

**AN ECOLOGICAL FRAMEWORK OF PLACE:
SITUATING ENVIRONMENTAL GERONTOLOGY
WITHIN A LIFE COURSE PERSPECTIVE***

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ABSTRACT

This article presents an emergent heuristic framework for the core environmental gerontology concept of “place.” Place has been a central concern in the field since the 1970s (Gubrium, 1978) for its hypothesized direct relationship to identity, the self, and agency—suggestive of the appropriateness of lateral theoretical linkages with developmental science. The Ecological Framework of Place (EFP) defines place as a socio-physical milieu involving people, the physical setting, and the program of the place, all catalyzed by situated human activity and fully acknowledging that all four may change over time. The article begins with a concise overview of the EFP before moving on to consider it within three theoretical terrains: place theory, developmental science theory, and environmental gerontology theory. The EFP will be argued to be a place theory which subsumes themes of emergent environmental gerontology theories within a developmental science perspective. Implications for theory, method and practice are discussed. One of the strengths of the model is its ability to serve both research and practice, as is exhibited in its ability to incorporate applied design research and inform architectural decision-making so often lacking in other environmental gerontology models. Place should be viewed as an integrative concept providing opportunities for both environmental gerontology and developmental science to more critically concern the profound role places have in terms of agency, identity and sense of self over the life course.

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For over 5 decades, a small segment of gerontological researchers have dedicated themselves to understanding the relationship of the physical environment on well-being for older adults. As Scheidt and Windley (2006, p. 105) define it, environmental gerontology is comprised of “a loose confederation of disciplines (e.g., psychologists, sociologists, allied health professionals, architects, community planners, social policy makers) devoted to understanding the behavioral and psychological implications of encounters between elders and their environments.” Since being published 40 years ago, the primary theoretical conceptualization in environmental gerontology has been the Ecological Model of Aging proffered by Lawton and Nahemow (1973). Yet with the death of Powell Lawton in 2001, there has been a reconsideration and numerous developments of enriched theorization regarding the environment-older adult relationship that incorporate a life course perspective.

This article presents an emergent heuristic framework to inform research, architectural design, and care interventions respectful of the powerful role place plays throughout the life course and particularly in later life. The article begins with a concise overview of the Ecological Framework of Place (EFP) before moving on to consider it within three theoretical terrains: place theory, developmental science theory, and environmental gerontology theory. The EFP will be argued to be a theoretical construction of place which subsumes themes of emergent environmental gerontology theories within a developmental science perspective. One of the strengths of the framework is its ability to serve both research and practice, as is exhibited in its ability to incorporate applied design research so often lacking in other environmental gerontology models. The framework shares Lerner’s (2007, pp. 6-7) belief that, “Time and place therefore are matters of substance, not error; and to understand human development, one must appreciate how variables associated with person, place and time coalesce to shape the structure and function of behavior and its systematic and successive change.”

THE ECOLOGICAL FRAMEWORK OF PLACE

The Ecological Framework of Place (EFP) offers an integrative model designed to further our understanding of how the dynamic system between person, place, and time impacts quality of life experienced through the life course. The Ecological Framework of Place (see Figure 1) suggests that place is a milieu involving people (“place participants”), the physical setting, and the program of the place, all catalyzed by situated human activity and fully acknowledging that all four may change over time.

People

The term People is used here in a manner to reinforce that the concept of place is at a social level of analysis. People may be conceptualized at multiple levels of

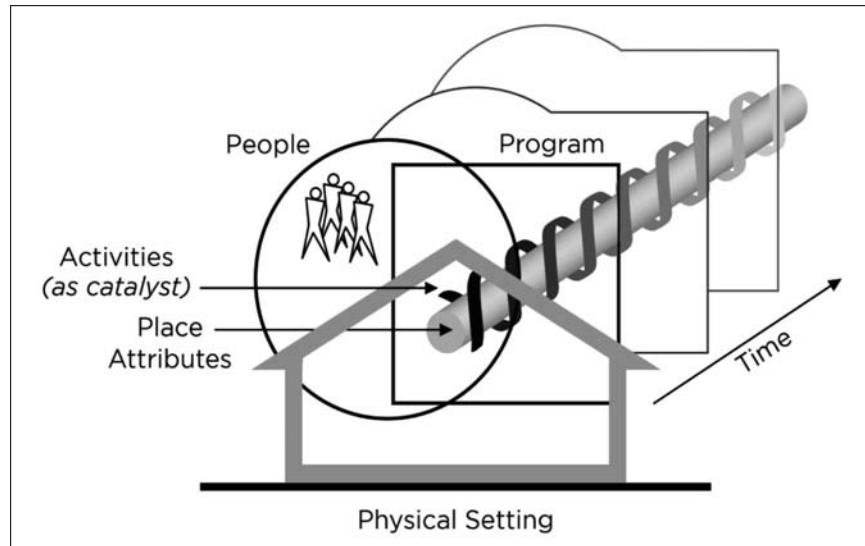


Figure 1. The Ecological Framework of Place for Aging.

aggregation (individual, group, organizational, cultural) and must always consider experiential modalities (e.g., motivation, cognition, affect) (Lawton, 1998; Weisman, Chaudhury, & Diaz Moore, 2000) and objective characteristics (e.g., measured competence). While much of environmental gerontology has a historical emphasis on psychological constructs, it is also quite clear that such modalities exist at various levels of aggregation (e.g., group motivation, social cognition, group emotion). Regardless of level of aggregation, the EFP views People as expressing agency, an underlying assumption of the model.

