart into structure and space and services, breaking research apart into theoretical schools and areas of specialization and methodological opportunities. But that's all training, and not the game itself. We can't do our best work with those broken and dispersed fragments. Real understanding requires that we reassemble our stories of people and places with respect, through collaboration with co-narrators who care deeply about each other's welfare and about the places that shape and enable all of our lives.

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Toward a Situated Understanding of People's Interaction with Outdoor Spaces

Susana Alves

The role of the environment has been brought to the forefront of current UK urban policy as a way of enhancing people's health and quality of life through the provision of accessible, safe, socially and aesthetically enjoyable places. It also underpins UK sustainable development policies (DETR, 2000) which aim to advance change in everyday life and enhance health, particularly in deprived neighborhoods, by improving access to, activities in and frequency of use of outdoor spaces. Based on this agenda, urban settings and their environmental features have been analyzed in terms of their accessibility and effects on quality of life by Sugiyama, Ward Thompson & Alves (2009) with, however, a loose link between personal, social and environmental variables and how that interaction may affect change in behavior. This chapter proposes that the concept of *situations* – put forward by social and ecological psychologists (Lewin, 1936; Barker, 1968) and symbolic interactionists (Goffman, 1959) – is fundamental to examining everyday places and behaviors that act as a keystone for quality of life.

The proposed conceptual framework relates the concept of *situations* to people's interaction with outdoor spaces. It suggests that it is through an involvement with its affordances (Gibson, 1979) that the characteristics of the environment which are psychologically meaningful to ordinary people can be examined. American psychologist James J. Gibson proposed that the affordances of the environment are "what it offers the animal, what it provides or furnishes, either for good or ill" (Gibson, 1979; p. 127) and affordances can be operationalized with Rapoport's (1990) environmental

classification distinguishing between fixed, semi-fixed and non-fixed features. By centering the observation and analysis on situations, the framework aims to understand how ordinary people use everyday outdoor spaces and to provide a basis for more effective theorizing, research and application in environment-behavior studies.

The first section of this chapter provides the theoretical background to understand the proposed conceptual model; defining the concepts of situation and everyday life. The second section presents the framework, its conceptual components and how it relates to the notion of quality of life. In the third section, the framework is tested with two empirical databases from an ongoing research project, Inclusive Design for Getting Outdoors (www.idgo.ac.uk); examining the mechanism by which outdoor spaces affect older people's quality of life. The conclusion provides suggestions for future research, as well as for the design of urban outdoor spaces.

Theoretical backgrounds: Situations in everyday life

The study of situations is the examination of affordances or what is offered by different combinations of features and by which mechanism people pick up and use information to realize their goals. Situations encountered in everyday life are composed of different characteristics and include both physical (e.g. shape, size and color of objects) and non-physical or social aspects (e.g. presence or absence of others along with their activities).

'Situations' is a useful concept in explaining how people's perceptions of the world are constructed in face of different actual environments in the course of their development. At the same time, it helps describe how people function in relation to specific affordances (actual properties of situations).

The roots of the concept of 'situations' go back to French existentialist philosopher and writer Jean-Paul Sartre (1905-1980). He believed that perception does not exist in a void but entails a person who perceives and an object to be perceived. In a *Theatre of Situations* (1947 translated by Brandt, 1998), Sartre defines a situation in the context of a theatrical play by means of providing a critique of the spectator and of theatre. He emphasizes the action and choice of individuals as they move away from passivity to critical engagement with the spectacle.

For Sartre, one is free to choose what to be in a given situation: "The situation is an appeal: it surrounds us, offering us solutions which it's up to us to choose" (Sartre, 1947 translated by Brandt, 1998, p. 43). He refers to the active role of the perceiver by saying that "human reality does not exist first in order to act later; (…), to be is to act, and to cease to act is to cease to exist" (Sartre, cited by Cumming, 1965, p. 264). This chapter proposes to transfer Sartre's notion of breaking spectators' passivity during a play to challenging people's passivity in everyday life.

Building on Sartre, the Situationist International (SI) group proposed in the late nineteen fifties a method for defining and analyzing situations. One of its founders and theorists, Guy Debord, a French Marxist theorist (1931-1994), argued that the construction of situations is a necessary step to create environments that could accommodate people's desires. He experimented with art, literature and architecture to construct situations, or set up environments, that allowed for emancipatory aesthetic experiences. To construct situations, Debord (1958) recommends to "(...) develop a systematic intervention based on complex factors of two components in perpetual interaction: the material environment of life and the behaviors which that environment gives rise to and which radically transform it." (Debord, 1958 translated by Knabb, 2006, p.38).

A common point between Sartre and the Situationists is the acknowledgement that situations contribute to shaping person-environment relations. In the realm of environment-behavior studies, theoretical formulations of the role of the situational context have been made by several US researchers, such as Lewin (1936), Barker (1968), Rapoport (1980) and Stokols (1981), among others. Kurt Lewin, a social psychologist (1890-1947), was one of the first in his discipline to study social situations; believing that the totality of an individual's situation takes account of people and their psychological make-up, along with behavior (be it acting, wishing or thinking). A person behaves differently depending on the tensions between perceptions of the self and of the environment, thus the entire psychological field or life space needs to be taken into account to explain behavior (Lewin, 1946).

Lewin proposes that one can describe the whole situation by differentiating the person (P) and her environment (E) and conceptualizing them as being in constant interdependency B = f (PE) (Lewin, 1936). In this sense, the valence of an object or activity will depend upon the characteristics of the person and upon the perceived nature of the object or activity (Lewin, 1938). As Lewin states "(…) the most important

characteristics of a situation are what is possible and what is not possible for the person in this situation. Each change of the psychological situation of a person means just this—certain events are now "possible" (or "impossible") which were previously impossible (or "possible")" (Lewin, 1936, p.14). The concept of valence[1] was further developed by James Gibson who coined the term "affordances" to describe the possibilities of action and focused on the invariant properties of objects to study perception.

Lewin's psychological field theory was used to structure conceptual models explaining the role of supportive environments in determining quality of life, such as the competence-press model of aging brought forward by psychologist M.P. Lawton (Lawton and Nahemow, 1973). His work also influenced the concept of behavior settings put forward by environmental psychologist Roger Barker (1968) to describe situations – a well-defined set of rules placed under a defined tempo – as well as the work of Amos Rapoport (1980), for whom human interaction with others, artifacts and environments underpins, or constitutes, ordinary activity. Rapoport defines everyday life as part of a system of activities and settings which can be dismantled in fixed, semi-fixed and non-fixed components or features. The examination of people, as they relate to these different "environmental cues", offers researchers and designers a good clue as to what influences choice and effective behavior.

In the work of environmental psychologist Dan Stokols, situations constitute the key concept linking groups and places (Stokols, 1981). For Stokols, the conditions that generate functional or dysfunctional changes in group organization or personal wellbeing need to be examined by taking into account socio-cultural meanings among members of a setting.

This chapter follows up with this line of theorizing and proposes to reinvigorate the notion of situations in the context of the study of older people's interactions with outdoor spaces: How are situations defined? How can they be compared? Which ones are most influential on quality of life? I suggest that one of the missing links in research addressing the benefits of interaction with outdoor spaces is the description, classification and investigation of behaviors as they happen in everyday situations.

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[1] Original German term for valences is Aufforderungscharakter.

The importance of situations in individuals' development and quality of life is made apparent in their use of everyday places; those settings where daily activities happen. Michael Jacobsen, a Danish sociologist argues that looking at everyday life means taking notice of two elements—the 'everyday' and 'life' by asking obnoxious questions, such as "where it is lived, how it is lived, why it is lived, with whom it is lived, when it is lived, and so on…" (Jacobsen, 2009; p.11). It consists of addressing what is repetitive and routinized and asking the question "quality of what life?". At the same time, it involves evaluating what these events add to in terms of positive or negative affordances by asking "what quality of life?"as proposed by Dutch sociologist Ruut Veenhoven (1999). Quality is thus evaluated both in terms of a person's life as it unfolds in everyday pursuits and in terms of what is encountered in the environment. The quality of one's life may be assessed by examining the interplay of everyday events and how they support past, present and future projects through associated affordances.

The concept of everyday life, as developed in sociology by Georg Simmel (1858-1918; Simmel, 1908) and later on by French sociologists and writers including Henri Lefebvre (1901-1991; Lefebvre, 1987), Michel de Certeau (1925-1986), and Georges Perec (1936–1982), may be combined with that of situations. How, when and why one decides to engage in particular activities over others, and what purpose this serves in their everyday life, then becomes a necessary question (Scott, 2009). The theoretical integration of "situations" and "everyday life" can be further articulated with the concept of "personal projects" put forward by personality psychologist, Brian Little. Personal projects "are extended sets of personally salient action in context" (Little, 2010, p.166) and, as such, they involve both attributes of persons and environments.

Investigating personal projects involves asking people about their activities, how they carry them out and what and who may facilitate or impede this action. Everyday settings and activities that seem at first sight to bear no direct relation to one another provide, in fact, an ecological context for goal-oriented action (Little et al, 2007; Little, 1999; Wallenius, 1999). The agglomeration of these small doings, with their different tempos, is manifested physically and has a spatial and temporal dimension too. This defines what is called here 'situations'.

A conceptual framework for studying everyday activities in outdoor spaces

This section presents a conceptual framework with which to study everyday activities in outdoor spaces and their contribution to people's quality of life. Quality of life is expressed in terms of psychological and physical health where cultural and organizational factors also affect the resulting fit, or lack of fit, of the person-environment relationship (Lawton, 1991). When environmental psychologists Steve Kaplan and Rachel Kaplan (2009) describe restorative environments, they stress those factors that bring out the best in people and draw attention to the fact that people behave differently in distinct situations. A confusing, unfamiliar and inaccessible environment may induce stress or make people feel uncomfortable, whereas an aesthetically pleasing and safe environment will be more conducive to relaxation and likely to evoke a positive effect.

Designing environments that bring out the best in people requires knowledge of the situations in which they function in everyday life. Richard Price, an American psychologist specializing in organizational studies and his colleagues, calls this "effective prevention"; "identifying situations that are potential generators of adjustment and effective behaviors in daily places, such as work places, home, neighborhood, and street" (Price et al, 1988). Bronfenbrenner (1979), a US developmental psychologist (1917-2005), emphasizes the possibility of changing people's behavior by changing crucial aspects of the environment. These authors all stress the importance of an exhaustive knowledge about situations as a basis for effective interventions and for the making of physically, socially and culturally adapted environments to serve people's needs and qualifications.

What are key features of everyday settings and how do they contribute to defining different situations? As argued in the previous section, a way to describe and classify everyday situations is to use the concept of 'affordances'; the possibilities of interaction provided by an environment which either facilitate or impede the pursuit of personal projects and consequent quality of life. A "situation" is thus composed of activities that depend on the actualization of affordances through fixed, non-fixed and semi-fixed elements. The investigation of banal daily activities, such as crossing streets, getting from one's house to the nearest park, and so on, may reveal possibilities and constraints which are either promoting or restricting people's well-being.

US environmental psychologists Kaplan and Kaplan (1989) found that people's access and exposure to natural environments may provide restoration from stressful daily conditions (Kaplan, 1995). Open and green spaces may also foster regulation of emotions and restoration in everyday favorite places (Grahn & Stigsdotter, 2010; Korpela et al., 2008; Korpela & Ylén, 2009). When common outdoor spaces are shared, they may contribute to the feeling of belonging to a neighborhood and to social interaction with neighbors (Kuo et al., 1998). However, while Finnish environmental psychologists Kyttä (2002) and Horelli (2004; 2006) have used the concept of affordances to examine outdoor child-friendly environments, the concept has – to date – not been applied to the study of those used by older people.
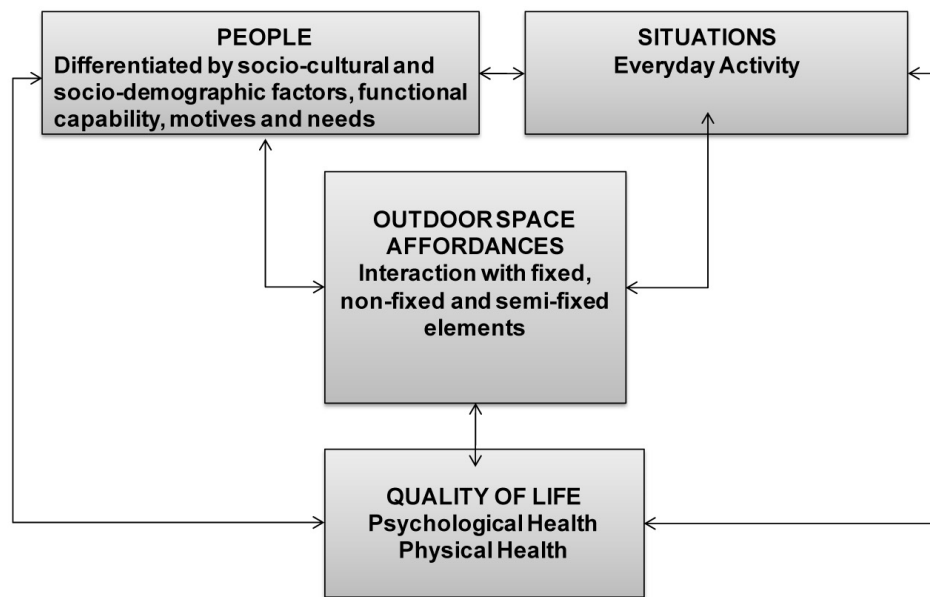
Figure 1: Conceptual model to examine everyday life situations in outdoor spaces

Based on the premise that patterns of activities are dependent on one's goals, socio-cultural context and the available information embodied in the context of the activity, the proposed framework is composed of the following analytical steps (Figure 1).

First, "people" in this framework are characterized by personal variables, taking into account: socio-cultural factors (e.g. cultural backgrounds, education, socio-economic status); socio-demographic characteristics (e.g. age, gender); functional capability (e.g. level of mobility), and motives and needs (e.g. need for autonomy and control,

personal projects). Collectively, these characteristics contribute to how people interpret and respond to a "situation," which, in the proposed framework, corresponds to an everyday life activity that requires given actions at a given time in a given place. The activities are purpose-oriented and influenced by personal characteristics and goals, while the situation takes place in an outdoor physical setting; the latter characterized by its 'affordances' (Gibson, 1979) and operationalized with Rapoport's (1980) fixed (e.g. pavement of streets), non-fixed (people and their activities in the street) and semi-fixed (e.g., street furniture) features in mind. These features reflect the understanding that the affordances of any situation involve both psychological and non-psychological aspects and that their interplay will facilitate or restrict action; thereby impacting on the psychological wellbeing and physical health aspects of quality of life.

Which features of a situation in an outdoor space are more likely to activate adaptive processes in terms of social, cognitive and affective responses? To be able to answer this question, it is necessary to examine everyday activities; more specifically the type of activity, the way it is pursued, how it links with the activities of both the person involved and other people and its symbolic aspects (Rapoport, 1990). By describing and examining everydayness, one is able to determine the properties of a present situation to make a diagnosis and to 'test the present' (Lewin, 1943) in terms of its quality. Quality of life in this framework has a direct connection with people's present life situations and is operationalized as both mental and physical health, thereby reflecting the multidimensional view proposed by the World Health Organization (WHO) which states that quality of life involves physical, psychological, socio-cultural and environmental dimensions.

Situations that will bring out the best in people and contribute to their quality of life are those that offer affordances for adaptive behavior. Seizing opportunities in everyday places to achieve this state of equilibrium can only be done in a social context, hence the need to consider, not simply situations, but social situations. Examining people's associations with outdoor spaces, such as a streetscape, and asking everyday users about their personal projects in these places constitute an effective way of identifying what features (fixed, semi-fixed and non-fixed) are relevant and how they influence purpose in these environments. Investigating how people behave in relation to each other in public areas is important because the realization of everyday activities is in itself a social enterprise.

Testing the conceptual framework: Older people in outdoor settings

In this section, the role of everyday situations in the context of outdoor spaces is illustrated using the empirical work conducted by the Inclusive Design for Getting Outdoors (I'DGO) research consortium. The aim of I'DGO, which was established in 2003, is to examine the mechanisms through which patterns of outdoor activities affect the quality of life of older people in the UK. The project's multi-methods approach makes it possible to examine situations encountered in outdoor spaces and to assess which and what kinds of features (fixed, semi-fixed and non-fixed) contribute most to people's quality of life. Findings from two databases will be used: the first, a qualitative survey of environmental support with regards to outdoor pursuits as personal projects; and the second, an evaluation of residential streets as used before and after Home Zone-type interventions, along with their effect on well-being.

Outdoor pursuits as personal projects

During the first phase of I'DGO, which ran from 2003 to 2006, the Personal Projects method was useful in describing and analyzing situations from an individual's point of view, as well as to consider a person's motives, goals and preferences (Wallenius, 1999). The self-generated activities a person was doing (Little, 1983) were examined by asking the following questions: what, where, with whom, for what purpose and with what appreciation? This led to four types of information concerning: the activity itself (e.g. walking, shopping, gardening); the place where it was conducted (e.g. garden, street), the specific way of doing it (e.g. walking in the local park, shopping in a market, gardening in one's private garden); and the role of the environment in either constraining or facilitating it (e.g. well maintained paths facilitate walking).

In the Personal Projects questionnaire, older participants were asked to list five of their outdoor personal projects, name where they were conducted, evaluate how difficult the environment made it for them to carry out these projects and self-assess how important the projects were to them. The data was first analyzed by running a content analysis and categorizing each personal project according to the five following categories: projects involving contact with nature (e.g. gardening); projects involving contact with people (e.g. attending meetings and visiting people); other types of projects or those involving hobbies or physical exercise (e.g. going to the museum and walking to get fit); utilitarian projects (e.g. going shopping) and projects which involved "just going for a walk".

Linear regression analyses were also performed on the personal projects data with life satisfaction as the dependent variable. In block 1 were the potentially confounding variables – age, gender, activities of daily living – and in block 2 were the personal projects. We found a contribution of nature-related personal projects in this model. Partial correlations analyses were also performed between life satisfaction and project type for ratings on environmental support and importance after maintaining functional capability, gender and age as constant variables. The only projects for which environmental support appeared significant were *recreational* and *utilitarian* types of projects and the only project type for which environmental importance was significant had to do with *nature*. The results show that the role of the environment is weighed when utilitarian activities such as shopping, going to the post office or going to the dentist are in play as well as when activities have to do with physical exercise, such as swimming, going to the gym and walking to keep fit. The role of the environment is also prominent in activities associated with trips for leisure pursuits, such as going to the museum or to the library. However, when looking at the 'importance' of the environment, nature-related pursuits were the only personal project type found significant in its association with life satisfaction.

The Personal Projects method allowed us to understand the outdoor activities people usually do and the extent to which different project types (e.g. recreational, utilitarian or nature-related) were affected by the environment. Familiarity and regular use of outdoor spaces, as well as the purpose or motivations for action, were found to be most influenced by functional and utilitarian patterns of work and daily errands, as well as by the leisure activities older people undertook.

Observing situations in residential streets

The second database used to test the proposed model relates to a Home Zone Study carried out during Phase 2 of the Inclusive Design for Getting Outdoors research project (I'DGO TOO). The aim of this study was to compare people's behavior and patterns of activities before and after an environmental intervention on selected residential streets in the UK. The study, which began in 2007, examined whether and how modifications to the residential street environment based on a pedestrian-friendly, 'shared circulation space' approach to urban planning – as used in Home Zone (*Woonerf*) projects, for example – contributed to older people's health, quality of life and frequency of going outdoors. Data was collected through behavioral mapping, interviews, activity diaries and accelerometers.

Behavioral mapping allowed for systematic descriptions of daily activity patterns, as well as of the environmental features that offer social affordances and promote the use of outdoor spaces in residential streets. Interviews with older people in these residential streets allowed us to measure preferences, use of outdoor spaces, quality of life and health. The objective of conducting systematic observations was to map people's interaction with street features and evaluate how they contributed to social interaction and activity patterns. A street audit (Millington et al., 2009) tool for recording environmental details (e.g. type of buildings, type of views, cleanliness, path material and location) was used in combination with behavioral mapping, field notes and photographs to record how fixed (e.g. trees, vegetation), semi-fixed (e.g. street furniture) and non-fixed (e.g., other people and their activities) environmental features were associated with different behaviors. Behavioral observations on the residential streets were conducted by pairs of researchers who recorded people's apparent age, gender, mobility status, type of social interaction, location, physical activity and type of companionship; data were translated into a GIS.

The findings from this study were analyzed according to Rapoport (1990)'s activity system, with pedestrian patterns of activities assessed by addressing the relationship between people and people (non-fixed features) and people and things (semi- and non-fixed features). The findings show that streets are mainly passing-through places with walking being the main form of physical activity. Locations with 'a lot' of natural elements (as opposed to 'some' or 'none') tended to have a higher proportion of people interacting socially, with no relationship to the actual number of people observed. This supports the argument proposed by other researchers that "greener outdoor spaces receive greater use" (Kuo & Sullivan, 2001 p. 361) and that greenness is associated with pedestrian movement (Foltête & Piombini, 2007) and local social interaction (Sugiyama, Leslie, Giles-Corti & Owen, 2008). From these findings, it appears that natural elements may offer affordances for informal social interaction.

As for the interviews with older residents, they were conducted in two time periods: in 2008 before the environmental interventions took place; and in 2010 after the environmental changes were made. Each "Home Zone" street was matched with a "Non-Home Zone" street (where some environmental change occurred, but not of Home Zone type) to examine the impact of the Home Zone projects on older people's quality of life. The main dependent variables were quality of life (measured by EUROQoL; the EuroQol Group, 1990), health (measured by CASP-19, Hyde et al., 2003) and frequency of going outdoors (set of eight items asking about activities in winter

and summer, such as walking to get to places or for recreation).

When comparing data from the 2008 and 2010 periods, quality of life was found to have decreased in both "Home Zone streets" and "non-Home Zone" streets after the intervention[2]. However, time spent outdoors significantly increased for the Home Zone streets while frequency of going outdoors was significantly less for the Home Zone streets compared to the control streets. The small-scale of the Home Zone interventions, which were mostly centered on changing the angle of the parking spaces, adding planters or stone pillars, may not have been sufficient to produce major effects on people's patterns of activities, as they may not have been tied up with what is relevant or "desired" for people to pursue their daily activities in these streets.

Combined with interviews, the behavioral observations made it possible to examine the interpersonal dimensions of everyday situations. We found that interactions with other persons in outdoor spaces are more likely to be associated with provision of certain environmental features, such as open and green spaces. Our structured observations, organized into a descriptive database, helped identify what features – either fixed or non-fixed – were related to daily patterns of outdoor activities and were also useful for identifying which modified features in each street (if any) had produced an impact on behavior. These findings may help inform the design of streets spaces in the UK by showing which features make most difference to people's everyday lives and which ones are associated with higher frequency of social interaction.

Conclusion

The previous examples point to the relevance of analyzing environmental features, personal projects and social interaction in the context of outdoor spaces and their implications for quality of life. Even though quality of life is a complex concept which requires different forms of measurement (Lawton, 1991; Baltes, 1987), analyzing objective properties, personal goals and patterns of activities – and their relation to others – is a starting point from which to build an integrative model for organizing and understanding everyday situations in outdoor spaces.

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[2] Please, note that we are still collecting data for the Home Zone part of the I'DGO study and that the findings presented here are preliminary and the data interpretation not conclusive.

One consistent finding in our analyses is the importance of interaction with others and the association of natural features (i.e. open and green spaces) with a higher frequency of social contact. Nature-related personal projects also attest to the importance of the environment in contributing to life satisfaction. A small sample size, and the fact that we are still collecting data for the Home Zone part of the I'DGO project, prevent us, at this point, from drawing further conclusions.

One hypothesis, based on preliminary analyses, is that environmental changes to the street environment (e.g. addition of planters) may not have afforded what was necessary to enhance action, in this case, higher patterns of outdoor activities and frequency of going outdoors. The question for further research may be what a planter (or any other feature, such as a bus stop, for example) can add/facilitate or restrain/impede in terms of daily experiences. The suggestion resulting from the proposed conceptual model is that design to affect everyday life needs to be viewed through the 'affordances language' and to take into account the person's whole situation.

The advantage of using the notions of situations and affordances as leading concepts to examine outdoor behavior and activities is that they are sensitive to personal and environmental factors, thus reflecting the shifting context of human action in everyday places. They address goals, not as static units, but as entities which change throughout one's life as the result of a range of personal factors in combination with the demands or opportunities (i.e. affordances) offered by the environment. These concepts can also be analyzed in terms of significant variables, such as age-related changes and the role of interpersonal contact, as well as in terms of what senses are involved in perceiving outdoor spaces. The role of design – be it of street environments, objects or related technologies – also deserves further specification in this conceptual model.

The point of view stressed here is that, in choosing concepts and applying research methods to environment and behavior problems, we need to use a pragmatic criterion (Weisman, 1998) and look at how the different variables in a person's environment are related to each other and to the person herself. The conceptual model presented here thus deserves revision as empirical work and research on everyday outdoor situations and their affordances progresses. The concept of situation also makes it possible to challenge some of the theoretical and political presuppositions that inform the practices and strategies of contemporary urban design. It calls for the development of original methodologies to engage and empower people and view them as designers of their everyday lives.

According to the proposed conceptual model, good design refers to the expansion of one's repertoire of actions and to the possibilities for accommodating change and choice. The concept of situation, as combined with that of affordances, focuses our attention on "being-in-situation" and the lived experience (de Beauvoir, 1963) as a way to better understand the role of outdoor spaces in everyday life. One of the points currently stressed in environment-behavior literature is the need to encourage people to use outdoor spaces to achieve both psychological and health benefits. The proposed conceptual model may be useful to guide further studies on this subject.

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Nursing Activities

Embodied Professionalism and Spaces of Work

Karen Keddy

The primary intent of this research was to understand how staff nurses experience their workspace as it relates to the impact of the physical nature of their work on their *bodies*, the types of *space* on a hospital unit, the significance of other *people* in the space, and issues of *time* as it relates to nursing activities. This research study addresses a longstanding problem in healthcare design research, which is that hospital staff nurses and their experiences of the workspace are marginalized in the literature and in healthcare design research. This perspective challenges long-standing approaches and assumptions in Environment Behavior Studies (EBS) and architectural research about *who* to research, *what* to research, and *how* to research the person-environment relationship in healthcare design. Simply put, *who* I studied were staff nurses, *what* I studied was the relationship between the physical labor of nursing work and the physical environment of a surgical unit, and *how* I studied this relationship was with a research design that incorporated conventional qualitative research methods, feminist research methodology and an image-based method utilizing collage.

Evidence-based design is an approach to healthcare design that is informed by research data from a variety of sources (Hamilton, 2003). In addition to studying how the design of healthcare facilities affects patient outcomes (Ulrich, 2003), studies that focus on the hospital unit as a workplace are also needed. Instead of the nurses' experience of their workspace being in the margins of person-environment studies in healthcare design, I gave the nurses' experience a prominent position in this study.

For patients, the hospital is a *place of healing* while for nurses, the hospital is a *place of work*. Healthcare designers and researchers should be open to the likelihood that design solutions such as positive distractions, targeted to the *healing body* of the patient, will not have the same effect on the *laboring body* of the nurse. In order to go beyond the limitations that are posed by existing approaches and assumptions, I developed a conceptual framework from a post-structuralist feminist perspective that would help me understand nursing work and the spatial implications of nursing work. This study demonstrates the value of studying physical activities in order to understand the spatial aspects of the workspace. This study illuminates the physicality of nurses' work and in particular the hidden and invisible activities such as *searching* and *moving* that are embedded within many of the caregiving nursing activities that nurses do on a surgical unit.

Searching is defined as when a nurse is looking for the medication, the supplies, or the equipment that she needs in order to complete a caregiving task. The activity of *moving* that I refer to here is meant in its most literal sense: walking as well as the body postures and movements that nurses do as part of caregiving activities. In addition, it is inclusive of moving objects such as supplies, equipment, carts, and patient furniture. This research also illustrates the need to understand the spatial implications for the resting activity of *recovering* from the physical aspect of nursing work. The activity of recovering is considered as when the nurses temporarily rest their bodies from the physical activity of the caregiving activities. Because of space limitations in this chapter, I will be discussing the research findings for the caregiving activity of *searching* and not the findings of *moving* and *recovering*.

For decades, studies have been done from an institution's point of view for the purposes of improving the 'efficiency and productivity' of healthcare professionals in the hospital setting. In contrast to that, researchers need to study how the design of a hospital unit and the location of objects in that space impact the work experience of staff nurses. By *objects* in the workspace, I mean semi-fixed features (Rapoport, 1990) that include such things as medication carts, linen and supply carts, caregiving equipment, hospital room furniture, linen bins, IV poles and meal tray carts. Additionally, we need to engage in research methods that help us understand how nurses use their workspace from a nursing perspective that fits with their goals of 'getting the work done'. What I mean by 'getting the work done' is being able to accomplish the assigned caregiving work by the end of one's shift.

Embodied Professionalism

I add the term *embodied* to *professionalism* to call attention to the physical nature of nurses' work that is embedded in a nurses' sense of professionalism in hospital nursing. The conceptualization of *embodied professionalism* illustrates the lived experience of doing a nurse's job in a hospital setting: a hybrid of manual labor and professionalism, connecting the physicality of nurses' work and the nurses' objective to 'get the work done' with the intellectual and scientific component of nursing professionalism. Studying the nursing objective to "get the work done" includes looking at how nurses use their bodies to get the work done and how nurses needed to periodically recover from the physical labor of nursing work. In this study, embodied professionalism is how the professional nurse experiences the impact of the physical nature of the work on their *body*, types of *space*, the significance of other *people* in the space, and various issues of *time* as it relates to nursing activities.

Research Design and Research Questions

The primary research question asks *how do the socio-spatial characteristics of three types of spaces in hospital nurses' workplace and nurses' experience of embodied professionalism shape one another?* The research methods employed provided findings that answered this question in regards to 'getting the work done' and the physical activities of caregiving (searching and moving) and resting (recovering).
The sub-questions posed were:

1. What are the nursing activities in each of the three types of spaces: the spaces of stationing, care giving, and resting?
2. How do these nurses define and evaluate embodied professionalism for themselves and for each other?
3. How do these nurses perceive the physical nature of their work impacting their bodies?
4. How do these nurses perceive the designed environment as affecting the physical nature of their work?
5. How do these nurses perceive the socio-spatial characteristics of their workplace as shaping different types of impression management behaviors and settings?

This research was undertaken on a surgical unit at a regional hospital in Nova Scotia, Canada. The surgical unit is divided into five smaller units and has several different types of patient rooms. There is a four-bed Intermediate Care Unit (IMC), which has patients who require close medical attention and cardiac monitoring. There is a section on the unit with seven beds for patients who are almost ready to return home but still require nursing care. The rest of the unit has a variety of private rooms, semi-private rooms, and two 4-bed wards. All of these patient rooms except for the IMC are segregated by gender.

This surgical unit was chosen for this study because the nurses on this unit frequently engage in physical labor, there is a high incidence of nursing injuries, the nurses work at a fast pace because of the nature of the work, there is no nursing lounge for the staff nurses, and, like many hospital units, this unit has a lack of storage space.

Data Collection Methods

A *heterogeneous purposive sample* of nine diverse female staff nurses was selected, which allowed for different viewpoints as well as commonalities among the nurses in experiencing their workspace. These nine nurses have different nursing credentials (LPN, RN and BN), and differ in age, length of time since graduation, and length of time they have worked on this unit. The nursing staff works in teams of two (an LPN and an RN). This is relevant to a study of embodied professionalism because of the extent of physical labor in the nursing work done by nurses with different credentials.

To discover how staff nurses experience their workspace, both conventional and non-conventional qualitative methods were used. Each research method was pilot studied and modified before being used in the field. Detailed architectural inventories of the fixed and semi-fixed features of the surgical unit space were conducted. Photo-documentation was done of all the spaces under investigation including the public spaces within the hospital that were used by the staff nurses. Often two to three data collection methods were used to help answer the research sub-questions. Multiple focused observations and *place-centered behavioral mapping* of the activities in the space were conducted in different parts of the unit as well as at different times. The place-centered method of behavioral mapping is when the observer stations him or herself at a particular place on the site in order to watch the behaviors and activities being studied. Samples of both specific activities and sample activities were obtained. The first site visit is when I did the interviews and collages; and after an analysis

of these, I knew in the second site visit what activities to observe, the goal of the activities and the parts of the activities. The sample activities were those, in which there was social dynamics that happened between the actors.

One-on-one structured *interviews* were conducted with each participant. Two types of location mapping corresponded with related sections of the interview: *activity location mapping* and *impression management behavior location mapping*. For each type of mapping, information was collected for both the 12-hour dayshift and the nightshift, on two separate maps. The participant was asked to look at both a floor plan of the surgical unit and a floor plan of the entire hospital as I asked her questions about three types of activities that she does (stationing, caregiving, and resting). The last three interview questions included the *impression management behavior location mapping* part of the interview. This time I asked questions about how the nurse acted in these spaces and if she acted differently according to who was present in that particular space. A five-tiered scale relates directly to Meyrowitz's (1985) five levels of impression management behavior (forefront, front, middle region, back, and deep back).

After the interviews the participants attended one of four collage-making workshops to construct what I call an *experiential collage* (see Figure 1 for examples). After finishing the collage, the participant explained the meaning of each element that she used in her collage which served as a second interview. During the collage workshop I used a PowerPoint presentation to show examples of collages, collage principles, and collage construction techniques. All collage-making materials were provided and each participant was given the same open-ended theme for her collage, which was to 'express the physical nature of your work as it relates to time and space.' I used what is referred to as 'magazine theme collage,' which proved to be a very accessible type of collage for these participants (Leland & Williams, 1994).

In several ways, the collage method illustrated characteristics that can be considered integral to postmodern research methods: collage as a non-linear view of time; multiple methods of expression; inclusive of multiple variables and perspectives, and multiple meanings. The collage method is also aligned with characteristics found in feminist research methods: the collage is an expression of the participant's voice; it tells a story; it illustrates socio-spatial experiences; provides meaning to the experiences; and provides a means of making the physical nature of nursing work visible.

Figure 1: Experiential Collages (4 examples)

Discussion of Findings: Searching Activities

An exploration of the searching activities illustrates that the surgical unit environment and the objects in the space are key factors in the nurses' ability to fulfill their own professional expectations of *getting the work done*, which is to accomplish the caregiving work that one is responsible for by the end of her shift. I will discuss two key findings that emerged about the nurses' experiences of searching as it relates to 'getting the work done' as well as the cognitive and embodied experiences of the design layout of the unit. The first is the difference between the nurses' experience and the intentions of a centralized cruciform hospital unit layout. The second key finding is the multiple cognitive maps of the workplace that the nurses have as well as the patterns and rules of place that relate to searching travel plans.

Nurses' Experience of the Cruciform Hospital Unit Layout: Not Centralized and Searching in Multiple Places

It was found that there are two major outcomes in how the nurses experience the surgical unit space that was designed in a cruciform layout with nursing support rooms located in the center of the cruciform. The first outcome is that the utility rooms are not experienced by the staff nurses as being centrally located, as indicated by how this was discussed in interviews. The second outcome is that the nurses report that they have to search for objects in multiple places, as discussed in both interviews and the experiential collages.

During her interview, Gina explained that a single task such as a dressing change requires several different supplies that are located in different places on the surgical unit. Her experience is that the supplies are located "all over the unit." She stated that she would prefer that the supplies are located in one large area.

> *And the physical layout……I find that everything is all over the unit,…* *like clean sterile supplies, I can't see why they can't be kept in one big* *area. To me it would be just better if you had it all in one big supply* *area, and then you're only going to that one area, right?* …Gina, RN

Viewed in plan, these irregularly shaped nursing support rooms appear to be in the center of the surgical unit (see Figure 2), but the staff nurses do not experience these rooms as being in the center. I propose that one reason that the nurses do not consider the surgical unit to be a centralized design is because the nurses do not experience entering and exiting the nursing support rooms from the center of the surgical unit.

The doors of the nursing support rooms do not face the nursing station, which is the physical center of the surgical unit (see Figure 3). Instead, the doors to each of the nursing support rooms open onto a corridor that radiates off the center. Hence, entering and exiting the nursing support rooms is from the corridors instead of the center of the unit. Dorothy states in her interview, that it would be good if the Clean Utility and the Dirty Utility rooms were in the "same wings," implying that she experiences entering and exiting these rooms in different wings and not in the center of the surgical unit.
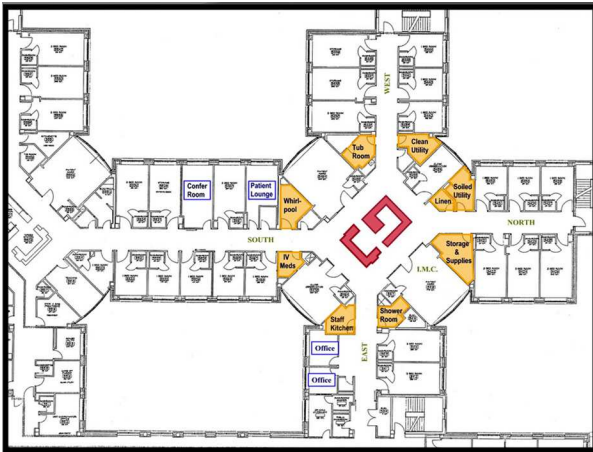
Figure 2: Surgical Unit floor plan

Color	Meaning
🟧	**Nursing support rooms**
🟥	**Main nursing station**
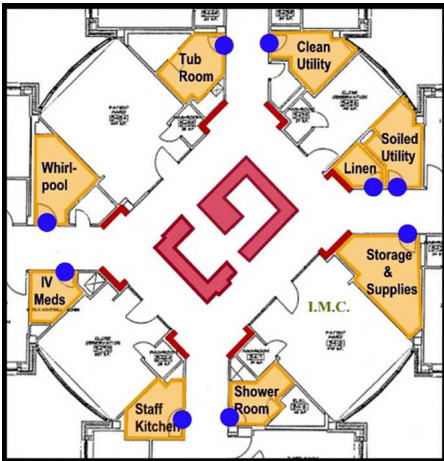
Figure 3: Nursing support room entrances/exits

Symbol	Meaning
🔵	**Nursing support rooms entrances and exits**
⌐	**Niches that face the center of the unit**
▬	**Main nursing station**

The surgical unit has objects that are difficult to find because their locations are fluid, ever-changing, and their location is dependent on several different variables. Hence, there are multiple places where the object being searched for could be. Jane explains, "It is never just a simple thing (finding what you need). Rarely is it where it is supposed to be. You go around the floor (the surgical unit), trying to see which patient is using it at the time." Several nurses mentioned walking around the surgical unit as they search. The embodied nature of searching is such that the nurses do not only search with their eyes, but since they are in motion while they are searching, they search with their bodies too. There is no guarantee that the object being searched for will be in the first place that she looks. There is a high probability that a nurse will have to look in a second most likely place and maybe even a third most likely place. This was mentioned to me many times in both the interviews and during the collage explanations.

It's still a hell of a pile of walking. We've got two utility rooms but sometimes what you need is in one, so you get part of the stuff there, then you go over and search in the other one, and it may not even be there. Then you have to go look in a third place.... You can waste a lot of time doing that….Jane, LPN

In Janice's collage, there is a color drawing of a woman standing in the center of a road that forks off in three directions (see Figure 4). The woman is scratching her head with her hand trying to decide which road to take with each one leading to a different door. Janice pasted objects in each doorway to represent the elements of a decision of which way to go. Janice says, "Nothing is in one area, even the supply rooms. The chest tubes are in one place and the suction set-up is in another."

Using text and images, the mini-collage that Jane constructed tells a story about searching for something that she knows is out there on the unit, somewhere (see Figure 5). In the collage, there is an image of a woman searching in a bank of drawers, an image of a woman looking at a map, and a woman searching a shelving unit. Jane states, "Is it here?...I'll find you."

Figure 4: Janice, "Which way do I go?"
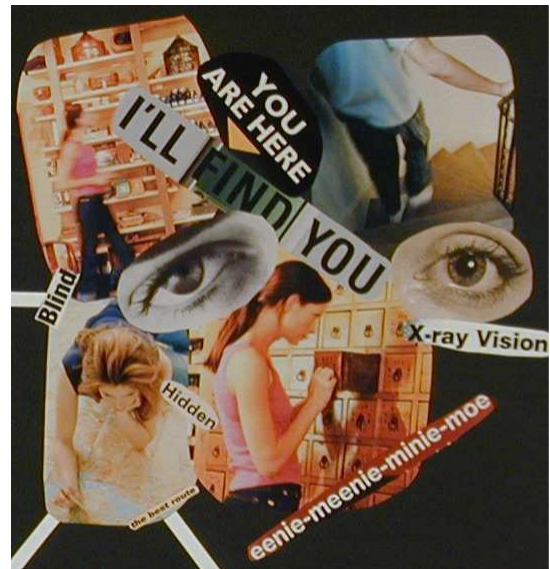
Figure 5: Jane, "Is it here?......I'll find you."

Searching Travel Plan: The Use of Multiple Cognitive Maps of the Workplace, Patterns of Use, and Rules of Place

Most workers have a spatial memory for objects that they need in order to do their work, but there are two unique characteristics about the spatial memory that the surgical unit nurses are required to have. First, they must remember not just one but several cognitive maps of their workplace. A cognitive map is a mental representation of a person's spatial knowledge of an environment (Kitchin & Freundschuh, 2000). The original design layout suggests that a nurse would have one cognitive map of her workspace but in actuality, a nurse is required to recall multiple cognitive maps of her workspace. Because the patient load is divided into groups of nine patients per nursing team, there are several different nursing care environments on this one unit (see Figure 6). This also means that there are several different sets of spatial relations between the nursing support rooms of the unit, the patient rooms on a particular wing, and all the rooms and routes. These were revealed through the location mapping done during the interviews, and the experiential collages.

Both the cognitive and embodiment components illustrate the connection between the mind and the body in order to 'get the work done.' The spatial memory of where an object is located in space is relative to the other objects in that space, and also relative to an overall framework for the objects or environment (Tversky, 2000). In my research, I found that the spatial decision-making that a nurse does while searching is dependent on her spatial memory of where the object will most likely be located and her cognitive maps. The nurses' spatial memory of objects and space and the cognitive maps include the wing that she is assigned to that shift, every other wing on the surgical unit, the entire surgical unit itself, and the other units in the hospital. In addition, the nurses keep track of where different types of equipment is stored and where it could possibly be located in the surgical unit at different times of the shift.

On this surgical unit, supplies were likely to be stored in one to three nursing support rooms, but the equipment may be found anywhere on the unit. The spatial requirements on a hospital unit for the storage of patient handling equipment such as mobile lifting machines, wheelchairs, commodes, and shower chairs are often neglected (Victorian Work Cover Authority, 2004). Consequently such equipment is temporarily and often permanently stored in the corridors, in patient rooms and even the patient bathrooms. The same storage patterns exist on the surgical unit in my study. An example of how equipment can be stored in several different rooms on the surgical unit is that a

walker can be found in the Storage and Supply Room, the Storage Room, the Tub Room, in the alcove area of the East Wing corridor, or in any other corridor or patient room in the Surgical Unit. This means that a nurse must rely on having several cognitive maps for the multiple parts of her searching venture. A nurse would also need to know the spatial relationships between the utility rooms and the patient rooms of the wing that she is assigned to. These relationships would be different depending on which wing she is on because each wing has its own spatial relationship between the rooms of that wing and the nursing support rooms of the entire surgical unit.

Figure 6: Layout of each wing on the surgical unit
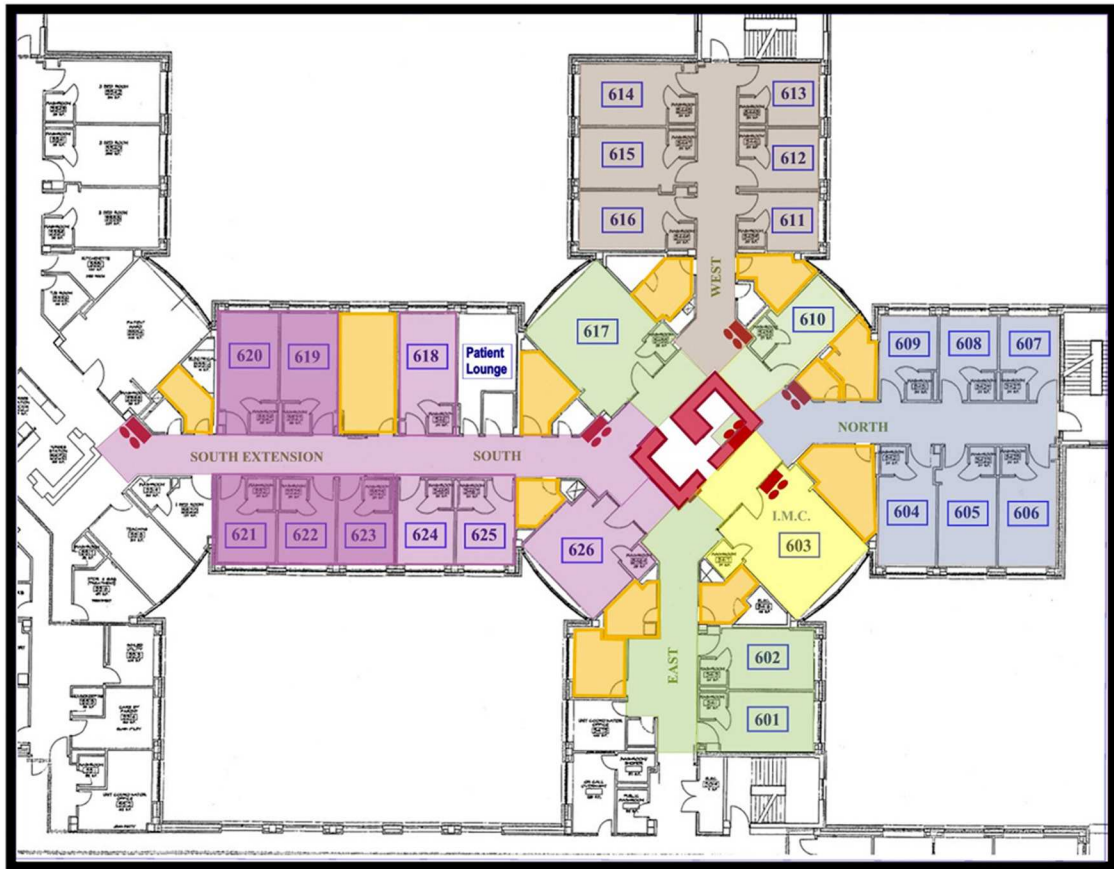
Color	Unit wings
	East wing
	Intermediate Care (IMC) wing
	North wing
	West wing
	South wing
	South Extension wing
	Nursing support rooms (utility rooms, storage, etc.)

Color	Semi-fixed Objects	Color	Wing Nursing Station Zones
M	**Medication Cart - typical parking spaces**		**West Wing**
L	**Linen/Supplies Cart - typical parking spaces**		**North Wing**
	Main Nursing Station and Wing Nursing Stations		**East Wing**
	Permanent parking space – these objects can always be found here		**South Wing**

Figure 7: Wing nursing station zones (North, South, East, and West)

The second unique characteristic of the nurses' spatial memory is that there are underlying *patterns* and *rules of place* (see Figure 7). These were revealed through the location mapping done during the interviews, observations, and the photo-documentation of the research site. Despite all the challenges to the searching activity, there is some storage activity patterns of the semi-fixed objects that line both sides of the corridors and some obvious *rules of place* operating that help sustain these patterns. Canter defines rules of place as recurring relationships between human activity and the physical setting (Canter, 1991). This provides some predictability in finding particular objects and also provides a sense of order to one's workspace. You can see in Figure 7 that there are typical places in each wing around the nursing station whereby the medication cart and the linen cart are parked along both sides of each corridor when not being rolled down the corridor. This floor plan shows the permanent parking spaces for semi-fixed objects such as wheelchairs, stretchers, and IV poles. Additionally, there are also temporary corridor parking spaces along the edges of all the corridors. There are two types of equipment that are temporarily stored in the corridors: equipment that belongs to the surgical unit and equipment that belongs to other departments such as the dietary cart and gift shop cart.

The nurses' approach to searching is what I call a *searching travel plan*. The searching travel plan represents a sequence of spatial decisions and all of the possible route choices that a nurse can make when searching for medication, supplies, and equipment. My findings indicate a nurse begins the search by first planning how she is going to find a particular object and determining the most likely place that the object would be.

Figure 8: Gina, "Which move do I make next?"
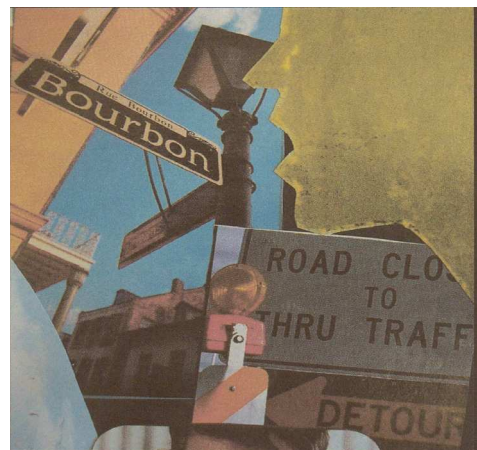
Figure 9: Dorothy, "Which way to go next?"

Several of the nurses expressed aspects of the act of searching in their collages, such as looking for the best way to go, the best route to take (see Figure 8). Garling and Golledge (2000, p. 45-46) call this process spatial decision-making and claim, "choices of places (of) where to move precede choices of path which in turn precede wayfinding decisions." In Gina's collage, she used an image of a chessboard with white chessmen and dark silhouettes of men standing on empty squares (see Figure 8). Gina explains how this reminds her of her workspace, "You analyze the space – access the objects in the space and the other players (before you make your move). Which direction do I go? Which move do I make next? …" As Garling and Golledge (2000) indicate, Gina is making a travel plan and deciding which path to take. The spatial decisions made by a nurse about where to search for the objects that she needs also takes into account whether it is the dayshift or nightshift and the time it is during the shift. The time of the shift is relevant because caregiving activities occur at specific times. For example, on this surgical unit patients' baths are only done on the night shift.

Dorothy's collage image implies a choice of path (see Figure 9). She uses an image of an intersection of two city streets to represent making a choice between paths. Dorothy states in her explanation, "Which way to go next?" Dorothy explained that the meaning of the detour sign and the 'road closed to thru traffic' also conveyed that one always "has to change direction." A nurse tries to figure out where to begin searching and determines the most likely place that the object would be.

The Significance of the Searching Findings

This comprehensive study of *searching activities* illustrates that the physical setting in a surgical unit environment and the semi-fixed objects in that setting are a key factor in nurses' ability to fulfill their own professional expectations of *getting the work done*. This exploration of the searching activity has provided much needed insight into understanding the complexities of nursing work and what an activity such as searching means to a nurse as well as how it fits with her goal 'to get the work done.' In both the interviews and the collage explanations, the comments about the searching activities are almost always coupled with comments about *time*. The activity of searching for medications, supplies, and equipment is viewed by the nurses as a 'waste of time' because of its frequency, the duration and distance travelled. Describing time in terms of distance is a way for nurses to measure time and space. The challenges and problems associated with the frequent task of searching are made worse by the duration of many of the searching activities. The hidden dimensions of searching, both the cognitive and

the embodied components, reflect aspects of embodied professionalism.

Neglecting the activity of searching when studying nursing work marginalizes the physical labor of caregiving activities, and also ignores the time that it takes to search for equipment, to use the equipment, and to return the equipment to the space where it is stored. In other words, the issues of retrieving and returning need further study that is both detailed and an accurate representation of the issues.

The Benefits of Using a Feminist Post-Structuralist Approach to Analyze the Use of Space

The *conceptual framework* that I designed is from a feminist post-structuralist perspective and acknowledges a fluidity of categories, overlapping boundaries and the significance of presenting more than one truth or perspective. The post-structuralist approach that I have taken to analyzing nursing activities, the nursing workspace, and the objects in the workspace aids in better understanding the interconnected factors that explain how nurses experience hospital space. This approach allows for a more inclusive representation of the hidden aspects of caregiving activities such as *searching* and *moving*. The hospital unit is viewed through this lens as a collection of multifunctional spaces in which the nursing activities of stationing, care giving, and resting occurs. By focusing on behavior and activities, a study of space can be inclusive of the time and body dimensions of these spaces as well as the nature of nursing work. Also, the variance of experiences and thoughts among the nurses are validated.

This approach helped illustrate existing patterns and characteristics about time, the body, the space, and the objects in the space. The way that nurses use this space may have been misrepresented if I simply categorized these elements into dichotomies and binary oppositions. For example, an analysis of the corridor on the nursing unit revealed the different types of activities that occur there, the overlapping workspace territories, and spaces where both permanent and temporary objects are stored or parked on either side of the corridors. These parking spaces are more of a 'third space' that does not fit it into either the category of routes or the category of rooms. In this way the objects in the corridors are no longer invisible to researchers nor can they be easily discounted.

Another way in which a post-structuralist approach aided in interpreting the research findings was that instead of only viewing a space on a hospital unit as being either a *patient space* or a *staff space* as presented in the literature, it is acknowledged that the spaces are multidimensional and dynamic in nature. Many of the spaces on the surgical unit are multifunctional spaces that support an array of different behaviors at different times.

This conceptual framework illustrates how four significant components of nursing work experience interact with one another: the physical nature of nursing work and the impact it has on the nurse's *body*, types of *space*, the significance of other *people* in the space, and various issues of *time* as it relates to the activity. A benefit of using a conceptual framework like this is that it illustrates that a dynamic set of variables all have an impact on one another.

Conclusion

This research has demonstrated that *embodied professionalism* which is inclusive of the physical nature of nurses' work is an essential part of a hospital nurse's conceptualization of professionalism in her everyday working world. While this research served the purpose of exploring nursing work and nursing space, it also challenged the limitations posed by dichotomous thinking when analyzing person-environment relationships in healthcare. The searching, moving, and recovery activity findings of this study have complex relationships and are inclusive of several variables. An analysis of space needs to be inclusive of the body, time and people dimensions of these spaces as well as the nature of the nursing work itself - the activities and behaviors that occur in these spaces. This study has demonstrated how a study of space is inseparable from human activity and the experience of that space. In particular, importance should be given to the hidden activities, those that are not measured or included in such inventories as work sampling.

Healthcare design researchers would benefit from educating themselves about the nursing profession. This is recommended in order to build on a knowledge base that is deficient in understanding how hospital nurses work, the relationship between nursing credentials and nursing work, and nursing professionalism. Healthcare design researchers do not so much need to do more studies on user preferences but rather, studies on how space is used and experienced. We need to develop more tools that can

help us understand the lived experience of people in space. Studies on nursing activities reveal much about how the hospital workspace is used and experienced. The exploration of embodied professionalism can inspire us to re-think our conceptualizations of the relationships between workers, working, and workspace. It can provide us with a lens in which to ask a set of conceptual questions about nursing workspaces and open doors to new approaches and perspectives.

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Accommodating Teachers' Stress-reducing Strategies

Frontstage and Backstage Areas in Schools

Gowri Betrabet Gulwadi

Teacher stress is induced by work overload, verbal or physical aggression from students, inadequate working conditions, and lack of resources (e.g., Grayson & Alvarez, 2008; Ravichandran & Rajendran, 2007; Webb, et al. 2004; Kyriacou, 2001). Teacher stress and burnout negatively impact teacher productivity and health (e.g., Jin, Yeung, Tang & Low, 2008; Lazuras, 2006; Pillay, Goddard & Wilss, 2005; Wiley, 2000; Travers & Cooper, 1996). In the United States (U.S.) teacher turnover is costly[1] and detrimental as a revolving-door phenomenon (Ingersoll, 2001) fills vacated positions with novices vulnerable to teacher stress and burnout. Teacher retention requires spatial, social, and organizational interventions, e.g., comprehensive induction programs that support novice teachers in networked and mentored learning communities (National Commission on Teaching and America's Future, 2005; Smith & Ingersoll, 2004). Newer conceptualizations of schools as flexible and collaborative learning communities promise a better synergy between the spatial, social and organizational components of classrooms and the school which is linked to a good workplace experience for teachers (Fielding, 2006). However, teachers continue to function stressfully in many schools with older spatial and organizational configurations.

