Merleau-Ponty, Perception, and Environmental Embodiment: Implications for Architectural and Environmental Studies

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I am not in space and time, nor do I conceive space and time; I belong to them, my body combines with them and includes them (PhP 140).

The ontological world and body which we find at the core of the subject are not the world or body as idea, but on the one hand the world itself contracted into a comprehensive grasp, and on the other the body itself as a knowing-body (PhP 408).

Abstract
In this chapter, I draw on Merleau-Ponty’s philosophy to explore environmental embodiment—the various lived ways, sensorily and motility-wise, that the body in its pre-reflective perceptual presence engages and synchronizes with the world at hand, especially its architectural and environmental aspects. First, I consider Merleau-Ponty’s interpretation of perception, giving particular attention to his claim that perception involves a lived dynamic between perceptual body and world such that aspects of the world—for example, the heavy hardness of a granite block or the cool smoothness of a chrome railing—are known because they immediately evoke in the lived body their experienced qualities.

Second, I consider the architectural and environmental significance of what Merleau-Ponty calls body-subject—pre-reflective corporeal awareness expressed through action and typically in sync with and enmeshed in the physical world in which the action unfolds. I focus on the taken-for-granted sensibility of body-subject to manifest in extended ways over time and space. I ask how routine actions and behaviors of individuals coming together regularly in an environment can transform that environment into a place with a unique dynamic and character—a lived situation I term place ballet. For both perception and body-subject, I consider how qualities of the physical and designable world—for example, materiality, form, and spatiality—contribute to the lived body’s engagement with and actions in the world.

Introduction
In all his work, phenomenological philosopher Maurice Merleau-Ponty asks one central question: how can it be that human beings are present to a world that immediately makes sense? Most of the time, we find ourselves in a particular moment of comprehensible experience that includes a taken-for-granted but understandable world. Qualities and situations of that world continually shift in specificity and emphases, but, typically, that world is always already present, and we need do nothing for that presence to be so. In the sense that the world at every moment discloses itself in a particular way without any necessary effort on our part, we can say we are enmeshed in the world, which, simultaneously, is enmeshed in us.

Merleau-Ponty argues that the lived foundation of this human-world enmeshment is perception, which, in turn, he relates to the lived body—in other words, a body that
simultaneously experiences, acts in, and is aware of a world that, normally, responds with immediate pattern, meaning, and contextual presence. Merleau-Ponty understands the lived body as a latent, lived relationship between an intelligent but pre-reflective body and the world it encounters and perceives through continuous immersion, awareness, and actions. As philosopher David Morris (2008, 111) writes, “the lived body is one’s intentional opening to the world, through which alone one experiences meaningful things in the first place.”

In this chapter, I focus on what might be called environmental embodiment—in other words, the various lived ways, sensorily and motility-wise, that the body in its pre-reflective perceptual presence engages and synchronizes with the world at hand, especially its architectural and environmental aspects (Finlay 2006, Low 2003, Moss and Dyck 2008, Seamon 2000). In the first part of the chapter, I consider Merleau-Ponty’s interpretation of perception as a foundational phenomenon not easily grasped intellectually and, in fact, existentially preceding any conscious awareness or conceptual definition. I give particular attention to Merleau-Ponty’s claim that perception involves a lived dynamic between perceptual body and world such that aspects of the world—for example, the heavy hardness of a granite block or the cool smoothness of a chrome railing—are known because they immediately evoke in the lived body their experienced qualities.

In the second part of the chapter, I consider the architectural and environmental significance of what Merleau-Ponty calls body-subject—in other words, pre-reflective corporeal awareness expressed through action and typically in sync with and enmeshed in the physical world in which the action unfolds. I focus on the taken-for-granted sensibility of body-subject to manifest in extended ways over time and space. I ask how routine actions and behaviors of individuals coming together regularly in an environment can sometimes transform that environment into a place with a unique dynamic and ambience—a lived situation I term place ballet.

In my discussion, I consider how qualities of the physical and designable world—for example, materiality, form, and spatiality—contribute to the lived body’s experiences of and actions in the world. I also ask how lived materiality and lived spatiality might be interpreted through Merleau-Ponty’s understanding of human-world enmeshment.

**Merleau-Ponty and Perception**

For Merleau-Ponty, perception is the immediate givenness of the world founded in corporeal sensibility (Cerbone 2008). He argues that perception is a foundational quality of human experience and meaning but emphasizes that it is difficult to grasp and articulate intellectually, first because its presence and significance typically lie beneath conscious cerebral awareness. Second, by its very nature, perception places itself in the background as it draws us out into the happenings of our world: “perception hides itself from itself… it is of the essence of [awareness] to forget its own phenomena thus enabling ‘things’ to be constituted…” (PhP 58). Merleau-Ponty’s central aim is to reconsider perception phenomenologically by “reawakening the basic experience of the world…” (PhP viii).