Physical Setting

Physical settings are purposeful interventions, as laden with intentionality as are the individuals who occupy them. The Physical Setting is understood in terms of both objective sensory and spatial properties as well as their systems (e.g., enclosure, finishes, and furnishings) (cf. Archea, 1977; Weisman, 2001). These various aspects of the physical setting have ostensibly been created to further some underlying needs or desires. Such interventions occur—and therefore the physical setting may be conceptualized—at different scales: proximate, building/ site, neighborhood/community, and settlement. This facilitates potential consideration of what Bronfenbrenner terms the mesosystem, or the relationships between these scales.

Program

The term Program refers to the inherent yet largely implicit socially shared understandings that enable effective co-action and forward the underlying, socio-temporally negotiated purpose of the place. As the socially-constructed expectations of a place, the Program component defines Place as a social, rather than individual, construct. Congruent with Barker's (1968) conceptualization of the "program" of a behavior setting, and building upon the work of the environmental psychologist David Canter (1977, 1985, 1991), the Program is conveyed through place rules and place roles. "Place rules" convey the patterns and stability of human activities that occur within given settings. "Roles" as extended to the physical environment dually recognize that: a) places are dependent on certain activities being co-enacted and that people are required to play requisite roles in places, and b) that an individual's assessment of a place is shaped by the set of roles available in that place and limitations with regard to the roles one enacts or is capable of enacting.

Activities as Catalyst

The EFP specifies Activities as the catalyst of Place, and is at the nexus of People, Program, and the Physical Setting in the diagrammatic representation of the framework. Through human action, places become experienced and people attribute certain qualities to those place experiences. These qualities may be called Place Attributes, and since they reside in the ineffable core of human experience, they are placed at the core of the Ecological Model of Place. The figure attempts to illustrate the intrinsic negotiation over time of human activity—past, present, and future—influencing the definition of such place attributes. "We call them 'attributes' because they are qualities we *attribute* to places on the basis of our own history, goals and identity" (Diaz Moore, Geboy, & Weisman, 2006, p. 33). This concept is akin to "sense of place" found in much of the place literature (e.g., Hummon, 1992; Relph, 1976; Tuan, 1977), although there is certainly epistemological debate as to whether sense of place must be viewed holistically or not (Stedman, 2002). The definition of such attributes most relevant to an older population has occupied a number of leading environmental gerontologists over time (e.g., Calkins, 1988; Cohen & Weisman, 1991; Lawton, 1980; Regnier, 2002). Recent environmental gerontology theories, for example, have focused on attributes such as Autonomy and Identity (Oswald & Wahl, 2013) and Mastery and Comfort (Golant, 2011).

Time as Change Agent

Within the EFP, time is conceptually multivalent. For instance, cognitive-affective appraisals may change quite rapidly in people, and programs associated with a given physical setting may change throughout the day as may certain

properties of the physical setting (e.g., lighting). Conversely, time is designed to equally consider concepts of longer periods such as life course and building senescence as well as periods of time in-between. In other words, any of the above aspects of place—people, the physical setting, the program, or activities—may change over time.

Illustrative Examples of Place

Due to the abstract nature of any theoretical model, it is useful to make the concepts more imageable through illustration which will be done here in terms of a dining area in assisted living, and a residential neighborhood. Given the nature of place, the physical setting is viewed as an essential part of the concept and needs to be documented. In the case of a dining area, we may want to document number of tables and their associated number of chairs, orientation, lighting, linkage to other spaces such as the kitchen, and the like. In terms of people, this would suggest consideration of residents and care staff, perhaps also family members and administration. In a flexible study (cf. Robson, 2011), simply outlining those people may be enough at the onset of the study. In a fixed study, more precise definition of what the research question needs in order to be answered would be determined (e.g., biography, functional independence, preference). The framework suggests that these people will be engaged in activities which are goal-oriented. Such activities need to be documented and again, depending upon the nature of the study, this could be open-ended or quite fixed (e.g., amount of food consumed at breakfast). In the spirit of ethnomethodology (Garfinkel, 1967), it is often when these activities seem to be “out of place” that the program of the place, as an ideational concept, can best be recognized. When we observe something that is “out of place,” the EFP facilitates our ability to ask about a series of relationships that may impact that assessment. The overlap between People and Physical Setting certainly raises questions of environmental competence and proactivity which is at the core of the work of M. Powell Lawton (1989). Where the Physical Setting and the Program intersect are questions about what the environment facilitates or constrains in terms of socially-shared intentions and meanings. For instance, the use of a privacy screen to shield residents who need feeding assistance from others sends a powerful social message. The overlap of People and Program highlight the possibility that it is the negotiation of individuals with the social order that may also cast an interaction as “out of place.” Baltes and Wahl’s (1992) concept of “dependency-support script”—in which “dependent behavior among elders is reinforced by their social partners (typically by direct helping behavior), whereas autonomous behaviors are typically ignored” (Wahl, 2001, p. 223)—is an example of this type of relationship, and is certainly one pertinent to the dining room example (Diaz Moore, 1999).

Lastly, time needs to be addressed in order to understand place. For instance, it may be that the dining room is attached to a therapeutic kitchen and that breakfast is made in that kitchen, with its associated smells of coffee and toast to which residents may help themselves. But lunch and dinner shows up on a tray cart from a centralized kitchen. The place may very well change as the expectations have changed. Staff may interact with residents differently and residents may interact with their food and one another differently in these scenarios. The physical setting changes as perhaps the dining area was not designed to accommodate tray carts and thus the space is tighter and perhaps with more noxious auditory stimuli (trays clanging) than positive stimuli (conversation). The shared place attributes are therefore likely to be different even though occurring within the same physical setting. This bundling of place attributes that are socially shared has been referred to felicitously as the “personality of place” within both humanistic geography (Tuan, 1977) and environmental gerontology (Moos, 1980).