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[1] A National Commission on Teaching and America's Future report (Barnes, Crowe, & Schaefer, 2007) estimates that teacher dropout costs more than $7 billion a year. A projected need for 2.8 million new teachers in the U. S. by 2016 (Hussar & Bailey, 2007) has sparked discussions about hiring and retaining effective teachers (e.g., Jacob, 2007) including second career teachers (e.g., Hasselkorn & Hammerness, 2008).

Schools contain front-stage areas (Goffman, 1959) where teachers must constantly be "onstage." Goffman, a Canadian born sociologist (1959) conceptualized two types of areas that help regulate people's interactions and stress resulting from those interactions - frontstage areas or 'arenas' in which one has to maintain a prescribed role or 'front,' and backstage areas in which to regroup for the next frontstage activity. Teaching can be an isolating, frontstage experience for elementary classroom teachers in older 'turf-centric' (Fielding, 2006) classrooms, with long student contact hours in the same room and few or no breaks. Individual and social stress-reducing strategies exist, but environmental interventions that might support these strategies spatially – for example, access to a 'backstage' teachers' lounge or to 'behind-the-scenes' spaces of mentor teachers – have not been clearly identified. Instead, there is dissatisfaction due to a lack of such school spaces (Overbaugh, 1990), and supportive aspects of traditionally designed school spaces (e.g., Bissell, 2004) remain untapped.

The supportive stress-reducing potential of designed spaces has been successfully addressed in other areas. A paradigmatic shift from a disease-centered model to a patient-centered one supported by a strong evidence base has greatly enhanced the planning, design and management of healthcare spaces. Supportive healthcare design (Ulrich, 1991) is based on evidence that stress experienced by hospital patients is alleviated through access to nature and other positive distractions (e.g., a window looking out on a pleasant view), access to social support (e.g., proximal and comfortable waiting areas), and privacy and control with respect to their surroundings (e.g., single rooms instead of multiple occupancy rooms). These specific evidence-backed goals have resulted in layouts, finishes and furnishings that represent warmer wellness-oriented healthcare spaces instead of previous stark, clinical, disease-centered spaces.

School design is going through a similar paradigm shift. Flexible learning centers for a collaborative community of students and teachers (Nair, Fielding and Lackney, 2009) replace factory-like 'cells and bells' schools. Identifying stress-reducing aspects of schools will complement current learner-centered approaches and identify design interventions geared toward teacher well-being. In this chapter, the research, design and management of elementary school spaces are viewed through a dramaturgical lens. The next section reviews the background and theoretical basis for this chapter. It is followed by the results of a qualitative analysis of teachers' self-reported experiences, and a spatial analysis of exemplary school floor plans. The chapter concludes by recommending a renewed dialog between school design researchers and practitioners using new conceptualizations and a strong evidence base.

The school as a stress-inducing workplace

School spaces create a setting for learning; they also create a primary workplace that can generate occupational stress for teachers who facilitate this learning (Johnson, 2006). Teachers' working conditions[2] include interrelated organizational, interpersonal, environmental (e.g. class size, availability of resources) and time-related (e.g., long work hours) factors that impact the onset and perception of stress. Public school teachers spend approximately "half their waking lives" in work-related activities (Wiley, 2000).

Teachers commonly experience role ambiguity and conflict, e.g., playing the role of 'social worker' (Sparks & Hammond, 1981), or being forced to teach outside one's specialty area (Schwab & Iwanicki, 1982). Additionally, policy demands create a shifting 'kaleidoscopic' set of roles that teachers have to juggle (Valli & Buese, 2007). Low job security and incongruence between bestowed status and individual expectation (e.g. under-promotion or discrimination) are stressful hindrances to teachers' career development (Wanberg, 1984). Due to inherent occupational stress factors, a teacher's career, unlike other vertical occupational hierarchies, is labeled a 'horizontal plane' (Becker, 1952) and a 'flattened pyramid' (Troman & Woods, 2000). Teachers constantly negotiate and re-invent their professional identity and sense of self (e.g., Woods, Troman & Boyle, 1997; Nias, 1984).

Teachers also have to balance and maintain working relationships with students,[3] colleagues[4] and upper management daily. Physical working conditions (spatial, sensory

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[2] School climate affects both teacher and student performance (Grayson & Alvarez, 2008; Freiberg, 1999). Teacher performance is impacted by dealing with a wide range of student abilities in the same class, having to prepare extra lessons and detailed evaluations, or encountering a higher than usual student-teacher ratio (Fimian & Santoro, 1983, Russell et. al, 1987). In the United States, recent statistics indicate a national average student-teacher ratio of 15.4 students per public school teacher (Institute of Education Sciences, 2007).

[3] Teachers constantly feel responsible for the behavior of students (Brenner et. al, 1985). Student behavior is stress-inducing when characterized by violence (Wanberg, 1984), aggression or disruption. Cumulative effects of constant 'low-level' disruptive student behavior on teachers are also found more stressful than single disruptive incidents (Kyriacou, 1987).

[4] Relationships with colleagues can either be a source of stress or support depending on their quality (Brenner et. al. 1985) and to the extent that values are shared (Nias, 1984). Although seeking and maintaining supportive collegial interaction involves effort and time (e.g., Nias, 1984) it is associated with reduced stress (Jarzabkowski, 2002) and positive outcomes. For teachers with family commitments, family relationships occasionally provided social support (Cooke & Rousseau, 1984). In contrast, juggling family and work demands created conflicts and spillover (influence of one domain on another, e.g., having a sick child at home and pressing priorities at work at the same time) especially in families with working spouses (Ross & Altmaier, 1994). Conflicts with leadership styles can also result in strained relationships with people in management.

and maintenance factors) also impact teachers' experiences. Hanushek, Kain and Rivkin (2004, p. 330) found that "teachers may be willing to take lower salaries in exchange for better working conditions." Spatial factors included lack of space or its arrangement[5], layout and placement within the school. A lack of staff and storage resources (Connors, 1983) and large class sizes (French, 1993) negatively influence teachers' effectiveness. Chaudhury, Hammer, Kremer, Muralidharan, & Rogers (2006) recorded higher teacher absenteeism in primary (elementary) schools with poorer working conditions (e.g., lack of toilets, uncovered classrooms, no electricity). Schneider (2003) found that poor environmental conditions such as bad indoor air quality, inadequate lighting, dirty common spaces (lunchrooms, restrooms) and inadequate classroom spaces were linked with poor teacher health outcomes (e.g. asthma and sinus infections) and teacher attrition. Buckley, Schneider and Shang (2005) found that school facility quality (as reflected in the age and level of maintenance) affected teacher retention/attrition even after controlling for other factors.

Thus, school spaces have been mainly established as *stress-inducing* workplaces for most teachers with organizational, interpersonal and physical design antecedents; their *stress-reducing* aspects have not been examined yet. The next section frames stress-inducing and stress-reducing aspects of teachers' workplaces using two theoretical ideas: Lawton and Nahemow's adaptation level theory and Goffman's dramaturgical theory.

Theoretical premise: Stress-reducing school spaces

The adaptation level theory (Lawton & Nahemow, 1973) helps conceptualize stress-inducing teacher experiences and proactive stress-reduction teacher efforts in school spaces using two ideas: 1) *competence,* or an individual's functional ability to "respond adaptively, as judged by social norms, in the domains of physical health, activities of daily living, sensorimotor and perceptual functions, and cognition" (Lawton, 1989, p. 59); and 2) *environmental press,* or the demands placed by the socio-physical context. Favorable behavioral and affective outcomes occur when there is a good match between personal competence and environmental press. A theoretical line called the *adaptation level* (Figure 1) represents a set of good correspondences

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[5] Open plan schools include acoustic concerns - noise stress in the classroom results in teachers restricting their activities for fear of adding to noise (Kyzar, 1971 cf. Ahrentzen et. al., 1982).

between competence and press levels. A slight increase in press level (in the zone of maximum performance potential) stimulates and provides a manageable challenge to the individual and a slight decrease (in the zone of maximum comfort) provides a state of enjoyable mild dependence.
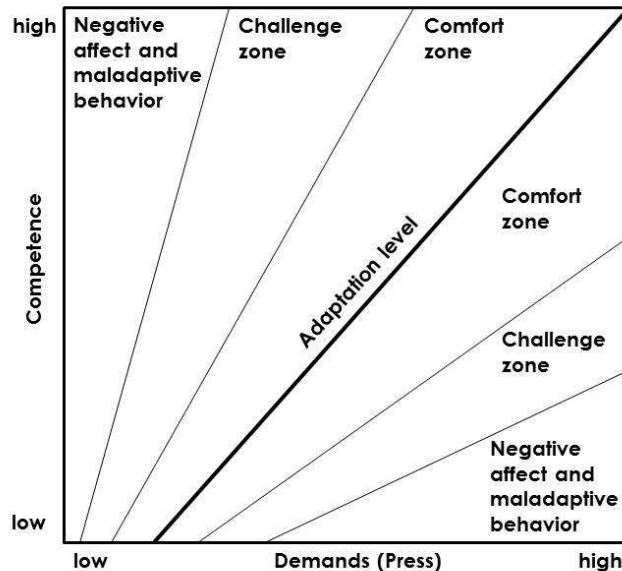
Figure 1: Lawton and Nahemow's ecological model

Depending on a teacher's competence levels, environmental press in the school can be perceived as exciting or debilitating. Stress, "signifying an imbalance between environmental opportunities and individual's goals, and capabilities to cope with that imbalance" (Evans & Cohen, 1987 p. 573) occurs when the correspondence between a teacher's competence and the school's press deviates from the adaptation level. Experiences in high-press school spaces could be stress-inducing, and consequently experiences in low-press school spaces could be stress-reducing. Identifying spatial resources is an important step in developing supportive environmental interventions in schools.

High-press and low-press school spaces can be conceptualized as frontstage and backstage areas using Goffman's dramaturgical theory. The 'performance' is given in a frontstage area; for example, the classroom in which the performer (teacher) is bound by role expectations and standards for acceptable behavior. A backstage area is

where the performer can relax and "step out of character" because audience members are not expected to intrude in this space, e.g., a teachers' lounge (Ben-Peretz and Schonmann, 2000). Goffman (1959, p. 113) writes, "Very commonly the back region of a performance is located in one end of the place where the performance is presented, being cut off from it by a partition and guarded passageway." There are two spatial relationships relevant to this chapter: 1) physical proximity between frontstage and backstage areas; and 2) the control of backstage areas that "plays a significant role in the process of 'work control' whereby individuals attempt to buffer themselves from the deterministic demands that surround them" (Goffman, 1959, p. 114). High-press experiences in frontstage areas might cause teacher stress (deviation from the adaptation level), and low-press experiences in backstage areas might reduce teacher stress and help restore balance. In instructional spaces, low-press experiences are dependent upon non-teaching moments, absence of children, and availability of stress-reducing conditions, e.g., access to proximal, suitably partitioned, backstage areas like a teachers' lounge.

This chapter presents findings from two studies: 1) a qualitative analysis of *teachers' daily experiences in school spaces* to locate stress-inducing factors and stress-reducing spaces, and 2) a *spatial floor plan analysis of exemplary schools* to explore the location and relationship between backstage and frontstage areas.

Teachers' daily experiences in school spaces

Teachers' experiences were explored in a two phased study (see Table 1) using a cross-sectional survey and in-depth interviews (Betrabet Gulwadi, 2006). Qualitative data analysis techniques (Miles & Huberman, 1994) used comparative data matrices of teachers' responses[6] to open-ended survey and interview questions to answer – what stress-inducing factors and stress-reducing school spaces feature in teachers' daily school experiences?

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[6] Teachers' responses were coded using a simple system that clustered conceptually similar items together (open coding; Strauss & Corbin, 1998). Several iterations of data organization placed each within the most suitable cluster or category. Codes were later assembled into higher-level abstract codes linked to key concepts in the study (axial coding; Strauss & Corbin, 1998). Two independent reviewers checked codes for consistency and clarity at two points during the open coding and the axial coding on the basis of face validity.

Stress-inducing factors

Stress-inducing factors included 1) absence of compatibility and control, and 2) a need for role relinquishment. These factors are represented below using teachers' direct quotes, referenced by the survey respondent or interviewee number (#) assigned to the survey or interview.

Absence of compatibility and control

Teachers' responses indicated a lack of compatibility between personal goals and environmental opportunities, and a lack of control with respect to their surroundings. Contributing factors included inadequacy of resources, unsuitable environmental conditions, and inability to meet personal needs.

Not having adequate resources for necessary and purposive action as a teacher is evident - "lack of basic resources, paper, pencils, broken copy machine, no markers, glue, scissors…."*(Single female survey respondent #40, age range 30-39, 4 years teaching experience)*. Teachers often used their own funds, sought free resources (art teacher with limited funds) or other funding sources – thus draining their money and/or time. One teacher found this stress-inducing: "not having what you need is very stressful — it takes extra time and money to develop resources — that's more stress."*(Married female survey respondent #31, age range 40-49, 4 years teaching experience)*. A special education teacher with insufficient learning materials for her students found herself "having to photocopy everything I use because I do not have enough books for my students" *(Single female survey respondent #50, age range 30-39, 3 years teaching experience)*. A novice teacher realized she often had to "purchase class room supplies because of lack of response from administration for items such as chalk, pencils, erasers for chalkboard etc." *(Single female survey respondent #67, age range 20-29, 1 year teaching experience)*. It was no different for a veteran teacher: "I just buy what we don't have" except – "we have no playground and I can't buy one of those" *(Married female survey respondent #63, age range 50-59, 30 years teaching experience)*. Another veteran teacher indicated, "to implement programs or materials, we are constantly searching for funds by writing grants, requesting help from other resources." Fund-raising is time-consuming and it is a challenge to get the most from the time invested *(Single female survey respondent #25, age range 40-49, 22 years teaching experience)* These quotes demonstrate teachers' proactive stress-reduction efforts to overcome environmental demands and reach closer to the adaptation level.

	Sample and recruitment	Number obtained	Instrument	Sample characteristics	Data analysis	Results
Cross sectional survey	Teachers in public elementary schools in Chicago, IL	71	Seven page questionnaire + follow up after three weeks.	Average age range (40-49 years)	Ratings of frequency of stress and coping strategies were summarized as frequencies and tabulated into high, medium, and low scores to enable comparison between groups; those findings are discussed in more detail in Betrabet Gulwadi (2006)	Main themes related to why teachers seek restoration:
	Five hundred questionnaires were mailed with monthly newsletters of the Chicago Teachers Union and the Chicago Public Schools, handed out at teacher meetings in schools, distributed to teachers via referrals, and placed in teachers' mailboxes in different public elementary schools in the Chicago area.	(14% response rate)	Items: demographics, sources of stress, frequency of use of coping strategies, and open-ended questions on stress-inducing factors, environmental competence (awareness and use of individual and environmental coping resources)	80% women		Need for compatibility and control

	Sample and recruitment	Number obtained	Instrument	Sample characteristics	Data analysis	Results
				75% full-time sole teachers in classrooms averaging 24 students each 62% lived with a spouse/partner 53% were parents caring for their children at home Others: special education, art, or physical education teachers		Need for role relinquishment
In-depth interviews	Subset of those who responded in the questionnaire and provided their contact information – there was no identifier that linked them back to their original questionnaire	9	Semi-structured interview guide	Worked in different schools in Chicago	Content analysis of responses	

Table 1: Study Methodology

Unsuitable environmental conditions encountered daily create a lack of compatibility with the environment; thermal comfort is a common disruptive environmental concern. One teacher wrote that she and her students were either too cold or too warm in their classroom which also had unreliable lighting – "some lights would go out and come back on after 5-10 minutes constantly and some sections would never light" *(Married female survey respondent #68, age range 40-49, 27 years teaching experience).* Another teacher found it stress-inducing because of "…..no air-conditioning in the summer … in a 105° F classroom"*(Single female survey respondent #32, age range 30-39, 10 years teaching experience).* One classroom had no window blinds and was at temperature extremes of 96° F or 56° F and the situation worsened when "…building windows do not open" *(Single female survey respondent #40, age range 30-39, 4 years teaching experience)* or when repair and maintenance efforts create further interruptions, "I have to share my classroom with the school engineer who is constantly interrupting my class" *(Single female survey respondent #50, age range 30-39, 3 years teaching experience).*

Lack of instructional space is stress-inducing. For example, a special education teacher reported that she had to either share a room with others or not have a classroom to work in. Another teacher expressed: "At one point I was moved to a classroom that had been a repository for broken furniture and old books. And the first 6 months we had to shove broken furniture aside to have little space for ourselves. By the next year we were able to get rid of the debris… it was such a filthy room. …but it is very hard for me to be in an environment where I have no control and if I see things that I very much want to change and I cannot change. It is stress producing." (*Interviewee 6*)

Stephen Kaplan, a U.S. environmental psychologist (1983), has suggested that the sense of "things being under control" is quite different from a personal sense of "having control." Having control over the surroundings is a required aspect of being a teacher, that is, keeping the class under control or keeping the classroom structured and organized. However, when some of the basic environmental conditions do not function as they should, a sense of things being under control (e.g., a smoothly operating physical school setting) and a sense of being in control (i.e., ability to control temperature) are both threatened, perpetuating stress. Other stress-inducing experiences were related to teachers' inability to fulfill their personal needs. Few opportunities for restroom (toilet) breaks are expressed by both classroom and special education teachers; one talked about her experience in a "very structured rigid school that I have been in the last 20 years. We were not allowed to leave the classroom. So,

it was me and eight children, all day long other than to let them go to the gym or to the library" (*Interviewee 6*). Another frustrated teacher wrote, "Since school began on August 25 until today August 30, I was only given 2 breaks in that period. I told the principal and vice-principal and they don't see to it. Also, I was not able to go to the bathroom all day because they couldn't find the keys to the new bathroom!"*(Single female survey respondent #12, age range 40-49, 9 years teaching experience)*.

Because classroom teachers are responsible for their students, even scheduled breaks are sometimes compromised; "It's stressful — not being able to go to the bathroom when I need to go to the bathroom – today that happened...I had no break at all from 7.50 a. m to 12.40 p.m. and generally I get a break at 12 because the children go out to recess but it rained, so I had no break and you know I survived I managed to make it through — but it's stressful"(*Interviewee 4*). This teacher also observed, "I would probably venture to say that teachers as a group are more sick than other professions ...first of all they can't just get up and take care of needs - they can't just leave children. So I know so many teachers who have bladder infections all the time." Some teachers attempted to regain control by approaching the principal about personal needs, " I told my principal that we should have a meditation room for "restorative" purposes. He laughed. Then I mentioned it again and said other people would like it too. He just laughed. I'm serious!" *(Single female survey respondent #12, age range 40-49, 9 years teaching experience)*.

In sum, stress-inducing factors such as inadequate resources, unsuitable environmental conditions and inability to attend to personal needs created a lack of teachers' compatibility with the environment and a loss of control over it.

A need for role relinquishment:

A teacher's role is demanding and multifaceted, requiring intellectual, emotional and physical strength and resilience. An elementary classroom teacher not only facilitates learning; a first grade teacher felt that she did a lot of babysitting and that "days when I feel most stressed out are days when I had a hard time keeping the kids' attention and getting anything done..." *(Interviewee 5)*. A fourth grade teacher expected parents to participate in their child's learning. She felt, "When the parents don't give the kind of attention, the child takes the work home and it comes back the next day without ever having left the book bag, you know, it's extremely stressful. I'm having to fulfill the role of parent even though I'm not there at the house. I can't be a parent to every child

— I have no right to do that, it is not humanly possible, so it's frustrating" *(Interviewee 3)*. Another felt that a teacher's role has changed, "…teachers used to be the knower of knowledge - most certainly that's not our role not anymore. I think that the role is now that we have to teach the children how to access themselves, how to get to what you need to solve that problem... so my role is changing to let's say dialectic, to more of a facilitator and moving out of one role into another." *(Interviewee 3)*. All these roles: baby-sitter, surrogate parent, educator, facilitator, are folded into a teacher's daily frontstage experience.

Stress-reducing spaces sought by teachers

The following open-ended questions were asked in the survey: "Name a place/ places or things that help in making you feel better when you are stressed out or exhausted — when you seek solace or need to lift your spirits," "What happens there/ then to make you feel better?" and, "What things in the environment are absolutely essential to making you feel better?" For each question, teachers could give as many responses as they wished or none at all. Teachers' responses were coded using open and axial coding (as described earlier) to yield lists of places and environmental conditions. Teachers chose the following stress-reducing places: home, nature-related outdoor places (e.g., lakefront), city places (e.g., museum), third places (e.g., café) and church. School spaces were conspicuously absent. Ambient aspects not specifically linked with a place but highly regarded for the experiential quality were sensory conditions (e.g. pleasant sounds such as music and laughter), social contact, props (e.g. books), and nature-related environmental features (e.g. plants).

Within the school, lack of a suitable backstage area such as a teacher's lounge or a getaway space influenced teachers' stress-reducing attempts. This finding was probed further in the interviews. One teacher described her situation thus: "I try to go find other teachers to talk to – schools are not geared towards that… we go into our room and close the door but we don't have a lot of interaction naturally – so we have to go look for it, invite people into your room, go to their room, its difficult to do that – you know – there isn't the time. *(Interviewee 1)*.Therefore, interactions often occur in corridors or hallways, e.g., "if I were speaking with another teacher at work we would be speaking in the hallway outside of our classroom doors or the school lunch room." When asked if a teachers' lounge would assist in stress-reduction, she commented: "I've not been in schools where teacher lounges are conducive to rest, rejuvenation; they are very busy places, people are talking all the time" *(Interviewee 6)*. Another

teacher remarked that having a teachers' lounge in the school does not necessarily ensure her easy access and use of it; "We have a teachers' lounge but I never go there. It is nicer than at most schools – it has carpeting, it has a refrigerator, a microwave but it is not a very warm comfortable place. I'd rather stay in my classroom or go outside where there are benches. For me, it is far from my classroom, (my classroom is on the first floor and the teachers lounge is on the second floor), it is not centrally located and there's always people in there and there's always talking – so if I want to go there for quiet… At our school no one uses it because it takes too long to get there and then there's not a lot of free time so we don't go there and don't interact much." *(Interviewee 1)*

Thus, having a lounge is not quite the answer, but having it nearby and accessible seems more important, especially if it were to serve as the backstage function. Another issue is the time needed to access it. A teacher's decision to stay in her classroom rather than use the teacher's lounge is influenced by availability of time: "All the kids eat on the third floor and the teachers lounge is on the first floor. I have twenty minutes to eat. I never go to the teachers lounge. So I think a smart idea is if you want your teachers to be on time picking up the kids (after lunch) put the teachers lounge right next to the cafeteria." *(Interviewee 8)*. Another aspect is the physical appearance, attractiveness and cleanliness of the lounge. "It is not only disgusting down there; there is one person in our building who has claimed it for himself and this person is not friendly and not nice." *(Interviewee 8)*. "The teachers' lounge changes every couple of months where it is in the building. There is no place in the building that I can go to be alone except in the bathroom, that's it and there is no other place – which is hard, and there's no beautiful place." *(Interviewee 9)*

Why does there have to be a getaway place or backstage area? The teacher explained: "It is like the difference between being on vacation at home and being on vacation somewhere else. When you are on vacation at home, you still look around and you see the laundry and the dishes, it's like wherever you look.   And I am very sensitive to what I see. I can't — its hard for me to cut out what's around that could be done. So it takes me going in this room at home. There's still stuff there, but I keep it very orderly and very, you know, simple as I can and that helps me because otherwise I would be seeing all the work — this pile has to be dealt with, this mail has to be…. but in the school there is no such place." *(Interviewee 9)*

Therefore, it is not just the physical access to a school backstage area, but its organizational support and experiential qualities that influence teachers' attempts to pursue a few 'offstage' quiet moments and escape from visible work reminders during the schoolday. This is not afforded in most current teachers' lounges that instead serve as lunch/work rooms, often housing the copier and other amenities (e.g., Lackney, 1996). So, are school spaces capable of providing adequate and accessible backstage areas? The following section presents a spatial analysis of newer schools to explore the location and accessibility of backstage areas.

Spatial floor plan analysis of exemplary schools

The concepts of frontstage and backstage areas were explored with annotations in floor plans of seven award-winning elementary schools profiled on the DesignShare website, www.designshare.com, over the past six years (Figures 2 through 7). Only clearly labeled plans of elementary schools in the United States were selected. A floor plan analysis is limited because it does not address issues like the volume of spaces, their maintenance, and building condition. It also does not reveal organizational factors (such as those mentioned in the earlier section) that might influence the use of the school spaces. However, it helps illustrate the spatial concepts discussed in this chapter and provides a preliminary glimpse of the potential impact of spatial configuration on teachers' school experiences. Annotations were based on the following considerations gleaned from the theoretical basis mentioned earlier:

- Backstage areas are separated by partitions and guarded passageways
- They are proximal to frontstage (instructional areas) and accessed relatively easily
- They are at one end of the frontstage performance space
- Only performers have access to these areas (e,g., other teachers/staff)

Spaces labeled for teacher use (e.g. faculty lounge, teacher prep) in plan were examined to see if they met these considerations. Also, the availability of any spaces with potential as backstages because of the spatial layout was also documented. As the floor plans demonstrate, school designs are undergoing a transformation – new concepts in spatial configuration are generating Main Street spines, storefronts, discovery centers, and flexible, technology-enhanced environments. The learning community approach (Nair, Fielding, Lackney, 2009) creates a different kind of frontstage area

for the teachers in each pod or community when compared with traditional factory model classroom plans. The nine floor plans demonstrate a variety of configurations with varying visual and physical access to backstage spaces. Some backstage areas are successfully partitioned from surrounding and frontstage areas, and some are even accessed through a 'guarded' passageway. Although these plans reflect the newer philosophy and cannot be directly related to teacher experiences mentioned earlier, these spatial relationships create hypotheses and raise questions for future research.
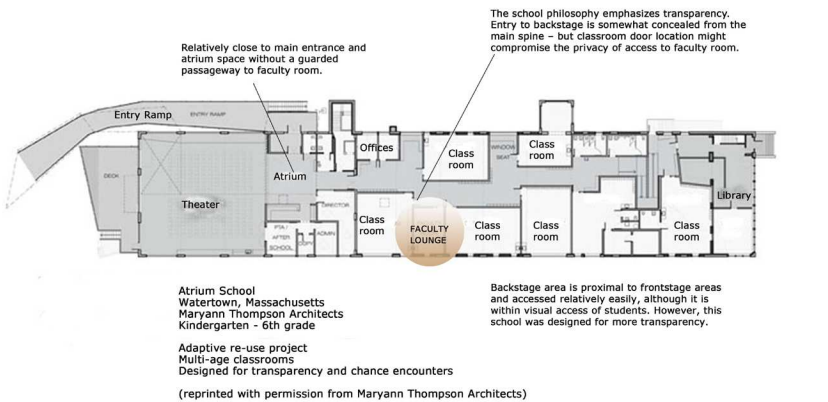
Figure 2: Atrium School
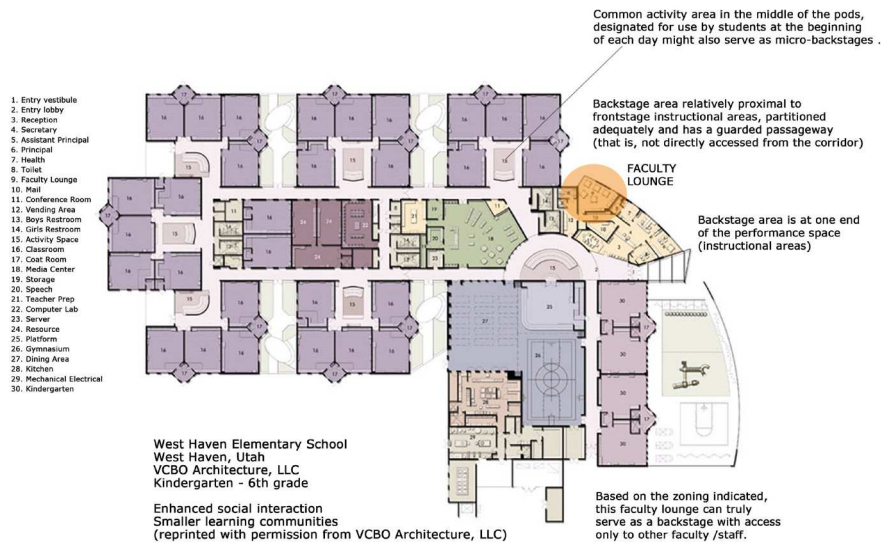
Figure 3: West Haven Elementary School

Figure 4: Santa Rita School
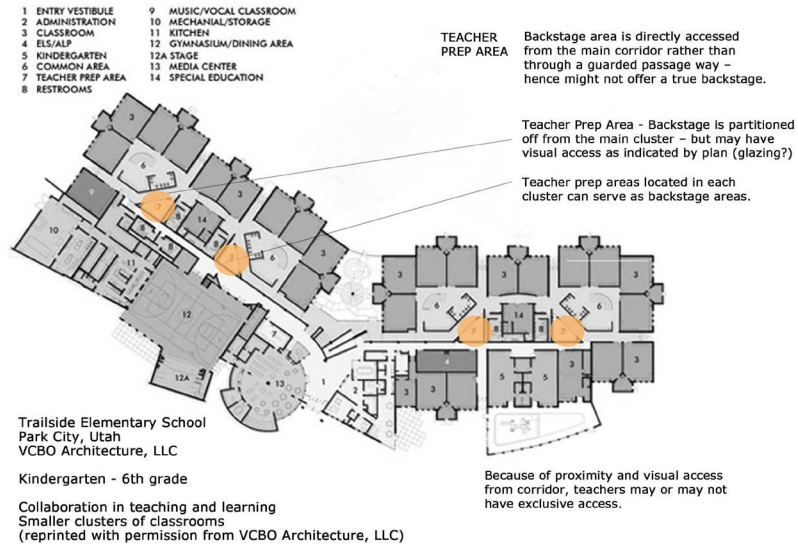
Figure 5: Trailside Elementary School

TEACHERS' OFFICE   Backstage area has some spatial separation from the main area – and accessed through the common space - "family room"

Floor Plan

McWillie Elementary School
Jackson, Mississippi
Dale and Associates Architects, PA
Kindergarten – 2nd grade

Montessori system
Activity –based learning
Family-based clusters
Outdoor learning centers
(reprinted with permission from Dale and Associates Architects, PA)

Teachers' office is located in the center of each cluster – shared by 5 teachers. Hence backstage is proximal to frontstage areas.

Because of proximity and visual access from corridor, teachers may or may not have exclusive access.

Figure 6: McWillie Elementary School

Backstage area has some spatial separation from the main area – and is at one end of each frontstage cluster.

TEACHER PLANNING

Because of proximity and visual access from corridor, teachers may or may not have exclusive access.

Moreland Hills Elementary School
Pepper Pike, Ohio
Fanning/Howey Associates, Inc.

Pre-kindergarten – 5th grade

Community involvement
Located within a protected forest habitat
Flexible program areas
(reprinted with permission from Fanning/Howey Associates, Inc.)

In this configuration, although not the guarded passageway that a backstage area might be best served by, there is less direct access from the corridor but remains within visual and auditory access of the cafeteria.

Figure 7: Moreland Hills Elementary School

Informing the design of future schools

The need to hire and retain more teachers is a pressing consideration in U.S. schools. Stress contributes to teacher attrition, high turnover rates, and high retention and recruitment costs. This chapter conceptualized teachers' stress-inducing experiences in frontstage areas as deviations from an adaptation level, and stress-reducing experiences in backstage areas as opportunities to restore balance. Self-reported stress-inducing experiences of teachers point out that inadequate space, time and funding resources and poor working conditions create a lack of compatibility and control, and a need for role relinquishment. Teachers' responses indicate that they proactively try to restore the balance (e.g., buying resources, seeking social support in hallways) and sometimes fail (e.g., unable to relinquish role, unable to find a suitable backstage space). Stress-reducing spaces identified by teachers include other places in the community and their homes, but none within the school.

Through a dramaturgical lens, teachers' instructional activities mostly play out as frontstage behavior – in the classrooms, hallways or other instructional spaces. There are few opportunities for backstage moments – either when students are not in the room, or before and after the school day – when teachers can be out of students' sight and could "step out of character." There is a lack of non-instructional support spaces exclusively for teacher use, e.g., a teacher's lounge – that could serve as a backstage area. Backstage moments are necessary for buffering the effects of stress and to enable teachers to restore balance and move towards the adaptation level. While they may not directly alleviate stress-inducing aspects, they might provide the necessary pause in the school day. The floor plan analysis of newer schools indicated that there is potential for designing suitable backstage areas.

Many questions emerge: How are restorative backstage moments supported by the existing physical and organizational environment? Do stress-inducing features render a school's stress-reducing potential invisible? Teachers who participated in the survey and interviews found that their school lounges exacerbated their stress. Would a well-designed and suitably located teachers' lounge enable backstage reflection and restoration? What would the design features of such a backstage space represent? Are the lounges in the exemplary schools helping to alleviate stress experienced by teachers? Making such questions a future research focus could yield meaningful stress-reducing environmental interventions in schools.

This chapter provides a new lens to examine all kinds of old and new school spaces to assess how they might support teachers' functional and restorative needs. Opportunities and constraints identified in the annotated floor plans can be used as hypotheses in future school research. The evolution of school philosophy and the corresponding evolution in school architecture closely parallels the evolution of healthcare design from a disease-treatment model to a patient-centered model. Newer healthcare settings informed by a strong evidence base are sensitive to stress-reducing needs of *all* those who experience them (patients, nurses, family members) and create spaces that are easily accessed, distract positively from stress with nature or artwork, and provide an overall humane experience. Moreover, distinct cost benefits have been associated with better patient discharge rates and higher productivity of staff.

As school design shifts from a sage-on-stage factory model to a collaborative learning-community model, the underlying fact is that the 'stage' has not been obliterated – it has been expanded with new dimensions. Teachers may still need a backstage area in their school in which they can step out of character periodically. However, we need a strong evidence base – similar to the one in healthcare environments – that can inform design decisions more holistically and convincingly. Seeking ways to reconceptualize schools as having *stress-reducing* components in addition to *stress-inducing* ones, this chapter adds to the dialog that school designers and researchers will need for creating productive and healthy schools in the future.

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Designing for Choice and Control

Michael J. O'Neill

I have a never-waning interest in "what makes people tick." In fact my initial undergraduate education was in cognitive psychology followed by graduate work in clinical psychology. I was, and remain, deeply influenced by the role Bob Newhart played as a psychologist in his eponymous TV series. I quit the clinical program when I realized that listening to people's problems could get tiring over time. I realized I had a flair for research. About that time I discovered the SARUP Environment-Behavior Studies program, which evolved as a great fit because I could apply psychological research to problem solving in the context of design. I graduated with my M. Arch. and PhD in Architecture. Because the education I received was multi-disciplinary, I have had a broad perspective on the intersection between people, work, technology, and physical workspace.

My professional career started with a stint at BOSTI (with the late Mike Brill), a consulting group whose claim to fame was "measuring" workplace productivity." I then worked in academia for a few years (University of Wisconsin) but have spent the majority of my career in the office furniture industry. Professionally, my passion has been to pursue the connection between the design of space and human behavior ("workspace" broadly defined to include not only office facilities, but learning and healthcare spaces). I have sought to uncover the design features that make people more successful at their jobs, help teams create better outcomes, or even influence the success of entire organizations. As part of this process I have written two books and authored over 50 articles on this topic.

In my furniture industry roles I have: worked in product R&D, built a consulting business (measuring workspace performance and providing change management services), and more currently work in marketing, directing research projects to learn more about how workspace design affects employee performance and business outcomes. This research is translated into written materials shared broadly and through the 100 or more public presentations I conduct around the US each year. What we learn is also applied to guide the direction of new furniture products (such as the NEOCON Gold award winning Generation™ chair line and Innovation award-winning Antenna Workspaces™ systems furniture line).

My research has had a long-running theme of trying to understand "how" the physical space affects (and can be affected by) behavior. What are the underlying mechanisms, the element(s) of design that act on people and organizations? Early on, my research was greatly influenced by Karasek's "job/demand control" model (Karasek and Theorell, 1990) which shows increased health and performance of employees when they have greater control over their work tasks – especially for very demanding "high strain" jobs[1].

In this model, control is defined by the level of autonomy and decision latitude inherent to the design of the job. Karasek's research shows that the risks of low levels of job control are not trivial. His large-scale epidemiological studies directly connect low job control to increased stress and higher incidence of coronary heart disease (CHD) and mortality rates, and also have job satisfaction and performance implications.

In the early 1990s it occurred to me that this model of job control, which was largely the province of the world of organizational psychology, could be broadened to include the aspects of technology and in particular the design of the physical workspace. I wondered if, like job design, the design of the physical workspace itself could be leveraged to provide another element of control to the employee, the workgroup or even entire departments or organizations. I realized that *environmental control* could be the "missing link," the mechanism that explains why some work places are more healthful and productive, and other spaces are less effective. Thus I began a journey to seek out and examine the benefits of environmental control and identify the elements of furnishings, layout and types of workspaces, and architecture of space that might form the mechanisms of control. This paper describes

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[1]Incidentally, of the over 3000 jobs they analyzed, the number-one lowest strain profession of all is architecture.

what I found along the way and how these ideas can be applied to design.[2]

What is Environment Control and Why is it Important?

Environmental control is the capability of individuals, groups or entire organizations to modify features of the physical workplace, and choose location, time, and type of workspace, to better support their work goals (O'Neill, 1998; 2007). In this holistic model, the concept of environmental control includes: knowledge of how to act on workspace capabilities that provide control (provided through programs and training), policies that support control through choice of location and time of work, and design characteristics of the workspace and technologies that enhance control (see illustration, Figure 1). The crux of my research has been to show that enhanced environmental control is related to improved individual and organizational performance, and healthful work.
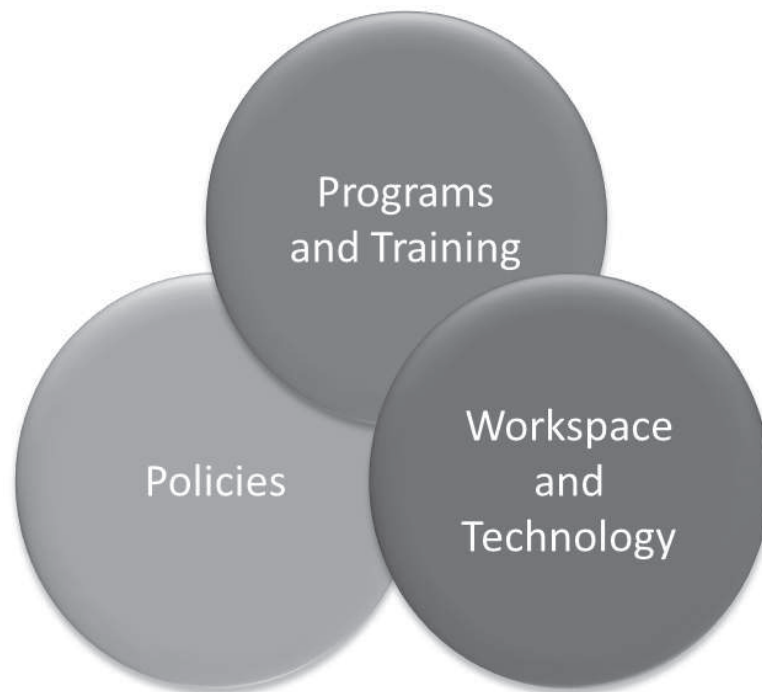
Figure 1. Components of environmental control

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[2]A more detailed review can be found in O'Neill, M. (2010) A Model of Environmental Control and Effective Work, Facilities, Vol. 28, No. ¾, Emerald Publishing Limited.

Control can be provided through a wide variety of architectural, interior planning, and furniture design features: on-site infrastructure (movable partition walls, touchdown spaces, hoteling, huddle rooms, war rooms, flexible meeting spaces), off-site arrangements (individual telecommuting, remote tele-centers, satellite offices), furnishings in the primary workspace (movable storage units, seating, adjustable shelving, task lighting, monitor arms, etc.) (Earlywine and Ratekin, 2010; O'Neill and Wymer, 2010).

Technology in the form of portable communication and computing devices enable people to work from a wide variety of locations and times (Hinds and Kiesler, 2002).

Training can provide employees with knowledge of how to modify workspace features or make good choices about which spaces to use.

Workplace management policies and programs can provide employee choice over the time and location of their work; formal guidelines reinforce "permission" of employees to make those choices.

A growing body of research shows strong beneficial links between degree of environmental control and outcomes such as: psychological stress, group and individual performance, speed of business processes and even sick building syndrome (Carayon and Smith, 2000; Gifford, 2007; Lee and Brand, 2005; O'Neill and Evans, 2000; Sundstrom, Town, Rice, Osborn and Brill, 1994). These studies show that the benefits of environmental control transcend age, generational affiliation, gender, and other demographic characteristics.

Model of Environmental Control

This holistic model assumes a dynamic, goal-directed system that adjusts itself using feedback from the outside world. In this system, people, technology, workspace and policies are sub-systems that continually adjust, and re-align to best achieve work and business goals. Environmental control is the adaptive mechanism that allows this adjustment to occur.

In Figure 2, the arrows indicate the direction of influence between one element of the model and another.

When high level objectives change, in response, business processes change, group goals and processes change and individual work tasks and goals evolve. Obviously these changes do not happen in lockstep but they do occur as a series of transactions within the system. Environmental control is the means by which the components of the system (business units, groups and individuals) can modify their use of workspace and technology to keep in alignment with organizational objectives as they change. The better the opportunities for control, the more effectively the organization can adapt to change, which will enhance the overall alignment of the system and ultimately business performance.

External Business Drivers: This is a dynamic model, in which external forces such as demands from customers and markets, and other larger demographic, social and economic drivers shape the business objectives of the company.

Organizational Objectives: The business objectives, in turn, shape the underlying programs for products and services and activities in support of those objectives.

Behaviors and Perceptions: Over time the objectives of the organization change in order to maintain alignment with market and customer demands. These changing objectives can also drive changes to organizational structure, and affect behaviors and perceptions such as employee engagement (feelings of belonging and connection to the organization), collaboration, learning and mentoring, and psychological stress.

Programs, Policies and Training: The model of environmental control also considers policies and formal programs that give employees choice over the location and time of their work - and employee and manager training on how best to use these programs.

Technology: Technology plays a significant role in providing employees control over how, where and when they conduct their work. While this model addresses this aspect of the workplace as a part of the model and recognizes its centrality to the concept of environmental control, the focus of this paper is primarily on the role of physical workspace.

Adaptive Mechanisms: The mechanisms of environmental control provide the means by which existing spaces and features within can be used and modified to meet business and work process needs and thus keep the business and work processes, and workspace, in alignment with organizational objectives.

These mechanisms occur in different ways at three organizational levels, Organization (Facility; entire organization or business unit), Group (Meeting spaces; team and share work modes), and Individual (workspace; focus work mode).

Organization

Examples at the organization level include: on-site and remote locations that support employee choice over time and location of work, flex work programs with unassigned workspaces, and architectural design features that support expansion and reuse of space as needed.

Group

Recent research suggests there are several types of collaborative work modes that workers move between over time (O'Neill and Wymer, 2009; O'Neill and Wymer, 2010; O'Neill, 2010). In this research, "share" is a collaborative work mode that can occur in individual or group spaces and centers on the casual exchange of ideas with a small number of colleagues. Sharing is a means of transferring knowledge between employees, and can include learning and mentoring.

Team is a group work mode related to specific work goals that occurs in formal and informal meeting spaces. Examples of mechanisms for control at the group level include: providing a variety of types, sizes and locations of meeting spaces, and furnishings, computing and communication technologies that provide flexibility within meeting spaces. For group work, a variety of meeting spaces scattered throughout the facility can be used to support a wide range of formal and informal collaborative modes. The transition of work between individual and group work can be facilitated—or hindered—by the by the location and adjacencies between individual and collaborative spaces.

Team effectiveness can also hinge on the ability to isolate certain activities from outside interference, such as problem solving meetings or sensitive advance R&D areas. Both the integrative and differentiating functions can be supported by individual and group control over the use of, and access to, collaborative spaces.

The space should support the ability to self-manage the use and reconfiguration of meeting spaces and boundaries between the group and other parts of the organization,

depending on business requirements. Boundaries can be represented through variations in lighting, color, and movable furniture elements such as screens, panels and storage elements. Storage can substitute as an architectural element that provides more flexibility in reconfiguration of space (environmental control) than the permanence of fixed walls.

Individual

"Focus" is an individual work mode that occurs within a primary workspace that supports concentration and reduces interruptions. Work in this mode is primarily "heads down" (O'Neill and Wymer, 2009; 2010). Some examples of workspace features that provide control at the individual level include: flexibility of furniture, tables, tack boards, white boards, monitor arm, and lighting, tools to organize work materials, ease of adjustment of storage and display features, and ease of rearranging furnishings.
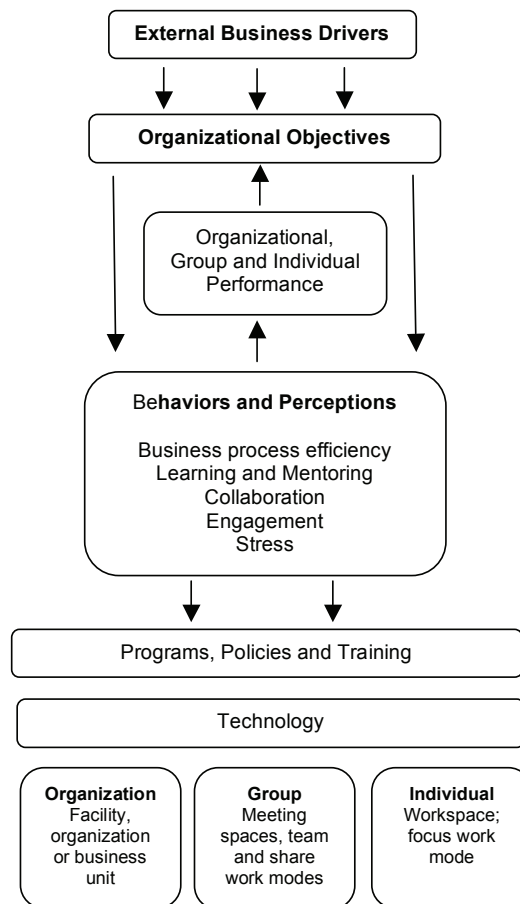
Figure 2.   Model of environmental control

Research Conducted on Environmental Control

Organizational/Building Scale

This section describes research in which large-scale implementations of flexible workspaces were conducted in an attempt to enhance environmental control at the organizational level. The participants include office settings from the consulting, financial services, and manufacturing industries. Two studies examined call centers.

The effects of providing environmental control at the business unit scale of a professional services organization were examined (Huang, O'Neill, and Schleifer, 2008). The company consolidated 1135 employees from four buildings into one, using new furniture and interior design concepts intended to optimize the flexibility of the interior space and support collaboration. A facility policy of having a 3:1 ratio of unassigned to assigned workstations was implemented in the experimental workplace, and a variety of different types and sizes of meeting spaces for collaborative work were provided. A workspace reservation program was implemented, and combined with training on ergonomics and new "rules of behavior" for using this space. It was hypothesized that the workspace policy and program, and flexible design concepts would increase employee and business performance.

Responses were collected from three groups of professional and administrative employees, including a control group. Outcome measures were collected two months prior to the intervention and three and six months post-intervention. The study reported a 5.6% reduction in business process time and cost for employees who moved to the experimental workspace, and a 10.5% reduction in business process time and cost for those who moved to the new workspace and received additional ergonomic training[3].

A study of about 1000 call center agents within a financial services company by O'Neill (2007, p. 121) assessed the effects of a move to a more open (and collaborative) work environment on agent performance. Key measures included: job control, communication, collaboration, sense of community, retention rates (voluntary separations), and three aspects of agent performance, number of calls handled,

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[3]Business process time was measured by creating a detailed process map which included activity time at each step, wait time and rework, tools and participants. Employee compensation information was used to yield an overall cost per minute at each step. With this approach we were able to calculate an overall time and cost for the process.

AHT (average handle time per call), and ACW (time to complete work after call has ended). The study reported significant improvements in job control and collaboration for employees who moved to the new space. The study found that employees who moved to the new space had a 2.8 percent lower rate of voluntary separations than did employees in the control group, over the 12-month period of the study.

A study examining the effects of a building consolidation project for the headquarters campus of a global shipping company (O'Neill, 2007, p. 141) included 720 participants working within 18 corporate departments; they were moved from four widely separated buildings into one existing location. A primary outcome was the time and cost of their "business case approval" process. Data was collected on the time and cost of conducting this process before, and after, the move to the consolidated space. After the move, the time and cost of the "business case approval" process was reduced by 32 percent, with an annual cost savings in labor dollars for this one process, of $120,000 per year.

In a research project for a manufacturing company the effects of implementing a flexible workspace program that involved the creation of a 25 percent proportion of "unassigned" cubicles for 750 professional employees (in 22 departments) as part of a building consolidation project (O'Neill, 2007, p. 170) were measured. This strategy was intended to enhance the amount of control that individuals had over the location of their work since they could move to different locations within the building and work within unassigned spaces. It was also implemented to lower fixed facility costs.

Data were collected at two points in time from an experimental group (those who relocated to the new facility with the unassigned spaces) and from a control group with an equivalent number of employees who did not move. There was a 7.5 percent decrease in process cycle time for one business process that contributed $375 of cost savings to the business each time the process occurs for an annualized $4,000 of cost savings. Several of the predictors of cycle time for this process are related to environmental control, including: availability of meeting space, and support for the shift from individual to collaborative work.

Another study examined different workspace strategies within two call centers of a telecommunications company O'Neill (2007, p. 205). The two locations varied in the openness of workspace furnishings and the interior architectural space itself. The data collected included: a workspace assessment survey, automatic call distributor

(ACD) data (length of call times, length of after-call work time, percentage of calls resolved on first call), customer satisfaction scores on agent performance, agent job satisfaction scores, claims costs, and lost work days at each site.

The comparison of the two sites revealed: as workspace support for collaboration increases (more and better quality meeting rooms), first call resolution measures improved. As adjustability of workstation features and perceptions of job control increased, external measures of customer satisfaction with agent performance improved. As perceived group cohesion increased, "after call" work time decreased (less after-call work time is more desirable).

The model (see Figure 2) suggests linkages between adaptive mechanisms at the organizational level and outcomes related to work behaviors and performance. This review shows a great deal of empirical support for the model across a variety of industries and work types.

Group Work/Collaborative Spaces

Most knowledge work is now performed by groups of people and various types of teams, as opposed to individual efforts. Recent research shows that knowledge workers engage in three distinct work modes, which vary from individual to several types of group work throughout the day (Formway, 2005; Gensler, 2008; O'Neill and Wymer, 2009).

In a study of sales professionals, environmental control (as measured by ability to control physical access to the group space) was a significant predictor of group effectiveness. For computer technical support workers, this measure of environmental control was a significant predictor of individual performance and work group effectiveness (O'Neill, 1995a).

In a study of team work spaces, O'Neill and Duvall (2006) found enhanced sense of belonging for employees when they were shifted from a traditional cubicle environment to a more open concept that included the addition of collaborative spaces. The design of the team space was in the form of a neighborhood which allowed the groups within to shift their boundaries and relocate individuals within the overall workspace as the assignments and work processes of the groups shifted over time.

Individual Work/Primary Workspace

At the individual level, research suggests that environmental control over workstation components, especially those that permit control over visual access by others, have a direct relationship to performance (O'Neill, 1994). Measuring the impact of giving individuals control over lighting in their environment, Moore, Carter and Slater (2004) found that the option for control over lighting in individual workspace may account for higher occupant satisfaction than actual differences in luminance.

A laboratory experiment examined the effects of interior workstation adjustability—and the effects of training in how to use that adjustability—on physiological stress and motivational performance levels under high workload (O'Neill and Evans, 2000). They hypothesized that more control (through adjustability or internal workstation features such as: seating, storage and display tools) and training would have the most desirable impact on these outcomes. Statistically significant findings of the study suggest:

- Given the opportunity through workstation adjustability, people will exert control over the work environment.
- Physiological signs of stress (as measured by epinephrine and urinary cortisol levels) are reduced when people have workstation adjustability and the training to use it.
- Motivational performance is enhanced when people have workstation adjustability and the training to use it.

Taken in concert with prior field work on adjustability in the workplace, the results from this laboratory study lend support to the claim that control in the form of adjustability of workplace features is an important element in stress and performance motivation. The findings of this study and others also underscore the critical role of proper training.

Application

In this section I provide two case studies showing how the concepts of environmental control can be, and have been, applied to furnishings and space planning in work environments.

Case Study

With only a 40% utilization rate of their office space, the facilities team of this Fortune 500 healthcare company wanted to eliminate underused space and reduce cost (O'Neill and Wymer, 2010). Strategic considerations also drove this project. The facilities team wanted to improve the efficiency of employees moving between locations—and thus their work effectiveness. This was done by creating a wider vocabulary of individual and meeting spaces, thus expanding the choice of appropriate work locations available.

Due to the dispersed locations of people, the facilities team also recognized the need to keep employees connected to each other—and to the organization—by providing spaces and technology that engage employees.

To accomplish this goal, assigned and unassigned individual and group spaces were created to provide a wide variety of choice and control to employees and work groups. These spaces consist of huddle rooms (small casual meeting spaces), team meeting rooms, focus/share work spaces located near larger meeting rooms, and "drop in" individual work spaces designed for either higher or lower levels of interaction (share work mode). The adjacencies between these spaces were also carefully considered in laying out the space. As a result of this program, the team reported several key benefits related to meeting cost and strategic goals:

1. The new layout helps people move smoothly and efficiently between dispersed locations and provides greater choice of the right type of workspace for the job at hand.

2. Unassigned "heads-down" work areas foster a pleasant experience and minimize disruption as employees move between work spaces within the building.

3. A variety of work settings was created while reducing space and costs:
    - 150,000 square feet avoided or eliminated
    - $3.7 million total annual cost savings

Case Study

This on-line company's "Great Place to Work" initiative drove the need for new workplace solutions (O'Neill and Wymer, 2010). Corporate leaders wanted a workspace that appeals to all generations, is flexible and ready to adapt, provides an open environment for sharing ideas, and provides control to teams, to scale the space to their needs.

Team workspaces were designed to be flexible and scalable, allowing teams to change and move elements themselves. The workspace includes collaborative areas for teams, hoteling, projects, privacy, alcove chats, and storage. The design encourages collaboration and communication while supporting individual and team work. As a result of these changes, the organization realized cost benefits and better support for team work:

1. Teams can modify the workspace to meet their needs, providing control and reducing cost of "moves, adds and changes."

2. Modular furniture components are used across business units, lowering warehousing needs.

3. Hoteling and visitor spaces allow people to sit with their own teams, eliminating dedicated real estate.

Conclusions

Fundamentally, environmental control is about giving people the workspace design, furnishings, technology and policy tools that provide choice over how to work, as opposed to being controlled by the space and organizational policies. Thus, I propose environmental control as a key capability that organizations should invest in through programs, policies, training, technology and the physical work environment. These approaches should be integrated, that is; brought to bear in a coordinated fashion for the greatest and most cost-effective benefit. By making control a central component of strategy, organizations may enhance their competitive advantage.

Looking forward, it may be possible to apply architecture and design concepts to enhance control in novel ways. A key idea is that the provisioning of control should be transparent to the user (Formway, 2005). The features and functions of the workspace that provide control (through adjustability and movement) should conform to the needs of the user as automatically, or intuitively, as possible. Research shows that training on how to adjust furnishings and work tools can amplify the positive effects of user control.

However, facilities, workspaces and furnishings designed from the outset to provide automatic adjustability, or at least make it obvious, could bypass the need for training. Design that embeds knowledge of how to manipulate the space or adjust furnishings and work tools could bring the benefits of environmental control more quickly to a greater number of workers without the cost and delay of training programs

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Public Art and the Promotion of Racial Equity

Kristen Day

In the U.S., public space is historically linked with questions of equity (Low & Smith, 2005; Mitchell, 2003; Ruddick, 1996; Young, 1990)[1]. This chapter explores how public art, one aspect of public space, may advance equity for groups defined by race and ethnicity.[2] Within public space, public art offers unique promise in this regard. This promise is linked to public art's direct communicative potential. Public art is often explicitly intended to send "moral messages" (Mayo, 1988) and to make people think. Through both its processes and its products, public art can educate, challenge viewpoints, and promote tolerance and interaction. It can empower marginalized groups and can generate new community resources.