In *Phenomenology of Perception*, Merleau-Ponty claims that conventional philosophy and psychology have misunderstood perception, introducing erroneous, reductive concepts like sensations, stimuli, or judgments that misrepresent and therefore distort actual perceptual experience. In everyday life, the world is not engaged through
separate sensory units somehow translated into more organized meaning. Instead, the world we encounter makes immediate sense as all its parts—whether objects, living beings, situations, or events—fit readily into place. As I walk home caught in a sudden spring rainstorm, for example, my eyes pay attention to water puddles that my feet jump over as my hand adroitly repositions my umbrella at the angle most effective for deflecting the pelting rain. I feel wetness as water splatters on my ankles and hear and smell the rain as it strikes the earth.

Experiencing this event involves one continuously shifting fabric of sensory and bodily awareness and action that just happens—what Merleau-Ponty identifies as a “perceptual field” (PhP 4, 15). At each moment, some parts of this field are more prominently present in experience—for example, the next water puddle I must traverse or the sudden awareness that my left shoe is soaked. But at each instant, the more focused portion of my experience remains inescapably conjoined with the momentary, less central, aspects of the situation—the daffodils blooming along the picket fence I walk by or the pedestrian running up the street for the cover of his parked car. In short, perceptual experience always involves a continuously shifting figure and ground housed in a broader constellation of related significances and actions.

This perceptual field means that our lived awareness is not the sum of isolated sensory inputs or qualities but a dynamic commingling of sensory possibilities. Conventional philosophy and science have regularly sought to define and understand the five senses separately (Carman 2008, 67-74), but Merleau-Ponty emphasizes that, as sensory field, the senses intermingle and mutually resonate. As I walk home in the rain, its sight, sound, smell, and wetness are all together in a synergy of experience. The result is what Merleau-Ponty calls “synaesthetic perception”—“a whole already pregnant with an irreducible meaning…” (PhP 229, 21-22).

Merleau-Ponty claims that this lived synergy of the sensory field is grounded in the sensibilities and possibilities of the lived body that, by its very nature, evokes and engages meanings from the world: “My body is the fabric into which all objects are woven, and it is, at least in relation to the perceived world, the general instrument of my ‘comprehension’” (PhP 235). Here, we arrive at an aspect of Merleau-Ponty’s philosophy centrally relevant to architectural and environmental concerns: his claim that qualities of the world directly resonate with the lived body and thereby convey immediate meanings and ambiences, though typically at a tacit, unself-conscious level of awareness that only phenomenological efforts might be able to locate and to describe.

One of Merleau-Ponty’s most extensive discussions of the sensory commingling of lived body and things is in the chapter on sense experience in Phenomenology of Perception (229-30). He writes that “the senses intercommunicate by opening on to the structure of the thing” (PhP 229). He illustrates this claim through several specific examples of synesthetic interconnectedness: that we can see the softness of wood shavings or that we can hear the hard brittleness of breaking glass. Similarly, he points out that the form or movement of objects is not simply their visible shape or motion but a wider sensuous engagement: the shape of a fold in cotton or linen evokes “the resilience or dryness of the fibre, the coldness or warmth of the material” (PhP 229), while the particular way a tree branch rebounds as a bird flies away reveals the tree’s relative elasticity so that one immediately knows whether it is apple or birch (PhP 230). Yet again, one can see and feel the heaviness of a cast-iron block sinking into sand, see and
“touch” the wet fluidity of water, or “hear the hardness and unevenness of cobbles in the rattle of a carriage” (PhP 230). Though the senses’ modes of encounter may belong to “many separate worlds” and invoke different ways “of modulating the thing,” they all intertwine and resonate “through their significant core” (PhP 230).

**Perception, Architecture, and Environment**

What might Merleau-Ponty’s interpretation of perception mean for architectural and environmental concerns? His perspective is important because the perceptual, bodily intertwining between experiencer and thing provides a means to circumvent conventional conceptual dualisms like inner/outer, subject/object, person/world, and people/environment. In Merleau-Ponty’s phenomenological account of perception, human beings are not first subjects who then determine and define the object before them, nor is that object a mute, fully determinate thing that only then imposes itself upon experiencers (Evans 2008, 185). Rather, through bodily perception, we immediately engage with and are aware of the thing because it immediately and mutually engages with us to offer a reciprocating, pre-reflective sensibility and signification. As philosopher Fred Evans (ibid., 186) explains, “This simultaneous entwinement is the only way we and these objects exist for one another.”