As to an older adult living in a residential neighborhood, one may certainly describe the physical setting of the neighborhood (cf. street pattern, transect, public space). One would want to consider not only that individual, but neighbors, neighborhood organizations and/or businesses, or public service members (e.g., mail carrier, meter reader) depending upon the specific place question to be addressed. Again, documenting activities of relevant place participants is essential as they reveal the nature of the program of the place and all of these components are affected by time. In this case, let’s say a young couple moves to the suburbs to raise their new and growing family. The neighborhood elementary school provides a social linkage to neighbors who have children the same age and the children bike safely on the cul-de-sacs. Over time, the couple and their physical neighborhood ages and so they are now “empty nesters” in a “young-old” predominant neighborhood that no longer has the children to support an elementary school. Their local strip mall that had a grocery and a drug store has closed, impacted by both the loss of population and the big box store that opened near the freeway. The physical neighborhood now has more rentals as well as broken sidewalks that makes it tough for the husband to go for his walks, ever since his minor stroke. The nature of this neighborhood as a place in these two different periods of time is likely quite different but not unrelated as the biographical history of the neighborhood remains quite meaningful for the couple and their children, such as found in the concept of autobiographical insideness (Phillipson, 2007; Rowles & Ravdal, 2002).

Thus, the EFP serves as a heuristic by which to bound an inquiry as well as to prevent the researcher from overlooking the necessary consideration of other place dimensions on the experiential phenomenon. Similarly, it helps raise meaningful questions for future inquiry. In terms of dietary intake for older persons, for instance, there is good information on how improving the physical environment (e.g., better lighting) enhances intake (Brush, Meehan, & Calkins,

2002) but only recently explorations extend this work into the socially-negotiated meaning of the person-setting relationship (Hung & Chaudhury, 2011). As another example where perhaps the physical setting was overlooked, significant work has been done on the loss of social roles in immigrant elderly (cf. Lee, Crittenden, & Yu, 1996), but only recently has the issue been explored raising the impact of the physical setting (Seo & Mazumdar, 2011). Finally, sometimes the people dimension is overlooked as is found in our assumption of the tight fit between the physical setting and social norms found in the program which may be challenged by lifestyle choice of individuals (Bell, Bern-Klug, Kramer, & Saunders, 2010).

To summarize, the Ecological Framework of Place views Place as a socio-physical milieu circumscribed by a Physical Setting within which People enact Activities motivated by their own abilities, conceptualizations, and purposes, informed by an inherent yet largely implicit Program that advances the underlying, socially-shared purpose(s) of the Place, and which may be described and measured via Place Attributes. It emphasizes the agentic nature of people, program, and the physical setting, the catalytic role of human activity in place, and recognizes the dynamic of time as an agent of change on all of the other aspects of place.

THE ECOLOGICAL FRAMEWORK OF PLACE AS A PLACE THEORY

As a place theory, the Ecological Framework of Place draws upon a rich and varied set of intellectual traditions (Stedman, 2002), yet the definition of place remains contested. From a philosophical standpoint, Casey (2001) asserts that place involves physical, historical, social, and cultural dimensions, and that places require agentic humans as much as agents require places. He asserts that the “mediatrix” between place and self is Bourdieu’s (1977) notion of *habitus*, which may be understood as the repertoires or schemata people learn through experience and unconsciously employ to inform action-taking.

Cresswell (2008) identifies that within geography, place typically is discussed at the settlement level of analysis or description (e.g., Silicon Valley), but urban designers and landscape architects will refer to plazas and parks as places, architects to rooms and buildings, and within gerontology we have seen the term applied to areas such as favorite chairs and window views and particular shelves (Boschetti, 1995; Rowles & Watkins, 2003; Rubinstein, 1989). Conceptually, this means that place should not be conceptualized as scale specific, increasing the challenge of developing such a definition.

Cresswell (2013, p. 1) also gives two definitions of place, one, based upon the work of Agnew (1987) as “a meaningful site that combines location, locale and sense of place” and two paragraphs later as “a combination of materiality, meaning and practice.” Tuan’s (1977, p. 410) seminal work discusses both approaches as well suggesting that place, as a socially-shared construct, “may be said to have ‘spirit’ or ‘personality,’ but only human beings can have a sense

of place,” thereby suggesting that sense of place belongs to the individual. For Tuan (1977), place begins with location, but also includes history, meaning, and human aspiration all tied together in experience. Sack (1997) also assumes the centrality of aspiration, or in his term ‘projects,’ people bring to place which he suggests may be understood in terms of: nature (individuals and the environment), social relations (such as group membership); and meaning.

Both Tuan and Cresswell highlight the lingering conflict of whether place is a concept at the individual (e.g. including sense of place) or social level of analysis. Much of the work on place has followed a phenomenological approach, rendering a holistic, but often very personalized understanding of place (Norberg-Schulz, 1980; Relph, 1976). Relph (1976) argues that place involves activity, the physical setting, intention and meaning, but also offers the term “placelessness” for standardized settings (such as strip malls) which he views as not being able to become places. It is this evaluative and normative use of the term place which tends to favor a singular narrative of place that has met with much criticism (e.g., Kitchen, 1998; Rapoport, 1994) and has led to increasing focus on place as process (Massey, 1993; Pred, 1984), or what Diaz Moore (2000) refers to as the “negotiation of place.” Pred (1984), for instance, suggests that the intrinsic nature of place is that as a “historically contingent process” involving individual and institutional projects that in turn shape biographies, social relations, and the transformation of nature.