This chapter reviews and synthesizes existing literature on public art. Based on this review, I present a typology of strategies for how public art may advance racial/ethnic equity.[3] I then examine how these strategies were incorporated in the Civil Rights Memorial in Montgomery, Alabama, drawing on published writings about the Memorial

[2] Scholars acknowledge that racial categories are constructed, rather than fixed characteristics of people (Bederman, 1995). Though racial categories are not "real," people behave as if they are (Jackson & Penrose, 1993), making race a matter of persistent importance (Omi & Winant, 1986).

[3] Public art may serve also other social functions. See for example Mayo's description (1988) of the social purposes performed by war memorials, such as conveying honor and encouraging humanitarianism.

and my own site observations. The nationally significant Civil Rights Memorial was designed by artist Maya Lin. The Memorial was created to commemorate the U.S. civil rights movement and its struggle to alleviate race oppression, making it an appropriate focus for this discussion.

Background: History Of U.S. Public Art And Racial/Ethnic Equity

U.S. public art does not typically address equity issues. Prior to the 1960's, most of what was considered public art in the U.S. was of what artist Judith Baca calls the "cannons in the park" variety (Lacy, 1995a, p. 21)—statues of mostly white war heroes, "founding fathers," and the like.[4] Since the 1970's, a growing public art movement focuses explicitly on questions of equity. This self-described "new genre" art challenges prevailing notions of public art as only artistic expression or economic development (Lacy, 1995b; Lippard, 1995; Sommer, 1975). New genre public art has existed in various forms since at least the 1960's, drawing from feminist and ethnic or community art movements, among other influences (Jacob, 1995; Lacy, 1995a; Miles, 1997). The term "new genre" characterizes visual art projects and artists that pointedly address social and environmental justice, including racial privilege and oppression (Lacy, 1995a). New genre public art seeks participation by diverse publics to create projects that these publics find meaningful (Miles, 1997). New genre art is identified by its focus on public issues as much as by its location in public space.[5] Unlike Modern era public art, which idealizes detachment and artistic "neutrality," new genre art challenges the false distinction between art and activism (Májozo, 1995).

> *Rather than serving as a predictable urban décor or diversion, public art can be a form of radical education that challenges the structures and conditions of cultural and political institutions* (Phillips, 1995, p. 61.)

New genre public art represents a promising strategy for promoting racial equity (Gablik, 1995; Lacy, 1995a).

[4] In the 1960's, U.S. cities witnessed the rise of a popular, community mural movement (Miles, 1997; Sommer, 1975, 1983). In black and Latino neighborhoods, local residents often worked alongside "professional" artists to create community murals. These murals are not typically regarded as "public art" by the art establishment.

[5] New genre public art is also distinguished by its use of diverse media (film, performance, etc.), as well as traditional sculpture. New genre art is often temporary in nature and frequently political in its orientation.

Racial And Ethnic Inequity In The US

The U.S. is more diverse than ever, in terms of race and ethnicity. According to the 2000 census, 25% of the U.S. population today is non-white, up from 20% just ten years ago (American Factfinder, 2010). More than 15% of the U.S. population is now Hispanic or Latino, and this number is growing.

Racial and ethnic identity still shapes opportunity in the U.S. Some overt discrimination have been eliminated, and blatant prejudice is now less acceptable than in earlier eras (Feagin, 1991; hooks, 1995; Smith, 1989). Inequities remain entrenched, however, in income and wealth, education, employment, exposure to violence, health, residential segregation, and political power (Massey & Denton, 1993; Omi & Winant, 1986). According to the U.S. Census (2010), for example, blacks' median income was 62 percent of whites' in 2003. Current unemployment rates are 9% for whites, compared to 12% for Hispanics and 16% for blacks (U.S. Bureau of Labor Statistics, 2010). And an estimated 62% of U.S. blacks and 65% of Hispanics graduate from high school, compared to 81% of whites (Heckman & LaFontaine, 2007).

In seeking to minimize racial inequities, white people often focus on racial prejudice and strategies to reduce prejudice (e.g., persuasive communication, education, increased intergroup contact; Farley, 1982; Merry, 1981). Such strategies frame oppression as a problem for "other" (non-white) people—a problem created by a small percentage of (pathological) racists, and not a structural feature of the relationships between those who are privileged and those who are oppressed. An individual-level focus implies that equity can only advance by first reducing race prejudice. Strategies that emphasize reducing prejudice sidestep the crippling differences in income, education, health, etc. among U.S. racial and ethnic groups. Instead, many argue that further undoing of race privilege and oppression requires a focus on structural racism.

> *Racism in twenty-first century America is harder to see than its previous incarnations because the most overt and legally sanctioned forms of racial discrimination have been eliminated. Nonetheless, subtler racialized patterns permeate the political, economic, and socio-cultural structures of America in ways that generate differences in well-being between people of color and whites. Structural racism, then, refers to the system in which public policies, institutional practices, cultural representations, and other norms work in various,*

> *often reinforcing ways to perpetuate racial group inequity in every key opportunity area, from health, to education, to employment, to income and wealth* (The Aspen Institute, 2010).

Reducing structural racism emphasizes indirect and direct actions and targets the community, not the individual. The goal is fundamental alteration of how resources are distributed in U.S. society (Farley, 1982; Omi & Winant, 1986; Young, 1990). Public art that aims to promote equity can be assessed by the nature of its goals (i.e., addressing structural racism or reducing prejudice) and by its success in meeting those goals.

Public Art Approaches To Promoting Equity

Public art may challenge oppression and privilege by promoting structural changes that transform the racial state or that fortify marginalized groups (hooks, 1995; Omi & Winant, 1986). For example, the poster campaign "Welcome to America's Finest Tourist Plantation," by artists David Avalos, Luis Hock, and Elizabeth Sisco, confronts national and state policies towards undocumented workers (Finkelpearl, 2001). This campaign featured posters on San Diego busses, with ambiguous images of California immigrants doing the work that sustains tourism (washing dishes, cleaning hotels, etc.). These images were juxtaposed with pictures of immigrants being locked up and deported as "illegal aliens." The posters were displayed in 1998 while the city hosted the Super Bowl. The campaign sparked lively debates in the local media, challenging the exploitation of immigrants in the San Diego tourism industry.

We often regard public spaces—and by extension, public art—as primarily local in orientation (Ruddick, 1996). Yet art's impact extends far beyond local boundaries. Consider, for example, the widely circulated images of the toppling of the Saddam Hussain statue, early in the U.S. war in Iraq. Extensive media coverage multiplied this scene's impact, interpreting the destruction of this statue as a powerful (and highly manipulated) symbol of Iraqi support for U.S. actions. The following sections identify and describe ways in which public art may attempt to advance racial equity (see Figure 1).

STRATEGIES TYPICALLY AIMED AT REDUCING PREJUDICE
- Promoting commitment to abstract values
- Promoting interaction among diverse individuals
- Educating about oppressed groups

STRATEGIES THAT MAY BE AIMED AT REDUCING PREJUDICE AND/OR REDUCING STRUC-TURAL RACISM
- Acknowledging past wrongs
- Challenging views and provoking dialogue

STRATEGIES TYPICALLY AIMED AT REDUCING STRUCTURAL RACISM
- Raising up and empowering oppressed groups
- Redistributing resources

Figure 1. Strategies for promoting racial equity through public art.

Often, a project operates in multiple ways. As suggested earlier, direct impacts on structural racism is more desirable than reducing prejudice, since reducing prejudice does not necessarily change material conditions for people of color (though it may indirectly pave the way for later structural changes.) In general, the first three strategies in Figure 1 mostly target reducing prejudice, and the last two strategies target structural racism. The middle two strategies vary in their orientations.

Promote Commitment to Abstract Values

Some public art seeks to advance equity by endorsing abstract values such as democracy, peace, and justice. For example, "Equality," by Ken Leback and Rolon Bert Garner, offers a comment about the nature of equality in the U.S. This installation includes rows of small granite houses facing one bronze house atop a small hill in a Seattle neighborhood (Farr, 2004). Its message is reinforced via a quote from de Tocqueville's "Democracy in America."

Such art has symbolic value. From a more utilitarian perspective, though, its impact on structural factors may be limited. Social science research findings confirm that people generally expose themselves to messages consistent with their existing beliefs (Farley, 1982). Thus, many who seek out such public art projects may already support the embedded messages. (Others may be exposed to such art unexpectedly.) Also, most Americans would arguably characterize themselves as supporting abstract values

like freedom or equality. Outside of specific, more controversial messages (justice or equality for whom, exactly?), art that only affirms abstract values may have limited impacts on racial equity. To increase its impact, art might reveal inconsistencies between viewers' avowed values and their beliefs or behaviors (Davidio & Gaertner, 1999). Awareness of such gaps could produce cognitive dissonance and possible changes in beliefs or actions.

Promote Interaction among Diverse Individuals

The processes and "objects" of public art may promote interaction among diverse individuals by bringing them together in the experience of art. For example, in her performance art "Flesh-tones," conceptual artist damali ayo asked employees at several paint stores to match the skin color of various parts of her body, tape-recording their conversations. The project generated discussions between the artist, employees, and passers-by. It created opportunities for participants to think critically about skin color (ayo & Roberts, 2004). William Whyte (1980) identifies the concept of "triangulation"—the capacity of public space (and public art) to bring strangers together for spontaneous interaction around shared spectacle. The art's subject, siting, and other features shape opportunities for interaction. Superficial exposure to diverse others does appear to reduce race prejudice (Zebrowitz, White, & Wieneke, 2009), though impacts on structural racism are less likely. The typically fleeting experience of public art also limits its impacts on equity (see Merry, 1981). Interactions among diverse participants to create public art may support more sustained, meaningful connections.

Educate about Oppressed Groups

Public art projects may teach about the experiences of oppressed groups. For example, the "Alien Staff" project, by artist Jagoda Przybylak, equipped several U.S. immigrants with custom-made walking sticks, or staffs (Finkelpearl, 2001). The staffs incorporated elements from individuals' own life stories as immigrants. Individuals used the staffs as props for telling difficult stories about their own immigrant experiences. This art educates about specific groups and reveals similarities in experience across groups (Hayden, 1995). Such art may help to overcome prejudice and increase understanding.

Acknowledge Past Wrongs

Public art may give witness to injustice and encourage empathy (Gablik, 1995; Lacy, 1995a). Such art increases awareness of oppression and calls for redress. One such example is the Indian Memorial, dedicated in 2003, and now part of the Little Bighorn Battlefield in Montana (previously known as the Custer Battlefield National Monument). The name change and the addition of an Indian Memorial to the site recognize the Indians who fought to "preserve their land and culture" in the Battle of the Little Bighorn ("Indian Memorial dedication officially scheduled," 2002). The new monument acknowledges Indian losses in the battle and corrects an historic bias in interpreting the site. Similarly, numerous public art projects throughout Europe acknowledge atrocities against Jews in the Holocaust (Michalski, 1998). Depending on its message and its impact, such art may reduce prejudice and/or target structural racism. For example, for the Indian Memorial above, impacts could include reducing anti-Indian prejudice and/or increasing activism for Indian land rights and sovereignty (a more structural change).

Challenge Views and Provoke Dialogue

Public art may prompt audiences and artists to reconsider their views and to debate important questions of oppression and privilege. For example, in the Heidelberg project, artist Tyree Guyton created a large-scale art project of found objects (i.e. artifacts not originally intended to serve as art), including a house covered in brightly colored polka-dots and a field of vacuum cleaners arrayed like headstones. The project brought attention to the city of Detroit's neglect of publicly owned, abandoned buildings and vacant lots in this lower-income, mostly black neighborhood (Heidelberg Project, 2004). The project generated considerable attention from audiences outside the neighborhood. The city's response, however, was limited ("Art among the ruins. Heidelberg Project," 2004). In response to negative reactions from some neighbors, the city demolished parts of the installation. Public art that provokes honest dialogue about privilege and oppression may target structural racism, depending on the messages of the art and reactions it generates.

Raise Up and Empower Oppressed Groups

Public art projects may promote pride among members of oppressed groups, helping them to overcome past pain and giving hope for the future (Kramer, 1994; Pulido, 1996; Sommer, 1982). Such art increases the power of marginalized groups.

> *The creation of an affirmative identity can never be fully distinguished from resistance because the action and consciousness required to build such an identity, even if it simply allows one to live with a shred of dignity, is an act of resistance and an exercise of power itself* (Pulido, 1996, p. 47).

Likewise, public art draws attention to the achievements of members of oppressed groups. Mayo (1988) describes this quality of public memorials as "conveying honor." Such art may help groups to realize their power and potential (Májozo, 1995). Public art also creates "sanctuary" spaces for members of oppressed groups—special places apart from the weight of hegemonic society (see Day, 1999; hooks, 1990). In one poignant example, the dedication of the Civil Rights Memorial by artist Maya Lin (discussed later) was attended by the family members of almost 40 individuals who were slain as part of the U.S. civil rights movement. This occasion provided emotional solace for many ("Until justice rolls down," 2000).

Danger exists in art that tells only "compensatory" stories. Tales of oppressed individuals who beat the odds to achieve success may create false realities, if these stories are confused for the typical experiences of group members (Hayden, 1995). Likewise, compensatory stories alone do not challenge structural racism. Instead, these stories may lay responsibility for reducing inequities on the heroic efforts of marginalized groups. These "success" stories need to be balanced with stories that acknowledge the reality of oppression for most group members (Hayden, 1995).

Redistribute Resources

Sometimes public art can generate tangible resources in marginalized communities. Public art may make these communities more economically viable and more beautiful places to live. For example, Judy Baca's Great Wall of Los Angeles project depicts the history of women and communities of color in California. For nearly two decades, local, minority teens have been hired and trained to help paint the mile-long murals

along the channelized Los Angeles river (Lacy, 1995b). The project creates jobs for teens and introduces them to the "invisible" history of California.

At the same time, the question of whether and when to spend money on public art in marginalized communities is complicated. Art is sometimes seen as a luxury in communities with many pressing needs (Baca, 1995; Sommer, 1975).

The next section explores how many specific aspects of public art identified above can help to promote equity, by examining the case of the Civil Rights Memorial in Montgomery, Alabama.

Promoting Equity Through Public Art: The Case Of The Civil Rights Memorial

About the Civil Rights Memorial

The Civil Rights Memorial, designed by artist Maya Lin, is a prominent, nationally recognized public art project that explicitly challenges racial inequity. The Memorial is located outside the Southern Poverty Law Center (SPLC) in Montgomery, Alabama, USA.   The Southern Poverty Law Center, founded in 1971, helps to lead the U.S. struggle for racial justice. It offers educational programs on tolerance and supports legal action in hate crime cases and tracking of hate groups (Southern Poverty Law Center, 2004). Artist Maya Lin is a pivotal figure in U.S. public art since the 1980's.

The Civil Rights Memorial was originally the idea of Morris Dees, co-founder of SPLC, in 1988 ("Until justice rolls down," 2001). Dees wanted to create a monument to educate about the civil rights movement and to honor the achievements and memory of those who died in the movement. These goals invoke the strategies of educating about and empowering oppressed groups, discussed earlier.

The Memorial comprises two primary elements. The first is a circular black granite table, 12 feet in diameter (Lin, 2000). Water flows slowly from the center of the table and over its edges (Figure 2). Inscribed on the surface of the table is a time line of events from the civil rights movement. The time line includes the names of 40 people killed during the movement ("Until justice rolls down," 2001). Their deaths are interspersed with the important achievements of the movement, including its legal victories.

The second element is a curved water wall of black granite, 9 feet high by 40 feet long (Figure 3). Water flows down the wall from a pool above. The wall bears an inscription from the Book of Amos, paraphrased by Dr. Martin Luther King Jr. in his "I have a dream" speech: "…Until justice rolls down like waters and righteousness like a mighty stream" (King, 1963). Lin's objective in designing the memorial was to give people an understanding of the history of the civil rights movement, and to address the continuing struggle towards racial equality (Lin, 2000).

The Civil Rights Memorial may impact racial equity through the art's location and site; the identity and involvement of the artist and the public; and the art's message and its formal and aesthetic qualities, discussed below.

Location and Site

Public art does not occur in a vacuum. Its location—nation, region, city, and site—shapes its meaning and its message, including the audiences and interpretations for the art. Public art is frequently associated with urban contexts, dating at least as far back

Figure 2. Civil Rights Memorial. The wall in the background displays a quote from Dr. Martin Luther King Jr., while the water table in the foreground recounts the history of private sacrifice and public change associated with the U.S. civil rights struggle. (Photo by author.)

Figure 3. Civil Rights Memorial. This quote, from Dr. Martin Luther King Jr., inspired Maya Lin in developing the Memorial (Lin, 2000). (Photo by author.)

as the Modern era (Finkelpearl, 2001). Urban contexts are historically tied to the experience of difference (Day, 1999; Lofland, 1973; Young, 1990). Thus, cities hold a special place in national dialogues on race/ethnicity and power. Though many U.S. cities accommodate diverse populations (Kotkin, 1999; Lewis Mumford Center, 2001), public art is distributed unequally within cities.

Art's siting in public space also conveys meaning. Public art is often intended for a wide audience. The artist may imagine the art as part of the every day life in a public place. Yet the privatized "public" spaces where public art is often lavished (festival marketplaces, urban waterfronts, office complexes) tacitly exclude or discourage poor people and "non-consumers" (Low & Smith, 2005; Miles, 1997).6

The location of the Civil Rights Memorial is key for its role in promoting equity. Its site—in front of the respected Southern Poverty Law Center—legitimizes the Memorial as a sculpture of national significance. Likewise, the Memorial's presence establishes the Center as a "home base" in the civil rights struggle. The Memorial's siting calls to mind Montgomery, Alabama's significance in the U.S. civil rights movement. The Memorial stands near the church where Dr. Martin Luther King Jr. preached, just blocks from the first White House of the Confederacy ("The Civil Rights Memorial," no date). The juxtaposition of the Memorial and the continued struggles of people of color in Montgomery creates opportunities for critical dialogue about structural racism in the city, as with the Heidelberg Project, discussed earlier.

At the same time, the Memorial's location in an out-of-the-way, downtown "government" district may ensure that the Memorial is viewed mostly by intentional visitors (more than 20,000 a year) or by those with business at SPLC or nearby. Most people who experience the Memorial may intentionally expose themselves to its messages about racial justice. Opportunities for critical exchange among individuals not seeking these messages appear more limited. In terms of the strategies for promoting equity discussed earlier, the Memorial might have greater impact if, for example, it was located in a bustling shopping mall or tourist destination, in the path of individuals who are not already primed to contemplate civil rights.

The "Artist"

The identity of the artist, and the role of the public in creating art, both impact equity. Public art triggers questions about who is permitted to speak for minority communities. These questions are sometimes dismissed as essentialist (Gómez-Peña, 1995; Stimpson, 1994). And yet artists do not exist outside of specific identities—identities that are inextricably bound to public art's meanings. Indeed, expression of an artist's identity can itself be a political act (Jacob, 1995).

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6 The content of "public" art also decreases its publicness when that content is inaccessible to the public (Phillips, 1988; in Miles, 1997.) Thus, publicness results from a myriad of psychological and other factors, beyond only physical access (Franck & Paxson, 1989).

By commissioning a renowned artist for the Civil Rights Memorial, SPLC reinforced the historic significance of the U.S. civil rights struggle and conveyed honor on its participants and on communities of color. The selection of an artist dictates who will control the art process and who will gain financially (Gómez-Peña, 1995). Some might argue that the commission for this project should have gone to a black artist. Such a choice would have generated different messages and different financial consequences from the project.

Lin is no stranger to identity issues with her art. In interviews, Maya Lin discusses how growing up as an Asian American in the Midwest shaped her identity as an outsider, and sharpened her ability to communicate as an observer (Lin, 2000). She ties her identity to her aesthetic style, which she describes as anti-monumental (Finkelpearl, 2001). Lin's selection as the designer of the Vietnam Veterans' Memorial generated considerable controversy. Some veterans were initially angered by the selection of an Asian American artist to design a memorial to soldiers who died in a war against an Asian enemy ("Maya Lin: A strong, clear vision," 1994; Lin, 2000). For both Memorials, Lin's selection as the artist forced challenging conversations about the meanings of race—conversations that may have reduced race prejudice.

The "Public"

Engaging the public in creating art can promote equity, reducing both structural racism and race prejudice. By helping to make public art, members of oppressed groups exercise the power to create culture (Lacy, 1995a). Public art may help to heal oppressed communities by involving them in creating art. Participatory public art may also reduce race prejudice by promoting empathy and caring, and by fostering relationships among diverse individuals (Gablik, 1995; Jacob, 1995).

In the Civil Rights Memorial, Maya Lin involved the SPLC staff to determine how the civil rights movement was interpreted (Lin, 2000). Lin reported that she did not think it was appropriate for her to decide which people or events should be commemorated, so SPLC staff worked with historians to create the text for the Memorial. By determining what "history" should be represented, staff members exercised power over the story told by the Memorial. At the same time, Lin retained considerable authority as the artist, for example, by persuading the group that the recounting of history in the Memorial text should be "factual" rather than emotional or sensational (Lin, 2000, p. 4:28; see also Finkelpearl, 2001) (Figure 4). The involvement of broader

Figure 4. Civil Rights Memorial. Lin encouraged SPLC administrators to recount the story of the civil rights struggle in a factual manner (Finkel-pearl, 2001) (Photo by author).

publics in determining the story for the Memorial—such as individuals representing diverse racial and ethnic groups or individuals involved in the civil rights movement—would have further extended the power to create culture. Likewise, direct involvement of the public in the actual making of the art would have devolved this power further still.

The Message

Public art can also promote equity through its communicative potential. The messages about oppression and privilege that are sometimes conveyed in public art can be painful. Lin suggests that such honesty is a necessary part of public art, and that only through such pain and honesty can public art promote healing ("Maya Lin: A strong, clear vision," 1994).

According to Lin (2000), one intended objective of the Civil Rights Memorial was to educate about the history of the civil rights era—thereby reducing race prejudice and increasing empathy for people of color. Lin reports that she knew little about the civil rights movement before beginning the project (Finkelpearl, 2001; Lin, 2000). Her research into the era sharply increased her awareness of how much of this history she did not learn in school. The Memorial provided an opportunity to educate others about these events. Further, the Memorial's time line of deaths, interspersed with achievements of the movement, was intended to convey the relationship between the sacrifices of individuals and the gains of the civil rights movement.

Arguably, the Memorial resonates most strongly as a stand against overt racism, including racially-motivated violence (e.g., murder) and legally-sanctioned discrimination. Most observers may readily accept these messages: that blatant racial discrimination is wrong and hateful, and that the civil rights movement achieved important good. As such, the Memorial promotes acceptance of general values, including fairness and non-discrimination. Today, however, the struggle for equity extends beyond outlawing overt discrimination and condemning race-motivated violence. There is a need to push beyond "comfortable" support of past gains, to ask hard questions about the continued racial disparities in income, education, etc. Saying this does not detract from the achievements of the civil rights movement or their commemoration in the Memorial. Indeed, a more confrontational message about continued race oppression in the U.S. may be unsuitable for a "national" civil rights memorial, which instead affirms broad commitment to equality. More challenging messages may be better suited to less monumental art that can engage with greater candor.

Social science research findings provide useful insights on how to reduce race prejudice in persuasive communication. Farley (1982) summarizes some of these findings, which I apply to public art. (1) To effectively reduce prejudice, persuasive communication must be heard and attended to. Thus, the public must notice public art and must direct attention to it. (2) The message of the communication must be "correctly" understood. This requirement can be problematic for public art, which frequently intends no specific message or else conveys its message too obliquely to be recognized by viewers.**7** (3) To reduce prejudice, receiving the message must be a pleasant experience. "In your face" public art is unlikely to reduce race prejudice, though it may accomplish other objectives. (4) Finally, to reduce prejudice, the message must be retained and internalized. Fleeting exposure to public art may have less impact than, for example, the experience of art as part of a broader educational program, as at the Civil Rights Memorial.

In its message, the Memorial does not only promote abstract values. It also chronicles changes to laws and policies associated with the civil rights movement. The Memorial documents the critical role of structural factors for advancing equity—in the past and, by extension, into the future.

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7 In art, subtlety is often valued over directness. In the Civil Rights Memorial, for example, Lin (2000) equates asymmetry (such as the base of the water table) with the idea that things don't have to be or look identical to be balanced or equal. This message is poignantly represented in the Memorial's design and yet, because of its subtlety, the message is likely to go undetected by most observers.

Form and Aesthetics

Some critics argue that art with a social purpose is less legitimate than other, purely "aesthetic" art (see Lacy, 1995a; Pagani, 1998). Public art that fundamentally engages questions of racial privilege or oppression may be regarded more as "social work" than as "real" art. New genre public artists and others reject this false dichotomy, arguing instead that art that addresses social issues should be evaluated both on its artistic merits and on the quality of its messages (Lacy, 1995a). The Civil Rights Memorial demonstrates the potential compatibility of these objectives.

Art's form shapes its ability to promote equity. Despite much "bashing," the monument remains the dominant style of public art (Phillips, 1995). Some suggest, however, that less permanent, more "modest" public art forms may better support calls for social change (Phillips, 1995). The impermanence, smaller budgets, and "negotiable" development trajectories of less monumental art allow such projects to challenge views and to galvanize public involvement. Thus, as discussed earlier, the monumental form of the Civil Rights Memorial limits its suitability for pushing a more challenging agenda.

Materials also shape art's message on equity. So, for example, in the Heidelberg Project described earlier, the use of found objects reinforced the project's message about neighborhood abandonment. In the Civil Rights Memorial, the use of water in the art promotes abstract values: namely, the timeliness of the need for civil rights. The use of natural elements in public art can also help to create restorative spaces (Hartig, Kaiser, & Bowler, 2001; Herzog, Black, Fountaine, & Knotts, 1997; Kaplan, 1995). The Memorial's use of water creates a soothing effect and enhances the sacredness of the site ("The Civil Rights Memorial," no date; "Until justice rolls down," 2001.)

Conclusions

Readers may wonder, at this point, about the overall significance of public art in the struggle for racial and ethnic equity. The relevant question, I suggest, is not whether public art is the best means for promoting equity, but whether promoting equity is an appropriate objective for public art. The answer to the latter, I would

argue, is an unequivocal "yes." Public artists are increasingly pressed to articulate the contributions that art can make to urban settings and more livable cities (Miles, 1997). Promoting equity is a valuable part of that agenda.

Others may question the appropriateness of subjecting art to social science research to inform its content and form. I would argue that when the intention of public art is to advance racial equity, it makes sense to incorporate what we know from the social sciences to inform that effort. The strategies for public art identified earlier— educating about the oppressed, creating opportunities for interaction among diverse individuals, etc.—are essentially hypotheses held by artists (or their sponsors) on how to advance racial equity. Whether these hypotheses are supported (i.e., whether achieving these goals does increase equity) and whether a particular public art project succeeds in reaching these goals, are potentially empirical questions.

If a key goal for advancing racial equity is reducing structural racism, then public art would do well to adopt strategies with that potential. Such strategies would focus especially on empowering oppressed groups and redistributing resources, rather than on solely reducing racial prejudice. Without disparaging its laudable goals and its substantial impacts, the Civil Rights Memorial demonstrates some possibilities in this regard. For example, artist Maya Lin empowered SPLC staff by asking them to shape the stories to be told through the Memorial. Structural racism might have been further reduced by inviting broad participation of communities of color in creating the Memorial, such as through community storytelling events where residents could share their own civil rights stories as part of this research (see Hayden, 1995). SPLC might have used the creation of the Memorial to generate opportunities for artists of color, such as by hosting panels or shows of lesser-known artists of color whose work addresses racial equity, appearing at venues with Maya Lin and leveraging the attention her participation would draw. Also, staff members at SPLC could use the timeline of legal and policy victories documented in the Memorial as a basis for conversations with visitors and for advocacy campaigns on specific policy measures that target structural racism. Student visits to the Memorial could include assignments to conduct research on policy measures that are needed to reduce structural racism, building on the legal victories identified in the Memorial. SPLC could call on Maya Lin as designer of the Memorial to lend her support to specific campaigns and policy initiatives that target structural racism. Finally, the SPLC can continue to highlight the Memorial in fundraising efforts to support its work against hate crime and related activities.

While recognizing the tension between social science and artistic endeavors, opportunities for successful cross-fertilization abound (Lacy, 1995a; Miles, 1997). If artists and researchers can overcome their historical schisms, artists may benefit from the intellectual rigor of researchers, while researchers may gain from artists' access to audiences, their command of public attention, and their potential links to action (Gómez-Peña, 1995). Social scientists can help artists think more about ways to enhance the impact of public art in reducing structural racism. In particular, researchers can articulate the underlying "hypotheses" on which public art may be consciously or unconsciously founded, to help artists reflect on the means by which they intend to promote racial equity and on possibilities for promoting structural change. Public art can inform social science research and theorizing by prompting rich insights into structural racism. Public art also offer venues for social scientists to communicate their findings, as part of efforts to reduce structural racism. The importance of this objective justifies further such efforts.

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Tradition, Identity, and the Commodification of Culture
Neo-traditionalism and the Changing Context of Building Practices in Contemporary Korea

Jung-hye Shin

This chapter provides an insight into the sudden rise of neo-traditionalism in the Korean residential building sector at the turn of the 21st century within the context of rapid modernization and globalization: its link to the identity construction enacted through Korean nationalist projects, and the discourse present during the time about how tradition should be continued. In the first part of this paper, I explore the irreconcilable debate between the conservative and progressive traditionalists who advocate or negate the use of modern technology in constructing traditional buildings; I also examine further how, in the everyday lives of Koreans, modernity and traditionalism intermingle through commercialism. I also recognize the creativity of modern-day Koreans in coming up with hybrid ways of living that exist between the traditional and nationalistic past and the globalized modern.1

My basic stance here is that of a social interpretivist. I observe how people blend issues of nationalism and identity through seeking out authentic Korean buildings and negotiating the practicality of living in them. Theoretically, I consult the notion of "reactionary modernism" (Herf, 1986) and "multiple modernities" (Eisenstadt, 2000), both of which portray science and engineering basically as formless, serving as counter-modernist ideals. Particularly relevant in the Korean context is Pai's (1997)

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1 The position I take in this study should not be related to the preservation of buildings that are specifically designated as historical/cultural assets, as doing so would bring in a whole different set of issues.

portrayal of Korean architecture in the latter half of the 20th century —notably, the use of reinforced concrete systems for the erection of prominent public buildings in traditional building shapes meant to represent Korean identity. Many of the intense discussions that the participants shared with me during the study were basically about the amount of modern technology they could use for traditional buildings, yet still make a claim for the building's authenticity in terms of building structure, process, appearance, and the experience of inhabiting it. Here, the debates between the practicality and originality of traditional buildings become paramount I explore this issue by examining the design of Korean traditional architecture, its building process, and the discourses surrounding it.

Through this study, I suggest that traditional buildings are not value-neutral, nor a simple reflection of the old ways of living. Instead, they go through active interpretation and manipulation on the part of receiving generations in order to be considered traditional. For this reason, traditional buildings are also reflections of our current life. How this occurs will become more apparent as I touch on issues of modern technology as they are used and/or rejected in the building industry in Korea.

Methodology

This study is based on two interrelated qualitative studies conducted in Korea during 2008 and 2009. The first was an ethnographic study of the recent revival movement of Korean traditional houses in general. I approached this rather broad idea through three interrelated strategies. First, I took part in an association that specializes in traditional architecture in Korea and collected formal and informal correspondence exchanged amongst the members. This association combined scholars and practitioners who were concerned about Korean traditional architecture, offering regular conferences and educational programs. The association's agenda included both ideological and practical approaches to traditional architecture. Ideologically, they strived to identify and make known the authenticity of Korean buildings, especially their unique heated floor called the *ondol*, ultimately connecting this particular traditional domicile to Korean identity. Practically, they devoted a great deal of effort to adapting traditional building features and materials for modern building contexts through standardization and innovations in traditional building materials, in an effort to popularize traditional buildings in Korea.

Secondly, I participated as a student in a summer intensive educational program aimed at building Korean traditional houses. The program was organized by the International Society of the *ondol* and was taught by both scholars from several universities and practitioners in the field. The program sponsors included several notable building materials manufacturers. During the program, the participants attended classroom lectures and gained hands on experience in the field which ultimately culminated in the construction of a "traditional building." While participating in the program, I observed teaching and learning activities, took field notes, recorded lectures, and conducted informal interviews with both students and instructors. Intense discussions and arguments amongst scholars, practitioners, businessmen, and lay people, each with their own distinctive attitude toward traditional buildings, yielded a rich set of data.

Thirdly, I attended a construction exposition held in the Seoul metropolitan area. Amongst various materials exhibited, I focused on building materials used for Korean traditional buildings, and new building materials that borrow various concepts from traditional buildings. In the exhibit, I examined actual materials, took field notes, and collected advertisement materials in order to identify marketing concepts.

The second study on which this article is based is a discourse analysis of the so-called Bukchon Revival Movement (*Bukchon Salighi Undong*) in Korea. The Bukchon is a small area at the center of highly-developed Seoul, a place where traditional urban configurations and houses of the 1930s still remain (Figure 1 & 2). During my research, I specifically focused on recently renovated traditional buildings within the town. Originally, this area contained prestigious traditional houses used by aristocrats during the Chosŏn dynasty, lasting until the beginning of the 20th century. During the Japanese colonial period (1910-1945), housing developers replaced these traditional residences with smaller houses, specifically targeted towards the newly emerging middle classes (Saeroun hanokeul uihan geonchukin moim, 2007). In that sense, the reconfigured Bukchon was a part of the modern response to increasing urbanization and modernization. The town was relatively well-preserved owing to many government policies and regulations throughout the late 20th century, but the most recent governmental policy concerning the revival of this town has resulted in significant physical changes. The revival project exposed the intrinsic and extrinsic controversies over keeping tradition, as it resulted in numerous discussions on the topic in newspapers and internet blogs. I collected newspaper articles and discussions posted on on-line blogs and discussion boards, particularly those focusing on the

issue of individual building renovation projects. I also visited traditional buildings in the town that have been converted to commercial use in order to conduct detailed observations. Observations have been recorded in the field notes with complementing visual images. This series of activities resulted in various forms of data, as described in Table 1 on page 6.
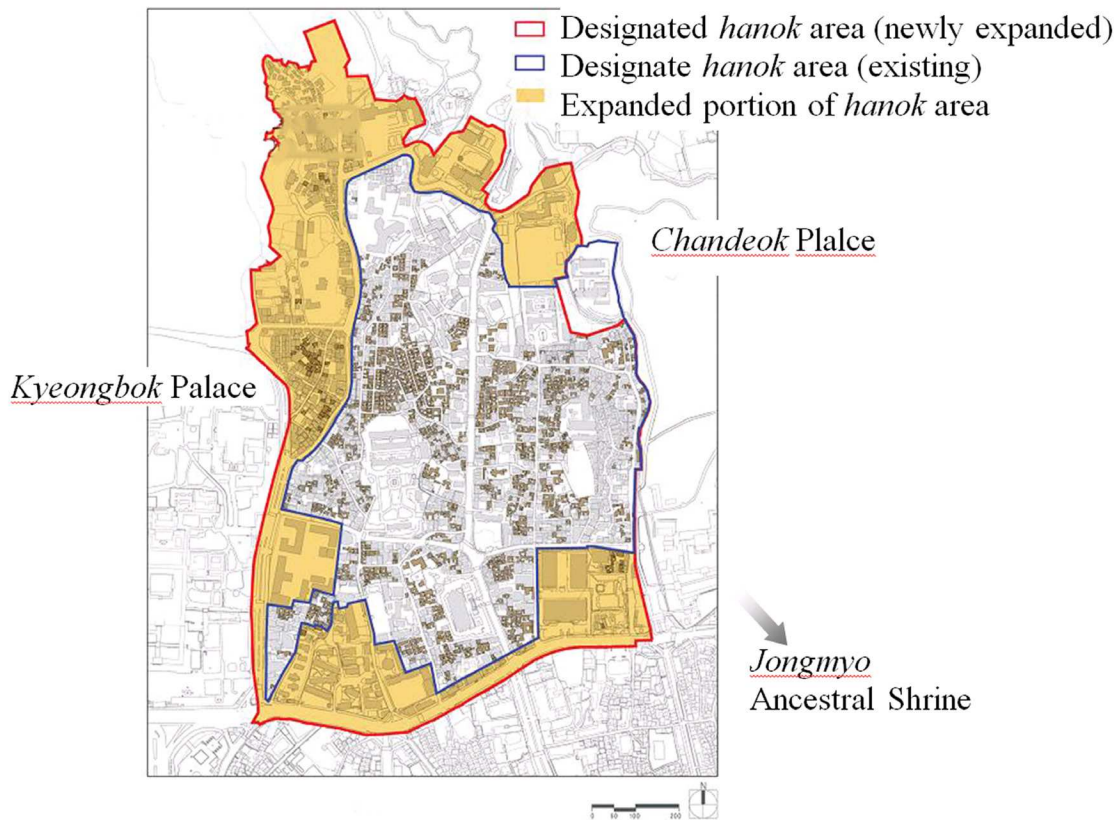
Figure 1. The map of central Seoul where the Bukchon is located between major palaces (adapted from Seoul Metropolitan Government, Department of Housing, http://bukchon.com/zbxe/?mid=speech&listStyle=gallery&sort_index=readed_count&order_type=asc&document_srl=1199, annotation added by the author)

Figure 2. A street view of the Bukchon (photo by the author)

During the initial stage of the analysis, I skimmed through the entire data twice, adding reflections and notes. This activity helped me to identify several sets of repeating themes, which I then organized into a chart format. Similar themes were grouped together under a more abstract theme. After this initial content analysis, I went back to the data set, comparing the initial set of themes and contents. This allowed me to refine the major themes, their sub-themes, and concrete examples of each. These are described in the following sections.

Korean Traditional Houses Revival Movement	Analysis of documents on member activities	• Email correspondence • Brochure • Proceedings
	Participation in the summer intensive educational program on Korean traditional houses	• Lecture materials • Text books • Lecture content (voice recorded and transcribed) • Visual images (compiled during the field instructions) • Interviews with program participants (voice recorded and transcribed) • Field notes (continuously taken during the education period)
	Building materials exhibition	• Field notes • Advertisements
North Town Revival Movement	Media analysis	• Newspaper articles • Internet blogs
	Site observation	• Field notes • Visual images

Table 1. Sources of Data used in the study

What qualifies as a Korean traditional building?

Teacher? What is the exact definition of *hanok*?

It is debatable. In academia, scholars define "*hanok*" (meaning Korean traditional houses) as a traditional house with a wooden structure. They often say that an important characteristic of the Korean traditional house is its wooden frame structure with its unique joint system. But I think it has to be changed. In fact, more traditional houses were made out of earthen materials and had a different spatial arrangement than traditional wooden houses….

Not many of our ancestors lived in traditional *hanok* (this time, implying traditional upscale wooden structure). Only wealthy people lived in such houses, and the rest lived in a structure that cannot be called hanok. The traditional *hanok* that are being built these days are way too luxurious……My father's generation used to live either in mud houses or wooden houses that were much more humble than the ones that we see these days.

(Discussion during the summer intensive program)

The word that Koreans frequently use to refer to their traditional buildings is *hanok*, which literally means "the Korean (style) house." The word first appeared in 1907, around the time that new types of residential buildings were introduced into Korea via Japan. Although the word was used sparsely and arbitrarily during the early 20th century, it gradually gained recognition amongst the larger public in the 1970s, at the same time that the authoritarian military regime's national modernization project reached its full swing and Western-style houses and high-rise apartment buildings were quickly replacing Korean traditional buildings. The word *hanok* during this time was used to represent Korean style houses in general, as opposed to the Western-style houses that were collectively called *yangok* (양옥/洋屋/ "Western house"). Around this time, the *hanok* was considered an embodiment of pre-modern inefficiency and a roadblock to the successful modernization of Korea. The meaning of the word, however, narrowed and took on a different connotation at the end of the 20th century. The definition of the word as it appears in various ordinances and government documents related to preservation and the development of tourism since the early 2000s shows that it refers to a type of Korean-style house consisting of a timber-frame structure, a unique wood-joint system, and a baked-tile roof—a typical ruling-class house at the turn of the 20th century (Figure 3). In these documents, as well as in popular media produced during the same period, the *hanok* was redescribed as something to be preserved or reconstructed. In this article, I use the word *hanok* according to the later definition, reflecting its popular use in contemporary Korea.

Disappearing Tradition, Realizing Tradition

The first two thirds of the 20th century in Korea was a time of continuous social upheaval. After a long period of closed-door policy during the Chosŏn dynasty—the predecessor to the Republic of Korea—Korea started opening its doors to foreign countries at the end of the 19th century. But before the open door policy could be properly established, the country was colonized by Japan in 1910. The colonization and modernization project that the colonial government employed for easier exploitation of Korea's economic resources had a significant impact on its cultural landscape. The master plan for Seoul, whose roots are in the 14th century, was systematically altered, with traditional urban planning and architectural structures downplayed as an embodiment of old habits and characterized as objects that would hinder modernization; new building technologies and materials such as concrete replaced traditional buildings, as these newer materials were considered the most advanced in many aspects (Pai, 1997).

Figure 3. A typical hanok, which consists of a timber frame structure, a unique wood joint system, and a baked tile roof, as frequently shown in popular media. This picture was taken in one of the recent restoration projects in the Bukchon (photo by the author)

The demolition of the *hanok* continued even after independence from the Japanese. The civil war of the 1950s resulted in mass destruction of existing *hanok*. The continuing national modernization project, this time run by an authoritarian military regime dedicated to reconstructing Korean society, maintained replacing the *hanok* with modern buildings. The *hanok* were again considered inefficient and representative of old (and thus, undesirable) habits. Instead, high-rise apartment buildings and modern buildings were erected as emblems of successful national modernization projects. Ironically, the regime employed traditional building features in large-scale building projects, such as the presidential house, cultural centers, and public museums. However, the projects were mainly appearance-oriented: most of these buildings were built using a modern, reinforced concrete system (Figure 4).

The rapid disappearance of traditional environments, especially during the 1960s and 1970s, had the effect of instigating a reevaluation of Korean tradition. In 1977, the Seoul Metropolitan Government designated the *hanok* of the Bukchon as Local Cultural Assets. In 1983, the government designated the entire town an aesthetic zone. While generating numerous complaints from the residents for the reason that no repairs or further construction could be done on the *hanok*, thus making their houses difficult to inhabit, it also resulted in a relatively well-preserved traditional town of the 1930s. It was the first step in recognizing a cultural environment as "ours"—conscious activity that surfaced when "others" become present, or more succinctly, when "others" (modern buildings) replaced "ours" (traditional buildings).

Figure 4. The *Kwanghwamun* disassembled during the major restoration project in the late 1990s. The meaning and location of the Kwanghwamun is comparable to that of Tiananmen in China, serving as a face of the modern Korean state. The original gate was relocated to the side of the major palace during the Japanese occupation period and then destroyed during the Korean civil war. After the war, the military regime rebuilt the gate with a reinforced concrete system. In the 1990s, during the major restoration project, this concrete structure was disassembled and put into exhibits, while the new structure was built strictly following traditional building processes and materials (photo by the author)

Defining tradition, representing the self

In 2000, when globalization and international tourism had deeply penetrated the lives of most ordinary Koreans, the Bukchon faced another preservation plan, popularly called the Bukchon Revival Movement. This time with economic subsidies from the government, the existing hanok were quickly replaced by more contemporary versions, mostly by outside speculative investors who rightly predicted soaring land values. The contemporary hanok differed most basically in that they had more modern building features—most significantly, basements—and contained modern materials, such as reinforced concrete and cinder blocks. This generated an intense discussion on how the Korean traditional house should be defined, as I witnessed taking place in online discussions:

> *The standard used to define the hanok is arbitrary. Should it be built with a timber frame structure and an old type baked roof tile following the tradition of Chosŏn dynasty? Or could we call it a hanok if it is built with concrete-reinforced structure but looks like a hanok, as in the case of the Blue House (the Korean presidential house)?*

Indeed, Koreans had built various types of traditional buildings throughout history, with significantly different configurations across regions. And yet, document analysis reveals that traditional images of the hanok in the mind of the Korean general public mostly came from the period of the Chosŏn dynasty (1392-1897), particularly those used by the aristocrats. In that sense, the Bukchon was not truly traditional. Another internet article argued;

> *…the hanok in the Bukchon are not truly traditional to begin with. They were modern adaptations of traditional buildings tailored to dense urban environments of the 1930s. It was a second-class architecture developed by house sellers back then…*

Nevertheless, the hanoks in the Bukchon still contained several key building features of traditional buildings that allowed the general public to perceive them as traditional: the wood structure, joint system and the baked tile roof, all of which dominate the appearance of the Korean traditional house, the traditional heated floor called the *ondol*, the inner courtyard with gardens, and the extensive use of natural materials. These features represent a loose combination widely used in the new construction of traditional buildings today. Against high-rise apartment buildings, which became

the dominant mode of Koreans' contemporary lifestyles, this loose combination of features representing the *hanok* became the representation of Korean life in the age of globalization and tourism, both international and domestic.2

> *We don't want to show them (foreign tourists) grey buildings, monotonous high-rise apartment buildings, and destroyed nature. In this sense, it is important to conserve the Bukchon. It better represents Korean culture.*

A promotional material found in one of the tourist destination puts it this way:

> *We can communicate with our ancestors through the hanok. Shouldn't we pass on to our next generation the good scientific knowledge that our ancestors accumulated through experience? Get away from ordinary life closed off by cement and concrete buildings. Experience the traditional hanok.*

The dramatic contrast between cement/concrete buildings and traditional buildings that these voices are trying to evoke warrants some more explanation here. The sudden rise of modern apartment buildings, despite being viewed by Koreans as a natural solution to their unusually high population density and sudden urbanization during the 20th century, has attracted academic attention both inside and outside of Korea. Scholars have been particularly interested in the persistent development of high-rise apartment complexes on a large scale, often times in mega-sized complexes with more than 200,000 residents. Even more surprising to them has been how this housing solution, which failed in most Euro-American countries, not only succeeded in Korea, but has been well-received by the public, quickly replacing the traditional urban landscape (Figure 5, Gelézeau, 2007).3 Not long ago, in the 1960s, the urban landscape of Seoul was dominated by individual houses connected by a maze of narrow pedestrian alleys, similar to the outlay of the Bukchon.

2High-rise apartment buildings consisted of more than 50% of Korea housing stock at the turn of the 21st century (Korea National Land and Housing Corporation, 2006)

3According to Gelézeau (2007), Korean apartment complexes are modeled after two distinctive urban planning ideas: (1) The Garden City Movement, founded in 1898 by Sir Ebenezer Howard in the United Kingdom, with its distinctive concepts, such as self-contained communities surrounded by greenbelts, and (2) the modernist approach advocated by Le Corbusier and the Congrés Internationale d'Architecture Moderne (CIAM) as a residential solution. Mediated by Japanese influence during the colonial period, the Korean apartment complexes were considered by the researcher as a uniquely Korean modernism that was well-received by the Korean general public.

Koreans have persistently sought out the lineage of traditional houses in modern residential buildings. Jeon and Kwon (Jeon & Kwon, 2008), for example, look into the historical development of Korean residential buildings, starting in the pre-historic period and continuing to modern residential buildings, tracing how three archetypal components of Korean houses-- the kitchen, the *ondol*, and the *maru* (raised wooden floor)--were gradually merged together into one unit in contemporary residential buildings. In a similar vein, Koo & Park (Koo & Park, 2009) survey Korean traditional buildings built in 1930s and conclude that the combined space of the living room, dining room, and kitchen in contemporary buildings is in fact the continuation of the kitchen, courtyard, *maru*, and *ondol* in traditional residential buildings. Given the fact that the *maru*, *ondol*, and kitchen were indeed at the core of Koreans' everyday lives, creating a visceral sensation of coolness in the summer and warmness in the winter, not to mention the maintenance of familial bonding and gender/generational conflict (Shin, 2008), this may not be a surprising finding. The flexibility of applying the *ondol* and *maru* systems, as well as the fluent spatial relationship that can be easily reconfigured within the high-rise buildings, contributed to this lineage.

Despite this search for a lineage in the context of modern high-rises, Korean's search for national identity through actually constructing and experiencing traditional buildings continues to grow.4 During the course of this study, I observed several newly established hanok-related associations between 2000 and 2009, and their educational programs attracted the general public with unprecedented success. Newspapers and reports called for a more organized effort to advance the building of hanok to re-establish "our own" in the age of globalization and to utilize them as an effective tool

Figure 5. Urban landscape of Korea at the turn of the 21st century (photo by the author)

4According to Gallup Korea (2010), which is one of the most prominent marketing research companies in the country, 31.8% of their consumer sample indicated that they wanted to live in a hanok surrounded by nature in the future.

for generating economic revenue therefore surviving unprecedented global market competition. The ubiquitous image used in this public discourse was that of the hanok, peacefully positioned against the backdrop of pristine nature.

Tradition versus modernity: competition or reconciliation?

Traditional buildings embody traditional ways of life, the social, cultural, political, and economic milieu of the time of their production. When these elements change as society evolves, traditional buildings lose their original contexts and become difficult to maintain unless the building itself evolves. In this case, two different ways of continuing tradition exist: (1) conserving them as faithfully as possible, no matter how much extra cost and inconvenience arise, as is frequently observed in the case of historic preservation of residential buildings designated as national/regional treasures and cultural assets by officials in Korea; or, (2) modifying them so as to fit alongside contemporary lifestyles. During this study, I found that these two different attitudes coexisted and frequently clashed with one other, even outside of the preservation cases. I named adherents to the former *conservative traditionalists* and the latter *progressive traditionalists*.

Conservative Traditionalists

Frequently found amongst traditional building practitioners whose training was in traditional building apprenticeships, and also, not infrequently amongst the public, conservative traditionalists insisted on authenticity of the traditional buildings, not only in terms of the form, but also in terms of spatial configuration, building materials, and original meanings. Commenting on the most popular form of the hanok renovation project in the Bukchon—adding a basement or second floor—a person wrote in an internet discussion board:

> *Have you seen the two-story hanok? Those buildings with concrete basements and Korean traditional houses on top cannot be called hanok. It is like a man wearing a western suit and a Korean hat.*
> *Some people put a glass roof above their courtyard. Once this outdoor space becomes indoor space, it loses its original meaning as a anok. It is not a hanok anymore.*

The insistence of conservative traditionalists on the original forms and meanings behind the traditional buildings are again reinforced by their emphasis on following traditional building practices. This issue was frequently raised during the summer program. The program was organized in a way that ordinary people could learn about traditional buildings and apply that knowledge to their own building processes. Logically, a significant portion of building materials and processes were modified so as to be easily followed by non-professionals. Against these "adapted" methods, several program participants, especially those practitioners who were involved in the actual erection of the wooden building frame, made frequent arguments for traditional materials/processes. Besides the total rejection of modern building materials designed to mimic traditional building materials, the conservative traditionalists also insisted on traditional building processes, as argued by a practitioner during the program:

> In the real traditional building process, people did not use those standard timbers delivered from factories. The real **dopyunsu** (the chief carpenter in traditional building process) managed not only to erect the timber frame but also selected trees with the knowledge of appropriate species and age for different parts of the building, harvested trees with the knowledge of when to harvest, trimmed the timber with the knowledge of the direction of natural growth, carved out joints considering how the timber would be placed in relation to the site, and assembled them without using any modern fasteners.

This holistic approach—as opposed to practices in the modern building industry where standardization of each process makes the building process efficiently transferable to different builders—could be, according to the conservative traditionalists, properly taught only through traditional apprenticeships. According to the field instructor of the summer program, who was a field practitioner:

> It is better to learn under a **dopyunsu** by observing and doing it. A **dopyunsu** works without architectural drawing, while people trained in schools work with drawings. The real **dopyunsu** worked without drawings. It was all in here (pointing to his head)… I do not recommend schools.

In various media that reports major hanok restoration projects, including several cases in the Bukchon, the "star" designer was always referred to as an "apprentice" of a well-known legendary *dopyunsu*, therefore emphasizing the lineage of traditional skills. In that sense, the traditional buildings became an art piece to be preserved at any cost, or a luxury for wealthy people to enjoy as a vacation home, as is happening with a significant portion of the Bukchon, rather than as a utilitarian dwelling space.

Progressive Traditionalism

Mostly coming from scholars, with their predilection for academic objectivism, the progressive traditionalists argue that the core idea of conservative traditionalism, i.e., insistence on original form and process, and the rejection of standardization, were the major reasons behind the disappearance of traditional buildings. The organizer of the summer program argues that:

> *We need to continue the tradition that is suitable for contemporary life. But they (conservative traditionalists) insist on tradition... as if only something that is painstaking to make is real tradition... We need the system that works for our current lifestyle...*

During the actual construction of the hanok in the summer program, the argument between the two parties frequently heated up enough to halt the entire construction process, ultimately leading to delays for the entire program. On the penultimate day of the program, the organizer dismissed the carpenters, who were the most arduous followers of the traditional building methods, and bitterly stated to some of his colleagues and me that he would use modern materials to finish up the rest of the construction without the presence of the carpenters. He stressed that, in the context of the modern building system, standardization of building materials and processes is a rational choice, and perhaps the only answer. The bitterness between the two parties was even more pronounced in the case of the Bukchon. In a short documentary film that reveals how designated cultural assets in the Bukchon are "destroyed" through modification and rebuilding due to the "erroneous" guidance of the government, the reporter asks:

> *Is there such a thing as a two-storey hanok?*

To which a government official replies:

> *Is there any law against a two-storey hanok?*
> *The average hanok in that neighborhood can't really keep a traditional interior. The government can't buy and maintain them. This is how the hanok are supported now: The interior can be like a modern building so that it is comfortable to live in, with things like Western-style kitchens. Only the exterior of the building matters.*

Tradition and modernity: intrinsic union

The intersection between modernity and traditional environments has been explored by many researchers, with concentration on its link to nationalism and identity building (Fuller, 1988; Mitchell, 2001; Pai, 1997; Robinson, 2001) and issues of resistance arising from these activities (Mitchell, 2001), as well as tourism and the commodification of traditional places (Daher, 1999; Good, 2005; Latter, 1999; Oliver, 2001), which often times lead to a larger community narrative about modernism, capitalism, and globalization (Chan, 2005; Robinson, 2001; Upton, 2001). Upton (2001) in particular, explains the phenomena with the language of late-capitalism, particularly how the global economy searches out cultural raw materials in exchange for hard cash. The ways in which tradition and modernity were combined in the hanok of the Bukchon can be explained by the idea this late-capitalism. The traditional buildings were frequently packaged so as to create multi-dimensional experiences tailored to the needs of tourists, both international and domestic. The converted hanok were frequently used as cultural centers or small gallery spaces for Korean traditional teas, dinnerware boutiques, and artisans' shops. In these spaces, the total experience of traditional life was packaged and sold to both Koreans and tourists from other countries.

It seems that the issue of identity construction is an intrinsic part of the late-capitalism. During the course of the study, I encountered numerous traditional villages already developed or in the planning stages, through which local governments and commercial sectors offer programs for children or families to experience an old way of life, therefore learning what it means to be an "authentic" Korean—although one can also observe the capital side of this business as a tool to generate revenue for the local community.

Another area where the theme of tradition was prominent was in the production and marketing of building materials. The theme of traditional houses and the exclusive use of natural materials became a very powerful marketing theme, particularly when compared to the ubiquitous high-rise apartment buildings and their extensive use of modern materials, such as concrete and synthetic materials. While increasing incidences of modern ailments such as asthma and cancer are frequently attributed to modern built-environments in the media, traditional building materials such as yellow clay, wood, and natural stones are advertised as "beneficial," with the ability to cure

or prevent these modern ailments.5 More recently, several public apartment projects emulated the hanok interior in their high-rise apartments. The photographs of the interior, as shown in newspapers, were indistinguishable from the traditional *hanok*— except for the fact that the courtyards have blank, white ceilings instead of sky.