Already in architectural and environmental research, there have been several important efforts to draw on Merleau-Ponty’s insights on embodied perception, and I highlight some of these studies here. One example is philosopher Patricia Locke’s perceptive Merleau-Pontyan interpretation of the Native-American Haida tribe of the Pacific Northwest, including a revealing explication of how the Haidas’ cedar-plank houses, through their form, spaces, ornament, and associated rituals, simultaneously sustain and evoke the Haida world (Locke 2007). In his comprehensive ethnographic study of the Tlingit, a Native-American tribe of the southeastern Alaskan coast, anthropologist Thomas Thornton (2008) draws on Merleau-Ponty to interpret the Tlingits’ rich spatial and environmental language for “perceptual change according to relational distance” (145). Thornton finds that the Tlingit have words for objects very close and always present; for objects farther away but still available; for objects so far away they are practically unreachable; and for objects and situations “beyond all perceptual recognition” (ibid.). Emphasizing that cultural differences can contribute to social and place variations in the sensory field and to person-world intertwinement, Thornton writes that the “relative efficacy of such fine-grained distinctions for a maritime hunting-gathering people can hardly be overestimated.”

One of the most innovative uses of Merleau-Ponty’s understanding of bodily perception is archeologist Christopher Tilley’s phenomenological efforts to develop a kinesthetic approach to the interpretation of images drawn on rocks in prehistoric European landscapes (Tilley 2004, 2008). One of Tilley’s case studies, for example, examines the links between megalithic architecture and rock imagery in the context of the middle Neolithic landscape in eastern Ireland, while another study considers western Norwegian Mesolithic rock images depicting forage animals (Tilley 2008). Tilley draws directly on Merleau-Ponty’s understanding of perception to argue that the meaning of rock-art images is “as much a matter of flesh, of sensation, of feeling, of corporeality as it is a matter of cognition or mental process” (ibid., 39). His focus of concern is “the kinesthetic relationship among person, place, and landscape.” Tilley writes:
I wanted to experiment with a phenomenologically informed kinesthetic approach to the rock art. In other words, I was interested in what effects the carvings themselves had on my body as someone looking at them: What did I have to do to see the carvings? How did I have to move? How did the quality of the stone itself (color, smoothness, presence of absence of cracks, surface morphology, size, and the like) affect my perception and relate to the position of the carvings? How might the location of the rock in the landscape affect my perception of it in relation to my surroundings? (ibid., 16).

There have also been recent studies that consider what a Merleau-Pontyan approach might offer environmental design and what resulting buildings and places might be like (Blesser and Salter 2007; Imrie 2003, 63-64; Malnar and Vodvarka 2004, Rush 2008). For example, architect and architectural theorist Juhani Pallasmaa (2005a & b, 2009) draws partly on Merleau-Ponty to argue that much contemporary architectural design is dominated by the sense of sight with the result that buildings may be striking visually but have largely lost any expression of plasticity and multivalent sensuousness. Making use of Merleau-Ponty’s depiction of artist Paul Cézanne’s aim in painting, Pallasmaa (2005b, 46) argues that the architectural task is “to make visible how the world touches us” (SNS, 19). The result might be buildings that evoke “embodied and lived existential metaphors that concretize and structure our being in the world” (2005b, 71).

In a related way, architect Rachel McCann (2005, 2008) explores how Merleau-Ponty’s presentation of embodied perception might have value for architectural education. In calling for a design pedagogy that recognizes bodily engagement and incorporates the primacy of people’s lived connections with the physical world, she envisions a designed environment that “celebrates multi-sensory involvement, offers different amounts of detail to the view at different distances, and gives careful attention to evanescent qualities of light, shadow, and color” (2005, 10).

One valuable introductory work for attuning design students to the corporeal and sensory dimensions of architecture is architectural theorist Thomas Thiis-Evensen’s Archetypes in Architecture, a phenomenology of architectural experience as encountered through the lived body (1989). Thiis-Evensen’s aim is to understand “the universality of architectural expression” (ibid., 8); his interpretive means is what he calls architectural archetypes—“the most basic elements of architecture,” which he identifies as floor, wall, and roof (ibid.). Thiis-Evensen argues that the lived commonality of floor, wall, and roof is their making an inside in the midst of an outside, though in different ways: the floor, through above and beneath; the wall, through within and around; and the roof, through over and under.