Yet another line of thinking on the concept of place has occurred within environmental psychology, which has taken a less holistic, more systemic approach toward place (Stedman, 2002), best exemplified in the work of Canter (1977, 1985, 1986, 1991). This approach understands place as a socio-physical construct, or as Canter (1986) so elegantly and simply phrases it, “places are shared aspects of experience” (p. 218). Bonnes and Secchiaroli (1995) summarize Canter’s view that place is the result of interrelationships between three constituent elements: activities (behaviors associated or anticipated with a place), physical attributes (environmental properties), and conceptions (i.e., meanings) that people have of the activities that happen in a given setting. Canter is deliberate in his choice of the term activity asserting that they are “situated sequences” of “purposive human actions” that occur in “natural settings,” i.e., the physical context of place (1985, p. 171).

In a review of the concept of place, Sime (1986) suggests that the common terrain in the work of Relph and Canter are: activity, the physical setting, and the constitutive co-ingredient of intention and meaning, a point of departure echoed in Groat (1995) and Gustafson (2001). However, in taking a broader view of the place literature—ranging disciplines from philosophy to geography and psychology—the Ecological Framework of Place attempts to incorporate meaningful dimensions such as social and cultural groups as well as the notion of time (see Table 1) through its people and time concepts. Additionally, the term program is used to convey social-shared understandings, as

Table 1. The Ecological Framework of Place in Relation to Core Theories of Place

Place theorists	Aspects of the Ecological Framework of Place				
	Activities	People	Program	Physical setting	Time
Canter (1977)	Activities		Conceptions	Physical attributes	
Casey (2001)		Social Cultural	Habitus	Physical	Historical
Cresswell (2009)	Practice		Meaning	Materiality	
Pred (1984)	Projects	Biography Social Cultural	Power Relations	Nature	Process
Relph (1976)	Activity		Meaning/Intention	Physical setting	
Sack (1997)	Projects	Individual (Nature) Group membership	Meaning	Environment (Nature)	
Tuan (1977)			Experience Aspirations Meaning	Location	History

described above, to avoid the confusion over meaning or conception as ambiguously existing at either or both the individual or social level. As such, the EFP unabashedly asserts the notion that places are socio-physical phenomena. In this case, and consistent with the work of both Tuan and Canter, sense of place or place experience, respectively, would be the correct construct at the individual level of analysis.

Now there is not much greater variance in epistemology than that between a humanistic geographer (Tuan) and an environmental psychologist (Canter). This leaves the EFP as being epistemologically relativist, accommodating the understandings generated through both approaches. It is best thought of as epistemologically situated within the Pragmatic perspective as espoused by John Dewey, William James, and George Herbert Mead. Fishman (1999) suggests that a Pragmatic perspective recognizes that any phenomenon under study, in this case place, should be analyzed both elementally as well as holistically, or in other words, systemically. This epistemological position is shared with the science of human development which Lerner (2007) suggests recognizes the idiographic, nomothetic, and differential natures of holistic human systems. Thus, in identifying its aspects of place the model provides either a guiding framework within which to situate discrete findings and forge meaningful synthesis, or a beginning armature from which to launch a holistic inquiry into a specific place.

THE ECOLOGICAL FRAMEWORK OF PLACE AS A DEVELOPMENTAL SCIENCE THEORY

The purpose of developing the EFP was to provide a heuristic framework that would facilitate work conducted on place within environmental gerontology to be meaningfully situated within developmental science theory. Thus, an important question is can the EFP be considered a developmental science theory? Lerner (2012, p. 29) defines the goal of developmental science as “to describe, explain and optimize intraindividual changes in adaptive developmental regulations and, as well, interindividual differences in such relations, across life.” Several gerontological theories take a developmental or life course perspective and are considered core developmental theories including the Selective Optimization with Compensation (SOC) theory of Baltes (1996), and the Schulz and Heckhausen’s (1996) lifespan theory of control, which has now evolved into the Motivational Theory of Life-Span Development (Heckhausen, Wrosch, & Schulz, 2010). Typically, there are four central themes to developmental science theories (Elder, 1994; Lerner, 2007):

1. relational metatheory and the integration of levels of organization within the socioecological system;

2. social embeddedness—that human development is socially embedded across the lifespan and that those relationships delimit the magnitude of plasticity for the person;
3. temporality, that the timing of lives impacts the plasticity of the developmental system; and
4. human agency, that human actions are purposeful and that is why observable activity is the beginning point for any unit of analysis.

To illustrate these themes, let's explore the Ecological Systems Theory of Urie Bronfenbrenner (1999), an exemplar theory in developmental science. Bronfenbrenner (1977) suggests that human development occurs within an ecology of four nested systems: the micro system (involves the individual and the immediate setting); the mesosystem (the interrelations between major settings as well as between the micro and exosystems); the exosystem (essential social structures); and the macrosystem (overall institutional patterns of culture). To this he later added the chronosystem, to account for the patterning of environmental events and transitions through the life course, or in other words, temporality (Bronfenbrenner, 1979). These systems have relationships among and between themselves and it is usually in these interactions where the main effects are to be discovered; in other words, not within the person or a particular environmental system but in the relationships between them. In presenting his framework, he suggests that much development research had ignored the microsystem, often in the pursuit of generalizations rather than diversity and at the cost of losing individual motivation. As such, Bronfenbrenner (1977, p. 515, emphasis added) notes, "so that this substantive aspect (the nature and purpose of the task) is not overlooked, I use the term *activity rather than behavior* to identify this essential feature of the microsystem." At the core of the Ecological Systems Theory of Human Development are then the intrinsic goals, motivations, intentions of the people being studied. Thus, all four themes of developmental science theory are present in Bronfenbrenner's theory.