In all of these cases, one can observe that Koreans freely move between traditionalism and modernism, continually negotiating the blending of modern convenience and traditional naturalism. In this context, one can no longer distinguish Korean traditionalism as an identity marker and modern technology as a tool to establish it. If identity building is indeed a fundamental part of human nature and activity, and modern convenience and efficiency is something that cannot be lived without, both traditionalism and modernism are indeed integral parts of Korean identity, and perhaps these represent a reasonable answer to the effects of globalization that Koreans will continue to face.

Conclusion

This chapter examines how the notion of tradition is perceived, interpreted, and then remade in the contemporary building industry in Korea. While traditional houses were an embodiment of the culture in which they were originally made, traditional houses as separated from their original contexts have taken on totally different meanings. A quickly disappearing traditional environment caused by intense modernization made Koreans perceive these disappearing features as precious vessels of their national traditions. As an efficient way of establishing self-identity and creating tangible income through commodification, tradition shows itself to us as "a product of modernity, which itself was the product of change and history" (Graburn, 1997).

In this context, the theme of tradition has indeed become quite utilitarian. In this study, traditional environments were packaged into two distinctive formats: a kind of stage where total experiences are fabricated, and a venue where modern industrial products borrow from the concept of tradition. In the latter case, the theme of tradition and its symbolic meanings become part of everyday life as contained in

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5Amongst 301 construction-related companies who exhibited their products during the construction expo held in 2008 in Korea, 60 companies (25 in interior and exterior finishing, 16 in residential heating systems, and 19 in various other areas) borrowed concepts from traditional houses, or the naturalism found in traditional buildings, in developing and packaging their products.

modern buildings. A more active desire for traditional lifestyles in contemporary Korea resulted in traditional buildings tailored to new lifestyles, with bold uses of modern building features utilized within them.

In this sense, the public discourse surrounding the construction and maintenance of traditional houses in Korea—conservative versus progressive traditionalism—was not quite successful in contextualizing their technocratic argument into a larger social political backdrop. This suggests important future research directions. Rather than debating over which detail of the *hanok* is authentically Korean, scholars need to look into the actual, everyday uses of the traditional houses. Assuming that a house inevitably reflects the worldview, values and lifestyle of the people who live in it (Bourdieu, 1979; Duncan, 1982; Pader, 1993; Rapoport, 1969; Yan, 2005), examining these unexplored territories can be meaningful. What parts of traditional houses and the meanings attached to them survive and change through time, and what parts of them disappear? The answers to these questions can give us insight into: (1) how traditional ways of life are perceived, evaluated, and reconstructed by receiving generations, and as a result, (2) how the house form evolves alongside a rapidly globalizing society with its unprecedented complexity and diversity. In this way, the dichotomy between modernity and tradition disappears and the issues of tradition, identity and environment can be meaningfully explored as they relate to the practices of our everyday lives.

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Instigating Cultural Change and Spatial Transformation

The Thai Royal 'Hill-Tribe' Project and Hmong Vernacular Space

Lynne M. Dearborn

Thailand has led the countries of Southeast Asia with unprecedented macro and micro development initiatives, and rapid economic growth and social change over the last forty-five years (Kampe, 1997). Primary goals of these development efforts have been modernization, improved quality of life and preservation of natural resources. Conventional indicators attest to Thailand's success. Measures such as infrastructure improvements, increased foreign investment, technological advances, reduced infant mortality, increased life expectancy, improved levels of education and health care, and reduced poverty, place Thailand among the most developed countries in the Mekong Subregion (Asia Development Bank, 2008). However, the benefits of development have not accrued evenly throughout the country either socially or geographically. Ethnic mountain groups[1] of northern Thailand have been marginalized as a result of several development initiatives and have benefited little from macro economic development, which has served national development objectives through large-scale schemes (Kampe, 1997). Certain initiatives such as wide-ranging forest conservation and crop substitution initiatives have negatively affected ethnic mountain groups by reducing subsistence farming in favor of cash-crop farming and by making their occupancy on traditional lands increasingly tenuous.

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[1] Although the term "hill tribe" is used in official government language and daily Thai speech, it is pejorative and has become synonymous with forest destruction. Ethnic mountain group is one of the preferred terms and thus is used here except when it is part of official initiative titles or quotations.

Focusing on the Hmong, one of more than fifteen ethnic groups in Northern Thailand, allows examination of links among several of Thailand's large-scale development initiatives, changing cultural frameworks of minority populations, and spatial transformations within traditional environments. Hmong are a particular emphasis of several Thai development schemes. Because of this, as well as their distinctive and well-documented cultural framework and geographically discrete village locations, Hmong provide fertile ground for such an investigation. This chapter begins by providing some background on Hmong as a cultural group, as an ethnic minority in Thailand, and as emphasized in the Thai Royal Project development scheme. It then briefly introduces the three village study sites and data used in this study as well as the theoretical lens applied in study analysis. The study's primary focus, traditional and contemporary settlement patterns, as well as development influences in the three case study villages, are then discussed. The chapter concludes with a cross-case analysis examining links among particular elements of the development initiatives, changing Hmong cultural frameworks and changing patterns in the physical environments exhibited in the three case study villages.

Hmong in Thailand

Hmong are an ethnic group with populations in China, Vietnam, Laos, Thailand and Burma. These populations are branches of the Miao people of southern China. Dispersal of Hmong from China to other parts of Southeast Asia occurred primarily as a result of "bloody repressions" of the ruling government between 1795 and 1872 (Tapp, 1989, p. 18). Accounts suggest that Hmong had a strong desire to maintain their ethnic identity and consequently fled when rulers in China began to force them to conform to the dominant Chinese culture. Hmong resettlement was concentrated in the highlands of Vietnam, Laos, and Thailand. Throughout history, Hmong have demonstrated a strong desire to remain autonomous and distinct from all dominant cultures (Faderman & Xiong, 1998; Mottin, 1980). This strong desire to maintain their unique Hmong identity is believed to be the reason for resettlement at the highest altitudes, in mountain jungles that offered a refuge supporting an agricultural lifestyle (Chaturabhawd, 1980). Scholars believe Hmong began to move from Laos into Thailand around 1885 by following the range of mountains along the Burmese border and into northern Thailand (Cooper, 1998).

After resettlement in the mountainous regions of Southeast Asia, Hmong practiced "pioneer swidden farming" (Tomforde, 2003, p. 357). Swidden is an agricultural method, also known as slash-and-burn. Once a village was established, trees and shrubs were cut down. After the vegetation died, farmers would burn it, creating ash that fertilized the soil, then they would plant. When the soil's fertility was depleted, the farmer would move on to a distant forested area and begin all over again. When all the available forestland around the village had been cultivated and depleted, elders would move the village. This might happen as often as every four years as a result of soil depletion, the most common reason for relocating Hmong villages historically. Hmong cultivation practices, as well as their traditional cash crop farming of opium poppies, have made them a focus of development efforts in northern Thailand.

Since the 1960s, Thai government policies regarding Hmong have been premised on three goals: increased national security, arresting deforestation and degradation of upland environments, and opium eradication. These policies and their application were also influenced by Thailand's movement to modernize into an urban, industrialized society. This movement views agrarian ethnic minorities, "especially ethnic groups living in mountainous areas and practicing traditional culture, as primitive, engaging in superstitious practices, oriented toward the past, with an inability to adjust to new circumstances" (McCaskill, Leepreecha, & Shaoying, 2008, p. 14). According to the Thai government, Hmong are a central component of the "Hilltribe Problem" outlined in The National Security Council's *Masterplan for Development of Highland Communities & Environment and Control of Narcotic Crops, 1992-1996* (Sukonthaphathipak, 1997). They are viewed as disadvantaged people living in remote, inaccessible areas. As a result of alliances with western countries and western development agencies, the government and government policies have favored a "scientific" modern worldview. This perspective devalues the Hmong traditional worldview, which employs local knowledge and mythical and spiritual understandings of the environment, and casts it in a negative light.

Hmong have been regarded with suspicion by the authorities because they represented pockets of non-conformity in Thailand (Tapp, 1989). From the 1960s through 1982, Thailand experienced a communist political insurgency, the CPT, which focused activities in northern provinces where Hmong were heavily concentrated. Because of possible links, Hmong were considered a threat to national security that was addressed first by military presence and later by relocation of villages outside the CPT-controlled areas (Sukonthaphathipak, 1997, p. 65). While this history linking

Hmong to communist threats to the state may have faded in the minds of many in government, response to Hmong history as shifting cultivators and as producers of opium are now central components of Thai policy that continue to strongly influence Hmong settlement patterns and cultural transformations.

Employing western models, Thai government policies concerning protection of natural resources and addressing environmental problems have particularly influenced Hmong. The Wildlife Conservation Act of 1960 and the National Park Act of 1962 execute conservation through the establishment of state-controlled forest protection areas. This strategy is supported by international agencies such as the UNDP, USAID and the World Wildlife Federation. But because ethnic minority groups, particularly Hmong and Karen, have historically inhabited many areas now "protected," traditional practices and ways of life are forbidden in these areas and ethnic mountain groups are considered harmful. At the same time, tourists, whose numbers now often exceed the local population, are viewed positively even though their presence is more detrimental to the environment because of their wanton use of scarce local resources (e.g., water) (Chotichaipiboon, 1997: 106-109). Within this context, "Thai environmentalist discourse has generally perceived and portrayed forests as fragile, vulnerable and susceptible to extinction while swidden agriculture and village settlements have been depicted as the ultimate menace to these 'national assets'" (Tomforde, 2003, p. 351). This discourse has strengthened since the early 1990s with commensurate intensified resettlement of ethnic-mountain-group villages outside protected areas. However, villages connected to Thai Royal Project sites within protected areas have been spared from resettlement (Tomforde, 2003).

The Thai Royal Project, initiated in 1969 by His Majesty, King Bhumibol Adulyadej of Thailand (Evrard & Leepreecha, 2009), is considered one of the most important and successful development initiatives by many Thai (Chandraprasert, 1997). The stated objectives of this policy initiative are to improve the standard of living of ethnic mountain groups, stop opium poppy cultivation, and preserve forests. This major policy initiative has mainly targeted Hmong as they were the primary opium producers historically. Schemes implemented under the auspices of The Thai Royal Hill-Tribe Project reflect an "ideology of improvement" (Crawford, 1995, p. 16) because many Thai believe that by transforming Hmong from shifting cultivators, who practiced slash-and-burn farming and grew opium poppies, to stationary cash-crop farmers, the Royal Project addresses the larger social good by reducing the supply of opium, reversing deforestations and preserving watershed areas.

It is important to note that while environmental discourse in Thailand assumes Hmong pioneer swidden farming is detrimental to forests and watersheds, scholars still dispute the actual reasons for environmental degradation. However, most generally agree that swidden farming is less destructive than highland road construction, large-scale agribusiness, and commercial logging (Delang, 2002; Hirsch, 1990; McKinnon, 1997) sanctioned by the government in the mountainous areas of northern Thailand. Given that government-sanctioned macro development initiatives favor environmentally destructive activities (e.g., tourism, logging, large-scale agribusiness) while at the same time employing initiatives to change traditional Hmong practices (e.g., settlement and land use patterns, agricultural ways and religious systems), it is important to understand the consequences of these government strategies for the Hmong way of life.

These macro-scale Thai government initiatives, premised on western science-based cultural frameworks, place Hmong, who do not share this cultural perspective, in an uneasy relationship with those in power and with the dominant Thai culture. A comparative analysis of three Hmong villages in Northern Thailand, Khun Klang, Pa Nok Kok, and Huay Lok, offers a means to examine in detail the spatial and cultural implications of Thai development initiatives for ethnic Hmong living in villages in northern Thailand. The author collected data for this study during two trips to Thailand and Laos in 2007 and 2008. The 2007 trip included three weeks in Thailand and a week in Laos conducting initial investigations in numerous villages in Northern Thailand and Laos, and visiting Thai government and NGO archives and museums. The month-long 2008 visit to Northern Thailand incorporated intensive village stays of ten days in Khung Klang and three days each in Pa Nok Kok and Huay Lok. During these village stays, the author observed and documented a range of Hmong cultural activities and settings, engaged in discussions with village leaders, elders and residents to understand village history, dynamics and daily life. Additionally, during 2008 the author collected information and documents from officials at the Royal Project Headquarters and from the archive at the Hill Tribe Museum, both in Chiang Mai.

Data employed here include Royal Project archival materials on the three sites, as well as current aerial photographs augmented by documentation of the existing physical environment of each village, interviews with a variety of village residents and extensive observations of everyday village life. These data allow comparison not only among villages but also with baseline documentary evidence on Hmong from existing studies by anthropologists (Chaturabhawd, 1980; Cooper, 1998; Lemoine, 1972; Mottin, 1980;

	Khun Klang	Pa Nok Kok	Huay Lok	Traditional Base-line (Pha Puen, Laos)
Year Village Established (approx.)	1925	1970	1978[f]	2004
Year Research Station Established	1979	1974[c]	1980	NA
Research Station Name	Inthanon Royal Project	Mae Sa Royal Project[d]	Huay Lok Royal Project	NA
Research Station Statistics	Area: 96 sq. km. Terrain: steep slope Altitude: 1300-1500 mtrs. above sea level Climate: temperate Villages supervised: 15	Area: 4.0 sq. km. Terrain: mild slope Altitude: 1000-1100 mtrs. above sea level Climate: tropical Villages supervised: 4	Area: 3.4 sq. km. Terrain: flat low-land Altitude: 500-600 mtrs. above sea level Climate: tropical savannah Villages supervised: 3	NA
Original Village Size	Houses: 10 Families: 20 Clan groups: 3 Population: 100	Houses: 60 Families: 96 Clan groups: 3 Population: 420	Houses: 45 Families: 60 Clan groups: 4-5 Population: 500	Houses: 10 Families: 14 Clan groups: 2 Population: 98
Current Village Size	Houses: 193 Families: ~ 450 Population: 1550	Houses: 80[e] Families: 100 Population: 446	Houses: 182 Families: 200 Population: 1556	Houses: 10 Families: 14 Population: 98
Village Form	Geographically responsive	Geographically responsive	Grid	Geographically responsive
% Population in Agricultural Production Currently	90% (Stationary "improved" agriculture)	50% (Stationary "improved" agriculture)	93% (Stationary "improved" agriculture)	100% (Swidden)

	Khun Klang	Pa Nok Kok	Huay Lok	Traditional Base-line (Pha Puen, Laos)
Other employment	Wholesalers, commercial	Tourism & Handcraft (in & outside village)	Outside village, Construction	None
% Population applying Traditional Religious Practice	70% - 80%	5% (at most)	40%	100%
Number of Shaman	6	0	4	2
Number of Christian Churches	3	2	3	0
Location Information	Inside Inthanon National Park[b]			80 km. south of Myanmar boarder
Distance from Chiang Mai[a]	90km	35km	120km	400km (50km from Luang Prabang)

Notes:

[a] Chiang Mai is northern Thailand's largest city. Its metropolitan population is nearly one million.

[b] Inthanon National Park was set aside in 1954 to protect the natural setting in the Himalayan foothills.

[c] One of the earliest Royal Project sites, it resulted from the King's 1969 visit to the village. He noted opium cultivation efforts deprived the village of adequate food from subsistence agriculture.

[d] The agricultural research station near Pa Nok Kok is an annex of the larger Mae Sa Royal Project.

[e] The trend away from large multi-family households in the village underlies increasing home construction.

[f] The village was created at the King's request in 1978 to resettle three Hmong villages from up-land areas. The Royal Project provided many improvements for the village, a school, water and electricity systems, and agricultural education for the villagers.

Table 1: Comparative Summary of Village Characteristics

Tapp, 1989) and data collected by the author in Pha Puen located in the mountains northeast of Luang Prabang, Laos. These comparisons shed light on Hmong cultural and spatial transformations within these Hmong villages and are illustrative of changes in traditional Hmong worldview and lifestyle instigated by the Royal Project initiative. This study employs an analytical framework combining Rapoport's concepts of "culture core-periphery" and "systems-of-activities/systems-of-settings" to explore cultural and spatial transformations within these settlements as they become Royal Project sites[2]. Table 1 provides comparative data on these villages as well as the base-line village of Pha Puen. These data provide specific background for the chapter's later analysis.

Cultural Framework

U.S. architect and anthropologist Amos Rapoport (2005) argues that culture categorizes a vast range of human phenomena and that it is helpful, when attempting to operationalize culture, to dismantle such a concept into components and expressions. This becomes one important way to relate culture with the environment. There are two ways to dismantle culture. The first includes social expressions of culture that can be observed and for which accepted methods of study exist: kinship, family structure, roles, social networks, status and identity. The second means for dismantling culture is to derive a sequence of increasingly specific components of a culture: worldview, values, norms, lifestyle and activity systems (Rapoport, 2005). Within these dimensions of culture, Rapoport defines the culture core as those elements of culture most important to the group itself. The culture core defines a user group profile, a particular life-style and a set of important activities (Rapoport, 1980). Rapoport also suggests that elements of the culture core change more slowly while elements in the culture periphery change more quickly.

In a previous study of immigrant Hmong cultural change in the US, the author identified seven cultural characteristics derived from a review of research literature on Hmong that suggest the core of traditional Hmong culture in Southeast Asia: large household size, non-nuclear/extended-family households, strong kinship ties, the three parts of Hmong traditional religion, maintaining independent ethic identity, practicing

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[2] Most adult Hmong in Northern Thailand speak the Thai language; some are also proficient English-speakers. In cases where the Hmong interview participants were fluent in English, interviews were conducted in English. In all other cases, a bi-lingual, Thai-English translator assisted with the interviews. Although the translator was not Hmong, she was familiar with Hmong village life and culture as a result of her extensive research on tourism in Thailand's Hmong villages.

swidden agriculture, land ownership/control (see Dearborn, 2004: 55-67). To examine Hmong cultural change in the villages studied, this chapter will focus on three of these characteristics because they are the characteristics which are most distinct from and potentially in conflict with present-day Thai culture and with Thai government development initiatives: 1) maintaining distinct ethnic identity, 2) practicing shifting agriculture in remote highland locations, 3) practicing three interwoven components of their traditional religion: animism, ancestor worship, and geomantic beliefs.

Activities and activity systems are the most concrete expressions of culture and are thus the easiest to link to the physical environment because it is important that the environment be supportive of these activity systems. In order to understand linkages with the physical environment, both latent and manifest aspects of these activities must be understood. Rapoport suggests that activity systems are linked to systems of settings. It is this framework that will now be applied to Hmong identity maintenance, agricultural and religious practices and the associated systems of settings.

Spatial and Cultural Transformations and Development Initiatives

The three Hmong core cultural characteristics identified above frame this chapter's main arguments. In this section, they are employed as a lens to analyze spatial and cultural transformations in light of agricultural and touristic development initiatives.

Maintaining Distinct Ethnic Identity

Historically Hmong employed exceptional efforts to remain distinct from the dominant culture. After leaving southern China to escape domination and forced assimilation, Hmong settled in small villages at very high altitudes. These remote locations allowed Hmong to remain independent and maintain their distinct cultural identity. In remote highland villages, like Pha Puen shown in figure 1, Hmong wanted to live near clansmen with whom certain ritual ties were shared, but because of exogamous marriage customs also wanted to live near people who were of other clans. Thus, although traditional villages varied in size from six to ten households, they were usually composed of more than one clan. The small traditional village size and remoteness of villages, one from another, reflected and supported the subsistence nature of Hmong lifestyle. The village headman, who dealt with government officials, was chosen and supported by village household heads.

Hmong clans employing choice independent of the influence of government and Royal Project initiatives settled Khung Klang and Pa Nok Kok. Both villages were and remain independent political, social, and ethnic entities, distinct from the Royal Project research station and from other ethnic villages, and are home principally to ethnic Hmong. Thus the distinctiveness of these villages serves to maintain their Hmong identity and Hmong-ness of residents and to distinguish Hmong from other ethnic groups. Perhaps because of geographic remoteness and inaccessibility of the village, residents of Khung Klang focus inwardly on village and cultural life to a far greater degree than do the villagers in Pa Nok Kok or Huay Lok. Khung Klang residents maintain that Hmong culture and way of life are expressed in an internalized way. From the daily rhythm of agricultural work, to appeasing animist and ancestor spirits, to sitting with family in the evening, residents report being content with village life (see figures 2 and 3). Although numerous adults had left the village to go to secondary and post-secondary schools in Chaing Mai or Bangkok and had been employed in both public and private sector jobs in Thai society, they returned to the village because of their strong desire to be surrounded by other Hmong and to live according to the Hmong worldview.

Alternatively for residents of Pa Nok Kok, being Hmong was not a way of life but rather something to be commoditized and sold to tourists. Residents did not mention the desire to live in the village because of their wish to live in harmony with the Hmong worldview but rather to be part of active tourist enterprises. Owing to its proximity to Chiang Mai and improved roads, in the mid-1990s tourists who wanted an "authentic" highland tribal experience would occasionally visit the village. Although these tourist visits began in an informal way, villagers soon started to work with the Thai tourism authority, as well as a group of students and faculty from Yale University in the U.S., to strategize how best to take advantage of tourist desires to visit the village. In 2000, with the help of the Thai tourism authority, the village committee considered developing "homestays"3 for foreign tourists. At the same time the village increased traditional handcraft output and established a cultural tourism venture in conjunction with Yale students who came to work with and live in the village for several months. This led to initiation of homestays that offered tourists the chance to get close to Hmong culture and taste traditional Hmong foods. The tourism authority currently has certified ten houses in the village for homestays. Thus, while the pattern of village

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3 In Hmong villages, homestay opportunities are a form of tourism that allows the visitor to rent a room from and eat meals with a local family to better learn the Hmong lifestyle. The Thai tourism authority encourages homestays as a means of developing the tourism industry and to disburse the economic benefits to rural residents who might not otherwise profit from tourism.

Figure 1: Pha Puen village in Laos

Figure 2: Family working in the fields, Khun Klang Village (photo by author)

Figure 3: Daily life in Khun Klang village (photo by author)

Figure 4: Men preparing for Hmong New Year parade in Pa Nok Kok Village. Stalls for selling traditional crafts to tourists are being set up in the background. (photo by author)

life supports Hmong identity, it is an identity that has been altered by its packaging for tourists' consumption, as figure 4 illustrates. It is the making and sale of Hmong handicrafts, catering to tourists who are staying in the village, and the representation of being Hmong that underpin daily rhythms of life, not Hmong agricultural or religious practice.

Unlike Khun Klang and Pa Nok Kok, residents of Huay Lok did not employ independent choice in the location or siting of their village. Rather than being distinct from the neighboring Royal Project extension station which sits directly to the south of the village, there is no clear physical boundary between the edge of the village and the extension station. The nondescript edges of the village and the major highway that divides the main part of the village from an ancillary part serve to diffuse the village.

Socially the village is an amalgam of residents from three different original Hmong villages and the kinship ties between residents do not follow traditional patterns of closely linked kin. The relatively flat geography of the site and the fact that the Royal Project station additionally serves two Karen villages that also blend physically with Huay Lok serve to further deny identity to the Hmong village. These conditions may in part account for the sense among residents that they are embattled from outside and that many of the social problems within the village result from their lack of autonomy.

Practicing Shifting Agriculture

While Hmong traditionally practiced swidden farming and historically grew opium as a cash crop, they subsisted for the most part on their own production of dry rice, corn and subsidiary crops (e.g., taro, yams, gourds). The activities of swidden farming and the influence of agriculture on Hmong beliefs and traditions are regarded as an important aspect of Hmong culture (Lee, 2005). Historically, Hmong believed in both household spirits and wild spirits inhabiting natural objects. Hmong beliefs in the efficacy of these spirits necessitated many ceremonies to appease them and to obtain their protection for all undertakings. To ensure successful planting, growth and harvest, simple ceremonies were conducted at different times to ask for spiritual cooperation and to honor the spirits for a successful harvest.

The Royal Project initiative intervened specifically to modify Hmong agricultural practices from swidden to fixed-location farming employing modern scientific methods to increase quality and yield and to discourage opium production. These changes substantially modified the daily life and yearly rhythms related to this core cultural characteristic. Scientific methods augmented and in some cases replaced the importance of the spirit world to successful agricultural outcomes. Farmers employ modern farming practices such as applying chemical fertilizer, irrigation, sheltering plants from weather extremes, and using hybrid species developed by the experiment station (see figure 5). However, for those who continue to engage in agricultural production, these changes do not appear to have substantially altered their sense of themselves as Hmong. In fact, those who continue to farm are proud of their agricultural production and see it as an extension of their Hmong identity. Thus it may be the activities of farming even though modified, rather than the specific activities of swidden which remain as a core cultural characteristic. The weakened link between agriculture and religious practice is considered detrimental to overall Hmong identity by Hmong village leaders; but most Hmong who farm only concern themselves with this change when

water for irrigation and basic needs is insufficient or when harvest yields fall below expectations. In Khun Klang, farmers augment scientific methods by conducting traditional ceremonies to ensure successful harvest. In Huay Lok and Pa Nok Kok few appear to engage in ceremonies to appease spirits for improved agricultural outcomes.

Hmong Traditional Religion

Within traditional village life, Hmong religious practice was an important determinant of Hmong cultural life. Sherman (1988, p. 588) describes the Hmong as "a people steeped in animistic ritual, bounded by good and evil spirits to a way of life filled with the magical and mystical." Three identifiable and interwoven components constitute traditional Hmong religious practice: animism, ancestor worship, and geomantic beliefs. Hmong animism viewed supernatural beings as involved in every aspect of human life, most critically in birth, death and sickness. Shaman could see and communicate with the spirit world, and thus were consulted in the event of illness or misfortune (see figure 6). Traditionally, Hmong believed that specific spirits inhabited the structure and spaces of a house. On a special altar, the spirit of wealth protected all household members (see figure 7). Additionally, Hmong also practiced a

Figure 5: Farm fields in Khun Klang employ irrigation and protection from weather extremes for high-yield, hybrid tomato varieties. (photo by author)

Figure 6: Shaman's Altar, Khun Klang Village, Thailand (photo by author)

Figure 7: Altar to the spirit of wealth mounted on the wall opposite the main door in a family home in Khun Klang Village. (photo by author)

Figure 8: Former Khun Klang Village Headman standing on the site of his father's grave, explaining siting of the grave according to Loojmen. (photo by author)

Figure 9: Hmong Elder Playing the Qeej (funeral flute) as part of a ceremony to appease household sprits, Khun Klang village. (photo by author)

form of geomancy, known as *loojmen*, when siting villages, houses and the graves of ancestors. *Loojmen* is a system for siting these important settlement elements according to mountain contours and watercourses formed in mountain valleys (see figure 8). Strict criteria existed for following *loojmen* principles, to placate ancestor and other spirits to ensure the welfare of village and household inhabitants.

Traditionally, the site for a village was chosen so that it harmonized with surrounding geography. Tapp (1988) notes, in his anthropological study, that villages sited with bad *loojmen* inevitably brought misfortune to their inhabitants. The village should be cradled in a sloping area with mountains rising on either side. Similarly, the site for a house was traditionally chosen to harmonize with the shape of the surrounding mountains. Standing in front of the house, "you should have a clear view to the mountains to your right and left. The sun should rise behind the house and set in front…. If the terrain resembles an elephant, the house should sit between the tusks or on the back where a man would sit" (Ranard, 1986, p. D4).

Both Khun Klang and Pa Nok Kok were originally sited in response to *loojmen,* while Huay Lok was sited and laid out by government authorities responding to convenience of an easily accessible and available site. The layouts of Khun Klang and Pa Nok Kok respond to geography as traditional practices would dictate, but Huay Lok's layout is a rectangular grid responding to ease of infrastructure development rather than geography.

Religious activities and their settings in each village differ substantially. According

to official government figures, sixty percent of Khun Klang's population is Buddhist and forty percent is Christian. The village has three Christian churches and one small Buddhist temple. Informants in the village note that despite official government figures, between seventy and eighty percent of the villagers still follow traditional Hmong religious practice (see figure 9). There are six shaman in the village. When villagers become ill, they go to the local clinic but most also see a shaman for traditional healing.

Huay Lok has three Christian churches and approximately sixty percent of villagers follow Christianity. The remaining forty percent of villagers follow traditional Hmong religious practice and are, like those in Khun Klang, identified by government statistics as Buddhists. In Pa Nok Kok about ninety-five percent of residents are Christian, five percent follow Buddhism and ancestor worship. There is no shaman and no Buddhist temple in the village; it has two Christian churches.

Comparing Cultural and Spatial Transformations

Comparing statistics noted in Table 1 concerning village development, transformation, and the Royal project initiative, in light of the previous sections' qualitative analysis of three core cultural characteristics, demonstrates not only transformations in Hmong vernacular space but also the intertwined nature of the culture core. Because the three characteristics discussed are inseparable, the true detrimental effects of development initiatives on the Hmong and Hmong culture are best understood by examining the three characteristics together as changes in one lead to changes in the others. This section presents this complex interrelationship.

Khun Klang and Huay Lok are substantially larger villages than the traditional baseline village and Pa Nok Kok. It is clear, from experiencing these villages on the ground, that daily life in the two larger villages revolves around agricultural production and the relationship with the Royal Project extension station, while tourism timetables influence Pa Nok Kok. Daily life in Pha Puen relates primarily to the activities of subsistence farming, maintenance of kinship, and animism and ancestor worship.

Village context and history are important factors that also influence transformations of vernacular space. Examining systems of activities/systems of settings related to two core cultural characteristics, agricultural production and religious practice, demonstrates the interrelated nature of these characteristics and allows exploration of cultural

and spatial transformations within these settlements. The geographic relationship of village to Royal Project appears linked to the percent of village population employed in agricultural production. However, remoteness of a village also influences agricultural employment as remote locations offer few other employment opportunities. If, as this and other studies suggest (Cooper, 1998; Dearborn, 2004; Lee, 2005; Lemoine, 1972), farming and agricultural production are a core cultural characteristic that Hmong believe is intimately linked to their Hmong cultural identity, then the Royal Project initiative supports that core characteristic while tourism initiatives do not.

These development initiatives also appear to have an undercurrent of religious change, in some cases subsuming Hmong who practice traditional animist spirit worship into Buddhist religious practice4 and in other cases converting Hmong from traditional animism to Christianity. Both religions come with their own sets of activities and settings not found in traditional Hmong vernacular space thus suggesting spatial transformations on the village level. The subtle reclassification of Hmong from traditional animists to Buddhist presents Hmong as more acceptable citizen of the Thai nationstate to the Thai people but also undermines Hmong cultural identity. The Hmong who understand their traditional religion as something that distinguishes them as Hmong, have not endorsed this reclassification by the government. Being considered Buddhist by others not only denies their identification with a main component of Hmong culture but also contradicts the Hmong core cultural characteristic of maintaining distinct ethnic identity. Also, Hmong conversion to Christianity, while a personal choice for religious change, nonetheless weakens links with other Hmong who maintain traditional religious practice and eliminates association with a core Hmong cultural characteristic (Dearborn, 2004). This is particularly true in Pa Nok Kok where the majority of residents consider themselves Christians.

The case of Huay Lok offers an additional point concerning these transformations. As something of a planned village, it fails to respond to resident expectations with regard to *loojmen*, as figure 10 illustrates. Some in the village blame village troubles with drugs and crime on this physical mismatch with cultural frameworks; others suggest it results from their lack of autonomy and lack of distinct physical identity. Thus, while the benefits of the Royal Project initiative are many in terms of improved access to nutritious food, improved infrastructure, opium eradication, and probable arrested deforestation and protection of watershed, this transformation for highland

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4 Buddhism is the national religion of Thailand; subsuming traditional Hmong animist spirit worship into Buddhism is another means of making Hmong more like other citizen of Thailand.

Hmong farmers has come at the cost of unanticipated cultural change and spatial transformation in their villages. Agricultural development initiatives have resulted in large-scale, irrigated farming involving hybrid species of tropical and temperate food crops, flowers and ornamentals for international markets. Royal Project marketing and quality control specialists regulate access to these markets resulting in social and economic stratification in Khun Klang

Figure 10: Road infrastructure provides straight, rectilinear road system, built by the government for Huay Lok Villagers. (photo by author)

and Huay Lok that is unusual in Hmong society. Many families who grow for these markets no longer provide for their household subsistence and must purchase food. The lives of most residents of these two villages have become intertwined with the bureaucracy and policies of the Royal Project Initiative which does no incorporate citizen participation in its planning. Likewise government labeling of Hmong as either Buddhist or Christian and the consequences for Hmong identity and ethnic distinctness provide an ironic counterpoint in the broader Hmong history of fierce independence, strong ethnic isolation and self-determination.

Development, Cultural Change and Spatial Transformation in Thailand

The preceding analysis of cultural and spatial transformations in light of Thai development initiatives offers several insights concerning development strategies and cultural identity. This study employed Rapoport's model of a culture core as a means to study cultural change in light of powerful external influences. Examining the consequences of externally induced rapid development to three Hmong core cultural characteristics suggests that forced change can be quite detrimental to a cultural group such as Hmong who have historically 1) prided themselves on in their collective sovereignty but now have few opportunities for control over their collective future, 2) placed great importance on their relationship to the spirit world but have seen that world devalued by science-based farming, other religions, and the government, and 3) identified their place in the physical world by an appropriate relationship to geographic features and natural forces but have been forced to resettle where an appropriate

relationship cannot be established. This study also suggests that rather than acting as independent elements, these core characteristics begin to operate as an intertwined system where each characteristic influences others to varying degrees. Huay Lok offers a potent example of how the core acts as a system and the consequences of external forces that undermine that system. Resettling this village in a flat, lowland area, ignoring traditional Hmong settlement patterns based on *loojmen,* and ignoring the need for distinct village boundaries, is an affront to village residents' understanding of their place with regard to animist forces and to non-Hmong. While most Huay Lok residents continue to practice agriculture, many nonetheless believe that their village and all of its residents suffer misfortune resulting from lack of physical separation from non-Hmong and improper alignment with the Hmong spirit world.

Huay Lok offers a clear example of core characteristics acting in a systemic way and the negative effect of enforcing change on a cultural core that cannot rapidly respond to external forces such as Thai development initiatives. Careful analysis of Khun Klang similarly suggests that these three core characteristics link together in a strong cultural system. For Khun Klang residents who sense that their village world is appropriately aligned with the spirit world, no village-wide misfortune is perceived. Elders in Khun Klang, as well as the village headman, describe individual households having seized opportunities to engage in entrepreneurial activities existing outside the Royal Project. Several families have become produce distributors in addition to farming. These families have built small warehouses in the village and act as middlemen purchasing and disseminating produce that does not meet the quality standards of the Royal Project buyers. This offers another market for farmers' produce and begins to reduce control of the Royal Project in the lives of Khun Klang residents. Other entrepreneurs have started enterprises like a beauty salon/barber shop and a sewing network that sells to a fair trade group. While Huay Lok residents feel they are at the mercy of the military and the drug trade, Khun Klang residents have been better able to survive external forces and positively guide change.

In Pa Nok Kok, the cultural system is changing as a result of the influence of tourism rather than from agricultural development initiatives. Unlike Huay Lok, the residents of Pa Nok Kok do not perceive change as negative. They do note that the pace of life is too fast and leaves some unfortunate villagers behind because they are unable to benefit from tourism activities. In Pa Nok Kok no informants described tourism as a negative influence, perhaps because the village committee made the choice to engage

tourism as a means to increase local economic activity. It nonetheless is inducing cultural change as noted earlier, by tying village life to the time schedules of tourists in the making and selling of handcrafts and in putting village and household life on a stage for tourists to observe.5

The analysis presented above may at first suggest that development and maintenance of cultural identity and vernacular space are mutually exclusive aims. However, various authors have developed scenarios where these two aims may be seen as complementary (Chandraprasert, 1997; Kampe, 1997). These authors note, however, that if they are to suggest the possibility of maintenance of cultural identity and vernacular space, development initiatives must offer a voice and political power for those who are being developed. Understanding culture as a system with mutually supportive core characteristics also offers a means by which ethnic identity of minority groups may be supported and maintained even within a development frame.

Although the Royal Project development initiative appears to have been successful in eliminating narcotics production, improving economic conditions among the ethnic mountain groups, arresting deforestation and protecting watershed, studies suggest the outcomes of this initiative may not all be positive. Development initiatives directed toward Hmong have assumed that they are a large part of the "Hill Tribe Problem" and that the problem can be fixed by transforming them and making them culturally like the Thai. However, development initiatives which are supportive of core cultural characteristics, and which allow choice and promote resourcefulness among those "being developed," appear to offer the greatest positive outcomes.

[5] With 12.5% of households already certified for homestays, during high tourist season from Mid-November through February, Pa Nok Kok generally has several overnight visitors each day in the village in addition to the vans of tourists who arrive two to three days each week to visit the handcraft market, the small village cultural museum and walk the lanes in the village.

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Resplendent Sites, Discursive Fields

An Environment-Behavior Theory for Managing the Global Heritage

Kapila D. Silva

Since its beginning in 1945, the promotion of cultural diversity, cultural rights, and dialogue between cultures has been central to the mandate of the United Nations Educational, Scientific, and Cultural Organization (UNESCO). Placing culture at the center of development policy has been considered a precondition to successful globalization. Respecting cultural pluralism has been considered essential for avoiding segregation and cultural entrenchment and preventing conflict. Protecting the expressions of cultures—the cultural heritage, in broadest terms—has been considered the most suitable common ground for the promotion of cultural diversity and mutual understanding and enrichment between cultures (UNESCO website). Among the initial and so far most successful as well as visible, perhaps even extremely ambitious, instruments adapted for this objective is the Convention Concerning the Protection of the World Cultural and Natural Property (UNESCO, 1972), under which UNESCO identifies and officially recognizes salient cultural monuments and natural sites around the world to be of bearing universal value and thus a part of global heritage and to be preserved for posterity. National governments can nominate sites within their national territory for inclusion on the *World Heritage List*, and UNESCO provides technical and professional assistance to safeguard the inscribed heritage. The Convention defines the kind of natural or cultural sites which can be considered for inscription on the World Heritage List, and sets out the duties of governments in identifying potential sites and their role in protecting and preserving them. These governments are encouraged to integrate the protection of the cultural and natural heritage into regional planning

programs and adopt measures which give this heritage a function in the day-to-day life of the community (World Heritage Information Kit, 2000; UNESCO, 2005).

Celebrating global cultural pluralism, increasing cultural awareness and tolerance that transcend parochial boundaries, evoking civic pride in communities, and uplifting local economies have been cited as some positive effects of the World Heritage program. It has nevertheless brought in its own conundrums. Foremost among the challenges is the impact of the mass global tourism on the local places. A necessary evil, international cultural tourism has uplifted the local economies and perhaps promoted cultural harmony, while ushering in a range of problems that has, at varying degrees, affected the preservation effort and the social integrity of local communities. Local traditions and heritages are now invented, commoditized and/or packaged for global consumption (AlSayyad, 2001, Pocock, 2006). Gentrification, socially unacceptable behaviors, and loss of the familiar pace of local life have been some other cultural changes introduced by sudden global exposure (Good, 2005). Attention given to local heritages has also exposed unaddressed tensions between different local constituents. Furthermore, being primarily a practice dominated by professionals and academics, participation of local communities in the decision making process of the preservation of their own local heritage is largely unrealized. Placing local cultural heritage on a global platform has thus transformed these places into contested landscapes.

In addition to these concerns, there are some critical issues that lie beneath the very conceptual framework that directs the idea of World Heritage. These are questions pertaining to the underlying assumptions, values, and definitions of heritage as propagated by the Convention as well as to the historical development of heritage conservation and its current geo-political implications, which may have partly contributed to the negative ground realities mentioned above. This chapter is an attempt to provide an overview of these conceptual concerns and a theoretical approach, called *Imageable Heritage*, which may reconcile these contradictions within the disciplinary framework of Environment-Behavior Studies. It is primarily concerned with the notion of safeguarding cultural heritage, as this seems to be the most problematic, both in theoretical and pragmatic terms, as this chapter demonstrates.

The *Forgotten* Heritage

Article I of the World Heritage Convention divides cultural heritage into three categories: monuments, groups of buildings, and sites, all of which primarily consisting of architectural works; works of monumental sculpture and painting; and elements or structures of an archaeological nature, inscriptions, cave dwellings and combinations of these features. This exclusive focus on the physical structures of monumental scale has led to conceiving of cultural heritage merely in terms of perceivable architecture that is devoid of associational connotations and other dimensions of a culture. This is evident in the charters and training manuals written on the conservation of cultural heritage that simply covers the maintenance of the physical, visual, material, and structural integrity of buildings (e.g., Feilden & Jokilehto, 1998; Stovel, 1998; The Washington Charter, 1987; The Vienna Memorandum, 2005).

What is forgotten here is the fact that historic landscapes are repositories of meanings, which are products of a certain cultural paradigm of a bygone era (Rowntree & Conkey, 1980; Rapoport, 2005). Symbolic content in historic places reconnects us to that past and that cultural paradigm. Since reconnecting people to their past is a primary objective of heritage conservation (Lowenthal, 1996), conserving symbolic integrity of historic places should then be an essential activity to be undertaken along with the usual practice of preserving their physical (formal, visual, material, and structural) integrity. In fact one of the objectives of strengthening the physical integrity of historic fabric should be to sustain the symbolic integrity and the cultural memory embedded in the historic place. Despite this significance of the symbolic dimension, it is the least understood and largely forgotten attribute in the contemporary inquiry of conservation.

Symbolic attributes of places can be defined based on the framework developed by US-based Australian architect and anthropologist Amos Rapoport (1990). Meanings in environments may communicate 'higher-level' concepts of sacred or religious symbolism, cosmological beliefs, spiritual significance, and other higher philosophical ideals. Places may have 'middle-level' symbolic dimensions that express social identities, social prestige, political ideologies, concepts of control and well-being, ideas of social rule and role system, and historical associations. Environments may also communicate 'lower-level' meanings of instrumental nature of places and things that may include taxonomical categories, functional use, social use, temporal nature, and simple physical properties of places and things. While these are more or less socially-

shared constructions, environments are also associated with affective meanings, more personal level of meanings, such as emotional memories, attachment, and preference (Silva, 2004). An example for higher-level place meanings is the World Heritage Town of Kandy in Sri Lanka, which is considered a sacred landscape by its residents (see Fig. 1). The main temple complex, where the Tooth Relic of the historical Buddha is enshrined is considered the 'palace where the living Buddha himself resides', and the city as the 'abode of gods and the Buddha' (Silva, 2004). Without these higher-level meanings (among others), the town and the temple complex would simply be a preserved set of monuments without a *soul* and any cultural, social, or emotional significance and relevance to the community.

Figure 1. Temple of the Sacred Tooth Relic, Kandy, Sri Lanka: The most imageable city feature in the town primarily due to its symbolic significance.

Meanings historical places communicated in the past might or might not be similar or in some manner related to the contemporary meanings given by their present communities. Historical meanings may still continue, perhaps in some altered manner. In the case of Kandy, historical meanings have slightly changed; nevertheless they are still relevant as they have provided the basis upon which the contemporary interpretations were constructed: Historically the city was the 'abode of a divine king sitting among a confluence of gods', including the Buddha represented by the Sacred Relic (Duncan, 1990). This has undergone a change, as the rule of the 'divine king' is long gone, but simply replaced by the belief in the Sacred Relic as an entity of divine power. As the community still holds onto the historic symbolic attributes of the place, the community valued the physical preservation of the temple complex as a worthy effort.

In situations where historical meanings are forgotten yet still relevant and significant to the contemporary life, they can be reclaimed or reconstructed and the community can be informed, which will strengthen the value community has already associated with the heritage place. Historical meanings may not be relevant to the present situation, yet the community may hold the historic place with high regard due to contemporary symbolic associations it may have. Here, informing the community about the historic meanings may be educational and perhaps useful for preservation purposes. What is most critical are the values and meanings the community places upon the historic place at present, how these meanings may change in the future, and how those changes could be in some way mitigated for maintaining the continuing relevance of the historic place and its physical preservation effort.

Meanings associated with historic environments are critical if these places are still habitations for considerable populations, where local communities still interact with the historic fabric in some manner. In addition, in most of these places, the significance of the historic environment to the life of the people goes way beyond a selected number of monuments, and at times encompassing the entire landscape, small structures, and many activities related to the physical environment. The above-mentioned World Heritage City of Kandy in Sri Lanka is a good example of this. The historic town of Bhaktapur in Nepal provides another excellent exemplar. World Heritage status is granted to monument ensembles surrounding three public squares in Bhaktapur. These monuments include the historic palace complex and several temples and shrines dedicated to some deities of Newari Hinduism (Fig. 2). Yet anthropological studies show that there is a significant cosmological order embedded in the cultural landscape of Bhaktapur, which goes beyond the monumental ensemble preserved under the World Heritage patronage both in terms of heritage zone's territorial boundary and the number of physical structures associated with it. This cosmological order, dictated by the Newari Hindu belief system, is known to the Bhaktapurians and brought to life through everyday activities, rituals, and seasonal festivities (Levy, 1990; Vergati, 2002). Isolating monuments from this daily life and the embodied symbolism portrays the lack of understanding of the role the historic place plays in people's contemporary life and culture and the conceptual limits embedded in the thinking of World Heritage program. Focusing primarily on the physical built fabric of a historic place is an attempt to fossilize it within a defined time frame which is out of the present context.

Figure 2. The Durbar Square of Bhakta-pur, Nepal: One of the three squares in the town that are listed as World Heritage Sites.

The fallacy of this monument-centric vision of the program has been challenged for quite a while especially by the non-Western preservationists, which led UNESCO to declare a special convention for safeguarding the 'intangible' heritages of universal value in 2003 (Aikawa-Faure, 2009, Schmitt, 2008). According to the Convention, the Intangible Cultural Heritage (ICH) refers to the practices, expressions, knowledge and skills that communities recognize as part of their cultural heritage. It is also stated that ICH is usually expressed in the forms of oral traditions; performing arts; social practices, rituals and festive events; knowledge and practices concerning nature and the universe; traditional craftsmanship, and the like (UNESCO, 2003). Similar to the World Heritage List of monuments and sites, UNESCO maintains a Representative List of the Intangible Cultural Heritage of Humanity, nominated by the State Parties (UNESCO Website). These were originally called 'Masterpieces' and the use of this term indicated the fact that the same monument-centric vision was in operation in seeing cultural practices and performances as 'monumental' elements (thus, masterpieces).

These representative ICH elements are, however, not seen as connected to the built heritage (or 'tangible heritage' as they are now called) or, for that matter, to the listed World Heritage monuments and sites. How these practices and traditions infuse life, meaning, and significance to the built heritage, as in the case of Bhaktapur, has not been addressed. It is surprising to see that 'intangible' events, practices, and beliefs related to the World Heritage places are not recognized, especially when one of the criteria for enlisting historic places as World Heritage is the explicit connection between such cultural practices and historic places. Criterion VI mentions that historic places of universal significance could "be directly and tangibly associated with events or living traditions, with ideas, or with beliefs, with artistic and literary works of outstanding universal significance (UNESCO, 1972)." For example, this is one of the

criteria under which Bhaktapur is enlisted as World Heritage, yet none of its living traditions and belief systems is identified as conservation-worthy.

This mentality of monumentality (including the notion of masterpieces formerly used) embedded in the global conservation thinking tends to delegate the heritage, tangible or intangible, to the past. This bent is problematic especially in the case of Intangible Heritage. Since it is about the 'living' cultural practices and events, formed and evolving as of now, the safeguarding of Intangible Cultural Heritage could disregard their inherent transformative and evolving nature, thus making them vulnerable to fossilization and trivialization (van Zanten, 2004; Arizpe, 2004; Smith & Akagawa, 2009). Heritage frozen in time is a troublesome idea.

Dividing heritage into tangible and intangible divisions is nevertheless conceptually convoluted. Such a definition suggests that, firstly, the built heritage does not have any intangible properties. Secondly, it suggests that this so called Intangible Cultural Heritage cannot be 'felt' or experienced. Thirdly, it implies that the built heritage does not have connection with the rest of the expressions of a cultural heritage. Some societies do not even separate tangible from intangible forms of heritage (van Zanten, 2004). Intangible heritage should have been defined as the system of cultural values and meanings (which include the belief systems and knowledge systems) that are associated with the tangible heritages, which include all forms of material culture (built forms and artifacts) and practices (rituals, festivals, oral traditions, and arts & crafts). Conservation of tangible heritage should include attempts to safeguard the intangible heritage—the symbolic content—that was historically and is currently associated with the heritage site. As discussed above, historical symbolic content may or may not be relevant to the present conditions, but they still have an educational value in the latter.

The *Obscured* Heritage

The notion of cultural meanings and values and significance of the present in heritage brings out another important dimension unaddressed in the heritage conservation thinking: the cultural ideology and its temporality embedded in place. Historic places, as part of material culture, are physical manifestations of the operative cultural paradigm of a certain historic time. Meanings they carry, therefore, are also a product of that past and may or may not be a part of the contemporary culture of

the communities who live in those historic places today. If meanings associated with a place today are in some manner related to those historically embedded in that place, the local communities would elicit them easily, understand their connection to the place and its past, and take pride in preserving their heritage. Disconnect between the historic and contemporary meanings of place could threaten the very existence of that place and the efforts taken to preserve it. Consequences of such cultural dissonance between the past and the present can be grave: The fate of the Bamiyan Buddhas in Afghanistan is an extreme example of such a scenario. These colossi had significant cultural value, meaning, and relevance to the people of the Bamiyan Valley during the time they were created in the 6th century. The contemporary belief system and the socio-political order did not see such value and relevance in them, which led to the destruction of these images. This reminds us of the importance of understanding the transformation of cultural meanings associated with a particular historic landscape in the process of preserving it for posterity.

As social and personal constructions, cultural values and meanings we associate with places are elusive and transformative by nature: Meanings could be idiosyncratic; they may be read differently by diverse groups in the same culture, and they change in tandem with cultural changes in society. Some values may last long without change, some transform slightly, some alter their semantics completely, and some vanish entirely from the societal memory (Rapoport, 1990). This complex, subtle and transformative nature of symbolic content and the resultant difficulty of preserving those does not necessarily justify their neglect in conservation, nonetheless.

This point gains currency when heritage conservation is recognized as a practice driven by a value-laden contemporary cultural and political ideology, whether it is related to that of the past or not. How we value our past and its representative spaces and how we conserve and interpret them as heritage is essentially an ideological discourse (Lowenthal, 1996; Smith, 2006). Gero and Root (1990: p.19) write:

> *"The way in which any group or people charts its past, and what is valued from that past, are social practices, embedded in a larger logic and broader sets of actions. Past is mediated and constrained by a contemporary social context which provides an ideology for interpretation. Interpretations of the past play an active function, a political function, in legitimizing the present context, naturalizing the past so that it appears to lead logically to present social practices and values."*

Examples for heritage management as a political function serving political objectives are abundant. Due to the complexities of Asia's colonial experience, the post-colonial reactions to the colonial aspects of heritage have been diverse across the region. While some historic cities have accepted the colonial legacy as a vital part of their urban heritage, some have been 'de-colonizing' their heritage, simply destroying and replacing the colonial vestiges from their towns with their own versions of vernacular or contemporary buildings (Howe & Logan, 2002). Munasinghe (2005) shows how the World Heritage Town of Vilnius in Lithuania wishes to discard its Soviet image to be identified with a Western heritage. Discordant heritage places such as sites of trauma and atrocity are frequently managed through active neglect or through memorialization after removal (Spennemann, 2006). Spennemann (2006) cites the Mostar Bridge in Bosnia, which was inscribed in the World Heritage List, as an example: the bridge was an enduring symbol of the Turkish presence in the former Yugoslavia thus more an ideological target than a strategic military one for the Bosnian-Serb forces. Heritage is also used for identity politics and nation-building, at times effectively neglecting or marginalizing the heritage of minorities. Worden (2001) mentions how the construction of the political and religious traditions of the pre-colonial feudal Melakan Sultanate were presented as emblematic of the modern Malaysian nation, in which ethnic Malay and Portuguese Eurasian heritages are indigenized while ignoring that of the majority Chinese in the town of Malacca. Henderson (2007) points out how heritage, including that of communism itself, serves as economic, social, and political capital within a communist context in Cambodia, Laos, Vietnam, and North Korea. Conservation of cultural heritage, therefore, cannot be simply relegated to a mere technical process. It is an active socio-political process of constructing cultural values and meanings in claiming what is heritage for whom.

The *Qualified* Heritage

Seeing the conservation practice as a political function questions the validity of the value-based approach of heritage management laid down through the operational guidelines of the World Heritage Convention. In the current practice of value-based management, heritage is defined in terms of value categories, such as historic, aesthetic, scientific, archaeological, and/or ethnological significance. This way of articulating heritage clearly indicates that the values are defined in accordance with the UNESCO's mission on education and scientific exploration. Moreover, it points out that the values are defined by professionals and academics, and not by the community

who live in these historic areas, whose every day decisions both individually and incrementally affect the historic fabric and the significance of it. It also suggests that the professionals and academics may come from the same country or community where the heritage sites are located and, therefore, may have an understanding of how local communities value and relate themselves to their heritage, yet they may simply disregard these local sensibilities, perhaps due to the authority held by UNESCO over the heritage management (Silva, 2006). This issue is critical in the context of "living" historic urban areas, which confront inevitable pressures for modernization, development, and growth. Communities want to see their living environments upgraded with contemporary amenities and represent social progress and the spirit of the time. The conventional manner of defining heritage significance and its embedded values seems to be too idealistic or abstract and far removed from this reality. They neither capture these socio-economic concerns nor offer solutions to them. The value-based approach thus needs to clearly delineate how heritage could foster the physical and socio-economic growth and *vice versa*. Identifying meanings people associate with their historic environments and defining the value of heritage based on what it means to local community is quite instrumental in successful conservation.

Even though UNESCO documents recommend community engagement to be a part of conservation programs, the nature and degree to which it occurs indicate that public participation seems to be considered another item to be checked in a technical checklist rather than an integral part of the conservation process. UNESCO guidelines talk about the ways of educating the public and promoting the heritage in communities, but not on how they can actively participate in the decision-making process (UNESCO, 2005; Feilden & Jokilehto, 1998). This shows that the underlying political nature of the heritage conservation either has not been seriously understood by the professionals who lead the heritage conservation programs or they have been deliberately oblivious to it or they lack the theoretical and methodological tools to conduct community participation effectively. The former is a result of the monument-centric and technique-oriented mindset, which has also led to the view that the public is uninformed about the value and techniques of heritage management. In some cases preservationists are all too eager to relocate communities away from heritage areas to maintain the 'authenticity' of the places. Miura (2005) cites how locals are relocated many times in order to 'save' the monuments at Angkor in Cambodia and how that practice has affected the livelihood of the local community and their interaction with their heritages, thus arguing for recognizing the monuments as 'living' heritage. Perhaps local communities should be informed on the value and ways of heritage

management before engaging them, but it seems that the preservationists should be informed first on the importance of and ways of getting effective public participation.

Examples where local inhabitants are totally or selectively excluded from the engaging with the conservation activity can also be found. A study by Worden (2001) in Melaka, Malaysia cited above is one of them. Porter (2003) shows how the pejorative urban attitude led the authors of the preservation campaign toward rural immigrants in the World Heritage Town of Fez in Morocco to call for the removal of some of the city's migrant inhabitants and the alteration of the lifestyles of those that remained through educational programs. The goal was to create a narrative of the Moroccan national identity which is urban/Arab/textual Islam as opposed to rural/Berber/deviant Islam.

Situations akin to Angkor around the world have engaged the attention of professional circles on the question of how to get local communities involved. This has become more critical since the attention of global heritage movement fell on the intangible 'living' cultural heritage, which is considered primarily embodied in the community rather than in the physical environment (Blake, 2009). In fact, the International Center for the Study of the Preservation and Restoration of Cultural Property (ICCROM), the institute created in 1959 to provide training to conservation professional engaged in UNESCO programs, has started a program called "Living Heritage-Empowering the Community" in order to provide both communities and heritage organizations with tools to achieve greater public participation (Wijesuriya, Nishi, & King, 2006).

In a certain sense, preservation is a process of change: It is a misconception to believe that conservation projects leave the local heritages and life preserved, untouched and unaffected. Conservation activity changes the life in the community and, therefore, the local communities have a right to participate in this process of change. Community or certain constituents of community may resist preservation projects as they may see the preservation plans either as hindering the socio-economic progress of their community or as altering their preferred way of life. These resistances hamper the preservation program. Whether these are based on imagined and/or real concerns, the best way to deal with such scenarios is to have the concerned parties engaged in the decision-making process of the heritage management. Furthermore, the arrival of the outside heritage professionals with their own set of heritage values and the involvement of the local community in the conservation process undoubtedly changes the values and meanings the community associate with their cultural places and practices. The local community might begin to see their heritage more as an economic

resource, since the heritages have now become geographies for tourist consumption, rather than a cultural source of identity and inspiration.