Thiis-Evensen proposes that a building’s relative degree of insideness and outsideness in regard to floor, wall, and roof can be clarified through what he calls three “existential expressions” of architecture: motion, weight, and substance (ibid., 21). By motion, he means an architectural element’s lived sense of dynamism or inertia—i.e., whether the element seems to expand, to contract, or to rest in balance. In turn, weight refers to the element’s lived sense of heaviness or lightness, while substance involves the element’s lived sense of material expression—whether it seems soft or hard, coarse or fine, warm or cold, and so forth (figure 1). Using examples from architectural history as descriptive evidence, Thiis-Evensen generates an intricate lived language arising from and reflecting corporeal and sensory experience. For example, he discusses stairs as one kind of directed floor and explores how a stairs’ material and spatial qualities of slope, breadth, form, and relative connectedness to the ground contribute to varying sensuous and bodily
experiences of motion, weight, and substance (ibid., 89-113). His architectural interpretation offers one innovative heuristic means for detailing the tacit, pre-reflective relationship between experiencer and the built world.


 Merleau-Ponty and Body-Subject

In his overview of Merleau-Ponty’s work, philosopher Taylor Carman (2008, 78-79) argues that, for conceptual purposes, one can distinguish between two aspects of perception: first, a sensory dimension that more often involves a passivity of sense experience; and, second, a more active motor dimension, which relates to bodily actions and skills and typically involves corporeal movement and activity. In the realm of everyday experience, however, these sensory and motor dimensions are never separate but, through the sensory field, work together seamlessly so that awareness and action unfold as an integrated, continuous experience.

In this chapter, I discuss these two perceptual aspects separately because, conceptually, they point toward different experiential emphases in regard to architectural and environmental concerns. As I suggested above, sensory aspects of perception relate first of all to material qualities like tactility and visual appearance that we are aware of as bodies-in-place-encountering-world (Casey 2009). Through the lived scale of immediate sensory awareness, we experience the world at hand without necessarily having to shift our bodily location in relation to that world. In other words, even when I am completely at rest bodily, a world is before me through sensory presence, which typically reaches its farthest environmental extent through what I can hear and see in the world around me accessible to hearing and seeing (ibid., 321). In regard to urban design, for example, one can consider the lived relationship between sensory experience and more physically distant architectural and environmental qualities that constitute a particular urban place. For instance, how do street length and layout relate to my seeing where I wish to go in relation to where I presently am (Bentley et al. 1985, Hillier 1996)? Or how do architectural qualities like siting, massing, scale, proportion, rhythm, and materials contribute to the particular perceptual gestalt and place ambience of a city streetscape, neighborhood, or district (Carmona et al. 2003, 156-58; Thiss-Evensen 1999)?

In shifting from sensory experience of the environment to the bodily movements of a “lived geography,” we turn to Merleau-Ponty’s presentation of perception’s motor dimension. Obviously, human beings are mobile creatures whose lived spaces incorporate places, pathways, origin points, and destinations often at a distance from one’s present location. Merleau-Ponty’s central notion relevant to bodily mobility is the body schema, or body subject, as I call it here. Body-subject refers to the pre-cognitive intelligence of the body manifested through action and intertwining with the world at hand. “Consciousness,” Merleau-Ponty (PhP 138-39) writes, “is being towards the thing through the intermediary of the body. A movement is learned when the body has understood it, that is, when it has incorporated it into its ‘world’, and to move one’s body is to aim at things through it; it is to allow oneself to respond to their call….” This manner of bodily being points toward an intentional corporeal unfolding in the world as that world sustains the unfolding. Morris
aptly describes the situation as “a living meaning embedded in being in the world.”

A central architectural and environmental concern is how such embedded corporeal meaning might be understood in regard to larger-scaled bodily movements unfolding in relation to rooms, buildings, streets, public open spaces, and the like. In *Phenomenology of Perception*, Merleau-Ponty provides several real-world examples of how body-subject automatically adjusts actions through movement space so there are no disruptions or accidents: a lady’s accommodating a hat with a feather, a motorist’s driving his automobile, and a blind man’s using his walking stick (PhP 143-46). In relation to architectural and environmental scales, Merleau-Ponty’s most significant example is his own bodily mastery of his apartment: “My flat is, for me, not a set of closely associated images. It remains a familiar domain round about me only as long as I still have ‘in my hands’ or ‘in my legs’ the main distances and directions involved, and as long as from my body intentional threads run out towards it” (PhP 130).