The EFP also exhibits all four themes. The EFP is a relational, theoretical construction, in that place is a milieu constituted of people (P), physical setting (E), and program (PxE), all of which are involved in the dynamic negotiation of the nature of that place. People, as a construct, is understood to have multiple levels of aggregation: individual, group, organizational, and institutional. Similarly, the physical setting may be conceptualized at multiple scales as discussed previously. Collectively, this illustrates the EFP's relational metatheory and integration of levels found in Lerner's first theme of developmental science theory. The concept of program refers to socially-constructed and shared expectations of the place, and thus the EFP is intrinsically socially embedded. Temporality is included by the time aspect of the model, much as Bronfenbrenner (1994) accommodates time with his chrono-system. As with Bronfenbrenner, the core

concept of activity found in the EFP is chosen to reflect that agency is an essential assumption of the model.

The Importance of Agency

It is worthwhile for us to focus a bit longer on agency, as the concept is one of the key underlying assumptions to life course researchers, who view it as “fundamental for social action” (Hitlin & Elder, 2007, p. 172). Providing a “pragmatic foundation for understanding agency” (Callero, 2003, p. 117), is George Herbert Mead’s (1934) concept of Reflexivity. Mead views reflexivity as constitutive of self, involving both the “in the moment” I and the more stable, socially developed, longer term “Me.” This concept immediately emphasizes the social and temporal nature of the self. As people are more or less concerned with long-term goals or the immediate moment, people’s time horizon shifts and agency is exerted differentially (Hitlin & Elder, 2007). Empirical support for this may certainly be found in the work of Laura Carstensen (1995) following her Socio-Emotional Selectivity Theory (SST). Hitlin and Elder go on to identify a heuristic of four types of agency: pragmatic, identity, life course, and, underlying all of them, existential. Existential agency recognizes that the ability to act is impacted by perceptions of capacity to act, or in Bandura’s (1997) terms “self-efficacy.” Pragmatic agency is the ability to improvise when habits and routines breakdown in the immediate situation. Identity agency represents the habitual patterning of social behavior as often expressed in roles and rules and that are aimed to meet situational goals. It is our commitments to ourselves and others to enact these roles and rules that lead to the reproduction of structure expressed in the work of Bourdieu (1977) and Giddens (1984). Finally, life course agency is “the ability to formulate and pursue life plans” (Shanahan & Elder, 2002, p. 147). This agency is contextualized within available opportunity structures experienced over a lifetime and thus may be tied to Dannefer’s (2003) theory of Cumulative Advantage/Disadvantage—yet another lifespan theoretical construction rooted in gerontology.

As stated, agency is truly at the heart of the Ecological Framework of Place, implied by the use of the term “activity” in the same spirit as Bronfenbrenner and Lerner. Existential agency reflects a calibration between one’s understood schema of the program of a place and their *subjective* assessment of their own ability that would then inform their course of action. This intersection between Program and People is exemplified by research exploring *status and social roles* (e.g., Clarke, Marshall, House, & Lantz, 2011; Krause, 1994). Pragmatic agency is the ability to meet a *utilitarian need*. This would reflect the intersection between People/Physical Setting and the focus on *competence* which has long preoccupied environmental gerontology (Lawton & Simon, 1968; Wahl, Oswald, & Zimprich, 1999). Identity agency is the ability to meet *social obligations/expectations* understood here as part of the program of place and that are

associated with the roles of one's social identity (Bandura, 2001; Lawton, 1989). It is this agency that lay at the nexus of the model and reflects the inherent socio-normative dimensions of place. Finally, life course agency would view places, and hence their programs, as *opportunity structures* which may further personal goals differentially across the lifespan (Wahl & Lang, 2004). Each of these examples reflect ways in which place may impact agency, and in turn human development and ultimately how places may well impact one's sense of self. Arguably it is this connection between place, agency, and self—rooted in the human experience—that has been at the core of the concept of place since its emergence in humanistic geography and other disciplines in the 1970s. As the philosopher Edward Casey (2001, p. 684) writes, “In effect, there is no place without self and no self without place.”

THE ECOLOGICAL FRAMEWORK OF PLACE AS AN ENVIRONMENTAL GERONTOLOGY THEORY

The Ecological Framework of Aging also attempts to provide a subsumptive model for place approaches found within environmental gerontology, and to do so in a manner that embraces the four central themes of developmental science just discussed. The next section will briefly discuss the “long shadow” (Cutchin, 2009) of the Ecological Model of Aging (Lawton & Nahemow, 1973) within environmental gerontology theory.

The Older Person and the Environment

The Ecological Model of Aging (EMA) (Lawton, 1980; Lawton & Nahemow, 1973) has been referred to as the conceptual cornerstone of environmental gerontology (cf. Scheidt & Norris-Baker, 2004; Wahl & Weisman, 2003). Constructed on Lewin's (1936) field theory equation, $B = f(P,E)$ (where B is behavior, P is person and E is Environment), Murray's (1938) psycho-environmental needs-press theory, and Helson's (1964) adaptation level theory, the EMA posits that “behavior is a function of the competence of the individual and the environmental press of the situation” (Lawton, 1982, p. 26).¹ According to the model, individuals of greater competency are better able to adapt to a wider range of environmental press, as compared to individuals with lower or diminished competency (due to functional or disease-related losses such as dementia). Personal competence is “the theoretical upper limit of capacity of the individual to function in the areas of biological health, sensation and perception, motor behavior, and cognition” (Lawton, 1982, p. 38). Press is the “demand quality” of the environment that is placed on an individual. Maximum performance occurs when the demand quality

¹Hence the EMA is sometimes referred to as the “competence-press” model (cf. Diaz Moore, 2005; Kendig, 2003).

or press of the environment is slightly beyond the equilibrium of P-E fit, while maximum comfort is slightly below. However, he suggests that these objective aspects are insufficient. Lawton (1980, p. 17) writes that “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.” This combination he notated as $P \times E$, thereby revising Lewin’s ecological equation to $B = f(P, E, P \times E)$. Unfortunately, this additional variable was not a core pursuit of Lawton’s career.