As argued above, heritage conservation is a value- and meaning-making discourse. While the technical preservation process protects the integrity and authenticity of the physical fabric of the heritage place, the conservation activity itself changes the intangible symbolic associations of the heritage. This raises a question regarding the authenticity and accurate interpretation of the cultural symbolism behind heritage. Heritage professionals should be aware of this situation. Engaging the local community in the process and informing them about these dynamics in the 'heritage-making process' is a better way to manage the negative impact in this inevitable change embedded in preservation activity rather than dealing with unengaged and ill-informed local groups. Nevertheless, there still are concerns over how communities should participate in managing their heritages, and the consensus seems to point toward greater autonomy to local communities in the process (Blake, 2009).

The *Dissonant* Heritage

The fundamental problem lies in the inability to recognize the dissonant nature of heritage (Smith, 2006). Heritage is not an immutable beautiful place frozen in time. The past is not an objective fixed reality, but a social construct, the interpretation of which is a dynamic process of making values and meaning. As Lowenthal (1985) pointed out, there are multitude of pasts, but the past we tend to preserve is often the sanitized one, the safe and the comfortable one. Past is thus 'mediated and constrained by a contemporary social context which provides an ideology for interpretation. It is therefore a political function of legitimizing the present context, naturalizing the past so that it appears to lead logically to present social practices and values (Gero & Root, 1990: p.19).' Heritage management should therefore be understood primarily as a cultural discourse between the past and the present rather than a mere technical process of maintaining physical integrity of the historic place.

Because of the dissonant nature of heritage, Smith (2006) argues that the idea of heritage is essentially an intangible construct and its material form devoid of any intrinsic value. Although this is correct, the physical form and attributes of historic places cannot be simply disregarded. For instance, Stonehenge cannot be seen as merely a pile of rock boulders; its very formal nature invites the construction of

associations and interpretations of its meaning. The material form and its preservation is thus as critical as the understanding of dissonant values of the place.

An approach that addresses these theoretical issues related to the tangible and intangible dimensions of heritage and that provides methodological tools for successful conservation outcome is consequently required as a way forward in the practice of heritage management.

The *Imageable* Heritage: A Way Forward

The idea of Imageable Heritage is derived from the notion of imageability, first introduced by US urban geographer Kevin Lynch (1918 -1984), which means that any given place has the capacity to evoke an image of that place in our minds. His contention was that the imageability of a place is based on the combination of visual, spatial, and symbolic attributes of that place (Lynch, 1960). Lynch as well as the followers of his theory focused primarily on the visual and spatial attributes of places and neglected the study of symbolic dimensions in the imageability of place. Rapoport's (1990) work has been instrumental in understanding the nature of this forgotten aspect of meanings in the environment. Bringing these disparate theoretical ideas together, I argue that the imageability of a place is based both on its tangible physical attributes (objects, buildings, spaces, activities) as well as its intangible associational and symbolic dimensions (memories and associations of the place including belief systems, cultural values and norms). It is the quintessential experiential quality of a place. This sense of place is a phenomenon of the present, collectively generated by contemporary and historic vestiges of place attributes. This sense of place changes in relation to the transformations in its tangible and intangible attributes across time. As the idea of heritage is about the sense of the place as well as its associational connotations and memory, the conservation of heritage can therefore be defined as the process of maintaining the imageability of the historic place, including its physicality and symbolic value, thus the place could live in our memory evoking lasting images of it (Silva, 2004).

The concept of Imageable Heritage provides more than a redefinition of heritage conservation as a practice of managing the place imageability. It clearly distinguishes between the tangible and intangible heritage attributes and delineates what aspects in a historic place should be considered intangible attributes. Yet it is an integrative

construct, which combines the tangible heritage attributes with intangible heritage attributes and emphasizes the interdependent nature of the two types of attributes in evoking a strong place image. No longer do we need to focus primarily on the physical features of historic places, considering cultural traditions and practices isolated from their physical environment, and totally neglecting the elusive symbolic dimensions in places and practices. The Imageable Heritage encompasses all within a single construct. This conceptual clarity is its major contribution to conservation theory.

As the notion of Imageable Heritage combines both the tangible and intangible attributes of a historic place, it delineates the extent to which different tangible and intangible attributes contribute to the evocation of place image. It helps professionals understand that historic places without physical monumentality could be highly imageable because of the symbolic values people associate with it and, therefore, that those places are heritages of significance to that community. Similarly it explains why certain historic monuments are neglected by local groups as those places do not bear any symbolic relation to the present community even if they may be iconic and thus perceptually imageable. It also describes which contemporary tangible and intangible attributes are vital for the lasting memory of a place and how those contemporary elements are connected to the historic attributes. Such knowledge is necessary to guide the heritage management activity to focus on certain contemporary elements as well because of their contribution in highlighting some dimensions of the history of the place. These situations call for a better understanding of the temporal transformations of the values associated with historic places and the degree of relevance of the past to its present community. Knowledge of such dissonance facilitates the design of appropriate measures for preservation and interpretation of heritage places.

Since the Imageable Heritage is identified through the study of mental images people have of a given historic place, it provides a key opportunity for initiating a meaningful participation of the local community in managing their heritage. The image one holds of a place may be different from the image another holds, yet certain aspects of both images could be shared. As the image of a place could vary among groups in the society and across time, primarily in its symbolic dimensions, the notion of Imageable Heritage brings the dissonant nature of the heritage to the fore. It forces the preservation pragmatics to deal with the contested images of the place – between the professionals and the local community and among the different stakeholder groups within the community - addressing the meanings and values placed upon the heritage by those to whom it mostly matters and thereby controlling impulses to impose the

authorized and sanitized versions of heritage.

People's place images are not necessarily sanitized, celebrated versions of the place: they invariably also include the unpleasant aspects of the place. They represent both the perceived physical and social disorder of the place; they demonstrate the negative associations and memories attached to the place and the effort of the community and/or the individual taken in dealing with such tensions. A careful analysis of place images indicates which place dimensions seem to be essential to the positive image of the place and what dimensions pose a threat to that positive image. Managing the imageability of a historic place then could also be defined as a balancing act of fostering the essential imageable dimensions while alleviating those threats to the positive place image for locals (Silva, 2004). Place images also provide clues to people's aspirations for their society's social, economic and political progress. Since heritage management should also be concerned with its role in the socio-economic development of the place, the notion of Imageable Heritage affords the opportunity to identify how people see their socio-economic progress in relation to their heritage, and consequently provide the opportunity to make a heritage more relevant, meaningful and valuable to its community (Silva, 2006). The concept of Imageable Heritage, therefore, provides a framework for integrating historic preservation with the future development of a place.

The importance of Imageable Heritage approach can be demonstrated through a case study. In the World Heritage City of Kandy in Sri Lanka, I found that certain city features, both historic and contemporary as well as man-made and natural, played critical roles in evoking a very strong image of the city in its residents' minds (Silva, 2004). Their shared image of the city indicated what city elements should receive the greatest preservation attention. While the tangible perceptual characteristics certainly are instrumental in the imageability of those city features, the study found that they have become more imageable, to a greater extent, due to the symbolic values the community has placed upon them. Meanings that were historically associated with the city and city features are still known to the people, yet in a fragmented manner, and the contemporary meanings are constructed based on those fragments and transformed to make them relevant to today's life in the city. This socio-cultural change in the Kandyan society has occurred in a positive manner that facilitates the continuation of the historical symbolism, even in fragmented form, and contributes immensely to the community's appreciation of their heritage as a relevant aspect of their life, identity, and civic pride, and

consequently to their intention for safeguarding the city heritage. Residents' images indicated what historical facts, myths, beliefs, and contemporary rituals and activities in the city have become instrumental in generating and keeping these symbolic associations alive, facilitating the preservation efforts to focus on preparing plans to manage those historical memories and contemporary activities. The study also demonstrated the ways in which the images of the city held by the professionals and the city residents differ and converge, making it clear which aspects of this dissonance could be detrimental to the endurance of the city image and its heritage. Particularly, the images of the city indicated what place dimensions seem to be indispensable and which dimensions seem to be damaging to the city image and the city sense. The quintessential place dimensions included the senses of secrality, historic solemnity, scenic serenity, and well-being. The place dimensions that seem to risk this essential sense of place included congestion, unacceptable social behavior, city's ailing bureaucratic system, and ethno-religious tensions within the community. An analysis of literature related to the city's real estate market and tourism industry suggested that these economic activities are based on those indispensable place dimensions. This finding suggested the way to balance the city preservation and city development: in both these activities, the dimensions central to the city image should be fostered and promoted and those that are harmful should be controlled. The idea of Imageable Heritage thus provided an integrative approach to linking city preservation with the city development of Kandy.

The Imageable Heritage as conceived here is essentially a phenomenon of the present, in which the contribution of both the past and the present in the creation of it is recognized, along with the transitory nature of its tangible and intangible attributes over time. The maintenance of an imageable heritage therefore goes beyond the need for the conventional technical preservation of a historic place; it acknowledges that this is an on-going socio-cultural process in which the meaning and value of heritage is constantly interpreted and negotiated depending on the cultural change occurs in the society. Technical preservation of a historic place in itself cannot be a one-time practice either: as the historic place ages, timely technical intervention is required to maintain its physical integrity. Similarly, the values and meanings associated with a historic place change and timely intervention is necessary for their sustenance. The transformations in intangible heritage attributes are more ephemeral and capricious than those in the tangible attributes. While this makes the safeguarding of intangible attributes a difficult task, they make a heritage a living, breathing part of society. This transient nature of intangible attributes, therefore, requires constant

study, determining the effect of those changes on the contemporary significance and relevance of historic place, and the means of mitigating any negative impact on the way a heritage becomes meaningful to a community. Informing the community through educational and other awareness-building programs on these symbolic attributes, collecting oral histories, and safeguarding other cultural traditions and practices that embody, transmit, and communicate these meanings are important in maintaining the relevance and significance of intangible attributes of cultural heritage.

A periodic survey of the public image of historic place facilitates an ongoing involvement of the community in the heritage management process. It also provides the opportunity to evaluate how the demographic changes in the place over time may affect the heritage value system. People's images of heritage places can be empirically elicited and analyzed using a combination of multiple methods, including interviews, surveys, sketch mapping, and free listing task. Methodologically, identifying the shared image of the historic place is, therefore, not difficult.

The construct of Imageable Heritage consequently provides a useful framework to resolve some conceptual convolutions in the global heritage management discourse and affords a practical method to achieve what has been discussed so far in theoretical terms. Nonetheless it is not presented here as the only way forward: It is another way forward, but a promising one to derive better preservation results.

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Applying the Principles of Environment-Behavior Studies in Health Care
The Person-Environment-Occupation Model of Occupational Therapy

Barbara Acheson Cooper

Rehabilitation needs and practice in Canada developed exponentially during and after World War II. Pressed by a lack of personnel, Canadian universities developed three year combined diploma programs in physiotherapy and occupational therapy. Gradually these were converted into degrees, but differences in the theory and knowledge bases of the two professions indicated the need for separate curricula. Today, master's level entry programs are the norm for both. Nonetheless, the general thrust of practice remains similar: physiotherapy seems best suited to deal primarily with acute care cases while occupational therapy focuses on longer term service for individuals with chronic, developmental or progressive disorders. This variance in service foci has also led to different approaches in education and research: for occupational therapy, the use of models has become essential as a mechanism for guiding practice, and for developing and disseminating knowledge.

While the environment had long been recognized as a critical component of occupational performance (Law et al, 1992), this factor slipped from written prominence until later in the 20th century when once again environmental issues began to be considered. Interest grew and was reinforced by new national practice guidelines that emphasized the importance of the person and the environment (Canadian Association of Occupational Therapists, 1983, 1991). Still lacking, however, was a systematic, scholarly approach for including environmental concerns in treatment protocols.

The Research Group

In 1991, six occupational therapists, five of whom were based at McMaster University and one at the University of Toronto, formed a group to discuss this need. The professional backgrounds of the members of the group varied: three had clinical experience in pediatrics, two in gerontology and one in mental health. The author had combined training in occupational therapy and physiotherapy. Their educational levels differed as well: two were completing Ph.D. studies, Mary Law at the School of Urban and Regional Planning at the University of Waterloo and the author, at the School of Architecture and Urban Planning at the University of Wisconsin-Milwaukee. The others were enrolled in various masters programs, Epidemiology, Gerontology and Health Care Practice. Most were also involved in the development of the new School of Rehabilitation Science at McMaster University.

Initial leadership to address this professional gap was provided by Mary Law. The group met regularly, and for practical reasons, soon adopted a rotating leadership model for tasks. We were unsure where these explorations would lead us, and so approached the venture as a series of stepped objectives, each dependent on previous efforts and results. These are collapsed neatly here into five distinct steps; the reality was much more interrupted and certainly not as tidy.

Developing The Person-Environment-Occupation Model:

Phase 1: Literature Review

In the early 90's, the existing occupational therapy literature on the therapeutic role of the environment was limited, consisting primarily of basic ideas on discrete issues such as barrier free design (Cooper, Cohen, & Hasselkus, 1991), and post occupancy evaluation (Cooper, Ahrentzen, & Hasselkus, 1991). Theoretical and conceptual models incorporating the environment as a key variable in clinical practice were not in common use (Krefting, 1985). However, interest was starting to develop, and we were aware of similar concerns being explored by colleagues in the United States at Washington University in St. Louis and at the University of Kansas. Earlier group discussions had revealed that Mary Law and the author were familiar with many of the same theoreticians from their respective PhD studies, so we decided to use this as our starting point.

Research Objective

Our first objective was to review the multi-professional theoretical literature on environment-behavior studies (EBS), and to identify and critique key authors whose ideas seemed a good match with current thinking in occupational therapy. We also reviewed the occupational therapy literature on the topic and identified existing measures of environmental attributes.

Literature Review

We began by running a computer search for conceptual information on the environment and the views of key EBS theoreticians. Through this, we identified eight theoreticians of interest: Bronfenbrenner (1977), Baker and Intagliata (1982), Healthy Communities (Hancock & Duhl, 1986), Kahana (1982), Kaplan (1983), Lawton (1982), Moos (1980) and Weisman (1981) whose writings seemed to blend well with occupational therapy views. The search also identified occupational therapy models employing EBS principles, person-environment measures, and relevant documents of the Canadian Association of Occupational Therapists (CAOT) (1983, 1991).

Methods

We studied the EBS literature on *environment* from the perspective of definitions, taxonomies, attributes and inquiry paradigms. Following this, we reviewed the eight authors, critiquing their work systematically in order to judge their congruence with occupational therapy thinking. These results were collapsed into a grid addressing: Players, Conceptualization of Environment, Environment/Behavior Interaction, Adaptation, and Measurement. Graphic models of the eight conceptual models were also noted. Documents issued by CAOT (1983, 1991) on the focus of client centered approaches and on the importance of the environment were included in our review.

Results

We organized this information into a monograph which was published under the auspices of Can Child Research Unit at the School of Rehabilitation Science at McMaster University (Law et al., 1992). The monograph had four sections: the first defined the structure of the environment; the second examined the literature on the process of person-environment relations; the third discussed the measurement of

environmental attributes and identified and reviewed 36 measures. The final section examined the application of all these issues to occupational therapy. Two appendices provided additional information on the theories reviewed and on the instruments of measure. In Appendix II we reviewed the assessments by purpose, clinical utility, scale construction, standardization, reliability and validity. The group presented these results at the 1992 conference of CAOT in St. Johns, Newfoundland and made copies of the monograph available for purchase ((Law et al., 1992). It sold out, thereby encouraging us to continue developing our ideas further.

Phase 2: Developing A Theory-Based Model

We were encouraged by the reaction of conference attendees to our presentation and reasoned that a theoretical clinical model that incorporated material from both occupational therapy and other professional sources would be well-received. In addition to the measurement section of the monograph, we had recently addressed the use of measures in person-environment relations more specifically in an article by Letts et al. (1994) wherein we identified 67 instruments purporting to measure person-environment relations. Of these we identified 41 that met basic criteria in the following areas: environmental attributes measured; environmental application; clinical utility; instrument development; and psychometric testing. Because of this work and because the ever-changing content focus of the Model requires the use of different measures each time, we did not address this issue again until later.

Research Objective

The main objective of Phase 2 was to develop a theory-based model that would incorporate the substance of the EBS literature reviewed and critiqued in the monograph with relevant occupational therapy literature and practice guidelines. If possible, the model should be appropriate for both clinical and research use.

Literature Review

We returned to our original review for the monograph and expanded this as necessary. First, we identified the key concepts and assumptions that would combine best with occupational therapy. In particular, the notion of *press* and *person-environment fit* as espoused by Lawton (1982) and Kahana (1982) seemed to summarize the essence of these conceptual interactions. Additional theoreticians in EBS were reviewed and

we identified Csikzentmihalyi and Csikzentmihalyi (1988) as authors of interest for their ideas on *flow*. We also re- examined the literature on models currently used in occupational therapy, such as O'Reilly (1954), Kielhofner and Burke (1980), Barris (1982), Howe and Briggs (1982), Kiernat, (1982), Christiansen and Baum (1991) and Shakade and Shultz (1992), noting in particular the concepts essential to occupational therapy and the current use of terminology. Finally, we revisited the CAOT documents (1983, 1991) addressing the role of the *environment* and the focus on the *person* in clinical practice.

The results of our literature review indicated that the environment was multifaceted and site concentric. It also showed that the relationship between the person (client), his/her occupation and role (what the person does) and the environment in which he/she lives is dynamic and interwoven and thus cannot be teased apart. Therefore, the model we developed would need to be *transactive* in nature and its unit of measure would be *occupational performance* or the dynamic experience of a person engaged in purposeful activities or tasks within an environment. The multiple layers of environment (e.g., home, community, city etc.) in which an individual(s) performed his/her roles called for a concentric conceptualization.

Methods

Our ideas for the Model reflected much of the earlier introductory work in the monograph (Law et al, 1992) but expanded upon these ideas. Of the occupational therapy models reviewed, Christiansen and Baum's (1991) was closest to our own view, but all these authors agreed on the importance of the *environment* on behavior and activities.

We determined the key concepts and assumptions of the model as the *person*, the *environment*, *activity*, *tasks*, and *occupation(s)*, and *occupational performance*, adding *time* as a factor of importance to describing change and *space* to describe location. Key concepts and assumptions were defined in keeping with existing terminology; these are enumerated below (Law et al, 1996).

The person is defined holistically as a unique being who assumes a variety of roles simultaneously. These roles are dynamic, varying across time and context in duration and significance. The Model assumes that *the person* is a dynamic, motivated and ever-changing being who interacts constantly with the environment to effect occupational

performance. *The environment* is broadly defined as the context in which occupational performance occurs. It includes cultural, socio-economic, institutional, physical, and social aspects, each being equally important and relevant to the unique perspective of the person in his/her various roles. The model assumes that *the environment* is dynamic and purposeful and cannot be teased apart since its components can enable or constrain behavior, which in turn influences the environment. Nonetheless, the environment is considered easier to change than behavior (Law, 1991; Lawton, 1986), hence optimally interventions should focus on modifying the environment rather than expecting the person with a disability to alter his behavior.

Activity, Task and Occupation(s) are considered as being nested, with activity forming the basic unit. *Activity* is defined as a single pursuit, such as the act of writing, *task* as a set of purposeful activities such as writing a report and *occupation* as groups of self-directed, functional tasks in which a person engages for purposes of self maintenance, expression and fulfillment.

The Model assumes that *occupations* are purposeful, complex and are necessary for living.

Occupational performance is defined as a complex, dynamic phenomenon, which has both spatial and temporal dimensions. *Interface information* describes the interaction occurring at the overlapping areas of the Venn circles, such as the degree of fit of the person and the occupation in question. *Time* is described as the patterns and rhythms that encompass occupational routines in a fixed period; *space* is defined concentrically from intimate to public and is subsumed by *environment*.

The model assumes that *occupational performance* is both described and shaped by the unique *person, environment, occupation* transaction and therefore constantly in flux. The evaluation of occupational performance thus requires the use of both observable and self report measures.

Person-environment-occupation fit describes the ongoing, varying congruence of the key concepts of person, environment and occupation as these constantly transact.

The model assumes that maximal *fit* occurs when these components overlap closely; minimal *fit* is the product of lack of congruence of one or more of the interfaces. Therefore, in the practice of occupational therapy, the PEO Model is used to expand the

person and therapist's ability to identify and discuss strategies to improve congruence and therefore, occupational performance.

Results

The Person-Environment-Occupation Model for use in occupational therapy assessment and intervention was now almost complete. Early drafts of the Model and related material were presented as opportunities arose (e.g., Cooper et al., April, 1994; Letts et al., April, 1994; Cooper et al., June 1994; Law et al., 1994a). However, for the Can-Am Conference in Boston, a major professional venue held in July, 1994, we structured our presentation as an interactive workshop (Law et al., 1994b). The ensuing discussion provided relevant information on the professional views of the strengths of the Model and identified areas requiring further clarification or improvement. These useful comments were used to refine the Model before submitting it for publication (Figure 1). We felt it was important to disseminate these ideas first in Canada, therefore, as with the initial step, presented the PEO Model at the annual conference of the CAOT in Ottawa, (Cooper et al., 1996) and published our paper in the Canadian Journal of Occupational Therapy (Law et al., 1996).
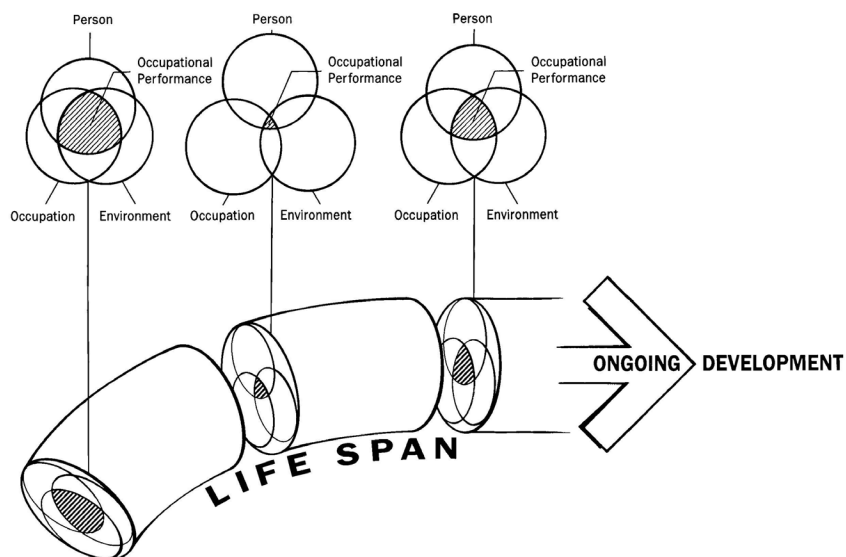
Figure 1: The Person-Environment-Occupation Model

Reprinted with permission of the Canadian Association of Occupational Therapists from: Law, M., Cooper, B., Strong, S., Stewart, D., Rigby, P. & Letts, L. (1996). Person-environment Model of Occupational Performance. Canadian Journal of Occupational Therapy, 63(1), 9-23, Figure 1b, p. 15.

Phase 3: Measurement

As health care professionals, occupational therapists are required to demonstrate that their interventions have a positive effect on client concerns and function. This means that we must be able to assess issues and outcomes accurately and be familiar with the attributes and psychometric properties of the instruments of measure we are using. However, measures are constantly being developed, modified and researched for clinical purposes and when appropriate, therapists sometimes use measures from other professions. As a result, establishing the utility, reliability and validity of measures is an ongoing concern and never fully up-to-date. Additionally, each application of the PEO Model requires the use of specific measures, since these must change in accordance with the issues under consideration or with the age of the clients. For example, an assessment and intervention for a child usually requires different measures than a similar study for an elderly person; the use of the model to address community issues would require different measures than the same issues studied at the family level. We had addressed the use of person-environment measures in occupational therapy in the monograph (Law et al., 1992) and in Letts et al.'s (1994) article, however, we had not as yet identified preferred measures for specific groups, sites or functional and behavioral issues.

Research Objective

To review and evaluate the instruments available to measure person-environment relations from the perspective of specific populations and issues commonly encountered in occupational therapy practice.

Literature Review

Just as we started considering how best to deal with this, requests began to arrive asking us to write chapters for occupational therapy text books on the assessment of environments. These required us to describe the use of the PEO Model in different contexts with different populations, thereby providing us with a practical framework for addressing measures: Lacking another, we resolved to review the assessment literature according its specific relevance to the needs of each chapter requested and maintain the same approach to this day.

Methods

Consistency in evaluation is essential. The format established by Letts et al. (1994) provided an initial filter for identifying and assessing person-environment instruments (see Phase 2). Through Mary Law, we were given access to a form already developed and tested by Can Child (Outcome Measures Rating Forms and Guidelines, 1994). Instructions for its use are clear and straightforward, thereby allowing multiple assessors to conduct the reviews as required without skewing results. The form consists of eleven pages, too long to reproduce here, but it is available through Can Child at the School of Rehabilitation Science, McMaster University on the following websites:

http://www.canchild.ca/en/canchildresources/resources/measguid.pdf
http://www.canchild.ca/en/canchildresources/resources/measrate.pdf

Results

This body of work has resulted in numerous assessment chapters for occupational therapy texts (e.g., Cooper, Rigby & Letts, 1995; Cooper et al., 1999, 2001; Rigby et al., 2001, 2004, 2005 2007, 2008). These requests have continued for later editions of the same texts, indicating that the PEO Model has been well accepted into the standard occupational therapy literature (e.g., Law & Townsend, 1997/2002; Stewart et al., 2003). Over the years we have added new editors and co-authors as interest and expertise among ourselves and other faculty was demonstrated (e.g., Rigby, Lowe, Letts & Stewart, 2007; Rigby, Stark, Letts & Ringaert, 2008). Chapters in books targeted at other professions such as architecture have also widened our influence (e.g., Cooper et al., 1999).

Phase 4: Dissemination

Thanks to the Internet, international conferences, sabbaticals and other travel, the world has become a much smaller place. For a small profession like occupational therapy, dissemination of ideas has become even more vital. In order to foster the use of the Model, we focused on three areas: peer validation, educational integration and the utility of the model in professional, cross-professional and graduate research.

Objectives

The first objective was to disseminate issues related to the PEO Model through the traditional methods of peer reviewed publications and conferences; the second was to integrate the PEO Model into the education of students and clinicians; and the third was to disseminate information on the Model as widely as possible through speaking engagements, especially at other universities and to affiliated professional audiences.

Literature Review

In this phase, we conducted reviews when necessary and as relevant for the papers and presentation under consideration. Members kept each other appraised of new articles and views, monitoring in particular, evidence of clinical utility and research application of the PEO Model.

Methods

We addressed the first objective by discussing authorship of potential articles and podium presentations with members of the PEO Group and arranged to share the work. We determined the order of authors and degree of involvement at the beginning of each undertaking according to their fit with other schedules and commitments and directed our efforts at highly ranked journals and conferences.

All courses in the curriculum of the McMaster Occupational Therapy (professional) Program are reviewed yearly, incorporating changes suggested by student and other feedback as relevant. However, since the Faculty of Health Sciences at McMaster is well known for its problem based/self directed learning approach, no special introduction to the model was required, for our students always identified it themselves when preparing for tutorials. We were developing other graduate programs in rehabilitation at that time and found that these students often used the PEO Model for projects and theses. The self-directed educational structure and an institutional emphasis on feedback allowed us a less biased assessment of its value in education.

Information on the clinical application of the PEO Model for interested local therapists who had not studied at McMaster was gained mostly through their tutoring opportunities at the school. However, other traditional forms of continuing education, such as conference presentations, workshops and journal articles also kept them informed.

Again, feedback was sought from and provided by these groups.

Results

We gave papers on the PEO Model at major national and international occupational therapy conferences such as CAOT (e.g., Cooper et al., 2002), the British Society of Occupational Therapists (e.g., Green & Cooper, 1997), the World Federation of Occupational Therapists (Cooper et al., 1994, Letts et al., 1994, Cooper et al., 1998; Green & Cooper, 1998). At the same time, we also concentrated on submitting papers to occupational therapy and other affiliated journals (e.g., Strong et al., 1997 & 1999). While McMaster students quickly became familiar with the PEO Model, the greatest impact on occupational therapy students in general no doubt came from the many textbook chapters we were asked to author on the environment, person-environment assessments and the PEO Model itself. In addition to the assessment/ evaluation chapters reported in the previous phase, these included chapters for the classic occupational therapy practice text, Willard and Spackman (e.g., Stewart, D. et al., 2002), gerontology (e.g., Cooper & Day, 2003), orthopedics, (e.g., Cooper et al., 2002), mental health (e.g., Strong & Rebeiro, 2003 & in press) and occupational therapy practice theory (e.g., Law et al., 1997). All members of the PEO Group participated in these activities and as this chapter itself indicates, this work is still ongoing.

Members of the group were also invited to edit texts, some of which contain many of the chapters   previously referenced. Perhaps the best example of these efforts is *Using Environments to Enable Occupational Performance*, which was edited by three of the PEO Group members (Letts, Rigby & Stewart, 2003) and included chapters by all group members (Cooper & Day, 2003; Letts, 2003; Letts, Rigby & Stewart, 2003; Rigby & Huggins, 2003; Rigby & Letts, 2003; Stewart, 2003; Stewart & Law, 2003). This book is widely used in occupational therapy curricula by universities around the world. The content focuses on the barriers and enablers in the environment that influence how people participate in daily life. Most importantly, these ongoing requests to edit and write chapters for occupational therapy texts provide validation for the continuing relevance of the content and academic expertise of the PEO Group. In addition to these contributions, external dissemination of the model was greatly facilitated through natural contacts, such as sabbaticals and major conferences as well as by invitations from other universities to present workshops or lectures on the Model (e.g., Cooper, B., 1996a, 1997a and 1997b). We also accommodated opportunities to speak to members of affiliated professions, such as gerontology (e.g., Cooper, B., 1997b),

Building Science (e.g., Cooper, B., 1997a & b) and pediatrics (Rigby et al., 1997). However, perhaps the most significant request was an invitation to present the model to medical colleagues and scientists at a McMaster meeting of the Research Council of Canada (Cooper et al., 1997).

Phase 5: Validation

Validation for the PEO Model is now foremost in importance. New models require evidence of support for their major concepts, assumptions and theoretical base; definitions of these terms must be upheld. Most importantly, professional utility must be demonstrated. While it is common for the parent group to be involved in such activities at the beginning of this long venture, nonetheless, evidence of use by individuals not affiliated with the parent group is crucial. This is best demonstrated by external educational, clinical and research application as reported in peer reviewed fora.

An early example of such validation was provided by a peer-reviewed publication written by then Ph.D. candidate, Sharon Green, a member of faculty in the Department of Occupational Therapy at Liverpool University and this author (2000). It reported on the application of the Model in a qualitative study in which it was used as a means of structuring the research itself; as a mechanism for organizing the semi-structured interview; and as a framework for organizing and analyzing the results, particularly in a manner relevant to occupational therapy. While utility was amply demonstrated, the results also provided validation for the key concepts of *occupational performance* and *time* and stressed the importance of *interface* information.

Similar outcomes were demonstrated by Strong in her analysis of a literature review conducted as background for a chapter on the PEO Model for a book on mental health (Strong & Rebeiro Gruhl, in press). Her broad and exhaustive search on the use of the PEO Model included 1998-2008 databases of EMBASE, MEDLINE, PsychINFO and CINAHL using the PEO Model.mp, and the names of the PEO Group. In addition to Google, she also conducted separate searches using the reference lists in each article and citations. Through this, Strong identified 36 examples of multi-professional research using the PEO Model: the studies varied in focus, research design, participant characteristics as well as country of origin. However, regardless of these variables but with one exception (Pongsaksri, 2004), these studies overwhelmingly endorsed the PEO as a useful tool for organizing research structure and for analyzing and interpreting results.

In particular, they support the model's key concepts and assumptions and its utility for conveying results clearly. However, two authors (O'Brien et al., 2002 and Rowles, 2003) identified a need for the authors of the model to expand further on their ideas on the role and meaning of *place* (*space*) in *occupational performance*. *Place* has long been a topic of interest to those in EBS and is also recognized pragmatically by therapists, who, for example, traditionally opt to conduct functional assessments in the location where clients normally perform these activities. However, this specific task remains to be done.

The Pongsaksri exception raises both a cultural and a conceptual issue. Because Thai culture emphasizes collectivity, models that focus on the person are not considered a good fit for their approach to occupational therapy. Although the other studies reviewed by Strong had shown the PEO Model to be culturally neutral and the proposed concentric structure of the PEO Model does adjust for expanded population use, this particular assumption has not as yet been specifically studied. Clearly both issues need to be explored further.

Interestingly, five of the authors reviewed by Strong (Smith, 2001; Schult, 2002; Pongsaksri, 2004; Takase, 2005; & Vrkljan, 2006) reported on the use of the PEO Model to guide their Ph.D. theses: one in nursing, one in public health and three in a wide variety of occupational therapy studies). Each thesis does so in a unique manner. Singly and as a group, these studies illustrate not only application of the Model for educational and research use, but its flexibility in these areas.

Discussion

The PEO Model's strength appears to be organizational: it provides a clear and systematic way to collect, investigate and report on data relevant to the modular components, their interfaces and occupational performance. It also offers a systematic way of determining multiple points of entry for intervention or study, particularly at the interfaces of the components. These functions indicate good internal consistency.

The PEO Model was designed and is primarily used as an occupational therapy tool, but we contend that very little modification would be required to make it applicable to other professions. This assertion is supported by Takase's (2005) use of the Model for her Ph.D. study in Nursing, by Rigby's application of the model to rehabilitation

and assistive technology in her PhD thesis (2010), and by O'Brien et al.'s paper (2002) which married concepts from sociology and the geography of disability to occupational therapy. These examples and the diversity of occupational therapy practice itself point to flexibility of use both within the profession and otherwise.

The conceptualization of the PEO Model as a transactional model, however, is both a strength and a weakness: the former, because it more accurately describes the complex person-environment-occupation relationship, the latter, because our current measures are inadequate for this complexity of understanding and we must depend on time-series, cross-sectional measures to capture the effects of interventions and the passage of time. To compensate for the need for objectivity in research, we also use self-report measures.

While we are encouraged by these data, they also identify issues where further investigation is needed. Conceptual refinement is required in particular, as related to the role played by *space* and *place* in *occupational performance*. Additionally, we need to devise ways to test our contention that *space* and *person* are in fact concentric or else, modify these ideas appropriately within the structure of the Model. Additional questions also exist: Do the concepts vary with age, that is, with time? Should any of the major concepts be weighted? In other words, are some more important than others? If so, does this change for different populations and/or under different conditions? The inclusion of *time* in a lifespan model poses even more questions: How does the relationship change in a person over time? Is it predictable; does it pattern in any way. And, perhaps most importantly, is the PEO Model the action arm of an "as yet unexpressed" theory? It seems to fit the description of what Walker (1993) describes as the theory-practice-theory process in which theory from other fields is used to develop occupational therapy practice and theory. The data emerging from the use of the PEO Model certainly describe and explain *occupational performance* but aside from one report on predictability (Schult, 2002), there is little evidence as yet to support this last theoretical attribute. In health care, the ability to predict outcome is considered a quintessential factor (Cooper & Saarinen, 1986), and so would be valuable.

Conclusion

Occupational therapy uses and continues to produce a plethora of clinical models. For important reasons, not the least of which are issues of shared professional beliefs,

good communication, practice foci and application of research results, it behooves the profession to try to limit this number. The multi-professional EBS literature interwoven with the specific conceptual foci of occupational therapy offers the option of a strong compatible foundation that can be specifically applied to clinical practice and research. The resulting model has demonstrated utility and flexibility. Our data also indicate that the PEO Model shows signs of being a good general crossover approach for health care and social science based professions.

The development of a new practice model clearly requires commitment and is a long process best approached systematically. In this instance, the five-step approach we used provided a good working model. We highly recommend the use of a small group (five or six members) of committed individuals with compatible knowledge who can provide diversity, experience and dedication to the task. However, good timing overrides all these factors. There is no foolproof recipe for identifying this, but ongoing peer and user feedback while formulating and refining the model is essential. This will soon tell you whether or not your ideas are viable. If you are on track, an added bonus is that peer reviewed academic contributions will be far richer than individual ones ever could be. And, because they are shared, they are never onerous.

As the use of the PEO Model continues to grow, the Group's activities have diminished and become less organized. These are now mostly ad hoc and related to the use of the PEO Model in mainstream education, research application and chapters for textbooks. Nonetheless, we acknowledge that all groups have a finite life span and are comfortable in the knowledge that other academic endeavors await our attention. If we have done our job well, others will continue to build on this legacy and bring fresh ideas to the table.

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Transdisciplinarity at Work in Housing Research

The Case of GIRBa in Quebec City, Canada

Carole Després

Wе are witnessing a unique momentum in urban research, maybe as important as the one that gave birth to the Chicago School in sociology[1]. Indeed, studies on societal and urban transformations (e.g. aging population, metropolization, globalization, global warming, new information and communication technologies, social diversity) are proliferating, accompanied by major theoretical and methodological developments (e.g. complexity theory, systems theory, geographical information systems). This being said, if there is an abundant and rich scientific literature endorsing the complexity of urban phenomena, findings have only modestly permeated urban and architectural teaching and practice. I suggest that this is due to the persistent gap between scientific, professional and artistic knowledge and to the rigidity of established disciplinary academic traditions (see Després, Vachon & Fortin, 2011, for the development of this argument). This chapter illustrates how the approach to research and action developed by GIRBa[2] –Interdisciplinary Research Group on Suburbs– at Laval University in Quebec constitutes an avenue for minimizing these disjunctions. The group's ultimate goal is to stimulate and improve collaboration between scientists, professionals and policy decision-makers, as well as train urban planners, architects and social scientists to work together and become "agents of change."

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[1] I want to acknowledge the role of my colleagues at GIRBa but also of all the past and current fellows and students in nourishing the reflection presented here.

[2] Groupe interdisciplinaire de recherche sur les banlieues, in French.

The first part of this chapter traces the genealogy of GIRBa, starting with my multidisciplinary doctoral training at the University of Wisconsin-Milwaukee, and explains its current mission. The second part exposes the group's transdisciplinary approach to research and action, and presents the work produced these last ten years; the *process* rather than *results* is discussed. The third part highlights the strengths and limitations of GIRBa's approach, critically evaluating the group's production. The Conclusions points out the challenges facing Environment-Behavior researchers, namely to keep the understanding of environment-behavior studies an essential and valued training for architects and planners, but also to contribute to changing the educational culture of these goal-oriented professions.

The Making of GIRBa

Multi-, Inter- and Transdisciplinary Research: A Short Story of an Academic Career

My doctoral dissertation dealt with shared housing, investigating the architectural properties of shared dwellings as well as their uses and meanings (e.g. Després, 1991a & b, 1993, 1994). The adopted perspective was *multidisciplinary* and came as a natural outcome of being trained by professors with respective research training in social ecology, environmental psychology and cultural anthropology. By multidisciplinary, I mean the combination of various disciplinary perspectives to understanding shared housing in its architectural, psychological and societal dimensions through analyses of shared dwellings' architectural morphology and space syntax, of the psycho-sociological meanings and daily experiences associated with shared housing, as well as of its associated societal dimensions. The aim was "the juxtaposition of theoretical models belonging to different disciplines" to better of understanding the phenomena (Ramadier, 2004, 433). While stimulating, working alone within this multidisciplinary framework was a heavy intellectual responsibility, and gathering and analyzing data a time-consuming and solitary labor, as no formally established research groups on housing research were in place at UWM's School of Architecture and Planning at the time (Figure 1).

Starting my teaching career at Laval University in 1989, my first research project focused on terrace housing – also called triplex housing – built in early 20th century streetcar suburbs. While keeping the study focus on the form, uses and meanings of housing, I enlarged its scope to include the scale of the neighborhood. Teaming

with Pierre Larochelle, a colleague trained in urban and architectural morphology (Figure 2), I was responsible for the interviews with the residents. Although we defined the research problem together, we mostly work independently at data gathering and analyses, using disciplinary concepts and methods. Later on, we met to interpret cultural changes and permanencies across three generations of residents. This was my first acquaintance with the challenges of operationalizing an interdisciplinary collaboration, as an attempt to construct a *posteriori* shared model based on a dialogue between our respective disciplinary researchers' backgrounds (Ramadier, 2004). The results gave way to scholarly publications (e.g. Després & Larochelle, 1996)[3] and were taught to several cohorts of students in housing class and studios.

My next research project focused on Quebec City's postwar suburbs built between 1950 and 1975. The study was triggered by the interest of one suburban municipality for developing intergenerational housing for its aging population. To tackle the issues of sprawl and aging, I teamed with Andrée Fortin, a sociologist at Laval University. Thierry Ramadier, a post-doctorate fellow in environmental psychology from Paris, also joined us as well as Geneviève Vachon, a colleague in urban design at Laval University who oversaw the morphological analyses. The intent was to understand how people's residential biography and car use influenced the meanings and daily experiences of housing and neighborhood, but also shape their territorial identity and representations, with a special focus on elderly residents This time we worked in close collaboration from the start and set the basis of a true *interdisciplinary* approach, which lies "in the practice of transfers, either of models or of tools" from one discipline to others, and where the "participatory disciplines must submit to shared rules and principles" (Ramadier, 2004, 433). We defined an integrated research protocol (Figure 3), with our key challenges being to share a common vocabulary, data gathering techniques and interpretative concepts.[4] In parallel, the research was used for the definition of design problems for undergraduate and advanced housing and urban design studios (e.g. accessory apartments, ecological street prototypes, elderly care and services centers, rental infill housing). We also conducted sponsored research for housing government agencies and suburban municipalities on related issues (e.g. accessory apartments design guidelines, proposal for regulatory revisions). The resulting architectural, urban and regulatory revision proposals were discussed in

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[3] The references to publications throughout the chapter have been limited to those in English although more are available are in French; a complete listing is available upon request.
[4] Several scholarly publications (e.g. Després & Lord, 2005; Vachon, Luka & Lacroix, 2004,) and Master's theses (e.g. see Luka, 2001) came out of this research.
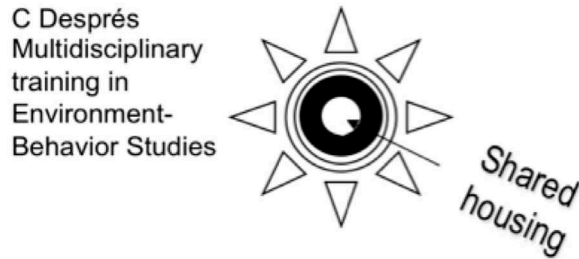
Figure 1: A Multidisciplinary Research: The form, experience and meaning of home in shared housing, C. Després, 1991, Doctoral dissertation, University of Wisconsin-Milwaukee.
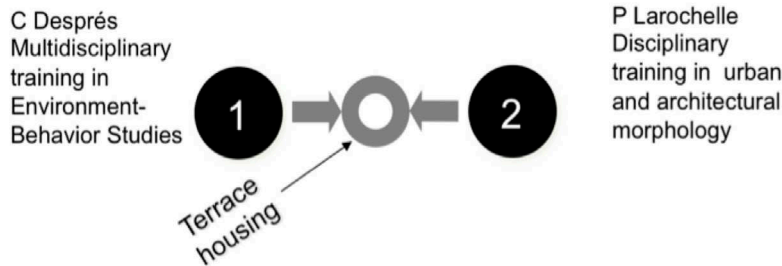
Figure 2: Initiating Interdisciplinary Research: The form, uses and meanings of terrace housing in Limoilou, Québec. C. Després & P. Larochelle, 1992-1996, Université Laval.
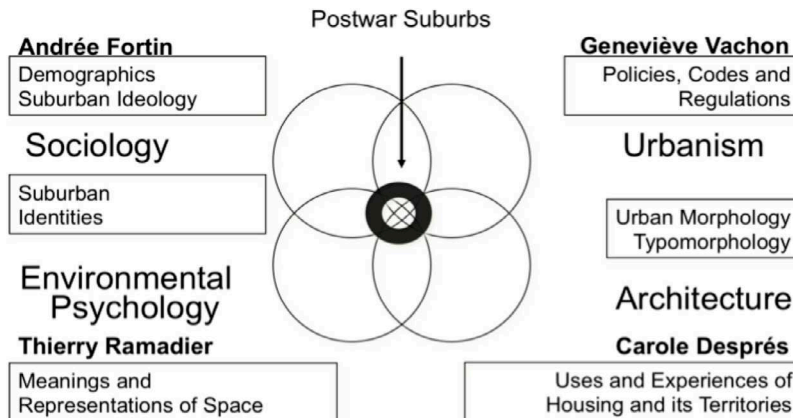
Figure 3: Consolidating Interdisciplinarity Research : Suburbia revisited. A. Fortin, C. Després & G. Vachon, 1998-2001. Université Laval.

publications dedicated to concerned professional audiences (e.g., Vachon, Després, Moretti & Vaillant, 2006).

In 2001, my colleagues Fortin, Vachon and I were awarded a grant from Quebec's main research funding agency to structure our work into a program of research and action, with a strong emphasis on knowledge transfer toward decision makers. Since not much had been published on aging suburbs at the time, neither in Canada nor in the U.S., our first move was to write the book *La banlieue revisitée* (2002),[5] presenting the findings of our empirical, design and sponsored applied research that we purposively addressed to a wide audience. Quebec City's amalgamation with its surrounding postwar suburban municipalities in 2002 offered us a unique opportunity to test the relevance and usefulness of this knowledge. We convinced decision makers from key government agencies to join a collaborative planning exercise on the future of Quebec City's postwar suburbs. Two university professors joined GIRBa during the process – GianPiero Moretti, architect and urban designer, Florent Joerin, engineer and head of Canada's Research Chair in territorial decision-making support – along with Nicole Brais, a post-doctorate candidate specializing in urban geography and participatory processes. The team was being enriched with new disciplinary training and experiences.

During and after the two years that it took to complete this planning exercise, researchers, civil servants from several ministries, and stakeholders from various local and regional associations asked us to explain our approach for conducting collaborative research. With this opportunity for introspection, we gathered all GIRBa's senior and junior researchers and started dissecting our own work: we read the writings of several inspiring thinkers in which we recognized our approach, namely German and French philosophers and sociologists Jürgen Habermas and Edgar Morin, U.S. philosopher Donald Schön, U.K. and U.S. planners Patsy Healy and John Forester, and French, U.S. and Italian architects Daniel Pinson, Bryan Lawson and Bernardo Secchi (Figure 4). We also evaluated the concrete results of our applied and participatory research but also its limitations. This reflective work allowed us to better understand how we operated. This is when the concept of *transdisciplinarity* was consciously introduced as part of what now characterizes our program of research and action (see Després, Brais, Avellan 2004). It is then that the name GIRBa – Interdisciplinary Research group on Suburbs – was formally adopted.

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[5] *Suburbia revisited*, in English; see Fortin, Després & Vachon (2002).

GIRBa's Influences

Thinkers...

Edgar Morin   Herbert Simon

Jürgen Habermas   Donald Schön

Collaborative practices   Design

Bryan Lawson

Patsy Healy   Daniel Pinson

John Forester   Bernardo Secchi

Practitioners...
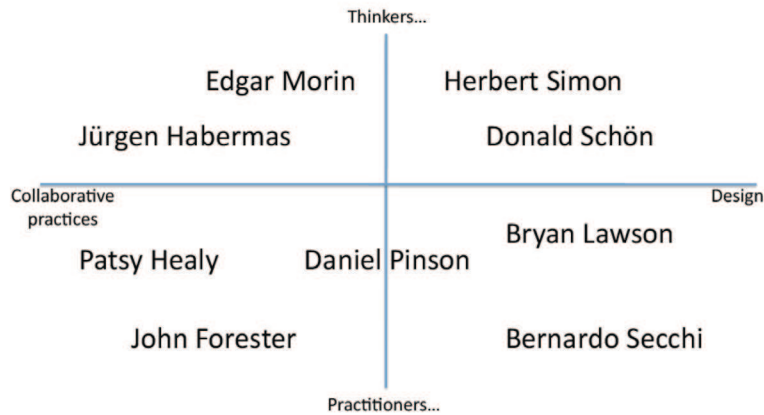
Figure 4: GIRBa's Main Theoretical Influences

How is Transdisciplinarity Different?

The words multidisciplinary and interdisciplinary have been used consistently for scientific research involving a number of disciplines, working in a more or less integrated manner (Bruce, Lyall, Tait & Williams, 2004). In contrast, the word transdisciplinary implies that research is not confined to the scientific domain; it has been used since the 1970s in debates surrounding teaching and professional practice. The Latin prefix "trans" denotes transgressing the boundaries defined by traditional disciplinary modes of enquiry. Working with collaborators endorsing the concept of transdisciplinarity in their research, architect Roderick Lawrence and I identified the following recurrent associated characteristics with this mode of knowledge production (Lawrence & Després 2004).

1. It tackles complexity in science and challenges knowledge fragmentation, dealing with research problems and organizations that are defined from complex and heterogeneous domains.
2. It is characterized by its hybrid nature, non-linearity and reflexivity.
3. It accepts local contexts and uncertainty; it is a context-specific negotiation of knowledge.
4. It includes the practical reasoning of individuals with the constraining and affording nature of social, organizational and material contexts.
5. It requires close and continuous collaboration between actors during all phases of a research project, allowing for "mediation space and time"

through interpersonal communication.

6. It is often oriented toward action, making linkages not only across disciplinary boundaries but also between theoretical development and practice.

7. It frequently deals with real-world topics, generating knowledge that not only addresses societal problems but also contributes to their solutions.

8. It generally aims at bridging the gap between knowledge derived from research and decision-making processes in society.

GIRBa's Transdisciplinary Research and Action Program

GIRBa and its Mission

GIRBa now comprises ten professors, five acting as co-directors and five other as associate researchers. They are trained in anthropology, architecture, geomatics, planning, rural engineering and sociology.[6] It also annually welcomes between 15 and 25 graduates students: post-doctorate interns, doctoral and master's students conducting research in architecture, urban design and planning, but also several human and social sciences disciplines. In addition, about 30 to 40 designers work in close association with GIRBa through advanced studios and final theses, annually taught or directed by three of GIRBa's co-directors.

GIRBa's research territory is centered on the metropolitan area of Quebec, the capital of the only French-speaking province in Canada. Although most tourists only know of Quebec City's picturesque historical center, its sprawled reality is quite different with just over half a million people spread on 500 km^2. Suburban developments are continuing to sprawl, with housing, commercial activities and jobs moving away from the city center to the countryside. With owning a single-family detached house in a low-density development remaining the dominant housing aspiration of most Quebecers, young families and retired people, developers are urging the expansion of the urbanization boundaries and the deregulation of protected agricultural land, forests and lakeshores. *Understanding urban sprawl* is thus the first fundamental dimension of GIRBa's mission.

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[6] Manon Boulianne, professor of anthropology, Tania Martin, professor of architecture and Stéphane Roche, professor of geomatics, all three from Laval University, as well as Nik Luka, professor of urban design and planning at McGill University, and Pierre Gauthier, professor of planning at Concordia University, all joined GIRBa as co-researchers in May 2010.

Quebec City is also one of the fastest aging cities in Canada; fertility and immigration rates will not be sufficient to assure the replacement of older generations. If new households will continue to be formed in the next ten years, it will likely stagnate after that and Quebec could become after 2030 a "shrinking city," like other cities in Japan, Germany or Italy, but also many in the U.S., especially in the older Midwestern and Eastern cities – hence recent planning efforts of "rightsizing" or "downsizing." Already, several first-ring suburbs, those built massively after WWII, have lost up to ten percent of their population and over half of their houses are occupied by people living alone or by childfree couples. Built between 1950 and 1975, their urban and architectural infrastructures need upgrading, namely streets, public equipment and rental housing. *Understanding aging suburbs* constitutes the second essential dimension of GIRBa' mission.

What are the long-term ecological, economic and social impacts on older suburbs of territorial expansion? Should not the city administration be taking advantage of the limited forthcoming population growth for rejuvenating them to make them more attractive to new households in search of a green paradise, as well as more comfortable for elderly who wants to age in place? How should it be done? Can researchers raise the awareness of decision-makers and citizens on these issues? *Informing and promoting the regeneration of aging suburbs over urban sprawl* constitutes the third fundamental dimension of GIRBa's mission.

The Program of Research and Action

To tackle this mission, GIRBa endorses the concept of transdisciplinarity and went from conducting, in an loosely connected manner, interdisciplinary academic research, architectural and urban studios, and sponsored applied research to their integration into a process favoring an iterative cycle between empirical research, evidence-based design and practiced-based research. Figure 5 illustrates the components of GIRBa's trandisciplinary program of research and action and their functioning. The next sections illustrate some of GIRBa's work under the labels of scientific research, design research and action research. The studies are either disciplinary, interdisciplinary or transdisciplinary depending of their objectives. They are published in referred journals and are at the heart of several doctoral and scientific Master's theses.
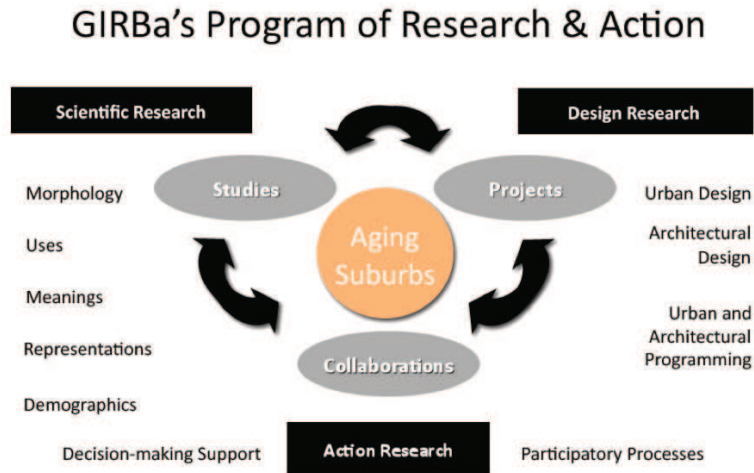
Figure 5: GIRBa's Transdisciplinary Research and Action Program.

Scientific Research

GIRBa's *scientific research* investigates the urban and architectural morphology of Quebec City's close and remote suburbs, their uses and meanings for respondents, their associated individual and societal representations, as well as their demographic outlook and evolution.

Researchers trained in morphology, mostly architects and planners, are responsible for analyzing the physical characteristics of Quebec City's urbanized territory and landscape. Urban analyses are carried out using historical maps and aerial photographs, satellite maps and videos, along with typo-morphological analyses of dominant suburban housing (e.g. Vachon, Luka & Lacroix, 2004). Students trained in Environment-Behavior studies investigate the meanings and uses of suburbia. They come from architecture, urban planning, sociology and political science. With their help, GIRBa conducted two large qualitative surveys, one in 1999 on postwar suburbs with a longitudinal follow-up of elderly in 2006, and one in 2005 on exurbia, with a complementary survey of teenagers. Residents' territorial mobility was spatialized with the help of geomatic software and analyzed with statistical programs developed by geographers (e.g. Bachiri, Després & Vachon, 2008). Respondents' discourse about their house and car but also their personal residential biographies were examined using a qualitative analysis software. Research methods used for generating this last set of data are mostly borrowed from environmental psychology (e.g. Després & Lord, 2005; Lord, Després & Ramadier, 2010). Regarding the study of the societal forces that contributed in shaping suburban representations, we conducted several longitudinal

content analyses of housing advertisements, of paintings, etchings and postcards of Quebec, of reports and plans produced by planners, as well as Quebec's movie production. In addition, content analyses of urban regulations controlling physical transformations were realized to evaluate their capacity to accommodate emerging needs. Finally, GIRBa is monitoring the aging phenomenon of postwar suburbs by conducting longitudinal analyses of Census data; sociologists in the team are mainly conducting these analyses.