Within the EMA, there are five distinct yet interrelated dimensions of the environment that have influence on the individual: personal, group, suprapersonal (e.g., aggregate characteristics), social (e.g., institutional), and physical environments. As with Bronfenbrenner’s Ecological Systems Theory, this environmental taxonomy of the EMA reflects the integration of levels central to developmental science theories. Lawton (1989) addresses the underlying premise of agency to the EMA, particularly to competence—which then informs the definition of environmental press—and his later incorporation of proactivity—which then informs the range of environmental resources likely to be accessed. In regard to the central themes of developmental science theory, the EMA is a relational metatheory integrating organizational levels and certainly embodies human agency as central to the model. It does not address social embeddedness and temporality as Lawton (1989, p. 57) himself recognizes: “The language of process, temporal state, and development must be supplied by those more gifted than I.” Thus, the Ecological Model of Aging exhibits two of the four central themes of developmental science theory (see Table 2).

The Older Person, the Environment, and the Life Course

Soon after Lawton’s death, an *Annual Review of Gerontology and Geriatrics* focused on socio-physical environments with a couple of chapters introducing a lifespan or life course perspective as relevant to environmental gerontology (Rubinstein & de Medeiros, 2004; Wahl & Lang, 2004). Rubinstein and de Medeiros (2004, p. 64) critique behavioral P-E models such as the EMA by arguing that “P-E fit can be altered by the elder’s consciousness of the life world, by how the older person experiences the self, by how the person individually interprets cultural meaning, and the importance of place in later life.” Rubinstein and de Medeiros’s approach highlights two roles of culture in the P-E transaction:

1. as an originating frame of reference colored by assumptions about space, language, narration, expectations of self and others; and
2. as a mediating, or interpretive, lens for ongoing transactions that is shaped by an individual’s past experiences, social status and the like.

Table 2. Theoretical Approaches Within Environmental Gerontology Examined in Terms of the Central Themes of Developmental Science Theory

Selected environmental gerontology approaches	Developmental science theory criteria			
	Relational metatheory & integrated levels of organization	Social embeddedness	Temporality	Human agency
Ecological Model of Aging (Lawton & Nahemow, 1973; Lawton, 1989)	<input type="checkbox"/>			<input type="checkbox"/>
Rubenstein & de Medeiros Model (2004)		<input type="checkbox"/>	<input type="checkbox"/>	
Socio-Physical Place Over Time (SPOT) (Wahl & Lang, 2004)		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ecological Model of Place (EFP)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

This notion of culture is suggested in the concept of “program” found within the EFP, in that the program of a place contains the socially-shared expectations associated with that place that would then both inform action and then shape the subsequent interpretation of the result of that action. The concepts of place roles and rules may help illustrate the point in that places need to have certain roles fulfilled by enacting certain rules and therefore an agentic place participant would seek to serve a role in a manner that would further both their own project as well as what Pred would call the “institutional project” of the place. As an originating frame, the person may well know the role they seek to play, but inability to do so, such as due to physical or cognitive loss, would then be interpreted as having failed to provide their role and hence perhaps weaken one’s sense of social role or status. Golant’s (2011) theory of residential normalcy would view this as a loss in residential mastery and such an assessment would likely trigger either or both accommodative or assimilative coping strategies ranging from redefining their own sense of self and their role to avoiding the place altogether in the future.

In the same volume, Wahl and Lang (2004) present their theoretical concept of “Socio-Physical Place Over Time” (SPOT). This was an explicit attempt to recognize the ubiquitous role of the social dimension in the experience of the physical environment (“Socio-Physical Place”) as well as the intersection of place, time and meaning as experienced through the life course. In fact, they specifically make connections to numerous development theories (Antonucci, 1990; Baltes, 1996; Carstensen, 1995) in emphasizing that the experience of place has plasticity. While the EMA may be interpreted as accounting for plasticity in individual abilities as well as between environments, SPOT now incorporates both time and socially constructed meaning as salient factors in observed variation.

Significantly, Wahl and Lang (2004) explicitly suggest that place is socially constructed. Wahl and Lang (2004, pp. 17-18) suggest that place should be viewed as encompassing three premises:

1. “behavior is embedded” in places, which “combine both a physical-spatial as well as social-cultural dimension”;
2. places are “socially-constructed . . . socially shaped” physical environments; and
3. “places are dynamic and show both change and stability over time, as people age.”

Regrettably, for all its emphasis on place, SPOT theory does not truly define a place. Rather, but nonetheless importantly, they provide the three criteria outlined above for the construct of place which the EFP exemplifies. The embedding of behavior within a physical-spatial and social-cultural milieu is implied by the constructs of physical setting, people, and program within which activities take place.

The second criterion of places being socially-constructed is an essential characteristic that the EFP claims by describing place as a socially understood milieu involving shared expectations (Program) associated with a particular set of people acting within a particular physical setting, which makes co-action possible. From a developmental science perspective, this almost perfectly aligns with Bronfenbrenner (1977, p. 514), although for Bronfenbrenner the meaning of the terms place and setting are reversed when he writes, “A setting (*what here would be termed place*) is defined as a place (*here referred to as setting*) with particular physical features in which the participants engage in particular activities in particular roles . . . for particular periods of time.” This aligns fairly tightly with the early definition of place within environmental gerontology articulated by Gubrium (1978, p. 28): “By place, I mean geographic locations . . . that are taken for granted to have certain meanings on particular occasions when specific people are gathered there.” All three of these definitions underscore the idea that all human activity occurs in terms of worlds of meaning and that place is a central concept in addressing that developed sense of meaning. Place is best construed as

socio-physical in nature and of a more stable, predictable, and consensually understood nature than one's own idiosyncratic experience of a place.

Wahl and Lang's third premise reflects an extension of Lang's (2004) goal-resource-congruence model of social motivation across the lifespan, wherein the social roles one enacts are apt to change with age on the basis of resource availability. Within the EFP, Lang's goal-resource congruence model suggests three potential dynamics: that decrements in physical or cognitive abilities affect one's capacity to enact expected behaviors (activity); that one's abilities to manage (physical setting) resources modulate with aging; and that socially shared expectations of places (program) are likely to evolve over time as well. These variations would indeed make places dynamic and our place experiences of them shaped by the life course (cf. Rubinstein & de Medeiros, 2004). As such, time is also intrinsic to the concept of place within the EFP.

If we were to view these recent theoretical developments in environmental gerontology through the lens of developmental science, one can observe an increased emphasis on the weaknesses found in the EMA, namely temporality and social embeddedness (see Table 2). Clearly, Wahl and Lang (2004) argue that place may be the essential integrative theoretical concept to connect environmental gerontology to life course perspectives—the launching pad for this particular inquiry.

DISCUSSION

The purpose of the EFP is to serve as a heuristic framework to inform research, architectural design, and care interventions acknowledging the powerful role place plays throughout the life course and particularly in later life. The theoretical, methodological, and praxiological implications of this model will be discussed.

Theoretical Implications

The EFP is designed to be an accommodative heuristic, useful for both informing and critiquing other environmental gerontology theory. Certainly, the Ecological Model of Aging fits within the EFP as it conceptualizes People as an individual with a focus on their competence and the environment as having certain properties that create press. The agency on which the EMA focuses, namely competence, is what Hitlin and Elder (2007) refer to as pragmatic agency and as manifested in observable activity. The EFP suggests that research conducted within the EMA approach may overlook important aspects of developmental science such as time and the socially-shared aspects of place experience—similar to Rubinstein and de Medeiros' (2004) critique discussed previously.

Conversely, the work of Rubinstein tends to focus on the role culture—understood as mediating lens—plays in place experience. This work offers much insight into understanding the processes by which various aspects of the model are

connected. Rubinstein's (1989) social-centered processes, which focuses on social norms and relationships to others, link the social expectations of the Program with the Physical Setting. Person-centered processes, focusing on how the life course informs negotiation between the person with the Program, and body-centered processes link the individual with the Physical Setting. The EFP offers Rubinstein's theorizing a tangible framework for discussing these various processes and constructs in an integrated manner. It would also highlight those areas of concern that perhaps merit closer attention in this line of inquiry such as temporal factors ranging from diurnal and seasonal change of place to changes of the personality of place over the lifespan.

Wahl and Lang's (2004) SPOT Theory predictably aligns with the EFP closely, with the EFP offering a clear, if heuristic, definition of Place consistent with the premises asserted by the authors. As developmental theory informed the creation of the SPOT theory, it seems reasonable to assert that the same developmental theories—such as the Selective Optimization with Compensation (SOC) theory (Baltes, 1996) and the Socioemotional Selectivity Theory (SST) (Carstensen, 1995)—would have implications for the EFP. According to the SOC, older adults, in pursuit of achieving goals, engage in three processes: selection (narrowing the goals on which to focus), optimization (developing the means to achieve those selected goals), and compensation (seeking external resources for support when necessary). Thus, the SOC accepts agency as an underlying driving force as does the EFP. There may be potential in exploring the SOC model in relation to the EFP: which goals are most salient to each of the different agencies identified by Hitlin and Elder and how they may be facilitated by various places?

In the spirit of the SST (Carstensen, 1995), Lang suggests that as people progress through old age, belonging becomes of increasing salience compared to efficacy. Within the EFP, a focus on efficacy may first highlight the fit between person and the physical setting and secondarily address the socially-shared expectations of the transaction found in the negotiation with the program. Conversely, inquiry into belonging may place the program front and center and perhaps prioritize how to navigate relationships through place roles and rules so as to foster belonging. Golant's (2011) Theory of Residential Normalcy discusses similar themes wherein residential mastery is akin to efficacy and residential comfort to belonging. The EFP would help normalcy researchers define a place and advance the theory by extending the socio-physical dimensions of the coping strategies people may employ. Some of this is implicit in the current theory of residential normalcy. Examples include accommodative strategies of reappraising the problem as unimportant (by changing their expectations of meeting societal norms) and comparing themselves more favorably to others (e.g., "it could be worse") and assimilative strategies of limiting friendships and avoiding their hassling experiences. But the notion of program potentially aids in understanding these strategies more fully. "Reappraising the problem" and "avoiding hassles" involve assessing the place rules and roles and finding

aspects of those unmanageable. Rather than confront this misfit, the person chooses to no longer be a place participant in the same way. As a second example, “comparing themselves” would highlight the intrapersonal construction of place rules and roles schemas and how assessment plays a vital role in place experience. The EFP would also identify that coping strategies are often not just an individual matter but involve others such as caregiving family members.

Methodological Implications

Recall that developmental science typically recognizes the idiographic, nomothetic, and differential natures of holistic human systems (Lerner, 2007). Perhaps best exemplified in the discussion of agency and the EFP, the EFP demands subjective, objective, and social normative (cf. Lawton, 1991)/consensual (cf. Berger & Luckmann, 1967) types of data which align respectively to the natures identified by Lerner. Thus, there are inherently three different types of understanding one would seek to understand the developmental system implied by the EFP and, given Lerner’s statement, likely found in other developmental theories. This suggests the use of multiple methods, and, as is typically suggested in developmental science, within longitudinal designs so as to observe change and stability over time. It also strongly implies the consideration of multilevel, longitudinal, and structural equation modeling for quantitative analysis. However, it is important to note that due to the resources dedicated to such endeavors it is imperative that there exist an integrative framework by which to frame disparate findings which pursue more narrowly bounded inquiries and synthesize them together meaningfully. The EFP is offered as a possible heuristic to serve that role.