Design Research

If understanding the parallel and paradoxical phenomena of urban sprawl and aging suburbs is one challenge, identifying sustainable and socially acceptable avenues for their control is another one. This is when designers augment the scientific work at GIRBa. Design is now recognized as a legitimate mode of inquiry that requires specific skills, knowledge and intuition to translate multidimensional problems into solutions (Lawson, 1997, 2001; Schön, 1991). At GIRBa, design problems are defined on the basis of empirical findings, making connections between different types of knowledge, which are also used to focus and refine design hypotheses. So far, original design proposals have been produced for the densification of postwar suburbs (infill rental housing, accessory apartment, recycling of neighborhood shopping malls), public and active transportation in low-density neighborhoods, and sustainable exurban developments (e.g. Vachon, Després, Moretti & Vaillant, 2006). Close and constant collaboration between researchers and designers is facilitated by GIRBa co-directors' involvement in teaching design studios and in supervising students' final theses, regular meetings of in-progress design proposals and on-going research projects, as well as diversified design and research profiles of its members.

Action Research

Action Research constitutes the keystone of GIRBa's transdisciplinary approach. It mostly consists of participatory processes – consensus planning and participatory urban design initiatives – but also of decision-making support. These activities are conducted in close collaboration with decision makers from municipalities, government housing and planning agencies, as well as stakeholders from local associations and community groups. All of GIRBa's students and researchers are involved in these processes. Since 2002, GIRBa orchestrated two major participatory planning processes. The first one, which consisted of an 18-month reflection on the future of postwar suburbs, involved

the participation of over 100 decision makers and civil servants from various regional and municipal governments, as well as key actors from associations and the community (Després, Brais & Avellan 2004). The second one, the Projet PACTE Myrand, aimed at designing a master plan for a new neighborhood on the Laval University campus. It involved about 120 stakeholders: student associations and professors, neighboring local merchants and citizens, architects and developers, university administrators, city planning representatives (Vachon, Després, Nembrini, Joerin, Fortin & Moretti, 2007). A third one is in the incubator for 2012-2013 on the theme "Quebec 2020: Toward a collective and sustainable project for the metropolitan area."

Collaborative processes are divided in three phases: first, the diagnosis; second, the vision and orientations; and third, the project and its means for implementation. To feed the diagnosis, we plan specific participatory activities to disseminate scientific knowledge, share the instrumental knowledge of civil servants, administrators and developers, and learn about citizens' tacit knowledge. These consist of mini-colloquia with concerned ministry stakeholders, workshops with borough administrations and district associations, and focus groups with citizen associations (e.g. immigrants, teenagers, seniors, single-mothers). After the diagnosis, the next and more difficult step consists of defining a shared vision and common objectives with all stakeholders. For this purpose, GIRBa designed specific activities to "activate the imaginary" such as innovation workshops. In addition, we conduct Internet consultations to the population to validate both diagnoses and orientations. The last phase consists of elaborating the strategic plan, along with clear indications as how to implement it. This is achieved through a two-day intensive participatory design charrette and a consensus workshop, where ways to implement the vision and reach the objectives are explored through design solutions and later endorsed in a consensual manner, along with means for action. Throughout the whole process, the larger community is kept informed by a website (for more detailed discussions, see Després, Brais & Avellan, 2004; Vachon et al., 2007).

As mentioned in the introduction of this section and illustrated in Figure 5, GIRBa's transdisciplinary program of research and action is formally organized around the three interconnected types of research discussed above: (1) fundamental or scientific research on suburban morphology, uses and representations; (2) design research mostly conducted in advanced urban design studios; and (3) collaborative planning projects with municipalities, government housing and planning agencies, as well as with the population.

Looking Back: Outcomes and Limitations

Ten years later, what have we learned? In what ways has GIRBa's transdisciplinary program of research and action made a difference? What kind of impact did it has on slowing urban sprawl and fostering the retrofitting of postwar suburbs?

Learning from Transdiciplinarity

Endorsing transdisciplinarity taught us a lot, not only about bringing together scientific, design and action research but also how to conduct research differently. First, we learned that *scientific research* is not performed in the same way when conducted in close and constant collaboration between researchers from different disciplines. Second, that by accepting intuition and uncertainty, d*esign research* produces original knowledge that helps understand complex problems. Third, that *action research* also produces knowledge and that its strength is to recognize practical reasoning, material and organisational constraints, as well as value public debate. Together, transdisciplinarity allowed GIRBa to reduce the gap not only between researchers in architecture, planning and social sciences but also between academics and practitioners, blurring boundaries between scientific knowledge, aesthetic knowledge and tacit knowledge.

Our experience also convinced us of the need to bring together representatives of four different types of knowledge and their associated ways of reasoning[7] to identify, develop and implement sound solutions about complex urban problems. First, carriers[8] of s*cientific knowledge* or what is generally held as "true" and most often the result of empirical research; researchers and consultants are key spokespersons. Second, carriers of *technical or instrumental knowledge* or the knowledge of "what is possible," or of how to go about things; experienced professionals, technicians or workers are the main channels. Third, carriers of *ethical knowledge* or "what is good" as linked to customs, beliefs, values and past experiences which help determine what is wrong or right; citizens and elected officials are prime sources. Finally, carriers of a*esthetic knowledge* or "what is beautiful" in relationship to aesthetic judgment and experience, as well as to tastes, preferences and feelings; artists, designers and citizens are key spokespersons. By bringing together stakeholders carrying these four types of knowledge along with their own ways of reasoning and giving them the opportunity for

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[7] According to Habermas' (1984) concept of "communicative rationality," which consists of intuitively mastered rules for reaching an understanding and conducting argumentation.
[8] Defined as people who possess accumulated knowledge of this type.

face-to-face communication, reflective thinking can occur and consensual solutions can emerge, giving way to a fifth type of knowledge – *communicative knowledge* – which is more than the sum of the four others since incoherence of thought and arguments are revealed and hopefully collectively overcome through communicative action (Després, Brais & Avellan, 2004 ; Habermas, 1984).

Assuring the Diffusion and Transfer of Knowledge

Another positive outcome of our work is disseminating a considerable amount of knowledge on issues of aging suburbs, urban sprawl and sustainability. At the time we conducted our first survey of suburban residents, not much had been written about aging postwar suburbs, neither in Canada nor in the U.S.; in fact, there were negative stereotypes circulating in various architectural and planning debates, and suburbs were being left out of governmental strategic planning documents. We believe our work made a difference, at least locally, in raising awareness. Aging suburbs are now considered a valuable asset for governments and urban sprawl is on the agenda of Quebec City's administration. Beyond scientific publications, we made sure the knowledge we produced was accessible, intellectually speaking. Our book *Suburbia Revisited,* purposively written for a wide audience, is still being used by civil servants and by professors in urban studies.[9] We also published synthesis articles in professional and governmental newsletters and a series of editorials in Quebec's main newspaper. Numerous interviews given to journalists also contributed to raising awareness. A measure of this is when GIRBa received an accomplishment award in 2004 from Quebec's Order of Architects for its contribution to making suburban culture better understood by the profession.

Influencing Planning Orientations

A third outcome of GIRBa's work is the impact it had on planning orientations. All documents produced during our first collaborative planning process were made available to contributing stakeholders and widely circulated. In 2005, two years after completing the process, GIRBa posted an Internet survey on its website and invited all participants to evaluate its outcome. Beyond a very positive perception of the collaboration process, several key actors indicated that the general orientations, objectives and design criteria had made their way into their government agency,

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[9] Our second book *La banlieue s'étale*, in French (*The sprawling of suburbs*) was just published Fortin, Després & Vachon 2011); we hope to have the same impact.

something that we were able to verify in their official documents and websites (for more details about the evaluation, see Després, Fortin, Joerin, Vachon, Moretti & Gatti, 2008).

Empowering Stakeholders

An additional impact of our work has to do with empowerment, not just of stakeholders but also of all of GIRBa members. The collaborative processes empowered all participants in terms of their knowledge of the stakes and challenges facing aging suburbs with regard to urban sprawl and sustainability, and of their collaborative working experience and resulting multidisciplinary networking. This outcome was one of the most highly rated by participants in our Internet evaluative survey (see Després et al., 2008). By being trained differently, students at GIRBa also gained professional power in terms of their knowledge and experience of transdisciplinary research and collaborative processes, as well as development of professional networks. As designers and researchers with different disciplinary backgrounds, they learned to work together around complex urban problems. Designers learned to value and use scientific knowledge to orient design solutions; researchers, the need for scientific knowledge to be translated in usable forms for designers but also decision-makers They are also able to coordinate collaborative processes, which is considered by employers as a net professional capital gain. Finally, the reputation of GIRBa, as a group with broad expertise (and not as individuals), gained respect from government agencies, architects and planners, the press and even, the population.

Innovating with Pedagogy

Another outcome of ten years of research and action consists of the pedagogical innovations we were able to implement within the rigidity of the academic system as well as of the discipline-related program requirements. First, associating studio teaching with research training allowed to narrow the gap between action-oriented activities and scientific ones. Our experience convinced us that designers and scientists hold complementary sets of competencies and that by working together, they are more efficient at identifying creative solutions to complex urban problems (see Després, Vachon & Fortin, 2011). Second, by having all of GIRBa's members involved in at least one collaborative planning activity during their stay in the group, we train design professionals and researchers to act as agents of societal change in their capacity to organize such processes. Finally, over the years, GIRBa has become a real incubator

for implementing transdisciplinarity, operationalizing this concept which too often remains a theoretical one. Our group now acts as a training centre for future scientists, architects and planners to appropriate and experience this specific multidimensional mode of knowledge production.

Implementing Change

If developing and diffusing knowledge and sound solutions for the regeneration of aging suburbs over urban sprawl is within GIRBa's reach, getting urban and housing policies changed and demonstration projects built has not yet happened: it stands in the hands of elected officials. Although we are regularly asked to present GIRBa's empirical findings and prospective solutions, we have indeed limited power to influence political agendas. Hence, we do not see change implemented as fast as we would like, although the relevance of our findings and of several proposals is acknowledged and valued by many civil servants in various ministries and municipalities. In recent years, we have been working at gaining political power by answering invitations to sit on planning and design commissions and work tasks whose mandates are related to GIRBa' mission. Although being invited reflects to a certain extent the respect for GIRBa's expertise among government agencies, these experiences, although mostly instructive, are disappointing in many respects, namely with regards to the absence in these structures for building communicative knowledge among members. This being said, by pursuing its mission, GIRBa has a definite capacity to empower future generations of architects, planners and social scientists with an understanding of the complexity of urban problems and a concrete experience of how to work in a collaborative manner as professionals, taking advantage of their respective skills and knowledge. Several of our graduates are now working in government agencies or private firms and there we can feel a wind of change.

Conclusions

If the story of my research trajectory, from including first multi-, then inter- and finally transdisciplinarity, looks like a long quiet river, the reality is anything but. The most common tasks at the beginning of my career were writing grant proposals, communications and papers, directing graduate students and conciliating research with common heavy architectural teaching loads. But several other tasks were

added through the years namely negotiating contracts with government agencies, developing community partnerships, keeping in touch with the local population through regular appearances in the media, recruiting researchers in needed disciplines, directing coordination meetings, conducting participatory processes and managing its logistical aspects, and so on. Overall, these translate into long working hours and unavoidable multitasking, with a need for coordination and vulgarization skills, as well as a certain audacity. This being said, I believe the doctoral training in Environment-Behavior Studies I received at University of Wisconsin-Milwaukee provided me with the appropriate skills and knowledge to gradually bridge the gap between research and practice. First, the varied disciplinary backgrounds of faculty members acquainted me early in my career with various competing explanatory perspectives. Second, the Program's requirement for a minor area of concentration gave me the opportunity to explore social theories and concepts at UWM Center for 21st Century Studies (Center for Twentieth Century Studies at the time), with a clear focus on societal issues at the intersection of the humanities, arts and sciences (a characteristic of transdisciplinarity). Last but not least, the program was part of a school of architecture and planning, these two action-oriented disciplines in training future professionals for tackling multidimensional problems.

If twenty years ago, I had not heard of transdisciplinarity, I am deeply convinced that it should be taught as an approach to training architects and planners, as well as Environment-Behavior researchers. Urban planning and architecture are indeed two disciplines capable of a constructive dialogue with other domains of knowledge, including the natural and social/human sciences, due to their multidisciplinary position and action-oriented identity aimed at transforming the built and natural environment. It is time for these disciplines to embrace the complexity paradigm with regards to multiple contemporary urban configurations, uses, and representations. By neglecting complexity, new problems have a propensity to be tackled using familiar concepts, with good chances of leading to poorly adapted solutions. What GIRBa has learned from a decade of research, through interdisciplinary collaborations, action-oriented research, creative thinking and good common sense, the next generations could learn in a more effective way. Environment-Behavior Studies constitute fertile grounds for transdisciplinarity to bloom. It is our responsibilities, as carriers of this research tradition, to stimulate its development.

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Genealogy

Genealogy of the Milwaukee School

Carole Després, Sherry Ahrentzen, Brian Schermer

The early brochures advertising the PhD Program in UWM's Department of Architecture portrayed the place as "nestled between Lake Michigan and the Milwaukee River and their accompanying parklands." *Place* can have synergizing effects, and this one did. It wasn't always as idyllic and pastoral as the early brochure cast. Bone-chilling Artic winds visited the campus; so did colorful, brisk autumns, and spring days lush with flowering trees and shrubs. A diverse ambiance reflected both the atmospheric and academic climate of the place.

When the first wave of PhD students entered in 1982, the Department of Architecture was still relatively young, having been established in 1969. In the Department's early days, the founding faculty were also relatively young, some sporting long hair, long sideburns, goatees and beards, reflective of the breakaway nature of those times (there were very few women faculty in those early years). With them came the desire to create something new, a curriculum and academic structure that differed from the one they came through themselves. Different curricular models and studio teaching practices were proposed and tried. One of these new ventures was a focus on Environment-Behavior Studies (EBS) within the architectural program –- core course requirement, electives, and even a specialization which a student could concentrate in while earning the undergraduate or Master's degree.

Environment-Behavior Studies was a defining feature of the architectural program at UWM long before the doctoral program began.   Faculty members Uriel Cohen, Amos Rapoport, Gary Moore, Harry Van Oudenallen, Harvey Rabinowitz and others taught the required core course in Architecture and Human Behavior, initiated new courses and studios that held an EBS perspective, supported M.Arch theses that focused on environment-behavior issues and topics, conducted research studies, and authored books and reports – *House Form and Culture,* by Amos Rapoport; *Designing Environments for Handicapped Children* by Uriel Cohen, Gary Moore, Jeff Oertel and Lani van Ryzin; and *Maps in Mind* by David Stea (with Roger Downs) – just to name a few – before the first incoming class of PhD students even arrived. With these faculty and the growing momentum of EBS in the Masters program and within faculty research, Dean Anthony Catanese led the drive in the early 1980s to have the University of Wisconsin Board of Regents approve a doctoral degree program. And it did, in 1982.

The first class of incoming doctoral students arrived in Milwaukee in 1982. They met Professors Uriel Cohen, Linda Groat, Gary Moore, Amos Rapoport and David Stea as their key instructors and speakers in the core courses and pro-seminars that first year. Professors Sherry Ahrentzen and Gerald Weisman were subsequently hired and joined them the following year in 1983. One of the main challenges in forming the doctoral program was the development of its educational philosophy, curriculum and procedures. There were few doctoral programs in architecture at the time, so few models to emulate or to assiduously avoid. Many of the architecture faculty had doctorates, ranging from psychology to engineering to regional/urban planning to architecture to social ecology. The newness of the field of EBS – even of doctoral education in architecture – was reflected in where the faculty came from, and also in the diverse backgrounds of people who influenced, mentored, and inspired their work – inside, outside, and on the fringe of the architectural profession and thinking. They involved: Chris Alexander, Mike Brill, David Canter, Gary Evans, Jay Farbstein, JB Jackson, Dolores Hayden, Stephan Kaplan, Kevin Lynch, Clare Cooper Marcus, Bill Michelson, Charles Moore, Lee Pastalan, among others.

The PhD in Architecture began with a single concentration, in Environment-Behavior Studies, and remained so until 2006 when it was expanded to Environmental Design Research (integrating EBS), Buildings Landscapes Culture, and Sustainability. A glance at the dissertation titles – in a following section – demonstrates how broadly defined that concentration of EBS became, and how many dissertation committee members were affiliated with departments outside of architecture.

Since 1982 many students have entered the doctoral program, and most have matriculated. Some came with a clear sense of the research topic and issues they wanted to pursue; others spent time exploring different avenues of research until settling upon a specific, often passionate, research pursuit. For some, the PhD program wasn't the right fit at all. From 1982 through 2010, fifty-one men and women have defended their dissertations and received the PhD in Architecture, and left for careers in academia, industry or government, and to various parts of this county and to various countries around the world.

In developing the genealogy of the program through its students and their faculty advisors, we contacted each PhD alum (there were only a handful we could not locate) and asked them a series of questions. On subsequent pages of this section you will find a brief career and intellectual bio of those alumni who graciously responded to our requests, as well as reflections of their time in the program and their perceptions on it now with the wisdom of hindsight.

We also contacted all present and former UWM faculty who were significantly involved in the PhD program, either as a major professor of several dissertations, or as an instructor of one of the core PhD courses, or (more likely) both. We sent them a list of questions, asking to reflect on their experiences in the program, as well as what drove and inspired them to pursue the research and teaching that they did. A couple of them did not or could not respond, but most did. We have compiled excerpts from those responses to demonstrate – in faculty's own words – the unique challenges and rewards of being part of the Milwaukee School.

Faculty Reflections

What or who triggered your interest in EBS?

I went to Rice University on a Fulbright and Fellowship/Assistantship for a Masters in Architecture. I had a chance to do one elective outside architecture and was lucky with a wonderful two-semester outline course in philosophy and its history. It was my first truly academic course (other than one art history course in Melbourne). It had a strong impact on me, especially the issues of epistemology and ontology. What most influenced me was its intellectual nature, careful use of language, the clear identification of valid criteria for argument, the rigorous analysis and the clear definition of terms and concepts, which often involved what, in my work, I call "dismantling" (although it was not called that).   I am still much influenced by all this, both generally and in my 30-year close involvement with the philosophy of science.
Amos Rapoport

During my third year of architecture school [at UWM], a funny, roly-poly man arrived to give a lecture. It was Mike Brill. He stood in the fishbowl of Engelmann Hall and declared his interest in the squishy middle between research and design. But, he said, "It's not as though each foot is firmly planted in each camp. It's more like I'm writhing helplessly between the two." That's how I saw myself, too.
Brian Schermer

My first training was as an engineer – mechanical and aeronautical. The "good old days" of engineering was when engineers were purely technicians. We didn't talk about values, we didn't talk about applications... Somebody said, "build a hydrogen bomb", and we'd build a hydrogen bomb... But I had a lot of mushroom-shaped dreams and that sort of indicated to me that maybe I wasn't doing the right thing.
David Stea

[Regarding her doctoral work at Surrey] I was chomping at the bit, trying to get to my thesis work as soon as possible. I remember thinking, I know what I want to do. So I thought it was tedious to go through the methods course. [Laugh] But little did I know that it would be so interesting to me. And I'd wind up working on a textbook for it years later.
Linda Groat

As an undergraduate student in Psychology at the University of California, San Diego, I took a course in Social Psychology in my senior year. After the one lecture on Environmental Psychology, I was hooked. Until then I had no plans to go to graduate school. But after that lecture, I started looking at graduate programs. Just two hours away was a new doctoral program in Social Ecology at U.C. Irvine, and they were doing exciting work. Dan Stokols, Bill Michelson and Gary Evans were there at the time. After a year in their Master's program, they all encouraged me to apply to the doctoral program, which I did.

Sherry Ahrentzen

Who influenced your intellectual path and career?

[Commenting on his time on a fellowship in the psychology department of Brown University after completing his PhD]: I spent most of my time in the architecture department at Rhode Island School of Design where I worked with Ray Studer, another pioneer. Also, I developed a lot of connections with people at MIT and even people at Harvard. Some real pioneers in various fields, including architecture and the computer crew.   People like Kevin Lynch, Chris Alexander – he was flitting back and forth between there and Berkeley. That was a very good time, a very good time in history. Right before the socio-political revolution of the late 1960s. In the mid 60s, things were changing, people were thinking differently, and stuff was being shaken up intellectually as well as politically. So that was fun. We had various gatherings... We all knew we were on the edge, on the fringe of what was the mainstream of whatever we were doing and we accepted and enjoyed it. And this was right before EDRA was founded in 1968...

David Stea

When I think back to my early education, the books and writings that inspired me the most were those by Constance Perin, Edward Hall, Dolores Hayden, Clare Cooper Marcus, Bill Michelson – they demonstrated how sociological and anthropological concepts were embedded within environmental design and regulations.

Sherry Ahrentzen

I was invited to come to Berkeley in 1963. Here, for the first time, there were people who influenced me, although mainly outside environmental design. What was important about the College of Environmental Design was the presence of landscape architecture (e.g. Clare Cooper) and planning (e.g. Melvin Webber) and the "zeitgeist" – a general interest and emphasis on research, and research going on. I became involved in a research project with Henry Sanoff and a very interesting consultant at UCLA... While I was there Chris Alexander and Horst Rittel arrived. Their very different approaches and position and the arguments between them helped me to develop <u>critical</u> reactions and strengthened my analytical skills.

Amos Rapoport

I was at the University of Michigan working on my dissertation. Uriel Cohen was there at that time as well working on his dissertation... Stephen Kaplan who was in the department of psychology was influential in our work.

Jerry Weisman

The first and most important influence was meeting Philip Wagner (a geographer) at a party who, by the end of the party, had commissioned me to write a book – it became *House Form and Culture*. J.B. (Brink) Jackson was another major influence.... We remained friends until his death.

Amos Rapoport

One early influence is Charles Moore whom I first heard talk at Yale; I later worked for him. It was not environmental psychology but he always appealed to me because he was more sympathetic to users. Another influence is Kent Craig, an early EB advocate, who was my mentor at UC Berkeley during my Master's. Doing consulting work for Kathleen McLaughlin also had an influence on me as she was also an early advocate of research in architecture through extensive programming and POE in healthcare and education. Most importantly, David Canter, and his book *The Psychology of Place*, brought me to undertake a Master's of Science and later a Ph.D. under his supervision. Of all the people in environmental psychology at the time, I thought David did the best job at dealing with measurable design features.

Linda Groat

When and why did you come to UW-Milwaukee?

I came to UWM at the end of 1972. Sitting in my office in Sydney, I received a phone call from John Wade (the founding dean of SARUP) inviting me to visit for a semester with a view of discussing an appointment. The visit was in the winter of 1971. There was talk about a joint appointment, either in Geography or Anthropology. It was the joint appointment with Anthropology, agreement that I would not teach studio, and some family reasons that made me accept and move to UWM.

Amos Rapoport

Coming in 1983 from this rich multidisciplinary program of Social Ecology – with demographers, environmental psychologists, environmental scientists, planners, economists, developmental psychologists, architect, legal scholars, criminologist – into UWM's School of Architecture was sort of a letdown. I felt it was very narrowly focused, even the Environment-Behavior Studies program because it had such a strong psychological, particularly cognitive, focus at the time.

Sherry Ahrentzen

How did you get involved in the Ph.D. program?

One of the main challenges in forming the Ph.D. program was the development of its educational philosophy, curriculum, and procedures. At the time of its planning, there were few models to follow. Together with Gary Moore, we spent a year designing and articulating the programs' structure and contents. Most of the early program elements served us well for many years.

Uriel Cohen

I was one of a small group of faculty founders [of the PhD program]. I was a member of the Ph. D. program committee since its formation. I was the first Ph.D. program chair in 1981-83.

Uriel Cohen

Although I avoid committees, I chaired the planning committee [for implementing the PhD Program] and also agreed to serve on the Graduate Faculty Council which had to approve the [PhD] program before it went to the university administration. The whole process went smoothly and was relatively fast. Since I avoid administration, I did not want to chair the program and was on sabbatical in Cambridge... when the first students arrived.

Amos Rapoport

I thought there ought to be an international program as part of the PhD program, for students who had international interests. So many of the students were from abroad. And so it was necessary to increase their knowledge of an international focus….. Originally [at UWM], foreign studies studios were… Britain. There was a reaction against certain parts of the world… which changed with the Indonesian program that Harry [van Oudenallen] in part got going with the World Bank. My going to Indonesia in the 1980s, that was one of the most significant events of my stay in Wisconsin…

David Stea

When I came in 1983, I was very new and fresh, with quite distinguished, extremely confident colleagues, like Uriel Cohen, Linda Groat, Gary Moore, Amos Rapoport, David Stea, Harry Van Oudenallen, Jerry Weisman. Each had a degree in architecture or engineering, or had worked in architecture firms. I didn't. My degrees were in psychology and social ecology. In fact, the SARUP chair at the time when I started told me bluntly that he didn't know where to fit me into the curriculum, which courses to assign me. David Stea was particularly supportive though. My first year there he pulled me aside and told me that because of my sociological and gender perspectives, that I had a unique contribution to make to the environment-behavior program which was mostly psychologically-oriented at the time.

Sherry Ahrentzen

In what way is the Ph.D. Program unique as part of a school of architecture and urban planning?

My contention that a program like ours is unique because faculty taught throughout the curriculum, including design studio. Even though it may seem that there is a divide between PhD faculty and the professional degree programs, it is actually very mild compared to other programs with which I am familiar.

Brian Schermer

We encouraged students to go through an existential crisis as part of their doctoral training… to question everything. And it's often a bit stressful while you're experiencing it, I believe, but it's really important to shake the contents of your head one last time and get them arranged in a way that will work for a long time after that. I think collectively we did a good job of that.

Jerry Weisman

Advancing beyond simplistic notions of "user needs" to more sophisticated understanding of culture, populations with special needs, and organizations.
Brian Schermer

How did you influence the shaping of the Ph.D. program – and *vice versa*, how did it shape you?

I had a great deal of influence during the planning process [for the PhD Program]. There were two things on which I insisted (other than it be in EBS). These, I believe, were most important. The first was the theories course. That [course] emphasized that EBS should be seen as a science of environment-behavior relations, the importance and need for theory, discussed the nature of theory, the philosophical bases of science and of theory in science and the nature of science. It also emphasized the importance of knowing and keeping up with the latest research literature, and using the most recent research to inform study, papers

The M.Arch program – in its form prior to the introduction of the PhD program – was very influential in the identity of PhD program – many theses projects and research assistantships revolved around EBS issues.

David Stea

and dissertations. The second was an insistence that students do a certain number of courses in other relevant fields, preferably as a minor but at least but at least that it be strongly encouraged.
Amos Rapoport

The program only shaped me indirectly, by making it possible to keep up full time with science, the philosophy of science, new fields relevant to EBS. It helped that my courses were always in EBS and research/science-oriented. This concentration also made it possible essentially to give up on mainstream architecture. This lack of "shaping" was because by then my world view and approach were formed. They were, however, modified and advanced by students' work (which I cited, and still cite in my work) and their questions and arguments. In some cases these convinced me to change things.
Amos Rapoport

I count my interest in organizational studies as a major contribution to the work of many of our students. EBS has tended to emphasize the way individuals use and respond to their environments. The organizational unit of analysis has not received the same amount of attention. I've offered students a way into questions that looks at the linkages between organizational and architectural change. Our students now have a much better sense of places being constituted of both their material and social aspects.
Brian Schermer

When I left graduate school at UC Irvine, some faculty suggested that I hold back on my research on feminist perspectives of the built environment until after I became tenured. But many of the SARUP faculty associated with the PhD program were quite supportive, as well as the Women's Studies Program. In short, advice not heeded. In fact, I think it attracted many strong applicants.
Sherry Ahrentzen

I was only involved in the UWM PhD program between 1983-1987, before I moved to the University of Michigan to take the position of Associate Dean at the College of Architecture and Urban Planning. My main contribution, I would say, was to push the connections between EB research and design, which led to a few heated discussions with Amos Rapoport who wanted to entirely revise how design was taught to architects. If Amos' focus was on vernacular architecture, mine was on architects' production. I was always concerned about making use of environmental psychology in a way that can serve or enhance design. I was also instrumental in developing methodological strategies for evaluating the meaning of architects' production to lay people. I namely developed the multiple sorting task, borrowed from environmental psychology, and helped several UWM PhD students integrate it in their respective research. I pursued on this avenue, co-authoring the book *Architectural Research Methods* in 2002, which addresses the whole range of architectural research to help student think about their research problem outside the box. I am also very proud of the work I conducted later on when I was at Michigan with Sherry Ahrentzen on women's architectural education.
Linda Groat

Due to faculty attrition, I came to teach every single core course, which afforded me the opportunity to gain a much better understanding of the intellectual history behind the program.
Brian Schermer

When did you leave UWM and why?

I left UWM in 2005, after being there 22 years, to take a position in a newly developed center for affordable housing at Arizona State University. In 2011, I left ASU to take a position at a center for housing studies at University of Florida. I love working in academic "centers" where the affiliated staff and faculty share a commitment to its work even though they may have different backgrounds and educations, hold different skill sets, and the like. My predilection for working in such academic research centers comes from my involvement in the PhD program at UWM. Even though not formally a "center," its sense of a shared identity, camaraderie, and constant exchange of ideas was a compelling and distinctive aspect of SARUP.

Sherry Ahrentzen

Why does a distinguished professor commit academic suicide? I put a [FIPSE] grant in to the U.S. Department of Education to train environmental specialists, especially architects and physical planners, to work in developing countries.   And training them in aspects of intercultural communication that were especially useful to environmental specialists. I applied for a big grant, about a quarter-million dollars. And they [DOE] approved it. This made me very happy. But Milwaukee was not very happy at all. The first thing they said was, turn it down. But they then said, if you spend half of your time here, and half of your time in New Mexico, then…. We went back and forth on this but it was clear this was not what was wanted or expected from me. In the end, I had to

Leaving Milwaukee and UWM was a tough decision. I liked the city, the Ph.D. program and most of all, I really enjoyed working with the doctoral students. PhD programs in lots of architectural schools, because of their small scale compared to much larger Masters' programs and because of the small number of faculty involved, generally wind up not getting much attention. The PhD program in Milwaukee was quite well integrated. I believe it is in part because the Masters' program at UWM was more open to EB material in the first place which made an easier connection with architecture. Also, because such content was being taught in a school of architecture, it allowed for a better connection with the design studios than if the same program had been located in another department or disciplines.

Linda Groat

say that would to be fair to everyone, I would cut back to half time…. I ended up with Wisconsin students in New Mexico and I had several years of that, and students from other parts of the country, and from 15 different countries. Grad students and undergrads.... Our program was nominated for the Right Livelihood Award – which is the alternative to Noble Prize – out of Stockholm.
David Stea

What were your greatest joys and challenges in building or strengthening the program?

> Part of me says, well, I should retire now and have some fun. Another part of me says, geez, this is more fun that I could have then anywhere else.
> *Jerry Weisman*

One of the challenges is to make environmental design research fun. Because the competition is *Design*. And Design is intoxicating, to sit and design is the greatest fun in the world. Why can't this kind of conceptualizing, this kind of research, why can't that be as fun as well? As it is for me, as it is for you. We can't seem to transplant it very well.
Jerry Weisman

For years Suzy [my wife] and I had the debate should we have a child or not. And in the end it was the sense of satisfaction and accomplishment I derive from the PhD students with whom I work that eventually swayed my decision. I said, Gee, if I can derive this much satisfaction from people I know from just 5 or 6 years, what would it be like to raise a child?... That's absolutely the truth of it.
Jerry Weisman

I always thought that Jerry Weisman was the premier "ambassador" of the PhD program. He is extraordinary in welcoming, embracing, and encouraging the entering students. I think I frightened them a bit that first year – my research methods course was unexpectedly demanding for many of them – so we were a good counter-balance. Jerry and I joined the faculty at the same time in 1983, although he was more senior than me, having taught at other schools before UWM. I had just finished my doctorate and this was my first teaching position. But because we were both recruited to work in the nascent PhD program, and because we joined at the same moment in its early history, I have always felt a special kinship with Jerry.
Sherry Ahrentzen

If I have one disappointment, with respect to the PhD program, it's that we were never able to entice other members of school faulty into meaningful involvement with it.
Jerry Weisman

It proved rather difficult to maintain an adequate emphasis on theory and theoretical work. There were several reasons for this. One is the neglect of theory in EBS generally. Second, the assumption in the U.S. (more than in other countries) is that dissertations must be empirical. I believe that even in the empirical dissertations (most of them) there was more theory than is usually the case, sometimes explicit testing of theory and amending, developing and extending theory through the empirical work.… I only had one largely theoretical dissertation. It proved difficult to have it accepted by the committee, although eventually we did succeed (how will need to remain untold).
Amos Rapoport

When I got to Milwaukee, it seemed to be an international program that people were denying was international. That happens – there's a culture that develops in a department, and that culture may include not only the things you affirm but also the things you disaffirm. The whole idea was that it was one big happy family. And it turned out to have the same qualities as a family – but all families have dysfunctionalities. Not everyone loves everyone else.
David Stea

Because faculty resources were dwindling so low, I made a concerted effort to increase faculty involvement. I really worked quite hard on leading an open process, and got the PhD Committee and the department to approve a new name for the area of emphasis: Environmental Design Research. The goal was to eliminate the old silos among building sciences, social sciences, and arts and humanities. I honestly thought that I had almost single-handedly saved the program. But, by the next year, some faculty were bent on creating their own fiefdoms behind the same tired conceptual firewalls. Everywhere in the academy, interdisciplinary research is lauded. But, sadly, we have difficulty achieving that within our own tiny program. Five years later, we are still unresolved about basic things like core courses.
Brian Schermer

In the context of your involvement in the Ph.D. Program, what are the accomplishments you are most proud of?

The issue of application... I'll speak for myself. I don't think I appreciated how fundamentally important that was in shaping the nature of what we did and the way we thought about things. And for me, reality has caught up a bit. There are now people talking about pragmatic psychology [Daniel Fishman], and an «epistemology of practice» [Donald Polkinghorne]. There are now ways to talk about application that don›t reduce it to the trivial or leftover or last minute addition. I think **a fundamental concern for application** did, and still does, make a difference. I think that shaped what we did in a pretty powerful way. I think we were doing it long before we were aware of what we were doing.
Jerry Weisman

What five words best describe the Ph.D. program?

Integrative, plucky, international, prolific, pioneering.
Brian Schermer

Resourceful, legacy, "margin-as-choice with a devil-may-care attitude," tenacious, camaraderie.
Sherry Ahrentzen

Non-architectural, scientific, research-oriented, specialized but broad (an extraordinary range of topics), more theoretical than usual.
Amos Rapoport

When I started my professional career at UWM, I was most interested in doing research, and had very little inclination towards teaching. Ironically though when I look back at my career – which in a way I was forced to do when I received the EDRA Career Award in 2009 – the most rewarding aspects are the students I worked with and the incredible opportunity I had to see them evolve from newbies into these amazingly talented, bright, innovative thinkers and doers. So even though I didn't get into the field to teach *per se,* it became the most lasting personal reward.
Sherry Ahrentzen

Advancing beyond simplistic notions of "user needs" to more sophisticated understanding of culture, populations with special needs, and organizations.
Brian Schermer

What are the program's most important intellectual contributions to EB Studies?

… the success of our graduates and both the formal and informal recognition of the quality of the program were most gratifying. It is also wonderful that our alumni are continuing their own work, publishing extensively and passing on their attitudes and approach to their students and thus, our hopes, transforming environmental design. Those alumni in consulting or practice are achieving the same ends. Also, since many of our students are from overseas they are helping to spread the message internationally.
Amos Rapoport

For the future of EBS, one of the biggest challenges is to make sure that EB research is disseminated to whom the primary audience should be, to maintain an interactive link between EB studies with design… an overall mission that I hope I will have contributed to.
Linda Groat

Working with Jerry Weisman and our students at UWM on research and applications addressing environments for the impaired elderly helped to establish theory-driven philosophy and research-based design principles in the early 1990's. This body of work is now widely accepted as industry-standard.
Uriel Cohen

What still excites me is that I continue to refer to, and cite student work.
Amos Rapoport

Are there specific stories or events that encapsulate what the program is?

A strong image I have of the Milwaukee School was during a EDRA conference in 2007. We had just finished dinner with 20 or 25 students from the PhD program and were all walking back to the conference hotel. Jerry Weisman and I were in the back, watching these folks talk and laugh with each other. They included folks who had entered the program in its infancy, those who were currently in it, and those in-between. As they walked and chatted, they didn't segment themselves into "eras" or "paradigms" or "topics." I don't think Jerry and I had to say anything to each other. We knew what the other was thinking: What an incredible legacy!
Sherry Ahrentzen

Dissertations, The Milwaukee School, 1988-2011

Dissertation Title	Student	Chair
1988		
Research Utilization in Environment-Behavior Studies: A Case Study Analysis of the Interaction of Utiliztion Models, Context, and Success	Byung-Ho Min	Gary T. Moore
1989		
Image Banks: The Purpose, Function, and Meaning of Environmental Imagery for Architectural Designers	Frances Eileen Downing	Jerry Weisman
Residents' Strategies for Coping with Environmental Press: Relation to House-Settlement Systems in a Yocyakarta Kampung, Indonesia	Haryadi	Amos Rapoport
Evaluation of a Neural Network Model of Cognitive Mapping and Wayfinding Behavior	Michael J. O'Neill	Jerry Weisman
The Role of Personal Control of the Environment in Thermal Comfort and Satisfaction at the Workplace	Monica Paciuk	Jerry Weisman
1990		
Architecture and Images of the Past: An Investigation of Residents' Images of the Past Evoked through the Observation of Older Buildings in St. Charles, Illinois	Kathleen R. Miller Stumpf	Sherry Ahrentzen
1991		
The Form, Experience and Meaning of Home in Shared Housing	Carole Després	Sherry Ahrentzen
Architectural Legibility of Shopping Centers: Simulation and Evaluation of Floor Plan Configurations	Shin-Young Yoo	Jerry Weisman
1992		
Community and Burglary in the Urban Residential Street Block: An Environmental Analysis	Kyung-Hoon Lee	Sherry Ahrentzen

Dissertation Title	Student	Chair
1993		
Enhancing the Visual Attributes of Urban Waterfronts for Tourism	Hisham Sherif Gabr	Amos Repoport
Considering the Museum Visitor: An Interactional Approach to Environmental Design	Donald R. Thompson	Uriel Cohen
1994		
Assault Prevention as Social Control: Women and Fear of Sexual Assault on Urban College Campuses	Kristen Day	Sherry Ahrentzen
1995		
The Perception of Environmental Stress in a Neonatal Intensive Care Unit: A Case Study Comparison of Family Members And Staff	Lou Ann Bunker-Hellmich	Gary Moore
Functional Color: Its Effectiveness and Acceptance as a Cueing Agent in the Residential Environment of Elderly Women	Barbara Ann Acheson Cooper	Jerry Weisman
Potential Functional Opportunities in Urban Streets: An Integrational Approach to the Evaluation and Design of Urban Streets	Dina K. Shehayeb	Amos Rapoport
Nursing Home Design: Characteristics of social spaces and social behavior of residents	Celine Pinet	Sherry Ahrentzen
1996		
Conceptualizing and Assessing Environmental Press in Special Care Units for People with Dimentia	Margaret Phillips Calkins	Jerry Weisman
Tradition, Change and Street Encounters: the Case of Two Pedestrian Streets in Cairo, Egypt	Yasser Elsheshtawy	Amos Rapoport

Dissertation Title	Student	Chair
1996		
Landscapes of Betrayal, Landscapes of Joy: Curtisville in the Lives of its Teenagers	Herbert A. Childress	Tom Hubka
Quality in School Environments: A Multiple Case Study of Environmental Quality Assessment in Five Elementary Schools in the Baltimore City Public Schools from an Action Research Perspective	Jeffery A. Lackney	Jerry Weisman
Planning Residential Environments with Persons with Mental Retardation	William J. Murray	Sherry Ahrentzen
Aesthetics as Survival Mechanism: Toward a Theroy of Architecture	Paul Richard Maas	Amos Rapoport
1997		
Women's Work, Women's Spaces: A Socio-Spatial Analysis of Slums of Calcutta, India	Mallika Bose	Sherry Ahrentzen
1998		
Knowledge Production and Use in Community-Based Organizations: Examining the Impacts and Influence of Information Technologies	Laxmi Ramasubramanian	Uriel Cohen
Programming of Large and Comple Facilities: Patterns of Selected Practices in the United States	Lubomir Savov Popov	Uriel Cohen
2000		
The Pursuit of Restorative Experiences in Urban Settings: Use of Environmental Coping Resourcves, Role of Constraints and Consequent Restorative Outcomes in Elementary School Teachers' Coping Strategies	Gowri Betrabet	Jerry Weisman
The Hidden Program of Adult Day Care for the Cognitively-Impaired: A Comparative Case Study into the Negotiation of Place	Keith Diaz Moore	Jerry Weisman

Dissertation Title	Student	Chair
2000		
The Creative Work Environment: The Relationship of the Physical Environment and Creative Teamwork at a State Agency - A Case Study	Janetta Mitchell MacCoy	Sherry Ahrentzen
2001		
Journey Back Home: Self, Place and Remembering Among Residents in Long Term Care Settings	Habib Numan Chaudhury	Jerry Weisman
Ten Palaces Tell their Stories: Environmental Quality Assessment of Offices Inside Adaptively Reused Historical Palaces	Ihab Elzeyadi	Jerry Weisman, Amos Rapoport
2002		
Toward an Understanding of Place Schema: Societal and Individual-Level Representations of Assisted Living	Cagri Imamoglu	Jerry Weisman
Work and Home Boundaries: Sociospatial Analysis of Women's Live-Work Environments	Atiya N. Mahmood	Sherry Ahrentzen
2003		
The Role of Nature-Related Activities in the Psychological Well-Being of Nursing Home Residents	Susana Alves	Uriel Cohen
2004		
Immigrant Culture and Housing Provision, Examining the Nexus: A Case Study of the ACTS Landmark Housing Program and its Hmong Participants	Lynne M. Dearborn	Sherry Ahrentzen
Environmental Design and the Local Community: A Theoretical Framework Tested Through Two Case Studies in Cairo, Egypt	Yasser M. Moustafa	Amos Rapoport, Brian Schermer
Mapping Meaning in the City Image: Towards Managing the Imageability of Urban Cultural Landscapes	Kapila Dharmasena Silva	Amos Rapoport, Jerry Weisman

Dissertation Title	Student	Chair
2005		
Architectur as a Catalyst for Organizational Change: Facilitating a Person-Centered Approach to Care in an Adult/Dementia Day Center	Lyn A. Geboy	Jerry Weisman
From Green to Platinum: LEED in Professional Practice	Suzanne M. Zukowski	Harry Van Oudenallen
2006		
Design Intelligences: A Case for Multiple Intelligences in Architectural Design	Newton S. D'souza	Jerry Weisman
Embodied Professionalism: The Relationship between the Physical Nature of Nursing Work and Nursing Spaces	Karen Keddy	Sherry Ahrentzen
2007		
Rural Naturally Occuring Retirement Communities: The Relationship Between Socio-Physical Charachteristics and Active Living Among Older Adults	Stacey D. Grant-Savela	Uriel Cohen, Brian Schermer
Assessing the Relationship between Long-Term Care Environments and Agitation in People with Dementia: A Systemic View of the Long-Term Care Evnironment	Yavuz Taneli	Jerry Weisman
Keeping Warm in a Changing Place: Symbolism, Tradition, and Modernity in Domestic Lives on Ondol in the 20th Century	Jung-hye Shin	Jerry Weisman
Culture and Identity in Urban Streets: A Case Study of Chinatown, New York City	Fernando Nisha	Uriel Cohen, Linda Krause
2009		
Constancy and Change in Contemporary Kuwait City: The Socio-Cultural Dimensions of the Kuwaiti Courtyard and Diwaniyya	Mohammad Khalid A. Al-Jassar	Jerry Weisman

Dissertation Title	Student	Chair
2009		
People-Nature Interactions: The Therapeutic Role of Nature in Elderly Residents' Everyday Experience in a Long Term Care Facility	Emi Kiyota	Jerry Weisman
Creating Innovative Places; Organizational and Architectural Case Studies of the Culture Change Movement in Long-Term Care	Meldrena K. Chapin	Jerry Weisman
Reshaping Urban Environments in Ethiopia: Exploring Life Through the Use of Space in Four Addis Ababa Kebeles	Krystal L. Johnson	Harry van Oudenallen
The Anasazi of Long House Valley: Agent Based Modeling Simulation (ABMS) as a tool for Understanding Meaning in the Built Environment	Jesse Voss	Amos Rapoport, Jeffrey Ollswang
2011		
Sanctuaries Along Streets: Contested Storefront Churches in a Central City Neighborhood	Asha Kutty	Brian Schermer
Rethinking Cultural Heritage Conservation at Historic Settlements: The Case of Lomanthang, Nepal	Neel Kamal Chapagain	Brian Schermer

Biographies

MOHAMMAD KHALID AL-JASSAR

Career Path

September, 2009 – present
  Instructor
  Department of Architecture,
  College of Engineering at
  Kuwait University.

January, 1997 – January, 2006
  Teaching Assistant
  Kuwait University, Architecture
  Department.

Summer 1997
  Intern / Assistant Architect
  Peddle Thorp and Walker
  Architects of Sydney, Australia

July 1993 – January 1997
  Research Assistant
  Civil and Building Department
  of Kuwait Institute for
  Scientific Research (KISR)

Courses Taught

  Architectural design V (Socio-
  cultural sustainability)

  Architectural Design IV
  (Revitalization of historic
  districts)

  Architectural Theory 1: 19th
  and 20th century Western
  theories of architecture.

  Currently preparing an
  elective course focusing on
  EBS- which will be the first EBS
  course at Kuwait University.

Education

Ph.D. in Architecture
University of Wisconsin–Milwaukee
2009

M. Arch (Professional Degree)
University of Houston
1998

B.S.A.E. (Bachelor of Science in
Architectural Engineering)
University of Miami
1992

What of the PhD program influenced your pursuits?
During my study at UWM I was fortunate to meet several
individuals who have influenced my way of thinking.
However I will mention the ones that made a strong
influence
 -From the Faculty: Gerald Weisman, Amos Rapoport,
  Sherry Ahrentzen, Brian Schermer, Linda Krause.
 -From the Student Body: Kapila Silva, Yavuz Taneli.

What most influenced your work?
Amos Rapoport and his work on the relationship between
culture and the built environment.

How have you fostered change?

With all the fast changes that are occurring to the built environment in the Arabian Gulf region, there is a need to understand the impact of such changes on local culture, as well as a need to incorporate cultural sensitive design in the major projects that are shaping the future of this region.

What is your next significant step or accomplishment?

Short term goals: Focus on teaching and develop two new courses at Kuwait University

Medium term goals: Start my own practice that focuses on evaluating new major projects in the Gulf region, and their suitability to the local culture.

Long term goals: I would like to establish a research center at Kuwait University that focuses on the relationship between fast changing built environments and culture change.

Creative Contributions

Papers

Al-Jassar, M. and Al-Mudhaf, H. (1994). Kuwait Old City: Faces and Lessons, *Science & Technology* (pp. 44-45), No. 14.

Al-Jassar, M. (2008). Constancy and Change in the Built Environment: The Case of Kuwait. In Alsayyad, N (Ed), *Traditional Dwellings and Settlements, Working paper Series,* 208: 66-87.

Communications

Impact of Modernization on Kuwait. Presented at EDRA 32, Edinburgh, Scotland, July, 2001.

The Utilization of Cross-Cultural Framework in the Built Environment. EDRA 40, Kansas City, Missouri, May 2009

Workshop

Immigrant Communities: Issues of acculturation, identity, and supportive environment. EDRA 33, Philadelphia. USA. Organized, moderated and participated in the workshop, May, 2002.

SUSANA ALVES

Career Path

May 2006-2011
Research Associate OPENspace Research Centre; Edinburgh College of Art – Edinburgh, UK.

2003-2006
Research Fellow, Universidade Federal do Rio Grande do Norte, Brazil; Department of Psychology.

Courses Taught

Department of Psychology at Universidade Federal do Rio Grande do Norte:

Research Methods
Environmental Psychology
Research Planning
General & Experimental Psychology.

Department of Landscape Architecture at Edinburgh College of Art:

Research Methods
Landscape Theory

Education

Ph.D. in Architecture
University of Wisconsin-Milwaukee
2003

M. S. in Psychology
Universidade de Brasília
Brazil
1997

B. S. in Psychology
Universidade Federal da Paraíba
Brazil
1993

What of the PhD program influenced your pursuits?

In terms of my academic career, I found three aspects of the Environment-Behavior Studies (EBS) program particularly valuable. Firstly, the chance to study different social science theories and think about how they might be applied to EBS; the guidance of Professor Sherry Ahrentzen being vital in this regard. Secondly, learning from Professor Amos Rapoport of the importance of looking at cultural aspects when studying person-environment relationships. Lastly, the overall "pragmatic" approach, plus emphasis on aging design, adopted by Professors Uriel Cohen and Gerald Weisman at the Institute on Aging & Environment.

What most influenced your work?

It was under the supervision of Professor Harmut Günther at the University of Brasilia, while studying for my Masters in Environmental Psychology, that I decided to pursue a PhD in architecture. My aim was to develop a cross-disciplinary approach to these fields, based on people-environment relations, and to focus on the role of design in urban settings. My main theoretical cornerstone was James Gibson's concept of 'affordances' – an ecological approach to perception which emphasizes an active role for the perceiver.

How have you fostered change?

I take the notion of 'situations' in everyday life as a basic concept to try to enforce change: both in the sense of enhanced congruence between what the environment offers (affordances) and what people want to do (activities and personal projects); but also of questioning everyday pursuits and the environment and social relations which occur there. I believe that design needs to be related to where and how people live their lives and in the last four years I have been focusing on older people in deprived situations and neighborhoods throughout the UK as part of the EPSRC-funded 'Inclusive Design for Getting Outdoors' research programme.

What are your current contributions?

I pursued degrees in both Psychology and Architecture in order to identify, and better understand, the linkages between urban spaces, health and quality of life. Subsequently, in my research career, I have been fortunate to have had the opportunity to further examine these linkages using different research methods and in different cultural contexts. I hope to have exemplified that interdisciplinary research is fundamental to environmental psychology.

What is your next significant step or accomplishment?

I would very much like to continue researching urban outdoor spaces and their potential to enhance health and psychological well-being. Using my expertise in working with older research participants as a springboard, I would value the opportunity to study issues of spatial transformation, mobility and ageing. Retirement migration to coastal areas and its psychological links; shrinking cities and aging; and mortality and environments for death are topics I hope to study in the near future. A future personal project for me is to write about urban spaces, and people's engagement with them, drawing on other sources of knowledge; literature, for example.

How do you keep the fire alive or the grounds fertile?

By moving to live and work in different cultures and by collaborating with different people from different backgrounds, which keeps life interesting.

Creative Contributions

Aspinall PA, Ward Thompson C, Alves S, Sugiyama T, Brice R, Vickers A. (2010) Preference and relative importance for environmental attributes of neighbourhood open space in older people. Environment and Planning B: Planning and Design advance, online publication.

Bell S, Alves S, de Oliveria ES, Zuin A (2010) Migration and land use change in Europe. Living Reviews in Landscape Research. URL:http://www.livingreviews.org/lrlr-2010-2.

Sugiyama T, Ward Thompson C, Alves S (2009) Associations between neighbourhood open space attributes and quality of life for older people in Britain, Environment and Behavior, 41(1), 3-21.

Alves S, Aspinall PA, Ward Thompson C, Sugiyama T, Brice R, Vickers A (2008) Preferences of older people for environmental attributes of local open space. Facilities, 26(11/12), 433-453.

Alves S, Betrabet-Gulwadi G, Cohen U (2005) Accommodating culturally meaningful activities in outdoor settings for older adults. Journal of Housing for the Elderly, 19(3/4), 109-142.

GOWRI BETRABET GULWADI

Career Path

2010-present
  Associate Professor and Area
  Coordinator of Interior Design,
  School of Applied Human
  Sciences, University of
  Northern Iowa

Leadership in Energy and
Environmental Design Accredited
Professional (LEED-AP) status

2003-2010
  Assistant Professor of Interior
  Design, School of Applied
  Human Sciences, University of
  Northern Iowa

Courses taught/
Activities anumated

  Restorative environments
  Interior design summer camp a
  Lunch and Learn" series for
  alumni

Education

Ph.D. in Architecture
University of Wisconsin-Milwaukee
2000

Bachelor of Science in Architecture
Bangalore University
Bangalore, India
1991

What of the PhD program influenced your pursuits?
The Ph.D. program offered many formal and informal
gatherings that were always welcoming and inspiring.
Whether in a seminar or a dinner gathering, I was inspired
by colleagues in the program, the influential research of
my advisors and mentors, and their deep encouragement
of interdisciplinary thought. It was through this program
that I was introduced to the Environmental Design
Research Association and the wonderful network of
people that I met at annual conferences. The enthusiasm
of the people I met through the Ph.D. program, and their
warmth and support have been sources of strength to me.

What most influenced your work?
In my research, I am most influenced by the ideas of
Rachel and Stephen Kaplan (access to restorative natural
settings), Roger Ulrich (his inspiring seminal study on
restorative views from hospital windows), Amos Rapoport
(his conceptualization of environments as systems of
settings) and Uriel Cohen & Jerry Weisman's work on
dementia care environments. In my work as a teacher, I
am deeply influenced by the passion and commitment of
all my teachers, especially Sherry Ahrentzen.

Creative Contributions

Betrabet Gulwadi, G. (2009). Restorative home environments of family caregivers. Journal of Aging Studies. 23 (3), 197-204.

Betrabet Gulwadi, G., Joseph, A., & Keller, A. M. (2009). Exploring the impact of the physical environment on patient outcomes in ambulatory care settings. Health Environments Research and Design Journal. 2(2), 21-41

Betrabet Gulwadi, G. (2009). Using reflective journals in a sustainable design studio. International Journal of Sustainability in Higher Education. 10 (1), 43-53.

Betrabet Gulwadi, G. (2006). Seeking restorative experiences: Elementary school teachers' choices for places that enable coping with stress. Environment and Behavior, 38 (4), 503-520.

Alves, S. M., Betrabet Gulwadi, G., and Cohen, U. (2005). Accommodating culturally meaningful activities in outdoor settings for older adults. Journal of Housing for the Elderly, 19, 3/4, 109-140.

What are your current contributions?

My contributions focus on aspects of environments that support people's health and alleviate stress. This includes exploring *restorative aspects of everyday environments* (e.g., schoolteachers' spaces, caregiving households), *supportive features of healthcare environments* (e.g., features supporting fall prevention) and *environmental features that support successful aging* (e.g. nature-related activities of older adults). My teaching contributions reflect best ways to enhance rigor in design education and encourage sustainable design approaches by students in all my classes.

What is your next significant step or accomplishment?

I would like to work within small, focused areas in people's everyday environments to implement an evidence-based design change. Currently I am studying memory boxes in dementia care centers – a small but significant aspect of a resident's identity, and one that could be much more thoughtfully designed. My future goals center around health – and how even small changes, crafted with a strong evidence base, and attention to detail can make a difference in the lives of vulnerable people.

How do you keep the fire alive or the grounds fertile?

Keeping the fire alive is possible by staying connected with my EDRA colleagues, meshing what I teach with what I research, and staying focused on what is most important and meaningful to me – finding ways to make environments and people healthier.

MALLIKA BOSE

Career Path

Teaching positions

2008-present.
  Assoc. Professor, Department of Landscape Architecture, Penn State University.

2002-2008
  Asst. Professor, Department of Landscape Architecture, Penn State University.

2001-2002
  Research Associate, College of Architecture, Georgia Institute of Technology, Atlanta.

1999-2002
  Asst. Professor, Department of Urban Planning, Ball State University, Muncie, Indiana.

Administrative position

July 09 – present
  Director, Hamer Center for Community Design, School of Architecture and Landscape Architecture, Penn State University (Interim Director 2008-2009)

Courses Taught

Built Environment and Culture, Community Design Studio, Methods and Research Proposal Development, Gender and Urban Environments, Community Based Design/Planning, Civic Engagement, and Public Scholarship

Education

Ph.D. in Architecture
University of Wisconsin-Milwaukee
1997

M. Arch.
Kansas State University
1992

M.B.E.&M
School of Plannng and Architecture
New Delhi, India
1988

B.Arch
Jadavpur University
Calcutta, India
1986

What of the PhD program influenced your pursuits?

The people that have shaped my thinking and through that my work and career have been – Sherry Ahrentzen, Amos Rapoport and Judith Kenny. I came to Milwaukee to work with Amos Rapoport, but soon realized a need to be more action oriented in my research. This led me to Sherry, who then became the Chair of my dissertation committee. Judith Kenny of the Geography department was also instrumental in broadening my horizon through independent studies, especially during the second year of the program when Sherry was away on her sabbatical. While I was in the program I felt that the Environment-Behavior focus was perhaps too narrow and primarily psychological in its roots. I needed to branch out and investigate other theoretical orientations, especially those that were action oriented and had an advocacy focus. However over the years I have come to appreciate the strength the core curriculum in the Milwaukee PhD program. It provided all of us with a common theoretical base from which we branched out to pursue our individual interests.

Creative Contributions

Erasing Boundaries: Service Learning in Design and Planning Initiative (part of the organizing leadership team; the intent of this initiative is to foster quality service learning and public scholarship is the design/ planning disciplines)
http://erasingboundaries.psu.edu/

Bose, M. with Cook, J. 0. (2010). *Investigating the Community Nutrition Environment of Family Public Housing Sites in Lewistown, PA*. Report to Mifflin County Housing Authority.

Bose, M. (2007). Women's Home-Centred Work in India: The Gendered Politics of Space. *International Development Planning Review*, 29(3), 271-298.

Bose, M. (2007). Design Studio: A Site for Critical Inquiry, In A. Salama, and N. Wilkinson (Eds), *Design Studio Pedagogy: Horizons for the Future*. New Castle-upon Tyne, UK: The Urban International Press, 131-141.

Bose, M., Middleton, D., Thacker, G., Zimring, C. (2003). *Conducting Effective Courthouse Visits*. Washington DC: United States General Services Administration and the Administrative Office of the United States Courts.

How have you fostered change?

My research has an application focus, and an action focus that is motivated by making changes in education, practice and the profession. My research in the area of studio pedagogy aims to improve studio instruction; to make it more systematic and make it more responsive to the needs of students, the profession and society. My work in the area of built environment and public health also seeks to understand how the built environment impacts active living and healthy eating especially with reference to disadvantaged groups. The intent in this case is to use this understanding to improve the built environment of disadvantaged/vulnerable communities with the hope of improving their quality of life.

What are your current contributions?

For the past eight years I have been in a Landscape Architecture department. I am contributing to this discipline by bringing a rigorous methodological approach to research, and by infusing social issues in research related to different aspects of landscape architecture.

How do you keep the fire alive or the grounds fertile?

I engage in collaborative interdisciplinary research and this forces me to engage with colleagues from a variety of fields, and delve into new research areas, use new methods and explore new theoretical orientations. I also engage in work with intelligent hardworking graduate students. Good graduate students are a joy to work with and help to stretch your mind and keep you current in your discipline.

LOU BUNKER-HELLMICH

Career Path

2008 to present
   Research Associate,
   Healthcare Education and
   Research,
   Ellerbe Becket, an AECOM
   company, Minneapolis,
   Minnesota Senior

*University of Minnesota, Twin
Cities,College of Design,
Department of Design, Housing
and Apparel*

2002-2003 and 2007-2008
   Research Associate,
   InformeDesign
2001-2006
   Lecturer
1996-2001
   Teaching Specialist
1998-1999
   Academic Advisor

Courses Taught

Ellerbe Becket
   In-house education sessions
   on current E-B research in
   healthcare settings
   Co-teach a reoccurring 2-day
   seminar on integrating research
   into design practice

University of Minnesota
   Children's Environments-Honors
   Seminar
   Housing for Special Populations
   Housing and the Social
   Environment
   Housing Management
   Residential Technology

Education

Ph.D. in Architecture
University of Wisconsin-Milwaukee
1995

M.A. in Housing Studies
University of Minnesota
1985

B. S. in Housing Studies
University of Minnesota
1981

What of the PhD program influenced your pursuits?

Faculty and student commitment to the idea that
research had much to contribute to the design of the
built environment was unwavering despite the many
barriers that seemed to hinder the integration of research
and design practice.

What most influenced your work?

The importance of listening to and addressing the needs
of all user groups during the early stages of design has
been an important influence in my work: especially
groups who generally have not been given an opportunity
to participate in the design process.

Creative Contributions

Zborowsky, T., and Bunker-Hellmich, L. (2010). Integrating Healthcare design research into practice. *Health Environments Research and Design Journal*, *4*(1), 115-130.

Zborowsky, T., Bunker-Hellmich, L., Morelli, A., & O'Neil, M. (2010). Centralized vs. decentralized nursing station design: Effects on nurses' functional use of space and work environment. *Health Environments Research and Design Journal, 3*(4), 19-42.

Bunker-Hellmich, L. (2008 to present). In-house Research Summary Series. Ellerbe Becket, an AECOM company. Topic examples: hybrid ORs, patient falls, standardized patient rooms, patient room nurse servers, access to nature/positive distractions, children's environments.

Bunker-Hellmich, L. & Bruin, M. (2003). Environments of children. In *Human Ecology Encyclopedia*. Denver, CO: ABC-CLIO.

Bunker-Hellmich, L. (2003). Design for Development: The Importance of Children's Environments. *Implications* [on-line], 1. Available: http://www.informedesign.umn.edu.142.

How have you fostered change?

For the last three years, I have been involved in the implementation of healthcare education and research initiatives at a large national architecture and engineering firm. Initially, our efforts focused on compiling, interpreting, and translating research findings to inform design decisions. More recently, we have begun to provide basic research training to architects and interior designers in the hope that our firm will begin to routinely hypothesize and test relationships between design features of healthcare facilities and patient, family, and staff outcomes. If successful, the integration of research into practice stands to change our firm's design processes and—perhaps more importantly—to improve the designed environment.

MARGARET CALKINS

Career Path

2011 – Present
Adjunct Faculty, University of Maryland-Baltimore County

2006 – Present
Research Consultant, Center for Health Design Pebble Project

1999 – Present
Chair of the Board, IDEAS Institute.
Research and education firm dedicated to increasing knowledge about therapeutic long term care settings.

1991 - Present
President
IDEAS: Innovative Designs in Environments for an Aging Society, Inc.
Consulting firm specializing in residential and institutional environments for older persons.

Education

Professional Fellows Program
Weatherhead School of Management
Case Western Reserve University
1998

Ph.D. in Architecture
University of Wisconsin-Milwaukee
1996

Masters of Architecture
University of Wisconsin-Milwaukee
1986

A.B. Psychology
Kenyon College
1981

Visiting Student (non-matriculating)
Harvard University
1980

What of the PhD program influenced your pursuits?

First, the emphasis on Environment & Behavior. I came to UWM with a degree in psychology, and the courses that related to EB guided me toward the research path I ultimately took. Second, Jerry Weisman: he and I started our UWM careers on the same day—him teaching and me starting the Masters program. Finally, the deep connections I made with my classmates- the Thursday-night dinners where we debated epistemology and models of place, crammed for exams and shared insights.

What most influenced your work?

The relationships I was able to develop with colleagues in the field of dementia care, through the National Institute on Aging Special Care Units Collaborative Research Projects that Jerry Weisman and I worked on (funded by the Retirement Research Foundation). Similarly, relationships I developed from helping to found the Society for the Advancement of Gerontological Environments. Finally, M. Powell Lawton: he is not only an intellectual giant but also a wonderful, compassionate and generous person.

How have you fostered change?

Through generation and dissemination of information about environments for older adults. New information generation results from our research which include: exploring the impact of increasing contrast in bathrooms on the ability of people with dementia to maintain continence; identifying design characteristics in patient rooms associated with fall risk; identifying features of a closet that support independence and safety in dressing. Beyond scientific publications and presentations at conference across the US and abroad, dissemination occurs by creating resources for care providers and designers to use. Much of our research is also freely available through our websites: www.IDEASConsultingInc.com and www.IDEASInstitute.org; our work includes numerous online courses.

What are your current contributions?

Examining all aspects of the culture of nursing home that need to change—which includes staffing models, organizational structure, management style and more. Then making information accessible intellectually to a broad range of people interested in environments for older adults through varied and highly accessible dissemination streams.

What is your next significant step or accomplishment?

Beyond nursing homes and assisted living, I am branching out more into both acute care settings and aging in the community. I have also begun to move into the world of academia, teaching a research course at the Erickson School at the University of Maryland, Baltimore County, in the Masters of Aging Services (MAgS) program.

How do you keep the fire alive or the grounds fertile?

Collaboration both with long-term and new colleagues. EDRA feeds my E-B soul, and helps to establish and develop new professional relationships. Other conferences bring me in contact with others (particularly from other fields) who have an interested in the role of the environment. I've recently joined the Board of several National Organizations (American Society on Aging and Pioneer Network) which will expand that reach to new people even further.

Creative Contributions

Brush, J., Bruce, C., Calkins, M., Sanford, J. (in press) Communication Toolkit: Environmental Interventions for Dementia.

$6.5 million in grants through I.D.E.A.S., Inc. and IDEAS Institute. PI for $6.45 million of those funds.

Calkins, M.P. (2001) *Creating Successful Dementia Care Settings*. Baltimore MD: Health Professions Press. A four volume series of books with three accompanying staff training videos/CDs.

Calkins, M.P., & Cassella, C. (2007) Exploring the cost and value of private versus shared bedrooms in nursing homes. *The Gerontologist*, 47 (2), 169-183.

Home Modifications Practitioners Program Certificate. Series of four online courses on home modifications to support people with dementia, people at risk for falls, people with sensory impairments and people with motor impairments.

Calkins, M.P. (2009). Evidence-based Long-Term Care Design. *Neurorehabilitation* 25(3)

MELDRENA CHAPIN

Career Path

2010–present
Professor, Interior Design Department, Savannah College of Art and Design – Atlanta.

2009-2010
Adjunct Faculty, Interior Design Department, Savannah College of Art and Design – Atlanta.

2008-2010
Adjunct Faculty, Program of Interior Design, Art Institute of Atlanta.

2004, 2008
Adjunct Faculty, Gerontology Program, University of North Carolina at Charlotte.

Education

Ph.D. in Architecture
University of Wisconsin-Milwaukee
2008

M.A. in Gerontology
University of North Carolina at Charlotte
1998

B. Arch.
University of North Carolina at Charlotte
1994

B.A in Architecture and Sociology
University of North Carolina at Charlotte
1993

What most influenced your work?

Several aspects stand out for me as to the most influential characteristics in my career/work/intellectual pursuits:

a) The holistic and systemic nature of environment-behavior studies - The interconnected nature of man and environment was demonstrated in theory and reality at UWM, while this is critical to understanding the impact of design, learning systems thinking has been critical in understanding multiple disciplines, issues, and aspects of life.

b) The importance of research and evidence-based design – The emphasis placed on conducting and applying research in order to inform design has been very beneficial to my work and has set me apart as a practitioner and educator.

Weisman's work in the development of his model of place, as well as the work of Weisman, Cohen, Calkins, Day, Diaz Moore, and others in the Institute of Aging and the Environment have been highly influential in shaping me as a design professional. I use the philosophies, theories, and techniques learned from those who conducted research at the Institute in my daily research and teaching work.

How have you fostered change?

My current activities as Professor and Graduate Coordinator for the Interior Design Program at the Savannah College of Art & Design in Atlanta provide an opportunity to influence not only education practices, but also our students who are working to become emerging leaders in interior designer and other associated careers. As one of the primary proponents of research within the program, I have the opportunity to train each graduate student within the program in developing data collection and analysis, and evidence-based design practices.

What are your current contributions?

I have been developing and dissemination information pertaining to the longitudinal model of culture change in long-term care. While others have provided much needed insight into various aspects of culture change (a critical issue in senior care today), I believe my work is one of the first investigations into how this process occurs in three definitive stages over several years.

What is your next significant step or accomplishment?

Next, I intend to further dissemination of the discoveries I have made in terms of culture change in long-term care. In addition, I am interested in developing research-based design curriculum for art and design programs.

How do you keep the fire alive or the grounds fertile?

Connecting with mentors, meeting with colleagues from around the world and keeping abreast of the current research occurring in the practice of design are critical to keeping my passion for environment-behavior studies alive. Disseminating research and information developed by myself and others within the field of environment-behavior studies is critical in keeping this information valuable and alive, as well as inspiring others. One of the most magnificent compliments I have ever received was one from a student: "Thank you for making research interesting and not so scary." It is comments such as these that keep the passion alive for me.

Creative Contributions

Chapin, M. (2010). The Language of Change: Finding Words to Define Culture Change in Long-Term Care. *Journal of Arts and Humanities in Aging: Official Journal of the Gerontological Society of America*, Volume 4, Issue 3, pp.185–199

Bissell, J. and Chapin, M. (2010). *EDRA41: Policy and the Environment*. Proceedings of the 41st Annual Conference of the EDRA, Washington, *DC*. EDRA, Edmonton, OK.

Diaz Moore, K.; Bissell, J.; and Chapin, M. (2009). *EDRA40: The Ethical Design of Places*. Proceedings of the 40th Annual Conference of the EDRA, Kansas City Kansas. EDRA, Edmonton, OK.

Rodriquez, B. and Chapin, M. (2008). *EDRA39: Linking Differences / Defining Actions. Proceedings of the 39th Annual Conference of the EDRA, Veracruz Mexico*. EDRA, Edmonton, OK.

Chapin, M. and Greenberg, A. (2006). *EDRA37: Beyond Conflict. Proceedings of the 37th Annual Conference of the EDRA, Atlanta Georgia*. EDRA, Edmonton, OK.

HABIB CHAUDHURY

Career Path

2001 – present
  Associate Professor,
  Department of Gerontology,
  Simon Fraser University,
  Vancouver, Canada.

Courses Taught

Aging and the Built Environment
Institutional Environments for
Older Adults
Community-based Housing for
Older Adults
Qualitative Research Methods

Education

Ph.D. in Architecture
University of Wisconsin-Milwaukee
2001

Master of Science in Architecture
Texas A&M University
1992

Bachelor of Architecture
Bangladesh University of Engineering
& Technology
Dhaka, Bangladesh
1989

What of the PhD program influenced your pursuits?
The structured curriculum on Environment-Behavior Studies at UWM was very helpful for me in having a definite focus from the very beginning of my doctoral education experience. I had the opportunity to work in the Institute of Aging and Environment, which was essentially my intellectual and professional "birthing room" within the larger PhD program. Also, I was fortunate to be part of a vibrant group of peers and professors in the PhD program. The informal support and encouragement from friends and professors to go to EDRA and GSA conferences set the tone for rest of my professional orientation.

What most influenced your work?
Gerald Weisman and Uriel Cohen were the two most influential people in my years at UWM. In the backdrop of the Institute on Aging, they were excellent mentors in influencing my thoughts and outlook about the field of aging and environment. As my dissertation advisor, Jerry Weisman was very helpful in shaping my subsequent pedagogical philosophy for graduate education.

How have you fostered change?
In my educational practices, I emphasize the importance of hands-on approach in learning design principles/concepts through student projects that include post-

occupancy evaluation of long-term care facilities or seniors' housing. In terms of impacting policy/practice, most of my research projects have a built-in knowledge translation component with a formal mechanism to partner with local community-based knowledge users and decision-makers for an effective uptake of research-based findings and guidelines. For example, our current project on neighborhood environment and physical activity in seniors has a "community advisory committee" that is actively involved in all phases of the research to maximize the potential in policy impact.

What are your current contributions?

My work falls in three areas – built environment and active aging, assessment in dementia care environments and design in acute care settings. In the first area, our team has developed a comprehensive environmental audit tool (SWEAT-R or Senior Walking Environmental Audit Tool – Revised) that allows systematic documentation of the neighborhood environmental features that have been associated with walking behaviors in older adults. Also, we are utilizing a mixed-methods approach to examine the integrated role of physical and social contexts of neighborhood that can support physical activity in older adults. My work in developing DCM-ENV tool is linking an internationally used dementia care evaluation tool (DCM) with physical environmental features influencing behaviors in presidents with dementia long-term care settings. Finally, our research in advantages and disadvantages of single versus multiple-occupancy patient rooms in acute care settings has contributed to the revisions of Facility Guidelines Institute's recommendations for single rooms in new construction of hospitals in the United States.

How do you keep the fire alive or the grounds fertile?

For me, students are the key source for keeping me motivated about learning, instructing and conducting research. Although I like both teaching and research, I feel that my time in the classroom is the main source of intellectual fuel that spreads to my efforts in research activities.

Creative Contributions

Chaudhury, H., Sarte, A., Michael, Y. L., Mahmood, A., McGregor, E. M., & Wister, A. (2011). Using the revised seniors walking environmental assessment tool in a US and Canadian metropolitan area: A comparative analysis of Portland and Vancouver neighborhoods. *J. of Urban Design,* 16(4): 433-454

Chaudhury, H., Mahmood, A., & Valente, M. (2009). The effect of environmental design on reducing nursing and medication errors and increasing efficiency in acute care settings: A review & analysis of the literature. *Environment and Behavior*, 41(6), 755-786.

Chaudhury, H. (2008). *Remembering Home: Rediscovering the self in dementia.* Baltimore, MD: Johns Hopkins University Press.

Rowles, G., & Chaudhury, H. (Eds.). (2005). *Home and identity in late life: International perspectives.* New York: Springer Publishing Company.

Chaudhury, H., Mahmood, A. & Valente, M. (2005). Advantages and disadvantages of single vs. double occupancy patient rooms in acute care environments: A review and analysis of the literature. *Environment and Behavior*, 37(6), 760-786.

HERB CHILDRESS

Career Path

2006-current
Director of Liberal Studies,
Director of Undergraduate
Curriculum, Dean of Research
and Assessment Boston
Architectural College, Boston MA

2002-2006
Mellon Teaching Fellow
University Writing Program,
Duke University, Durham NC

2000-2002
Director of Research
Bay Area Coalition for Equitable
Schools, Oakland CA

1998-2000
Analyst/Writer
Jay Farbstein & Associates, San
Luis Obispo CA.

Courses Taught

Boston Architectural College:
Architectural Theory, Design
Principles, Environmental
Psychology, Architecture and
Social Relations
Duke University: Physical
Science, Social Science, and
the Philosophy of Knowledge,
Patriotism, Consumerism, and
Group Behavior, The Art of the
Critical Review, America Without
High School, Intersections of
Age and Culture, The Abandoned
Buildings of Durham
UW-Milwaukee: Architecture
and Human Behavior

Education

Ph.D. in Architecture
University of Wisconsin–Milwaukee
1996

A.B. Architecture
University of California Berkeley
1989

What of the PhD program influenced your pursuits?
The faculty were extraordinarily open to new ideas, new
collaborations. I always felt as though I was in control of
my own agenda, while at the very same time receiving
wonderful and sincere support.
Informally, our cohort of five was enormously engaged
with one another. We did a LOT of our work together, and
socializing became inseparable with the work itself. I also
fell in with another good crowd of students in Geography.

What most influenced your work?
Paul Groth, of Berkeley's Architecture department,
taught me to see landscapes as records of decisions, and
also introduced me to Joan Didion.
David Littlejohn, of Berkeley's Journalism department,
taught me that writing can ALWAYS be engaging, and that
my own writing was worthy of publication.
Marshal Berman's book *All That Is Solid Melts Into Air*
taught me a way to blend literary aspirations with a
concern for social justice.
At UWM, Judith Kenny introduced me to dozens of critical
theorists; Tom Hubka taught me some of his doggedness
and even more of his awareness to my own pre-
judgments; Jerry Weisman taught me that there might
be an idea to uncover underneath almost every student's
comment; Linda Krause taught me how to use ideas from
one student to create a conversation among twenty.

How have you fostered change?

In educational practice, I'm leading a BAC curricular reform based on an inductive and interdisciplinary knowledge. I've also been at work with Nora Rubinstein on a project we call Local Learning, in which local circumstances are the medium through which most academic disciplines can be studied. Since 2003, I've been a leader with the Council on Undergraduate Research, an organization dedicated to promoting significant research opportunities for undergraduate students. I make no claim on influencing the built environment in any knowable way. I can only hope that when someone who's read my work or been in my classroom is about to make a decision, their memory of engaging with my ideas might shift their trajectory a degree or two in favor of greater openness and equity.

What are your current contributions?

I think my contributions will come mostly as a writer and teacher. I've worked with two doctoral students in two different colleges, helping them bring a storytelling approach to their own study of young people in places. I think students who work with me come away with an expanded sense of design's possibilities and ethical responsibilities, and an increased regard for their own capabilities.

What is your next significant step or accomplishment?

I have spent a lot of time lately in communities that have lost their original economic reasons for existence and have yet to develop a new, workable story for themselves. I think that I'll be drawn to writing the stories of confusion and struggle that result from those changes, and working to find plausible strategies for social and economic support.

How do you keep the fire alive or the grounds fertile?

I read broadly, finding writing that inspires me (lately, that's included Tony Judt, Alain de Botton, and the later writing of Jane Jacobs...). I take more time writing individual e-mails than I ought to, because the words matter. And I find students who want to push themselves, and help them understand their own powers.

Creative Contributions

Childress, Herb. (2010). *The House of Ennui: the 20th Century Spends a Month with the 21st*. Manchester Center, VT: Shires Press.

Childress, Herb. (2006). A Subtractive Education. *Phi Delta Kappan*, 88:2, 104-109.

Childress, Herb. (2006). The Anthropologist and the Crayons: Shifting our Focus from Avoiding Harm to Doing Good. *Journal of Empirical Research on Human Research Ethics*, 1:2, 79-87.

Childress, Herb. (2000). A Storyteller's Beliefs: Narrative and Existential Research. In S. Wapner, J. Demick, T. Yamamoto, and H. Minami (eds.), *Theoretical Perspectives in Environment-Behavior Research: Underlying Assumptions, Research Problems, and Methodologies*. New York: Kluwer/Plenum.

Childress, Herb. (1998). Kinder Ethnographic Writing. *Qualitative Inquiry*, 4:2, 249-264.

BARBARA ACHESON COOPER

Career Path

2000
Professor emerita, McMaster University, Hamilton, Canada.

1997
Sabbatical Leave (Liverpool University)

1998
Full Professor, McMaster University, Hamilton, Canada.

1991 – 1996
Associate Professor, McMaster University, Hamilton, Canada.

1988 - 1991
Assistant Professor, McMaster University, Hamilton, Canada.

Courses Taught

Gerontology course in the Occupational Therapy (OT) Program

Theory course in the Research Masters (2000-2003).

Education

Ph.D. in Architecture
University of Wisconsin-Milwaukee
1995

M.H.Sc. (Health Care Practice)
McMaster University
Hamilton, Canada
1981

BA Honours Art (Painting)
McMaster University
Hamilton, Canada
1977

BA Art and Art History
McMaster University
Hamilton, Canada
1975

Diploma in Physical and Occupational Therapy (Honours)
University of Toronto
Canada
1956

What of the PhD program influenced your pursuits?

A PhD Program that was uniquely enhanced by a flexible curriculum which encouraged multi-professional student enrolment.

What most influenced your work?

A chance encounter with Jerry Weisman introduced me to the program; a hospitable visit, friendly faculty and the flexible program wooed me from the University of Michigan. Other influences: Jerry Weisman and Uri Cohen's academic guidance; Uri's pot-luck suppers; Kris Day's irreverent humor and gifted mind. Important external influences for OT came from Dr. Betty Hasselkus' (UWM Madison). Additionally: McMaster University's institutional flexibility; Dr. Mary Law's collegiality; and being in the right place at the right time.

Creative Contributions

2008 Combining Art with Rehabilitation. Helen Saarinen Lectureship: awarded by the McMaster University, for contributions to Rehabilitation Science, (www McMaster U., School of Rehabilitation Science, Saarinen Lectureship 2008).

2007 Alumni Achievement Award for contributions to Occupational Therapy from The Physical and Occupational Therapy Alumni Association, University of Toronto.

1997 Induction into the McMaster University Alumni Gallery for contributions to Rehabilitation and Art.

1997 The development, application, dissemination and validation of the PEO Model (see chapter).

1991-1996 Leadership conducive to the establishment and accreditation of programs in Rehabilitation using problem based learning; develop research profile of SRS.

How have you fostered change?

The Person Environment Occupation Group (of which I am a founding member) has introduced and integrated EBS ideas into mainstream OT practice in Canada, the United States, the United Kingdom, Australia and Europe.

What is your next significant step or accomplishment?

Retire.

How do you keep the fire alive or the grounds fertile?

I develop a cadre of like-minded colleagues and know when to pass the torch: they, not you, will keep the ideas fresh and appropriate to changing times.

KRISTEN DAY

Career Path

Teaching Positions:

2010–present
  Professor
  Department of Technology,
  Culture and Society
  Polytechnic Institute of New
  York University
  Brooklyn, New York

1994–2010
  Assistant Professor to
  Professor
  Department of Planning,
  Policy, and Design
  University of California, Irvine
  Irvine, California

Administrative Positions:

  Department Head, Department
  of Technology, Culture and
  Society, NYU-Polytechnic

  Director of Engagement,
  University of California, Irvine

Courses taught

  Urban design and behavior
  Introduction to community
  engagement
  Masters student Professional
  Report seminar
  Research methods

Education

Ph.D. in Architecture
University of Wisconsin-Milwaukee
1994

B.S. Psychology
Michigan State University
1988

What of the PhD program influenced your pursuits?

The focus of SARUP Ph.D. professors on relevant research has been especially influential to me—their desire to translate research into meaningful changes in built environments, and their commitment to addressing issues of social relevance. This focus on applied research and on research application is not always accorded the highest academic accolades. Yet I remain convinced, 16 years after graduating from SARUP, that it is among the most important work that we do at universities.

How have you fostered change?

In recent years, I have become quite involved in community engagement. At UCI, I helped to establish a new minor in community engagement and served as UCI's first campuswide Director of Engagement. My interest in community partnerships grows from my own teaching and scholarship. My students, especially, have provided valuable support for local agencies and organizations through their class and individual projects. They have written successful grant proposals for city governments, provided technical assistance on a wide range of issues, and served non-profit organizations in important ways. I have found that such community-based teaching often produces great gains for student learning and also ensures that the resources of the university—including our students and faculty—are put to the greatest possible good. I have worked to build institutional support for engaged teaching and scholarship in many ways. This work is sometimes practical—for example, organizing a week-long service learning institute for faculty from across campus—and also sometimes political—such as by helping university leaders see the benefits of supporting faculty and students involvement in the community.

Creative Contributions

Vidales, G., Day, K. & Powe, M. (2009). Police and immigration enforcement: Impacts on Latino(a) residents' perceptions of police. *Policing: An International J. of Police Strategies and Management*, 32 (4), 631–653.

Brownson, R.C., Hoehner, C.M., Day, K., Forsyth, A. & Sallis, J.F. (2009). Measuring the built environment for physical activity: State of the science, *American J. of Preventive Medicine*, 36 (4S), S99-S123.

Day, K., Anderson, C. L., Powe, M., McMillan, T., & Winn, D. (2007). Remaking Minnie Street: The impacts of urban revitalization on crime and pedestrian safety. *J. of Planning Ed. and Research, 26,* 315-331.

Day, K. (2006). Active living and social justice: Planning for physical activity in low income and black and Latino communities. *J. of American Planning Association, 76*(1), 88-99.

Day, K. (2006). Being feared: Masculinity and race in public space. *Environment and Planning A, 38,* 569–586.

Day, K. (2003). New Urbanism and the challenges of designing for diversity. *J. of Planning Ed. and Research, 23*(1), 83-95.

LYNNE M. DEARBORN

Career Path

Teaching position

Associate Professor, University of Illinois at Urbana-Champaign/ School of Architecture, 2010-present (Assistant Professor 2002-2010; visiting instructor, 2002).

Administrative positions

Associate Director, University of Illinois at Urbana-Champaign/ School of Architecture, 2010-Present.

Co-Director, East St. Louis Action Research Project, University of Illinois at Urbana-Champaign/ College of Fine and Applied Arts, 2010-Present

Courses Taught

Graduate Seminars: Housing in Society, Cultural Context of Design; Ethics in Environmental Design and Planning; Vernacular Environments; Community-Based Housing Research.
Graduate Design Studios: Reweaving the Fabric of the South End Neighborhood; Housing and Community among the Pokagon Band of the Potawatomi; Technology School and Campus in São Tomé and Príncipe; Long-term Development in Haiti.

Education

Ph.D. in Architecture
University of Wisconsin-Milwaukee
2004

M. Arch.
University of Oregon Eugene
1994

What of the PhD program influenced your pursuits?

The intimate size of the program and its concentration on a single area are the characteristics that have been extremely influential on my work and my career because this helped me develop a close network of individuals who offered support while I was in school and now provide a group of scholars nationally and internationally with whom I have an intellectual affinity.

What most influenced your work?

Three persons and their ideas and practices have been very influential in my career. The writings and theoretical ideas of Amos Rapoport have provided me with ways of understanding culture and environment relationships that have underpinned my research and practice in ethnic and minority communities. Sherry Ahrentzen and Polly Welch have provided me with intellectual models and scholarly standards for how best to disseminate and apply my research through publication and practice.

How have you fostered change?

My academic career has been constructed through public engagement, applied research in the non-profit arena, and analysis and application of service-learning pedagogy in post-secondary instruction. I believe that these arenas offer the most effective opportunities to foster change

that addresses social injustice embedded in the built environment. Change can best be seen through my work in East St. Louis, São Tomé and Príncipe, and in the changed perspectives among my students.

What are your current contributions?

I believe my most important current contributions to the EBS field are evident in four areas: 1) the application of EBS methods in engaged work in East St. Louis, 2) within the EBS-informed perspectives of my students, 3) through the dissemination of research results in books and articles, 4) through my work as an Executive Officers of EDRA (the Environmental Design Research Association).

What is your next significant step or accomplishment?

I am currently working on a book that incorporates analysis of culture-environment relations through a multi-sited study. Although its genesis is a Rapoportian framework, the analysis offers new insights that move beyond Rapoport's model in an attempt to understand how cultural structures are modified and employed by minority groups to facilitate less stressful development scenarios.

How do you keep the fire alive or the grounds fertile?

I am fortunate that my home institution provides excellent opportunities to collaborate with scholars in other disciplines, to present my work in interactive forums, and to work with students, particularly doctoral students, who are energized by the fertile ground of human-environment relations.

Creative Contributions

Dearborn, Lynne, 2011, Moving From Service-Learning to Professional Practice: ESLARP'S Impact on Its Alumni, in *At the Boundaries: Transformative Design and Planning Ed. Through Community-based Service-Learning*, (Eds.) Tom Angotti, Cheryl Doble and Paula Horrigan. Oakland, CA: New Village Press.

Dearborn, Lynne M. and Stallmeyer, John C., 2010, *Inconvenient Heritage: Erasure and Global Tourism in Luang Prabang*. Walnut Creek, CA: Left Coast Press

Dearborn, Lynne, Socio-Spatial Patterns of Acculturation: Examining Hmong Habitation in Milwaukee's North-side Neighborhoods, *Buildings and Landscapes: J. of the Vernacular Arch. Forum,* 15 (2008): 58-77.

Dearborn, Lynne, Immigrant Homeowners: Residential Choices of Low/Moderate-Income Hmong in Milwaukee's Central City, *J. of Architectural and Planning Research*, 25, 1 (2008): 24-41.

Dearborn, Lynne, "Homeownership: The Problematics of Ideals and Realities," *J. of Affordable Housing and Community Development Law,* 16, 1 (2006): 40-51.

CAROLE DESPRES

Career Path

1999-present
Full Professor, École d'architecture, Université Laval, Québec, Canada.
Associate Professor, 1994–1998
Assistant Professor, 1991–1994
Adjunct Professor, 1989–1991

Administrative positions
2001-
   Coordinator, Groupe interdisciplinaire de recherche sur les banlieues (GIRBa), U. Laval

2007-2010
   Director, Centre de recherche en aménagement et développement (CRAD), U. Laval

1996-2006
   Director, Graduate Programs, Architectural Sciences, Laval

Courses Taught

Graduate Seminars and Studios:
Urban form and cultural practices; Introduction to research; Epistemology of sciences; Programming and design studio, Urban design studio, International project in architecture and planning

Undergraduate: Housing forms, uses and regulations; Introduction to architectural design; Introductory housing studio; Advanced housing studio.

Education

Ph.D. in Architecture
University of Wisconsin-Milwaukee
1991

M. Arch.
Université Laval
Québec, Canada
1986

B. Arch.
Université Laval
Québec, Canada
1983

What of the PhD program influenced your pursuits?

Its very focused orientation in Environment-Behavior Studies fitting my understanding of architecture and cities as settings for human activities and my desire to make them better. Also, the complementary disciplinary trainings, as well as theoretical and empirical knowledge of the professors with regards to EB relations, which laid the path for my own career.

What most influenced your work?

Denise Piché, a planner and psychologist at the Université Laval, first acquainted me with EBS and introduced me to *House, Form and Culture,* which would later bring me to Milwaukee. Amos Rapoport raised my interest for the social history of sciences and evolving epistemologies. Linda Groat transmitted me her passion and knowledge for environmental meaning and cognitive tasks. Sherry Ahrentzen made me a rigorous methodologist with a well-stoked toolbox. Roderick Lawrence from the Université de Genève and Roberta Feldman's from the University of Illinois at Chicago helped me articulate my understanding of the concept of home. Roberta introduced me to the concept of "settlement-identity" which remains to this day most powerful in my work to interpret home in sprawled city. Several other European thinkers also influenced my work, they are mentioned in my chapter.

How have you fostered change?

The foundation in 2001 of the Interdisciplinary Research Group on Suburbs — GIRBa — enabled me pursue at once empirical, design and action research. Ten years of experience as the head of graduate programs in architectural sciences at the Université Laval also gave me enough political power to reorient in specific ways the training of future urban designers and researchers. More recently, four years as the head of a large multidisciplinary research center gave me the opportunity to advocate for collaborative research and knowledge transfer.

What are your current contributions?

The development of a coherent and integrated research and action program on aging suburbs, urban sprawl and sustainability, blurring boundaries between research in architecture, planning and social sciences and bringing together students from these disciplines, and building bridges between research, design and practice having academic, laypeople and decision-makers work together.

What is your next significant step or accomplishment?

Design a large museum multimedia exhibit for a broad audience to diffuse 20 years of research on one hundred years of suburban development in Quebec City. Also develop new avenues for mobilizing citizens around sustainable development and planning, using Internet surveys, public participation Geographical Information System (PPGIS) and social medias.

How do you keep the fire alive or the grounds fertile?

A regular attendee of EDRA and IAPS, I am able to keep up with recent theoretical and empirical developments in the field, as well as to maintain my privilege researcher network and enlarge it. I am attentive to the work of PhD candidates for new avenues and advances in EB research. I am also a member of VRM.ca, a French Canadian urban studies research network whose mission is to foster international networking, theoretical and methodological development, and knowledge transfer. Mostly I keep the fire alive by constantly having plans for future research, working with stimulating colleagues and students from various disciplines, and seeing my own students launching their teaching career and being "different" practitioners.

Creative Contributions

Despres C, Vachon G, Fortin A (2011) Implementing transdisciplinarity: Architecture and urban planning at work. In N Janssens & I Doucet (eds) *Trandisciplinary knowledge production in architecture and urbanism*. Heidelberg: Springer.

Lord S, Després C, Ramadier T (2010) When mobility makes sense: A qualitative and longitudinal study of the daily mobility of the elderly, *J. of Environmental Psychology*, 18, 3: 307-319

Bachiri N, Després C, Vachon G (2008) Fighting teenagers' sedentarity: The challenges of mobility in exurbia. *Env. and Human Behaviour*, 9 (1y2): 47-67, special issue.

Després C, Fortin A, Joerin F, Vachon G, Moretti G, Gatti E (2008) Retrofitting postwar suburbs: A collaborative planning process. In G Hirsch Hadorn et al. (eds) *Handbook of transdisciplinary research*. Heidelberg: Springer.

Després C, Lord S (2005) The meaning of home for elderly suburbanites. In GD Rowles & H Chaudhury (eds) *Coming home: International perspectives on place, time and identity in old age*. Springer.

KEITH DIAZ MOORE

Career Path

2006-present
Associate Professor,
Department of Architecture,
University of Kansas

1999-2006
Assistant Professor of
Architecture & Landscape
Architecture, Interdisciplinary
Design Institute, Washington
State University, USA

Administrative positions
2006-present
Chair, Department of
Architecture, University of
Kansas
2009-present
Vice-President, Architectural
Research Centers Consortium
2007
Commenced Ph.D in
Architecture Program, University
of Kansas
2006-2007
Chair, Environmental Design
Research Association
2004-2006
First Coordinator of Doctor of
Design Program, Washington
State University

Courses Taught

Interdisciplinary Design Studio;
Environmental Psychology of
Health & Wellbeing; Research
Methods; Professional Practice
Site Planning; Research Practicum
Preparation; Place & Identity
Design Ethics

Education

Ph.D. in Architecture
University of Wisconsin-Milwaukee
2000

Master of Architecture
University of Minnesota- Twin Cities
1992

Bachelor of Science in Architectural
Studies
University of Illinois – Urbana/
Champaign
1988

What of the PhD program influenced your pursuits?
One of the most influential aspects has been the openness
to different perspectives, from different disciplines, to
enrich understanding. There was an intriguing mix of
areas of expertise within the PhD program at UWM that
provided fertile ground for testing and informing ideas
from divergent, but mutually respectful perspectives.

What most influenced your work?
My work is heavily informed by numerous inspirations:
Jerry Weisman's development of his Model of Place,
Sherry Ahrentzen's work on the socio-behavioral qualities
of the built environment, M. Powell Lawton's meta-
theorization regarding Quality of Life and his evolution
toward focusing on positive outcomes, and David Canter's
Theory of Place. However, I would be remiss if I did not
mention the inspirations I receive on a yearly basis at the
Environmental Design Research Association Conference.

Creative Contributions

2007 Polsky Prize awarded to 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.

Diaz Moore, K. (2005). "Utilizing place rules and affect to understand environmental fit." *Environment and Behavior, 37*(3), 330-363.

Diaz Moore, K. , Van Haitsma, K., Curyto, K. & Saperstein, A. (2003). "A Pragmatic Environmental Psychology: A Metatheoretical Inquiry into the Work of M. Powell Lawton," *Journal of Environmental Psychology, 23*(4), 471-482.

Diaz Moore, K. (ed.) (2000). *Culture--Meaning--Architecture: Critical reflections on the work of Amos Rapoport*, Aldershot: Ashgate.

Weisman, G.D., Chaudhury, H. & Diaz Moore, K. (2000). "The Theory and Practice of Place: Towards an Integrative Model," in R. Rubinstein, M. Moss & M. Kleban (eds.), *The Many Dimensions of Aging*, New York: Springer.

What are your current contributions?

Within EBS, I would say my contribution has been in the area of theory development, whether in refinement of the Model of Place or expansion of Lawton's Ecological Theory of Aging – both with Lyn Geboy, or in developing a Model of Allostatic Load and Performance with Janetta McCoy. Currently as an administrator in architectural academia, I believe my greatest contribution has been to challenge prevailing presumptions and create a greater range of opportunity and inclusiveness in our program.

What is your next significant step or accomplishment?

In both intellectual and professional arenas, I am increasingly focused on the issue of care; that an ethic of care needs to underlie both and yet so often seems to get obscured by other pressing yet less pertinent concerns.

How do you keep the fire alive or the grounds fertile?

My "fire" comes from a mission. All my work in the area of design for the aging has stemmed from the question "Could this have improved my grandmother's quality of life?" An additional question, added by wonderful life circumstance, is "Could this improve the quality of life for my children?" It is this later question that led me into academic administration as I was convinced architectural education was and is not preparing future architects for the challenges they will face. I may do other tasks as demanded by my job, but those are the questions which kindle the fire.

NEWTON D'SOUZA

Career Path

2007-present
  Assistant Professor,
  Architectural Studies
  University of Missouri,
  Columbia

Education

Ph.D. in Architecture
University of Wisconsin-Milwaukee
2006

M.A. Architecture by Research
National University of Singapore
2002

B. Arch.
Bangalore University
Bangalore, India
1993

What of the PhD program influenced your pursuits?

Attention of the Ph.D. program to rigor in methods courses and qualifying exams has helped me to guide my own students with discipline; opportunity to participate in the PhD committee was insightful and has shaped my professional decision-making process. Experience gained in research projects and teaching assistantships in the school was very valuable in my job search.

What most influenced your work?

Sherry Ahrentzen's rigorous methods course for EB; Gerald Weisman's discipline and openness in pursuing a research topic.

How have you fostered change?

My current work is focused on learning environments for design. Learning environments are challenging because they involve both the understanding of product, the environment and the process. I believe that such a holistic view of learning is needed to create better learning environments.

Creative Contributions

D'souza, N. Yoon, So-Yeon, Islam, Z. (2010). Understanding Design Skills of the Next Generation of Designers: An Exploration through the VR-KIDS Project, *Design Studies*

D'souza, N. (2009). Revisiting a Vitruvian Preface: The Value of Multiple Skills in Contemporary Architectural Pedagogy. *Architectural Research Quarterly*, Vol. 13., pp 173-182

D'souza, N. (2007). Design Intelligences: A Case for Multiple Intelligence in Architectural Design. *International Journal of Architectural Research*, Volume 1, Issue 2, pp. 15-34

D'souza, N. (2010*). Skill Integration as a Basis for Architectural Design Creativity. Design Creativity*

D'souza, N. (2008). *Design Patterns and Knowledge Dissemination in Environmental Design Research: A Cross-Disciplinary Model. Design Principles and Practices: An International Journal*, 2:1, pp.75-86

What are your current contributions?

Re-conceptualizing EB to address future learning environments such as virtual and blended environments.

What is your next significant step or accomplishment?

Write a book on multiple intelligences and architectural design.

How do you keep the fire alive or the grounds fertile?

Re-visit the classic books of research (because you always read something different) and keep abreast of the current trends (through the current generation of students). Also, disseminating abstract research findings to lay audience helps me ground myself to the realization that we ultimately study 'real' people.

YASSER ELSHESHTAWY

Career Path

1997-present
  Associate Professor,
  Department of Architectural
  Engineering, United Arab
  Emirates University.

Courses Taught

Graduation Project (Thesis Studio)

Introductory Level Design Studio

Research Methods

Graduate Level Seminar on City
Planning

Education

Ph.D. in Architecture
University of Wisconsin-Milwaukee
1996

MSc Architecture
Pennsylvania State University
1991

Bachelor of Architecture
University of Cairo
Cairo, Egypt
1986

What of the PhD program influenced your pursuits?

I think the most pertinent aspect of the PhD program
is that it enabled me to pursue multiple interests and
not being fixated on just one way of thinking. While the
program's focus was(is) on EBS the diversity of the faculty
and the program's flexibility allowed for this.

What most influenced your work?

Amos Rapoport, my advisor. While my research and
writing has diverged sharply from Amos's focus – his work
and approach has been very influential. For instance in a
discussion on the use of public space in Abu Dhabi I was
approached by Anthony King, who after learning that
Amos was my advisor, noted that he saw his influence in
my talk.

How have you fostered change?

At the moment I am a consultant for the United Nation's Economic and Social Commission of Western Asia (ESCWA) where I have been asked on several occasions to prepare reports and studies related to the state of Arab Cities. I believe that this may have an indirect impact on policy makers in the region. Also I am regular contributor for a financial daily here where I deal with issues related to the built environment – admittedly how this could foster change is debatable. I also worked with several architects and practices – e.g. Shigeru Ban – as a cultural consultant.

What are your current contributions?

My research on Dubai which has become a significant reference for any work related to that city.

What is your next significant step or accomplishment?

A major research grant titled "Mapping Dubai: Towards an understanding of urban form and social structure." Preliminary approval has been obtained and I hope through this to establish an "Urban modeling laboratory" at UAE University.

How do you keep the fire alive or the grounds fertile?

Travel, read, and watch lots of movies.

Creative Contributions

Elsheshtawy, Y. (forthcoming). Little Space/Big Space: Everyday Urbanism in Dubai. Brown Journal of World Affairs.

Elsheshtawy, Y. (2010). Dubai: Behind an Urban Spectacle. London: Routledge.

Elsheshtawy, Y. (Ed.) (2008). The Evolving Arab City: Tradition, Modernity & Urban Development. London: Routledge.

Elsheshtawy, Y. (2008). Transitory Sites: Mapping Dubai's 'Forgotten' Urban Public Spaces. The International Journal of Urban & Regional Research. 32:4, pp. 968-988

Elsheshtawy, Y. (Ed.) (2004, 2010, paperback). Planning Middle Eastern Cities: An Urban Kaleidoscope in a Globalizing World. London: Routledge.

IHAB M.K. ELZEYADI

Career Path

Positions Held In Academia

2007- Present
Associate Professor of
Architecture,
University of Oregon

2009-Present
Director, High Perf. Env. Lab
(HiPE),
University of Oregon

2007-2008
Director of Rome Program
University of Oregon

2001-2007
Assistant Professor of
Architecture
University of Oregon

Positions In Professional Design Practice

2009-Present
Principal in Charge
Innovative Invironments, LLC,
Oregon

2001-2008
Associate Principal
iDC, Multi-national

1999-2001
Project Manager
Heschong Mahone Group, CA

1995-1999
Project Architect
Engineering Consultants Group,
Egypt

Education

Ph.D. in Architecture
University of Wisconsin-Milwaukee
2001

M.Sc. Architecture
State College
1996

PMC Construction Management
American University in Cairo
1990

Dipl. Eng. Architecture Engineering
Ain-Shams University
Egypt
1989

B Arch, Architecture
Ain-Shams University
Egypt
1988

What of the PhD program influenced your pursuits?
Most of the faculty contributed to my knowledge base. Specifically Amos Rapoport (Environmental Quality, or EQ) and Gerald Weisman (multi-disciplinary model of place) have been most influential in helping me develop my own conceptual model and approach to the field. Michael Utzinger helped me in bridging the gap between Environmental Control Systems (ECS) and Environment Behavior Studies towards a more inclusive perspective of sustainability and EQ that I developed in my dissertation and continue to work on.

How have you fostered change?
Architects and environmental designers share a common interest and responsibility towards society, that of creating a better environment for people which satisfy their various requirements and needs. My interest in architecture stems from this basic value system, Environmental Quality in Architecture. We need to change the way we look at the built environment. To me, this happens by looking at existing problems with new approaches, employing systems thinking, and

developing integrated solutions and processes. The process of designing a quality setting for occupants is an integrative effort indeed. Total building performance and diagnostics, post-occupancy evaluations of settings, as well as field studies and experiments, can provide a research and design exploration that can help practitioners and students understand the theories and concepts through a hands-on problem based experience that can provide lessons for future designs.

What are your current contributions?
My research interests focus on occupant comfort, health and environmental quality in architecture and specifically work environments and schools combining perspectives of diverse fields of science; environmental control systems/ building science and environment behavior studies.

What is your next significant step or accomplishment?
I'm working on a book and interactive design guideline for green schools of the 21st century; new construction and retrofits. The Green Classroom Toolbox™ is intended to be an evidence-based design guideline based on research from field studies, POEs, and Indoor Environmental Quality (IEQ) simulations. We are also working on other research projects investigating cost and financial benefits of green and LEED schools, as well as R&D projects on facade integrated green products and technologies for active envelopes, including innovative prototypes of solar awning and daylighting harvesting systems.

How do you keep the fire alive or the grounds fertile?
We need more research evidence to keep the planet "grounds fertile". With climate change and green house gas emissions as national agendas, the fire is already alive... we need to find ways to combat it. I always feel I'm in a race to know more and get the information out.... I mean information about how buildings can heal the environment and their occupants and be living organisms that produce and help people produce, enhance their quality of life, etc. Architecture theorist Hans Hollien wrote: "Everything is Architecture" in 1968. This essay continues to inspire me every time I read it... one of the displays in an accompanying exhibit was "architecture pill" ... I'm constantly puzzled and inspired by this analogy. I hope to prove him right!

Creative Contributions

Elzeyadi, I. (in press). Daylighting-Bias and Biophilia. In: Thought Leadership and Research in Green Buildings. Washington, DC: USGBC Press.

Elzeyadi, I. (2009). Architectural Pride and Environmental Prejudice. PLEA2009 - 26th Conference on Passive and Low Energy Architecture, Quebec City, Canada, 22-24 June 2009 (Best Paper Award, PLEA 2009).

Elzeyadi, I. (2009). Retro_Fit: Greening educational facilities for carbon neutrality and students' performance. In: ARCC 2009 - Leadership in Architectural Research, between academia and the profession, San Antonio, TX.

Elzeyadi, I. (2008). Green Classroom Retrofit Toolbox (GCRT): Evidence-Based Design Guidelines to Adapt K-12 School Facilities for Climate Change. AIA Report on University Research 2008. Washington, DC: American Institute of Architects

Elzeyadi, I. (2003). Environmental Quality - Shaping Places for People. In: Shaping Places for People: Proceedings of the Environmental Design Research Association EDRA 34th Conference. Minneapolis, Minnesota.

NISHA FERNANDO

Career Path

2007-Present
 Associate Dean & Head of
 Division, Division of Interior
 Architecture, University of
 Wisconsin-Stevens Point

2007-Present
 Associate Professor, Division
 of Interior Architecture,
 University of Wisconsin-
 Stevens Point

2002-2007
 Assistant Professor, Division
 of Interior Architecture,
 University of Wisconsin-
 Stevens Point

2001-2002
 Associate Lecturer, Division
 of Interior Architecture,
 University of Wisconsin-
 Stevens Point

Courses Taught

Design Studios: Senior
Capstone, Problems in Interior
Architecture, Residential Design
Studio

Survey of Design: Minority
Cultures in the US

Education

Ph.D. in Architecture
University of Wisconsin-Milwaukee
2007

M.S. in Architecture
University of Moratuwa
Sri Lanka
1993

B.S. in Built Environment
University of Moratuwa
Sri Lanka
1990

What of the PhD program influenced your pursuits?

Overall, the program helped to instill a high level of intellectual rigor. I liked the constant exposure to a wide range of EBS topics, while developing my own area of concentration. It was very important not to limit oneself to developing a knowledge base only in one area. I also appreciated the high standards maintained at all times. The strong EBS theoretical stance was a key factor in how I have shaped my own research and in teaching students how built spaces should be perceived. The freedom to explore new avenues in qualitative research methods was also a key influence for me.

People –both professors as well as fellow students - helped to cultivate true intellectual thought processes not only in a class but outside class, even during hallway discussions. The different backgrounds of the PhD faculty and the body of international students who brought in varied culturally-shaped intellectual perspectives continuously sharpened and reshaped our purpose and goals as doctoral students. It certainly takes a PhD "village" to "raise" good doctoral students!

What most influenced your work?

The body of work of Amos Rapoport initially attracted me to the PhD program and it continues to influence me even now in my teaching & research. In addition, as mentioned

above, the exposure to a variety of EBS research topics to a considerable degree of intellectual rigor (as opposed to a cursory understanding) proved to be very helpful.

How have you fostered change?

I always try to introduce EBS concepts to students, at a level that undergraduate students can understand, so that they change their perspectives of the design process. It is my strong conviction in my teaching caree. In all my classes that I teach, I put the theory into practice, in a way that students in a professional degree program must understand built spaces beyond form, function, and beauty, towards understanding the variety social and cultural responsibilities associated with designing any space.

What are your current contributions?

Through my dissertation work, I believe I contributed to understanding the significance of urban public spaces such as sidewalks in cultural space use and expressing cultural identities. The focus on understanding cultural production of space through multi-sensory aspects of space use was another contribution. Since my career at the moment is on full-time teaching, I try to bridge the gap between research and design studios by showing what evidence-based design approaches can accomplish in a variety of design studio projects, and how they can strengthen a designer's task at hand.

How do you keep the fire alive or the grounds fertile?

By not forgetting why I gave up being a practicing architect to travel half-way across the world to do a PhD in EBS and become an academic! Personally, the interests and curiosities I developed during the doctoral studies are still very stimulating, especially when everyday work can get dull and mundane. Honestly, after the 'burden' of the dissertation was over, I have developed a curious energy to go back and read the same books/journal articles/ chapters (and others) in a new-found perspective! I find it VERY stimulating and it helps me in developing new ideas for both teaching and research. It gives a much-needed intellectual focus as well as a good balance in my academic life, especially when doing an administrative job while teaching.

Creative Contributions

Fernando, Nisha. (2007). Decision making in design studios: Old dilemmas and new strategies. In A. Salama & N. Wilkinson (Eds.), *Design Studio Pedagogy: Horizons for the Future*. U.K.: Urban International Press.

Fernando, Nisha. (2006). Open-ended space: Urban streets in different cultural contexts. In Karen A. Franck. & Quentin Stevens (Eds.), *Loose Space: Diversity and Possibility in Urban Life*. New York: Routledge.

Fernando, Nisha. (2006). *Design as exploration: An integrative model*. Open House International. U.K. (Special Issue: 'Design Teaching Practices').

Fernando, Nisha. (2005). *Taste, smell and sound: On the street in Chinatown and Little Italy*. Architectural Design. Wiley & Co., U.K. (Special Issue: 'Food and the City').

Fernando, Nisha. (2001). *An analysis of the changing character of an urban street: A case study on Galle Road*, Colombo, Sri Lanka. Built Environment Sri Lanka. Colombo: Sri Lanka Institute of Architects.

HISHAM GABR

Career Path

Teaching Positions

1982-present
  Professor, Architecture
  Cairo University

2005-2008
  Professor, also Head,
  Department of Architecture
  MSA University

2003-2007
  Associate Prof., Architecture
  Arab Academy for Science,
  Technology & Maritime
  Transport

1997-2003
  Assistant Prof., Architecture
  UAE University

Professional Positions

2008-present
  Chief Design Consultant, Palm
  Hills Developments, Egypt

2007-present
  Principal, United Architects:
  Design, Consultation,
  Research. Cairo, Egypt

Courses Taught

Research Methods; Research
Applications in architecture;
Human Behavior in Architecture
Culture and the Urban
Environment; Aesthetics in
Architecture & Urban Design;
Design Studios

Education

Ph.D. in Architecture
University of Wisconsin-Milwaukee
1993

M.Sc. in Architecture
College of Engineering
Cairo University, Egypt
1988

B.Sc. in Architecture
College of Engineering
Cairo University, Egypt
1982

What of the PhD program influenced your pursuits?

Amos Rapoport has remained instrumental in affecting my teaching style and substance throughout my academic career. His democratic and open minded way of teaching was influential. His relaxed yet professional, broad and punctual style of supervision has also affected my style of theses and dissertation supervision. One of my recent most successful courses is the Research Methods for post graduate students. Sherry Ahrentzen was instrumental in shaping my interest and understanding of proper research methods. Literally hundreds of Egyptians have benefited from the scientific way of thinking that I teach.

Many other professors of SARUP have positively affected my career including Gary T. Moore, Jerry Wiesman, Harvey Rabinowitz, Bob Greenstreet, Carl Patton and Uriel Cohen. The entire structure of the PhD Program at SARUP between 1989-1993 was very influential in my academic career in particular in various sorts of ways. I even still remember the move from the old building to the new building and how this affected the way one learned about interacting with settings. My degree from SARUP remains as prestigious as ever in Egypt and the Gulf Countries.

Creative Contributions

Gabr, H. (2004). Perception of urban waterfront aesthetics along the Nile in Cairo, Egypt. *Coastal Management*, 32 (2), 155-171

Gabr, H. (2004). Attitudes of residents and tourists towards the use of urban historic sites for festival events. *Event Management*, 8 (4), 231-242

Gabr, H. (2004). The Dubai Shopping Festival as a catalyst for tourism development and urban transformation. In Philip Long & Mike Robinson (Eds.) T*ourism and Cultural Festivals and Events: Marketing, Management, and Development*. Business Education Publishers Ltd., UK, pp.161-174

Governmental Agencies: Member of the Supreme Committee for Cultural Coordination, the National Association for Cultural Coordination, Ministry of Culture, Egypt (2005-present)

Chair of the Specialized Committee for Waterfront Development, under the supervision of the Supreme Committee for Cultural Coordination, the National Association for Cultural Coordination, Ministry of Culture, Egypt (2005-present)

Developed the Waterfront Design and Planning Code for Egypt

What most influenced your work?

I would add here, my fellow PHD students were also very valuable to my academic and research development

How have you fostered change?