Intrinsically, the EFP suggests that knowledge has three characteristics. First, knowledge is constructed and therefore is always subject to review and reconstruction. Second, knowledge is related to its context and thus issues of ecological validity and utility are of great concern. Third, because of this relational and constructed nature, contingent knowledge can only be understood if relationships are studied. Similarly, there is no privileging of data; rather, idiographic, nomothetic, and differential data types are useful to inform interpretations of different questions. Hence, the EFP, like developmental science, might be viewed as epistemologically inclusive.

Praxiological Implications

The Ecological Framework of Place, or preceding variants of it, has been used to inform system change in numerous professional efforts. As an architect, the author has used the framework to situate the understanding of the design problem in numerous professional consultations (Diaz Moore, 2012). Importantly, the framework provides a systemic frame so that an architect may better recognize that not all issues are best addressed through physical design, but may be the result of myriad factors including organizational practices, for instance, as embodied

in place rules/roles. The utility of the framework for informing interventions has been discussed (Diaz Moore, 2012) and illustrated elsewhere (Diaz Moore et al., 2006; Geboy, 2005; Geboy & Meyer-Arnold, 2011), most notably employed in community-based settings. Geboy and Meyer-Arnold (2011) emphasize the utility of the framework not only for architectural design, but also in shaping care practices (such as person-centered care), organization structure, and the like.

The incorporation of program as a core concept is useful for making systemic and integrated architectural decision-making in two specific ways. First, program is a common concept within architecture and although often thought of in terms of adjacencies, square feet, and cost, has embedded within it experiential intentions (Weisman, 2001). Thus, the common language between care organizations and architects may well be the attributes of experience desired (e.g., privacy, orientation). Subsequent decisions, such as cost and square footage, are then seen as embodied with intentionality and reflecting value positions. Second, the framework suggests those intentions will always be impacted by not only the physical setting, but by people and the activities that eventually occur therein. All too often care providers seek new care models and architects envision new environments as we are all subject to seeing the world as a nail if what we have is a hammer. This framework helps keep in balance the negotiation between population, care model, and architecture essential to good places.

CONCLUSION

The Ecological Framework of Place is intended as a heuristic for describing phenomena, generating research questions and hypotheses, and guiding strategic architectural and organizational interventions in relation to places serving older adults that is respectful of the fundamental role the life course plays in shaping experience and sense of self. This framework offers three substantive advances for research and practice in environmental gerontology. First, the heuristic explicitly adopts the themes of developmental science and thereby is applicable across the lifespan, enabling future longitudinal comparisons and connections. Second, the framework explicitly incorporates activity as the catalyst for place experience, the social negotiation of place experience (Program) and the physical setting together in the same model. Third, the framework may be effectively linked with considerations of human agency in a manner that raises provocative questions for environmental gerontology.

As the ecology of older persons is investigated in accord with the EFP, our understanding about places for older persons will become clearer, more organized, and synthesized. The heuristic raises some broad questions that ought to be foundational to environmental gerontology studies:

- Is a given place attribute to be understood individually (sense of place) or collectively?

- Of the broad range of human behavior, what specific activities are most pertinent to study?
- What aspects of people (motivation, cognition, affect, competence, schemas/repertoires, life history) should be most relevant to environmental gerontologists?
- How is the physical setting being understood (sensory and spatial properties, components/systems) by older adults? By older adults with dementia?
- How does a program facilitate or constrain the person-environment transaction?

There is particular value in the EFP as a lens not only for facilitating research but also guiding design interventions that are more enabling for older adults. If we accept that the goal of environmental gerontology is “to develop theory- and research-informed interventions that will produce, sustain, and improve healthy outcomes for elders who move about and reside within everyday environments” (Scheidt & Schwarz, 2010, p. 160), the EFP’s distinct advantage lies in its explicit incorporation of practice dimensions intrinsically included by the concept of program.

Certainly, the model has weaknesses. It is not in any way an explanatory theory and, traditionally, such models have served as the basis of much environmental gerontology research. The EFP is very much a conceptual framework designed to organize and connect inquiry, directing the attention of the analysis to critical features of the social and physical landscape. The key concept of program has been understood here in terms of place rules and roles, but there may well be more robust ways in which to consider the socially-shared understandings of place. Similarly, place as a concept has always had its critics, suggestive it is an unnecessary, supra-construct that only muddies empirical waters (Rapoport, 1994). The operationalization of the framework, as with the Ecological Model of Aging, is open to myriad pursuits suggestive of a lack of precision. Then again, its purpose is to offer a heuristic structure by which to synthesize meaningful points of knowledge, whether empirical, theoretical, or practical.

Perhaps the EFP’s greatest advance lies in the promotion of the program construct, and through that construct, wider recognition of the socially shared aspects of place experience, which emphasize agency-driven patterns of activity, such as rituals and routines, and their associated temporal, procedural, and symbolic characteristics. Though no doubt difficult to operationalize, these socio-culturally defined understandings have a profound influence on the place experiences of older adults (Diaz Moore & Ekerdt, 2011; Rowles, 1983; Rubinstein, 1989). The program also offers a construct through which the negotiation of place involving people at various levels of aggregation may be meaningfully connected as one could potentially discuss the understood roles and rules of the organization versus the individual, or how the implied rules and roles found in institutional regulation may delimit the enacted rules and roles of an organization. Similarly, rules and roles could be compared across time. Do the place roles and

rules of the workplace differ as one moves from full-time to semi-retired to retired for instance? As a next step in environmental gerontology, the framework urges researchers to consider both the life course and the socially shared aspects of place experience to more fully understand the integral role place plays in the experience of aging and human development.

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