Mostly in education and partly in practice. I feel self satisfied when I see students react positively to my teaching contribution in either research methods or in how humans interact with their built environment

What are your current contributions?

I think my emphasis on research methods, aesthetics in the built environment, and the effects of culture on the built environment, together with waterfront issues are my main areas of interest to which I believe I have contributed in Egypt in both academia and in practice

What is your next significant step or accomplishment?

I want to work more towards journal publications as I have been overly occupied by teaching and professional practice during the last few years. I am planning a research program with some graduate students

How do you keep the fire alive or the grounds fertile?

By getting that fire back from the students as I teach them through their responses and enthusiasm

LYN GEBOY

Career Path

2008-present
Research and Planning Consultant, Milwaukee, WI

2005-2008
Director of Research and Education, Kahler Slater Architects, Milwaukee, WI.

2006, 2010
Adjunct Assistant Professor, University of Wisconsin-Milwaukee, School of Architecture

Courses Taught

Theories in Environmental Design Research

Advanced Research Methods

Education

Ph.D. in Architecture
University of Wisconsin-Milwaukee
2005

M.A. in Communications
University of Wisconsin-Milwaukee
1997

B.A. in Advertising and Public Relations
Simmons College
1984

What of the PhD program influenced your pursuits?

Most influential people: Jerry Weisman and Sherry Ahrentzen as well as (students at the time, now academic professionals) colleagues Keith Diaz Moore, Gowri Betrabet Gulwadi, and Lynne Dearborn—for their interest in conceptual and theoretical ideas, particularly as those concepts and theories relate to applied research, practical problems, and real-world settings.

Most influential aspect of the program: The commitment to rigor—intellectual as well as process—has been most influential

What most influenced your work?

Most influential has been the idea that research can be effectively integrated into design practice. Jerry Weisman and Maggie Calkins have done exemplary work in integrating research and practice. I have pursued research-practice integration in two ways:

Creative Contributions

K. Diaz Moore and L. Geboy. 2010. The question of evidence: Current worldviews in environmental design research and practice. Architectural Research Quarterly, 2010, 14,105-11.

L. Geboy. 2009. Linking person-centered care and the physical environment: 10 design principles for elder and dementia care staff. Alzheimer's Care Today, 2009, 10, 4, 228-231.

L. Geboy. 2007. The evidence-based design wheel: A new approach to understanding the evidence in evidence-based design. Healthcare Design, 7, 2, 41-46.

L. Geboy and A.Keller. 2006. Research in practice—The design researcher's perspective. L. Geboy & A. Keller, Implications, the web-based newsletter of InformeDesign, 4, 11. http://www.informedesign. umn.edu/_news/nov_v04r-p.pdf.

K. Diaz Moore, L. Geboy, and G.D. Weisman. 2006. Designing a better day: Guidelines for adult and dementia day services centers. Johns Hopkins University Press, Baltimore, MD. 2007 Winner of the ASID Foundation/Joel Polsky Prize.

As the director of research in an architectural firm, and in my continued working relationship with the director and organization of the long-term care setting that served as the site for my dissertation research. I have learned much about how professionals do their work, and how theoretical ideas can be effectively implemented in the real-world setting.

What are your current contributions?

I believe that the work I do makes a positive difference in the lives of the people for whom long-term care and health care environments are designed.

How do you keep the fire alive or the grounds fertile?

In environmental design research, by paying very close attention to what graduates of the Milwaukee School are doing—whether it's in my specific areas of interest or not.

In long-term care and health care settings, by staying current with trends and innovative ideas for transforming these environments for aging and healing.

ÇAĞRI IMAMOĞLU

Career Path

2006-present
Assistant Professor, Interior Architecture and Environmental Design, Bilkent University, Ankara, Turkey

2002
Instructor, Interior Architecture and Environmental Design, Bilkent University, Ankara, Turkey

Courses Taught

Undergraduate: People and Environment (Introductory EBS course)

Undergraduate: Interior Design Studios

Education

PhD in Architecture
University of Wisconsin-Milwaukee
2002

M.Arch.
Middle East Technical University
Ankara, Turkey
1995

B.Arch.
Middle East Technical University
Ankara, Turkey
1992

What of the PhD program influenced your pursuits?

- The atmosphere of the program, SARUP Faculty (Wasley, Utzinger, and others)
- Jerry's calm and reassuring approach
- Sherry's intellectual rigor, critical approach, seriousness of purpose
- Amos' interest in different ways of looking at things, excitable nature
- Institute on Aging and Environment

Creative Contributions

Imamoğlu Ç. (2009). The Role of Schemas in Understanding Places ('Yer'i Anlamada Şema Kavraminin Rolü), Middle East Technical University Journal of the Faculty of Architecture (Orta Doğu Teknik Üniversitesi Mimarlık Fakültesi Dergisi), 26 (2), 153-173.

Imamoğlu, Ç. & Yılmazsoy, A. C. (2009). Gender and locality-related differences in circulation behavior in a museum setting, Museum Management and Curatorship, 24, 2, 123-138.

Imamoğlu, Ç. (2007). Assisted Living as a New Place Schema: A Comparison with Home and Nursing Homes, Environment and Behavior, 39, 2, 246-268.

Imamoğlu, Ç. & Imamoglu, E. O. (2006). Relationship between Familiarity, Attitudes and Preferences: Assisted Living Facilities as Compared to Nursing Homes, Social Indicators Research, 79, 2, 235-254.

Imamoğlu, Ç. (2000). Complexity, Liking And Familiarity: Architecture and Non-Architecture Turkish Students' Assessments of Traditional and Modern House Facades, Journal of Environmental Psychology, 20, 5-16.

What are your current contributions?

- Understanding the role of complexity, and familiarity in evaluations of settings
- Examination of place schemas; how we understand settings

KAREN KEDDY

Career Path

August 2006 - present
Assistant Professor
Department of Architecture,
College of Architecture and
Planning, Ball State University,
Muncie, Indiana

2004
Lecturer
Women's Studies Department,
University of Wisconsin –
Madison, Madison, Wisconsin

2001 – 2003
Lecturer
Women's Studies Department,
University of Wisconsin –
Milwaukee, Milwaukee,
Wisconsin

Courses Taught

Citizenship, Worldviews and the
Public Sphere

Environment-Behavior Research
Methods

Cultural and Social Issues
in Architecture:
Introduction

Summer High School Workshop

Education

Ph.D. in Architecture
University of Wisconsin-Milwaukee,
2006.

Master of Architecture
Dalhousie University Faculty of
Architecture, Halifax, Canada,1992

Bachelor of Environmental Design
Studies, Dalhousie University Faculty
of Architecture, Canada, 1990

Registered Nurse Diploma
Victoria General Hospital School of
Nursing, Canada, 1978

What of the PhD program influenced your pursuits?
The most influential person in my intellectual pursuit
has been Sherry Ahrentzen. I specifically chose UWM so I
could work with her in regards to my passion for feminist
theory in architecture. I also had the benefit of taking
core classes and electives with her and we co-wrote a
book review. My dissertation would never have reached
the level of intellectual rigor that it has without her
advising.

Also:
- Opportunities to share my dissertation work with
  professors and students in the Nursing Department,
  and the Women's Studies department.
- Teaching design studio and Women's Studies courses.
- Discussions among colleagues and faculty, and the
  many conferences that I presented papers at.
- The intellectual rigor of the program, the high
  standards of the work produced, and the intellectual
  curiosity that was nurtured were invaluable.
- Undertaking a complex and challenging dissertation
  that was multi-disciplinary and based in post-
  structuralist feminist theory and methodology.
- Developing an image-based visual research method in
  my dissertation was extremely successful. My students
  benefit from my education in the PhD program.

What most influenced your work?

People: Sherry Ahrentzen / Linda Krause / Pat Stevens – UW-Milwaukee

Karen Frank / Kathryn Anthony / Leslie Kanes Weisman / Garry Stevens

Ideas / Research: feminist issues in the design of the built environment, worldviews, habitus, critical pedagogy, architectural education, qualitative research methods, image-based visual research methods, work by Karen Frank on the overlapping boundaries of dichotomies and feminist design principles, the hidden curriculum

How have you fostered change?

The cultural and social issues classes that I teach are inclusive of EBS, visual culture, design, and social sustainability issues. I teach a graduate course on worldviews, citizenship, and the public sphere. My research has opened up dialogue of the significance of studying the hidden caregiving and resting nursing activities, as well as a new visual research method. Advisor on thesis committees with EBS topics such as: Whyte's places for gathering; Franck's feminist design principles; Sanoff's community participatory design; Ahrentzen's research on women and design; Anthony's work on gender and architecture

What are your current contributions?

My research contributes to the discourse in architecture that promotes socially just communities that support diversity, social equity, and accessibility. Also - Image-based visual research methods; Analysis of the relationship between activities and space; Feminism and architecture; Healthcare design and nurses' experience of their workspace; Teaching students to understand the significance of worldviews and social justice

How do you keep the fire alive or the grounds fertile?

I am currently studying built environment issues for persons with disabilities both historically and in contemporary society. I am especially interested in the relationship between stigma, disabilities, and the built environment. I am also working on a collection of precedence that will help inform students on how to draw upon EBS and socially just design examples when designing.

Creative Contributions

War Memorial Exhibition. "Target: Women in War Memorial". On-line exhibit to compliment On Site issue 22::WAR Fall 2009. http://www.onsitereview.ca/warmemorial/ November, 2009.

2009. Book review: "Spaces speak, are you listening?" by Barry Blesser & Linda-Ruth Salter. *J. of Architectural and Planning Research*, Vol 26, No 1, p. 88 – 90.

2009. *New methods of researching healthcare facility users: the nursing workspace*. Annual Conference of the Architectural Research Centers Consortium Proceedings. College of Architecture, University of Texas at San Antonio.

2008. *Beginning to see who we design for: Including cultural and social issues*. 24th National Conference on the Beginning Design Student. College of Architecture. Georgia Institute of Technology.

2003. *Embodied Professionalism: The relationship between the physical nature of nursing work and nursing spaces*. AIA/AHA 2002-2003 Graduate Student Research Fellowship Symposium. Women, Children, & Healthcare: Designing Facilities for Distinctive Needs, p.131-143.

EMI KIYOTA

Career Path

2009-present
President, IBASHO
A US based non-profit
organization aiming at
creating communities that
value their elders.
http://www.ibasho.org/

Education

Ph.D. in Architecture
University of Wisconsin-Milwaukee
2009

M. Arch. Architecture
Kansas State University
2003

M.S. Horticulture Therapy
Kansas State University
2000

What of the PhD program influenced your pursuits?

The most influential people are my dissertation
committee members. They kindly challenged me to
expand my thoughts in order to improve the quality of
the dissertation research.

What most influenced your work?

Place model (Gerald Weisman), Learned helplessness
(Martin Seligman)

How have you fostered change?
Help transforming the current elderly care environment
into person-centered care in which the built environment
fits with organization's values and capacity.

Creative Contributions

Mori, S. and Kiyota, E. (2011). Consideration of issues concerning planning the habitable space in care facility for elderly in Sri Lanka. *AIJ Journal of Technology and Design*, Vol. 17

Kiyota, E. and Monkhouse, C. (2008). Keine Ghettos mehr (No more Ghetto). *Konstruktiv*. Number 268, Zeitschrift der Bundeskammer der Architekten und Ingenieurskonsulenten. Vienna, Austria

Kiyota, E. (2008). Technology and Aging. *Re-creating Neighborhoods for Successful Aging*. Abbott, P., Carman, N., Carman, J. and Scarfo, B. (Eds). Health Professional Press. Baltimore, MD

Kiyota, E. (2008). Intergenerational Community: Sri Lanka, Ivory Coast Offer Cross-Cultural Wisdom. *Maximizing Human Potential*, Vol. 16, No. 2

Kiyota, E. (2008). A Perspective from Field Work of Global Aging. Global Policy Institute Brief no. 2

What are your current contributions?

Keep challenging the socially constructed norms that are associated with care for elderly.

What is your next significant step or accomplishment?

Being involved in creating socially integrated communities that value their elders around the world

How do you keep the fire alive or the grounds fertile?

Try to stay engaged with elders, staff members, and family members to understand the practice on the floor. When we know the system better, we can change it effectively.

JEFF LACKNEY (IN MEMORIAM)

Career Path

January 2004 – July 2009
Educational Planner and Architect, Fielding Nair International, LLC

September 2000-December 2003
Assistant Professor Engineering Professional Development, University of Wisconsin Madison

January 1998 – August 2000
Director
Educational Design Institute Mississippi State University

1997 – 1998
Educational Planning Consultant
Hammel Green & Abrahamson, Inc.

1995-1998
Assistant Director
Johnson Controls Institute for Environmental Quality in Architecture, School of Architecture and Urban Planning, University of Wisconsin-Milwaukee

Education

PhD in Architecture
University of Wisconsin-Milwaukee
1996

Masters of Architecture
University of Wisconsin-Milwaukee
1988

Bachelor of Architecture
University of Tennessee-Knoxville
1984
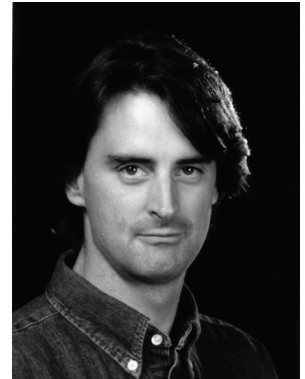
What of the PhD program influenced your pursuits?

Jeff always enjoyed the intellectual explorations the program provided him. He very much enjoyed being challenged by his professors as well as his doctoral colleagues, all of whom he held in high regard for their commitment and dedication to the program. The EBS program provided a framework of thinking for Jeff that he applied in all of his work post-program.

What most influenced your work?

For 25 years, Jeff had considered Jerry Weisman (UW-Milwaukee) to be his most significant mentor and friend. Jeff always acknowledged that Jerry never stopped reminding him about the importance of '*The Big Picture.*"

Jeff is grateful to Anne Taylor, for her work which was seminal to all the work Jeff had been doing since he began thinking about learning environments. Jeff also acknowledged Henry Sanoff for his tireless work in encouraging the use of research and authentic collaboration among stakeholders in planning of schools.

How have you fostered change?

Jeff committed his practice as a licensed architect to creating high-quality visionary learning environments for children and youth around the world. He dedicated himself to authentic community involvement in school planning, believing that the best solutions came from working in concert with people to identify desires and expectations for the future of education, and building on the creative potential of the surrounding community culture. As an educational facility planner, he advocated for innovative vision-driven approaches to planning for education.

What are your current contributions?

Jeff was probably most proud of his publication "Thirty-three Educational design principles for schools and community learning centers" (2000). The intent of this document is to provide a framework of educational design principles from which educators and design professionals can structure the content of their educational facility development process, from the earliest strategic and educational planning stages right through to design, construction, occupancy and facility management. The thirty-three educational design principles are derived from a variety of sources: from the reflective practice of educators and design professionals to the empirical research of environmental psychologists and educational researchers. The ultimate goal of applying the 33 principles to school design is to optimize the school and its surrounding community as an effective setting for learning.

How do you keep the fire alive or the grounds fertile?

Since the early days of his architectural schooling, Jeff had an intellectual desire to take the profession beyond traditional practice. As he resumed his academic career after receiving his licensure in practice, integrating traditional practice with academic research remained at the forefront of all he did professionally. Thankfully, in the last five years of his life, Jeff was able to exercise limitless creativity, both in his designs and his research applications. Hopefully his work will leave an imprint for years to come on the quality of children's schools and for the academic field he so enjoyed and was challenged by.

Creative Contributions

Nair, P., Fielding, R., Lackney, J.A. (2009). The Language of School Design: Design Patterns for 21st Century Schools. DesignShare.

Tanner, K. and Lackney, J. (2006). Educational architecture: Planning, designing, constructing, and managing environments for learning. Needham Heights, MA: Allyn & Bacon.

Lackney, J.A. (2005). New approaches for school design. In F. W. English (Ed.) The SAGE Handbook of Educational Administration.

Lackney, J.A. (2000). Thirty-three educational design principles for schools and community learning centers. National Institute for Building Sciences (NIBS), National Clearinghouse for Educational Facilities (NCEF), Washington, D.C.

Lackney, J.A. (1994). Educational facilities: The impact and role of the physical environment of the school on teaching, learning and educational outcomes. Johnson Controls Monograph Series Report R94-4. School of Architecture and Urban Planning, University of Wisconsin-Milwaukee: Center for Architecture and Urban Planning Research.

ATIYA MAHMOOD

Career Path

September 2009 – present
Assistant Professor,
Gerontology Department,
Simon Fraser University

January 2006 – June 2009
Assistant Professor,
Department of Design and
Human Environment, Oregon
State University.

June 2002 - December 2005
BC Real Estate Foundation
Post-doctoral Research Fellow,
Simon Fraser University,
Gerontology Research Center,

July – November 2005
Post-doctoral Fellow,
University of British Columbia

January, 1998 – September 2001
Environmental Design/Housing
State Extension Specialist,
University of Missouri,
Department of Environmental
Design

Courses Taught

Aging and the Built Environment

Housing for the Aging Population

Introduction to Residential
Space Planning

Advanced Housing Design Studio

Education

PhD in Architecture
University of Wisconsin-Milwaukee
2002

M.S., Environmental Design
University of Missouri
1992

BArch
Bangladesh University of
Engineering and Technology
Dhaka, Bangladesh
1989

What of the PhD program influenced your pursuits?
The core curriculum was focused on substantive and theoretical issues in EBS. This helped me get a well-grounded exposure to research across multiple design and planning disciplines, along with related social sciences. The faculty challenged me to think critically with a multidisciplinary orientation. I was part of a vibrant group of peers in the PhD program who kept me challenged, motivated and inspired with their critical thinking and debates on EB issues. The informal support from my peers and professors gave me the courage to present my work at various academic conferences. One of the most beneficial was my introduction to the multi-disciplinary organization Environmental Design Research Association.

What most influenced your work?
My research has evolved over time because of my post–doctoral work in Environmental Gerontology. However, my research continues to be influenced by: Bronfrenbrenner's Ecological Systems Theory; Anthony Giddens' Structuration Theory; Amos Rapoport's conceptual model of Activity Systems and System of Settings.

How have you fostered change?
I try to promote interactive learning that represents an exploration of ideas, ideologies, solutions, and alternatives based on active teacher-student

interaction. Most of my funded research projects are conducted in multi-disciplinary teams with inherent knowledge translation components built into them. My research teams often partner with community service organizations to research a particular phenomenon and engage in participatory research to foster change.

What are your current contributions?
- Gerontechnology and Aging in Place – the social and ethical issues of use of gerontechnology.
- E-B Relations in Acute- and Long Term Care Settings – I was part of a research team that examined single vs. double occupancy patient rooms. The findings had a major policy impact in the U.S. The Planning and Design Guidelines for Healthcare Environments now requires all new construction of hospitals in the U.S. to provide single rooms in medical-surgical units.
- Ethnicity and Housing for Older Adults –My research team works with community-based organizations serving immigrant older adults in British Columbia; findings facilitate their programs' goals, planning, development and implementation.
- Community Design and Active Living for Older Adults – walkability of neighborhood environments for older adults.

What is your next significant step or accomplishment?
a) Being part of a large transdisciplinary emerging team on Ambient Assistive Living. b) In-depth exploration of quality of life issues for ethnic immigrant older adults, researching their aging in place experiences. c) Apply for knowledge translation grants in the area of mobility, aging and built environment.

How do you keep the fire alive or the grounds fertile?
I get inspiration from working on multi-disciplinary teams as I learn about a research issue/problem from a variety of perspectives, creating a holistic understanding. And, my students keep me motivated through their insights and enthusiasm about environment and aging issues.

Creative Contributions

Mahmood, A., Chaudhury H., & Valente, M. (2010). *Nurses' perception on the role of physical environment on medical errors in acute care settings*. Applied Nursing Research (online October 2009).

Mahmood, A. & Martin-Matthews, A. (2008). Dynamics of carework: Boundary management and relationship issues for home support workers and home care recipients. In A Martin-Matthews and J. Phillips (Eds.), *Aging and caring at the intersection of work and home life: Blurring the boundaries*. New York: Taylor and Francis.

Mahmood, A., Yamamoto, T., Lee, M., & Steggell, C. (2008). Use and perception of gerotechnology: Implications for 'aging in place.' *J. of Housing for the Elderly,* 21(1/2). 104-126.

Mahmood, A, Chaudhury, H., & Kobayashi, K (2008). The housing and community characteristics of South Asian immigrant older adults in Greater Vancouver. *The J. of Architectural and Planning Research*, 25(1), 54-75.

Mahmood, A. (2007). Work and home boundaries: Socio-spatial analysis of women's live-work environments. Housing and Society, 34(1), 77-100.

JANETTA MITCHELL MCCOY

Career Path

2005 – present
Associate Professor. Interior Design, Interdisciplinary Design Institute, Washington State University-Spokane, Spokane, Washington.

1999 – 2005
Assistant Professor, promoted to Associate Professor. Interior Design, School of Design, Arizona State University, Tempe, Arizona.

1998 – 1999
Assistant Professor. Oklahoma State University, Stillwater, Oklahoma.

1997
Visiting Scholar. Department of Architecture. University of Sydney, Sydney, Australia.

1996 & 1997
Visiting Lecturer. Design and Environmental Analysis, Cornell University, Ithaca, NY.

Courses Taught

Advanced Interdisciplinary Design Studio; Readings in Interior Design; Research Methods for Interdisciplinary Design; Advanced exploration of research methods linking research and design; User Needs and Behavior in Interior Design; Issues in Environment and Behavior.

Education

Ph.D. in Architecture
University of Wisconsin-Milwaukee
2000

M.S. Design and Environmental Analysis,
Cornell University
1994

B.L.S.
St. Edwards University
1992
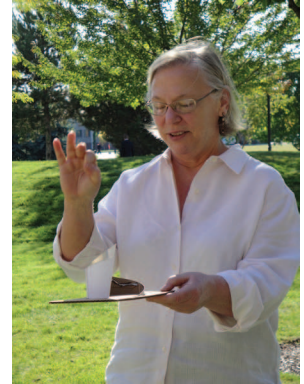
What of the PhD program influenced your pursuits?
The doctoral program at UWM was a total immersion experience with high expectations on all sides. Courses were unforgiving, demanding, and gloriously provocative. Faculty modeled the intellectual behavior we students hoped to achieve. We all thought we were doing something that would eventually prove to be important. Our cohort, all the students who preceded us, and those who came after have a common experience that connects us as if we were family.

What most influenced your work?
No student does it alone: Gary Evans introduced me to meaningful research and then to Sherry Ahrentzen and Gerald Weisman. Together they taught me to ask meaningful questions. I was (am) inspired by the adventurous spirit and focused energy of Amos Rapoport. Jeff Lackney encouraged me to think collaboratively. The ACSA Conference in Milwaukee included Sam Mockbee as a speaker; his presentation that day planted a seed that many years later, when I encountered the Women's Advocacy Center in Phoenix and the community of Ritzville, allowed me to understand how the application of my explorations in EB research would make a difference in the world.

How have you fostered change?

My research is the attempt to understand how creativity and innovation can be initiated or supported by the built environment. Students are very clever; when given an *important* problem to solve and permission to be creative, they can be brilliant. In the interdisciplinary community studio, every semester we work with one very small rural community finding ways to encourage economic revitalization through renovation or repurposing of downtown properties. The studio has become the Rural Communities Design Initiative (RCDI), providing a cross disciplinary approach to rural community development. Using diverse methods including ethnography and participatory design, student interns conduct summer workshops helping community members articulate their intrinsic capacities. With understanding and empathy for the community, RCDI students designs support their social, cultural, and economic needs.

What is your next significant step or accomplishment?

The RCDI is in its infancy as a program. As it matures, my goals are two-fold: one is to determine RCDI's effectiveness across cultures and international boundaries; a second goal is to influence policies support the survival and prospering of a nation's rural communities.

How do you keep the fire alive or the grounds fertile?

I am stimulated and inspired by the people and experiences in my life. A friend once told me that I should go to conferences more often because I come back so happy and filled with new, creative ideas. The adventure of new places and new people bring me fresh perspectives; reconnecting with familiar places and people remind me of past energies, challenges, and discussions. New and novel linked and balanced with familiar and comfortable, for me, is fertile ground. In contrast, I require occasional solitude during which there are no demands or interruptions. Time to think is rare but precious commodity.

Creative Contributions

Rural Communities Design Initiative (RCDI), an action-oriented program of service and research focusing on the revitalization of very small rural, impoverished communities with populations of less than 2000. In a service learning venue, students and communities explore new ways to restore, preserve, and revitalize endangered communities.

McCoy, J. M. (*2005*). "Linking Creative Teamwork and the Physical Environment of the Office". *J. of Creative Behavior. Third Quarter 2005. 39, 169-191.*

McCoy, J.M., & Evans, G.W. (*2005*). The Physical Environment. In J. Barling, E. Kelloway, & M. Frone (Eds.) *Handbook of Work Stress.* Thousand Oaks, CA: Sage Publications. ISBN: 0761929495.

McCoy, J.M. (2002). "Work Environments, the Changing Workplace." In R. Bechtel and A. Churchman (Eds.), *Handbook of Environmental Psychology.* New York: John Wiley and Sons, Inc. pp. 443-460.

Evans, G.W., and McCoy, J.M. (1998). "When Buildings Don't Work: The Role of Interior Design in Human Health and Well Being." *Journal of Environmental Psychology, 18,* 85-94.

WILLIAM MURRAY

Career Path

1994-current
  Behavior Analyst, WI
  Department of Health Services

Education

Ph.D. in Architecture
University of Wisconsin-Milwaukee
1996

M.S. Behavior Analysis and Therapy
Southern Illinois University at
Carbondale
1989

B.A. Design
Southern Illinois University at
Carbondale
1983

What of the PhD program influenced your pursuits?

Sherry Ahrentzen was most influential in not only helping me see the benefits of my research from a wider perspective, but also in keeping me motivated to finish. The background of the other students, both academically and culturally was most helpful at times and I hope that will always be the case in the PhD program. While the majority of the students were from architecture backgrounds, I believe there would be a great benefit to ensuring students from other disciplines are not only admitted, but encouraged to creatively contribute to the growth of the field.

What most influenced your work?

Early in my time in the PhD program, one professor labeled behavior analysts as "the empty headed behaviorists," implying radical behaviorists do not take into account any type of theory related to cognition. In my years since that class, I have not only retained that comment but also worked to ensure that when necessary, I have helped dispel that myth and ensure others understand behavior analysts take into account a variety of thoughts, and that there is room for many different types of thinking in my chosen field.

Creative Contributions

Policy Initiative

Working collaboratively with Wisconsin Office of the Commissioner of Insurance and Department of Regulation and Licensing to create state licensure for behavior analysts, resulting in legislation being passed and signed into law by Governor Doyle in May 2010

How have you fostered change?

My work primarily involves ensuring evidence-based practices founded on good science are delivered to the public using taxpayer dollars in Wisconsin, and creating state policy towards this effort. My exposure to research methodologies in the Ph.D. program helped give me this greater appreciation for quality science, and I use it virtually every day.

What are your current contributions?

My Ph.D. work helped instill a work ethic that I can only sum up as one of "enduring perseverance." With that in mind, much of my current professional work in state service requires a perspective that accounts for an ability to persevere in the face of the mounds of bureaucracy. Though perhaps only tangentially related, the impact the PhD program had on my ability to endure some of this cannot be understated.

What is your next significant step or accomplishment?

Working to remodel my 115-year old home, incorporating new knowledge to fill in areas where my skills are currently subpar.

How do you keep the fire alive or the grounds fertile?

I try and travel and take vacation as often as I can to remind myself that I work in order to enjoy life. When I am successful in this, everything else flows much more smoothly.

MICHAEL J. O'NEILL

Career Path

2007 - present
Senior Director of Research,
Knoll, Inc.

1996-2007
Director of Consulting,
Herman Miller, Inc.

1992-1996
Research Program Manager,
Herman Miller, Inc.

1989-1992
Assistant Professor, University
of Wisconsin, School of
Human Ecology and Joint
Appointment, University
of Wisconsin, School of
Engineering, Dept of Industrial
Engineering.

1987-1989
Research Associate, BOSTI.

Education

Ph.D. in Architecture
University of Wisconsin-Milwaukee
1989

M.Arch
University of Wisconsin-Milwaukee
1985

BA Psychology
University of Wisconsin-Milwaukee
1981

What of the PhD program influenced your pursuits?

The classes I took on the philosophy of science and
the approaches to knowing have deeply influenced my
thinking on research and the way I approach my work.

What most influenced your work?

Jerry Weisman was without a doubt the most influential
mentor in both my Masters and PhD work. The
opportunity to work with Michael Brill at BOSTI, and
the thinking and learning with Jerry Weisman really
set me on the road to conducting my research on the
relationship between built space and human behavior and
performance.

How have you fostered changes?

My research is used to influence the direction of product
development at Knoll, Inc. and is also used to support
and influence our customers (*Fortune* 1000 companies) in
terms of helping them make effective decisions about the
workspaces they create and manage. I give an average of
100 presentations per year around the US to businesses,
designers, architects, real estate professionals to share
my research and perspective on what makes effective
work and learning environments.

Creative Contributions

Antenna Workspaces (Knoll, Inc. table-based systems product) NEOCON 2010 Innovation Award

Generation by Knoll, 2009 (task chair, Gold Award NEOCON 2009), Ergonomics concept

Book: Measuring Workplace Performance, Taylor & Francis, 2007.

Book: Ergonomic Design for Organizational Effectiveness, CRC Press, 1998.

What are your current contributions?

I feel I have made contributions to the field of "way finding" (10 years research and publication) and to better understanding the link between design of workspaces in office, educational and healthcare settings, and effective work and learning. In the latter, I have published two books and have also influenced the design of products used by hundreds of thousands of people.

What is your next significant step or accomplishment?
I want to branch into understanding user needs and product ideation within an international context. The cultural context is fascinating.

How do you keep the fire alive or the grounds fertile?

Coffee. And I try to work with younger people in the design field, interns occasionally, and designers from different countries. When people push ideas that make me uncomfortable I try to go with their ideas to get at what is making me feel that way, and I usually end up expanding my vision and integrating new perspectives.

CELINE PINET

Career Path

2006-current
Division Chair, Applied Arts and Sciences, West Valley College.

2001-2006
Department Chair, Architecture, West Valley College, 2005-2006 Department Co-chair, Interior Design, West Valley College.

1998- 2006
Full Time Faculty, Interior Design, West Valley College.

1994-1998
Assistant Professor - Interior Design - Ohio University.

1990-1994
Part Time Faculty at Milwaukee Institute of Art and Design, Milwaukee School of Engineering, and others.

Education

Ph. D. in Architecture
University of Wisconsin-Milwaukee
1995

M. Sc. in *Aménagement*
Université de Montréal
1985

B. D. I. in Industrial Design
Université de Montréal

B. Sc. in Psychology
Université de Montréal

What of the PhD program influenced your pursuits?

Sherry Ahrentzen and Amos Rapoport for the scientific and contextual thinking and training they taught, and for the constant emphasis on diversity.

How have you fostered change?

The knowledge acquired on change theory comes to mind regularly, as change is constantly occurring and facilitated from a leadership perspective

What are your current contributions?

Much of my current contributions revolve around leadership in education, visioning, assessing trends, and leading the institution towards the future in service to students and the community.

Creative Contributions

Hendrickson, J. and Pinet, C. (2008). Green Collar Job Training at West Valley College. Saratoga, CA. KSAR, Public Television.

Pinet, C. (2008). Global Education at West Valley College. CNN, Comcast Local Edition, San Jose CA.

Pinet, C. and Chen, N. (Eds.). (2006). Design Tools and Processes. *IJAC*, Vol.4, #2, p. 3-4.

Pinet, C. (2002). Biblio-techa. Acadia's Browser, *ACADIA Quarterly*, 20 (2).

What is your next significant step or accomplishment?

As of January 2011, I am serving as Vice President of Instruction, an interim position.

How do you keep the fire alive or the grounds fertile?

For me, the best fuel has been student success stories and stories of economic empowerment for the community that result from educational opportunities. The professional leadership organizations and related conferences I attend also provide fertile discussions as we consider directions for the future.

DINA SHEHAYEB

Career Path

1995-present
Principal, Shehayeb CONSULT.
Professor/Researcher, Institute
of Architecture and Housing
Research, Housing and
Building National Research
Center (HBRC) Cairo, Egypt,
2008-present
Faculty (part-time),
Department of Construction
and Architectural Engineering,
American University in Cairo,
2008–2009
Associate Professor/Researcher,
Institute of Architecture and
Housing Research, Housing and
Building National Research
Center (HBRC), Cairo, Egypt
(2002 – 2008).
Assistant Professor/Researcher,
Housing and Building Research
Center, Cairo, Egypt, 1996-2002

Education

Ph.D. in Architecture
University of Wisconsin- Milwaukee
1995

M.Sc. Architecture
Cairo University
1989

B. Sc. Architecture
Cairo University
1984

What of the PhD program influenced your pursuits?
The Ph.D. Program at UWM has helped me acquire
knowledge that has been most influential in my career
because of its unique interdisciplinary nature. The most
valuable were the core courses in theory, advanced
methodology and substantive E-B issues—the same
courses that when remembering back, I had resented
their distance from architecture as I had studied it.
Comparing what I gained from the Ph.D. Program to
graduates of other EBS programs, I feel the program at
UWM is the best.

What most influenced your work?
Having Professor Emeritus Amos Rapoport as my
dissertation advisor crowns my experience at SARUP. I
joined the program for him after reading his seminal
works back in Egypt and I was never disappointed. I
applied his theories in my Master's and I attempt to
build upon his ideas since my Ph.D. I should also mention
that the rigor of the research that we were drilled in,
thanks to Sherry Ahrentzen and other professors like
Jerry Weisman and Uri Cohen put me in high calibre as a
researcher, in general.

How have you fostered change?

My research is fortunately starting to leave and imprint on the built environment through the development of design and planning guidelines that would be adopted at national scale in Egypt. As a part-time professor at several departments of architecture, I teach E-B-based courses and studio to young architects who tell me years after graduation that these were the most useful courses in their careers.

I believe training in EBS was like learning an international language that enabled me to communicate with so many people; to work closely with sociologists, psychologists, and anthropologists. And coming from an architecture and planning background I became the mediator, the negotiator, the facilitator in most multi-disciplinary work I get involved in.

What are your current contributions?

The contribution I feel I made to the field of EBS is in the relationship between design and behaviour through the possibilistic approach of functional opportunities. I applied it to the understanding and design of residential environments, as well as an analytical tool that helps translate user needs and preferences to design guidelines in participatory design processes.

What is your next significant step or accomplishment?

I would like some day to publish my dissertation. Larry Witzling once told me it is the missing link in urban design theory. Also, I would like to see more cases where I carry through an intervention from its earliest research phase all the way through to the actual realization of the design. I had one such experience so far in a neighbourhood revitalization project in Historic Cairo.

How do you keep the fire alive or the grounds fertile?

I think living in Cairo keeps the fire alive to go on working, learning and the more one works, the more doors open to new venues of contribution, of multidisciplinary research, and international advising. With every conference or multi-national project, I meet wonderful persons who become new colleagues and often, new friends.

Creative Contributions

Shehayeb, D. **(forthcoming).** *Assessment of Gender Mainstreaming in Local Governance in the Arab States.* Regional report for the UN-HABITAT Gender Unit, Nairobi, Kenya

Shehayeb, D. and Issa, S. (Ed.) (2010). *Cairo—Resilience: The city as personal experience.* A DIWAN newspaper publication as part of the International Research Network Project: Istanbul, Beirut, Amman, Cairo and Dubai.

Shehayeb, D. (2009). *Sense of Place: Homes above and homes below.* Conflicting claims to multi-functional historic zones: The historic cemetery of al-Suyuti in Cairo, Egypt.

Shehayeb, D. (2009). Advantages of living in informal areas. In R. Kipper, M. Fischer (eds.) *Cairo's Informal Areas Between Urban Challenges and Hidden Potentials: Facts, voices, visions.* GTZ: Cairo, Egypt : pp. 35- 43. http://www2.gtz.de/dokumente/bib/gtz2009-0424en-cairo-informal-areas.pdf

Shehayeb, D., Turgut Yildiz, H. and Kellett, P. (Eds.) **(2007).** *The Appropriate Home: Can We Design "Appropriate" Residential Environments?* HBRC. Proceedings of the First HBRC & IAPS-CSBE Network Joint Symposium, Cairo, Egypt.
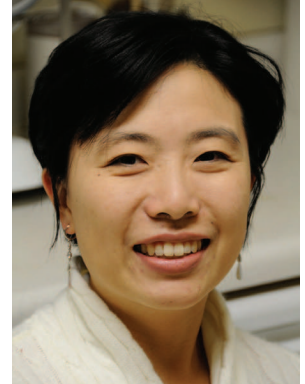
JUNG-HYE SHIN

Career Path

2007-present
  Assistant Professor, Design
  Studies Department,
  University of Wisconsin-
  Madison,

Education

Ph.D. in Architecture
University of Wisconsin-Milwaukee
2007

M.S. in Design and Environmental
Analysis
Cornell University
2001

B.F.A. in Design
Seoul National University
Seoul, Republic of Korea
1996

What of the PhD program influenced your pursuits?

The doctoral program in Milwaukee had a great influence
on how I think and what I do as an educator and a scholar.
During the course of the doctoral program, a myriad
of course work and deeply engaged conversations with
the faculty ushered me into the social life of buildings.
Although my design practice before I entered the program
always had me thinking about the behavioral aspects
of the buildings, here I began to solidify my view on
architecture not just as an end result of design activity,
but also as a complex outcome of social milieu and a
continuing shaper of human life. This led me to embrace
architectural research as a robust tool for enhancing
our knowledge about buildings and informing design
practices.

What most influenced your work?

Many of the studies that I encountered during the
program were models for my thinking: the work of
Professor Weisman on environment and aging, and his
fervor for bridging the gap between design and research;
the work of Professor Ahrentzen on housing and women's
issues, and her insistence on research rigor; and Professor
Rapoport's work on cultural issues and his pedagogy
centered on research, to name a few. Their work, as
well as the relationships I developed with these scholars,
continues to inspire my relationship with my own
students.

Following my dissertation on the cultural aspects of Korean residential buildings, my research has continued to explore these themes, particularly in the context of housing for the aged. Through cross-cultural comparisons of various types of residential buildings used by the elderly in their original context, I strive to suggest better and culturally sensitive residential solutions for this often physically and economically disadvantaged population. In my research, I emphasize employing the user's perspective and translating it into designer's language for better utilization of my findings.

What are your current contributions?

I consider the unique contribution of my study to the field to be the international perspective I bring to it. Through my study of both eastern and western cultures, I often re-examine many research constructs and findings that we take for granted in the field, such as the notion of home, the notion of independence in the context of aging, and the concept of comfort. This helps us re-examine our own research methods and beliefs, which are deeply rooted in the American context, and by doing so, I believe that my work provides a fresh viewpoint in interpreting research findings in the field.

What is your next significant step or accomplishment?

As I gain more experience in the field as both a researcher and an educator, I feel more urgency in bridging the gap between the research world and the world of practice. Even within academia, the gap between these two areas is very deep, although many newer approaches such as action research and building performance evaluation are gaining wider recognition. I am currently exploring the ways in which I can be more engaged with the community in generating and delivering my research findings in a mutually constructive manner.

Creative Contributions

Shin, J. (Forthcoming). Gendering Places: Residential Technology and Changing Gender Relations in Korea. *Gender, Place, and Culture*

Shin, J. (Forthcoming). Keeping warm in a changing place: The meanings and place experiences of the Korean heated floor and house structure in the 20th century. *Space and Culture*.

Shin, J. (2008). Technology and cultural transformation in Korean residences. *Places and Themes of Interiors: Contemporary Research Worldwide*.

Shin, J. Shin, L. E. Maxwell and P. E. Eshelman. (2004). Hospital birthing room design: a study of mothers' perception of homeyness. *Journal of Interior Design*. 30(2), pp. 23-36.

KAPILA D. SILVA

Career Path

2008-present
Assistant Professor, Architecture, University of Kansas.

2007-2008
Visiting Assistant Professor, Architecture, University of Kansas.

2005-2007
Visiting Assistant Professor, Architecture, University of Wisconsin-Milwaukee.

1996-2005
Lecturer, Architecture, University of Moratuwa, Sri Lanka.

Education

Ph.D. in Architecture
University of Wisconsin-Milwaukee
2004

M.S., Architecture
University of Moratuwa
Sri Lanka
1993

B.S., Built Environment
University of Moratuwa
Sri Lanka
1990

What of the PhD program influenced your pursuits?

I admire the effort faculty put on reading our work thoroughly and providing detailed feedback, especially the critical thinking stances of Amos Rapoport and Sherry Ahrentzen, and the gentle persuasion style of Jerry Weisman. In a more informal sense, I felt there was a great sense of community within the program— both among the students, among the PhD faculty, and between the students and professors. During the time I was at UWM, I felt that I was blessed to live in a great intellectual community. I still feel that when I go to EDRA conferences, since half of it is from UWM and it feels like a good family get-together! I also had the opportunity to be a founding member of the Community Design Solutions Initiative and playing a key role in its beginning period. I still value the trust and the confidence placed upon me by Dean Bob Greenstreet.

What most influenced your work?

Work by Amos Rapoport, Kevin Lynch, and Christopher Alexander has been influential in my research. Their work is theoretically compelling, rigorous, and applicable. I would like to see my work achieving these attributes, and I would be happy if I can be prolific as they are/were.

Creative Contributions

Silva, K.D. (2006). Conserving Asian Urban Heritage: The need for re-conceptualizing the vaue-based management approach. In S. Sipacharanan and Jeffrey Campbell (Eds.) *Proceedings of the First International Conference on Asian Approaches to Conservation*. Bangkok, Thailand: Chulalongkorn University. pp.16-23.

Silva, K.D. (2003). Maryland Plan: Building a Town/Gown Relationship on a Shared Vision of the Physical Environment. *Journal of Higher Education Outreach and Engagement*, Vol.8/No.1, pp. 191-204. (Co-authors: Amy Watson & Peter Sadowski).

Chandrasekera, D. P. and Silva, K. D. (2002). *Architecture of Tampitavihara in Sri Lanka*, Moratuwa, Sri Lanka: University of Moratuwa.

Chandrasekera, D.P., & Silva, K.D. (1997). *Architecture of Ambalama Buildings in Sri Lanka*. Moratuwa, Sri Lanka: University of Moratuwa.

What are your current contributions?

My primary focus is on global heritage management. My research has so far been an attempt to point out that the global heritage movement is so fixated on the physical dimensions of heritage while neglecting the symbolic dimensions of heritage, which is much more crucial in many communities and for the success in heritage conservation.

I have interpreted the notion of imageability of place as an integrative framework for urban heritage management that connects conservation and development planning together. In this framework, historic preservation has been re-conceptualized as an attempt to manage the imageability of the historic place.

What is your next significant step or accomplishment?

The next significant step is to work on a book project I have in my mind. The book, to be co-edited with another South Asian preservation professional, will be on the Asian Heritage Management, which will focus on the issues and practices of heritage conservation in the South, Southeast, and East Asian regions.

How do you keep the fire alive or the grounds fertile?

I think that two important attributes of humankind are curiosity and creativity, and I have always felt that I have both in abundance. I have always been curious about knowing things, irrespective of the field or domain of knowledge involved, and always wanted to create things and concepts and ideas. Being an architect and an academic, I have found the best fertile ground to keep these basic attributes going.

KATHLEEN R. MILLER STUMPF JULIN

Career Path

1992-present
Professor (and former Associate Dean and Head for 9 years), Interior Architecture. University of Wisconsin-Stevens Point

1989-1992
Assistant Professor, Environment, Textiles, and Design, University of Wisconsin-Madison.

Education

Ph.D. in Architecture
University of Wisconsin-Milwaukee
1990

M.S. Environment/Interior Design
Pratt Institute
1979

B.S. Fine Art
University of Wisconsin-Oshkosh
1975

What of the PhD program influenced your pursuits?

In the early 1980s, the most influential part was the Ph.D. colloquiums that were held about once a month in the evening at the homes of the Ph.D. program professors. These discussion forums allowed students to see the intellectual interactions between their professors as scholars and inquisitive thinkers challenging the status quo.

What most influenced your work?

Three people were the most influential on my scholarly work: Amos Rapoport for examining the details and differences between cultures, Gary Moore for having theory as a base for all of my work, and Sherry Ahrentzen for using a strong methodological and scientific inquiry across all types of my research work (from traditional survey design to including sorting images used in my sketching).

How have you fostered change?

My latest presentation is looking at crossing boundaries (interdisciplinary approaches) of using sketching in a lecture class to understand the impact of design forms on behavior and social aspects of historic periods.
I am also creating a first-year seminar course to help students understand the importance of place identity in their own environment-behavior relations (first moving to a new place, their dorm room, and then considering moving out beyond home range to explore places around the world).

What is your next significant step or accomplishment?

My next project is looking at visual patterns in the built environment (historic, current, and digital).

How do you keep the fire alive or the grounds fertile?

By weekly exploring new and old places and their relationship to the natural environment, and always being surprised by something new. You can do a lot of thinking, which can be inspirational, but what makes the difference is frequently getting out (sketchbook/ notebook in hand) into the built environment and observing all of the complex interactions between people and the environment. It is important to take time to immerse oneself and observe a place "slowly" in order to discover the many patterns/anomalies being created by human life on earth.

Creative Contributions

Julin, K. (2010). Drawing History – History Drawing: Crossing Discipline Boundaries to Analyze Behavioral and Historical Environments. *In Crossroads Crossovers: International Conference Proceedings, Design Communication Association*, Bozeman, MT: Montana State University.

Julin, K. (2010). First-Year Student Seminar program with focus on Place Identity (landmarks, paths, edges, districts), home range, and culminating in an academic career plan for international travel to explore place identity around the world.

Julin, K. (2007). Freehand Observational Sketches as a Part of Design Communication in Building Environmental Knowledge. In *Flow, Filter, Function, Feeling, and Focus: 20th Anniversary International Conference Proceedings, Design Communication Association*, Muncie, IN: Ball State University.

Sabbatical Grant. (2007). Looking Close: Using observational sketching in place to understand behavior in environments.

JESSE VOSS

Career Path

2009 – present
Assistant Professor of Architecture, Faculty of Architecture, Art, and Design, Notre Dame University, Zouk Mikayl, Lebanon.

2004 to 2006
Adjunct Professor of Architecture, School of Architecture and Urban Planning, University of Wisconsin-Milwaukee, USA.

Courses Taught

Contemporary Issues in Design,
Principles of Architectural Design,
Architectural Design I,
Architectural Design V
Building Technology I
Technical Drawing I, Technical Drawing II

Education

Ph.D. in Architecture
University of Wisconsin-Milwaukee
2008

B.Arch.
Cal Poly
1992

What of the PhD program influenced your pursuits?

It's absolute commitment to well grounded and explicitly well-formulated research imbued with high degrees of critical thought and epistemological rigor. Also the "minds" that were present for our benefit that were all, well, rather extreme. To have all in one place a "quorum" of the very best minds in the world of Environment-Behavior Research made it an amazing place to be, to think, and to research.

What most influenced your work?

Amos Rapoport, Gerald Weisman, and Sherry Ahrentzen were most influential ; interestingly, had very different ontological and epistemological perspectives. I owe a great debt to Jens Pohl at the Collaborative Agent Research Center at Cal-Poly San Luis Obispo and George Gumerman at the Santa Fe Institute who provided essential guidance and access to information and experts in the emerging fields of Coupled Human/ Computer Decision Support Systems and Adaptive Agent Based Modeling Simulation.

How have you fostered change?

Teaching in Lebanon gives me a great deal of opportunity to foster change in the educational system and practices in the Middle East. I am part of a multi-year initiative sponsored by the European Union to embed core competencies necessary for graduates from Universities in Lebanon, Syria, Jordan, and Egypt to engage in and/or develop sustainable development practices in the MENA region. I am also on several

committees working toward creating a research culture in Lebanon namely with regards to develop, support and steward legal and technical infrastructure that maximizes digital creativity, sharing, and innovation.

What are your current contributions?

They lie in different areas: 1) foundations of knowledge – developing concepts for underpinning coextensivity between empiricist and phenomenological thought; 2) methodological – breaking new ground in the utilization of computational tools such as adaptive neural networks to find patterns of relationships between personality type and environmental preference; 3) creating structures of inquiry which allow the use of "non-scientific" or "un-trustworthy" evidence, data or concepts in scientifically sound frameworks where "questionable" knowledge objects are critical to the processes, outcomes, or relationships observed in real world.

What is your next significant step or accomplishment?

Conduct further research into the forces and processes involved in the evolution of socio-spatial complexity. Develop innovative ways to embody EBS into the very fabric of Environmental Design Education across disciplines, institutions, and borders as the world begins to face more daunting obstacles in it's search for a sustainable future. Investigate the socio-spatial dimensions of sustainability through a study of the Dead Cities of Northern Syria.

How do you keep the fire alive or the grounds fertile?

When I teach a course in art, design or architecture, I re-design the course to "inherently" proceed from an EBS perspective. I keep the fires alive by contemplating what occurred at UWM's PhD in EBS – and the work of Ahrentzen, Rapoport, Weisman, Cohen, (insert all key names of professors at UWM or significant graduates, people who have contributed to EBS from our school). But – what I use most often, and without fail, to keep the fires going – is recall the mission of the UWM-EBS program from the website when I was looking for a PhD program: "to use knowledge of human-environment systems to make a better world."

Creative Contributions

Voss J (2011) New directions in graduate design theory education, research, and writing in the Middle East. Paper presented at "The death and life of social factors: Reexamining behavioral and cultural research in environmental design," UC-Berkeley, April 29 – May 1.

Voss J, Swedlund A, Gumerman G (2010) Artificial Anasazi: Sustainability and population collapse in the prehistoric American Southwest. Paper presented at IAPS 21, Leipzig, Germany, June 27 - July 2.

Swedlund A, Voss J et al. (2004) Use of agent based modeling to understand disease propogation Wwithin the Anasazi. Paper presented at the Annual meeting of the Canadian Association of Physical Anthropology, London, Ontario, Canada, October 28-30.

Voss J (2001) Minds, cultures, the environment and altruism. Proceedings of the Particle Swarm Optimization Workshop, Purdue University, Indianapolis, April 6-7, 2001.

Voss, J. (2000) Phenomenological and scientific inquiry. In Proceedings of EDRA 31st Annual Conference, San Francisco, CA, May 10-14.

FRANCES E. DOWNING

Career Path

2002-Present
   Professor of Architecture

2001-2003
   Professor and Associate Dean
   of College Faculty

1989-1992
   Associate Dean of Academic
   Affairs,
   Texas A&M University

1989-2001
   Associate Professor—
   Architecture,
   Texas A&M University

1987-1989
   Associate Professor—
   Architecture
   University of California, Davis

1984-1986
   Visiting Associate Professor—
   Architecture,
   Arizona State University

1978-1982
   Assistant Professor—
   Architecture
   State University of New York,
   Buffalo

Courses Taught

Design Studio
Ph.D. Theory
Embodiment

Education

Ph.D. in Architecture
University of Wisconsin-Milwaukee
1989

MS.Arch.
University of Oregon
1978

B.Arch
University of Oregon
1976

Creative Contributions

2009, Downing, et.al. "An Embodied Architecture" in
Architectural Research Centers and Consortium Journal.
Volume 5, 08 Issue 1.

2003, Downing, Frances. "Transcending Memories" in
Design Studies. 24, 213-235.

2000, Downing, Frances. Remembrance and the Design of
Place. College Station, Texas: Texas A&M University Press

1996, Downing, Frances. "Conversations in Imagery" in
Design Studies, 13, 291-319. (International and awarded
Best Article 1996)

1994, Downing Frances. "Memory and the Making of
Places" in Franck, K. & Schneekloth, L. (eds.) Building
Types and the Ordering of Place. Van Nostrand Reinhold:
New York.

Education

Ph.D. in Architecture
University of Wisconsin-Milwaukee
1998

M.C.P., City Planning
Massachusetts Institute of Technology
1991

M. Arch. Architecture
Anna University
Madras, India
1998

B. Arch.
University of Madras
Madras, India
1986

Creative Contributions

Ramasubramanian, L. (2010). *Geographic Information Science and Public Participation*. Heidelberg: Springer-Verlag

Camay, S., L. Ramasubramanian, B. Derman, E. Bohn, J. Albrecht, W. Milczarski, M. Boile and S. Theofanis (2009). Ferry Parking and Landside Access Study: Implementing Public Outreach and Impact Assessment. *Transportation Research Record*, 2007, pp. 39-45

Ramasubramanian, L. and A. Gonzalez (2007). Placeworx: A model to foster youth engagement and empowerment, *Children, Youth and Environments Journal*, 17 (2), pp.461-471

Ramasubramanian, L. (2004). Knowledge production and use in community-based organizations: The impacts and influence of information technologies, *Cityscape,* 7 (1), pp.165-191

Ramasubramanian, L. (1995). Building communities: GIS and participatory decisionmaking. *Journal of Urban Technology,* 3 (1), pp. 67-79

Career Path

2010-present
Doctoral Faculty, Environmental Psychology, The Graduate Center, CUNY

2009-present
Visiting Professor (Overseas), Anna University, Madras, India

2006-present
Associate Professor, Urban Affairs and Planning, Hunter College, CUNY

2004-2006
Assistant Professor, Urban Affairs and Planning, Hunter College, CUNY

2002-2004
Associate Director, The Urban Data Visualization Lab, University of Illinois-Chicago

2000-2001
Lecturer, Geography and Architecture. University of Wisconsin-Milwaukee.

1999-2000
Post-doctoral Research Associate, University of New England, Armidale, New South Wales, Australia

Courses Taught

Public Participation and GIS Seminar
Introduction to Urban Design
Graphical Communication for Urban Planners

SUZANNE M. ZUKOWSKI

Creative Contributions

Zukowski, S. (2011). From Peasant to Proletarian: Home-ownership in Milwaukee's Polonia. *Polish American Studies.* Vol. LXVI, No. 2; (Winner of the Polish American Historic Society *Swastek Award* for Outstanding Research Article)

Zukowski, S. (2009). The Social Construction of Integrative Design: An Action~Structure Framework. *Proceedings: 26th Conference on Passive and Low Energy Architecture*, Quebec City, Canada

Zukowski, S. (2007). From Green to Platinum: LEED™ in Professional Practice. Proceedings: *38th Annual Conference of the Environmental Design Research Association*

Education

Ph.D. in Architecture
University of Wisconsin-Milwaukee
2005

Certificate. Urban Design
Danish Academy of Fine Arts
1991

M.Arch.
University of Michigan-Ann Arbor
1989

B.S. Architecture
University of Michigan-Ann Arbor
1987

What most influenced your work?

I remember arriving in Milwaukee with a passion for sustainable design and an intense interest in straw bale construction. To my dismay, I had faculty literally laugh at me when broaching the topic. Soon after, two scholars from London arrived, one with samples of straw panels in his briefcase (in lieu of standard gypsum board); suddenly, my topic had merit. Jim Wasley and Harry Van Oudenallen however, were two faculty members from the outset that could have honest, straightforward discussion regarding alternative building materials. For that I am forever grateful.

What is your next significant step or accomplishment?

Sustainable design has made exponential progress since the onset of my graduate studies. 'Green' has been assigned to everything from buildings to bank accounts. I look to 'what's next'; a time when architects stop touting their 'green' disposition and focus on smart design without color designation.

Along with the 40th anniversary of the School of Architecture and Urban Planning at the University of Wisconsin-Milwaukee, the 30th anniversary of our Ph.D. Program in Architecture represents another important benchmark in educational excellence. As one of the pioneering PhD programs in architecture dedicated to understanding the relationship between people and place, its influence has been considerable. Its 51 (and counting) graduates teach in architectural design and allied fields at major institutes and practice throughout the world. Their intellectual contributions, and those of the faculty, continue to shape Environment-Behavior Studies and the discipline of architecture as a whole. This book, a tribute to the many excellent students who have shared the Milwaukee experience, is a testament to their collective input for the design of settings for health care, education, the workplace, older people, and communities, and their insights about the role well-designed environments contribute to the quality of people's lives.

Bob Greenstreet, Dean
School of Architecture and Urban Planning
University of Wisconsin-Milwaukee