Drawing on Merleau-Ponty, other studies have pointed to the spatial versatility of body-subject as expressed in more complex bodily ensembles extending over time and space and fashioning a wider lived geography (Allen 2004, Hill 1985, Seamon 1979, Toombs 1994). In my work (Seamon 1979), I have highlighted two such bodily ensembles: first, *body-routines*—sets of integrated gestures, behaviors, and actions that sustain a particular task or aim, for example, preparing a meal, driving a car, doing home repair, and so forth; and, second, *time-space routines*—sets of more or less habitual bodily actions that extend through a considerable portion of time, for example, a getting-up routine, or a weekday going-to-lunch routine (*ibid.*). We can return to my earlier example of walking in the rain, which is an atypical portion of my more typical “walking-home-from-work” routine that, during the university year, involves leaving my office at about 5:30 pm each weekday and traversing the one-mile distance to my house almost always along the same streets and often encountering the same people, themselves going home or walking their dogs.

Perhaps most pertinent to architectural and environmental concerns is the possibility that, in a supportive physical environment, individuals’ bodily routines can intermingle in time and space, thereby contributing to a larger-scale environmental ensemble that I have called, after the earlier observations of urban critic Jane Jacobs (1961, 50), a *place ballet*—an interaction of individual bodily routines rooted in a particular environment, which often becomes an important place of interpersonal and communal exchange, meaning, and attachment, for example, a well-used student lounge, a busy diner, a lively city street, a robust urban plaza, or a thriving city neighborhood (Fullilove 2004, Oldenburg 2001, Seamon 1979, 2007; Seamon and Nordin 1980).

How might such wider-scaled time-space and place ensembles be understood from Merleau-Ponty’s perspective? One helpful interpretation is provided by Morris (2004), who seeks a language to make Merleau-Ponty’s description of body-subject more dynamic by demonstrating “how the moving body is inherently open to the world” (*ibid.*, viii). Morris identifies what he calls “the crossing of body and world,” by which he means “a flowing threshold that overlaps body and world” (*ibid.*, 6). In other words, neither the experiencing body nor the world experienced is separate and self-contained but “inherently interdependent”: “the body is in the depths of the world, yet in those depths through a flowing threshold that overlaps body and world” (*ibid.*). Morris emphasizes
that “the sense of space is rooted in that crossing” (ibid., 5), an interpretation that can accommodate the wider-scaled “flowing thresholds” of time-space routines and place ballets in that these bodily ensembles are taken-for-granted lifeworld means whereby people readily orient themselves in and negotiate everyday lived space.

Morris also speaks of sens [sense]—“meaning as arising within directed movement that crosses body and world” (ibid., p. 24). He explains that there is sens expressed through and arising from the body’s moving directedness toward the world: “Sens ... is neither a meaning in the head nor is it interior to subjectivity; it is a meaning within a movement that crosses body and world” (ibid.). In regard to the time-space extensions of body-subject, one might speak of an environmental and place sens in that body-subject ensembles of individuals unfold regularly in time and space and thus contribute to a world that is automatically meaningful in its corporeal order and temporal-spatial dynamic.

At the same time, if the environment is physically supportive, these individual body-subject crossings and sensibilities may fuse as the intercorporeal ensemble of place ballet. In this case, not only do individual body-subjects and their world gain and offer regularity and meaning but, in addition, there arises the possibility of a larger lived structure of place founded on the everyday comings and goings of many people carrying out their own ordinary needs, obligations, and activities. Out of individual bodily actions automatically intermingling in space unfolds a larger lived synergy of place. As phenomenological philosopher Edward Casey (2009, 327) explains, “lived bodies belong to places and help to constitute them” but, simultaneously, “places belong to lived bodies and depend on them.” He writes:

[The body is the specific medium for experiencing a [place]. The lived body is the material condition of possibility for the [place] while being itself a member of that same world. It is basic to place and part of place. Just as there are no places without the bodies that sustain and vivify them, so there are no lived bodies without the places they inhabit and traverse….Bodies and places are connatural terms. They interanimate each other (ibid.).]

**Body-Subject, Architecture, and Environment**

I next consider how qualities of the world, particularly its physical, potentially-designable features, might sustain and enhance the time-space manifestations of body-subject, including place ballet, and thereby play a role in effective place making. When we shift to larger-scale environmental dimensions like land-use patterns, functional activities, and pathway configuration, it becomes more difficult to see their interpretive place in Merleau-Ponty’s perspective. “Our sense of space,” writes Morris, “is enfolded in an outside, in a world that crosses our body” (ibid., p. 6). But how, from Merleau-Ponty’s perspective, do we describe this body-space enfolding as larger-scale spatial and environmental qualities might contribute to its constitution?

Before I address this question, I want to illustrate “larger-scale qualities” by using pathway configuration as an example. I ask whether the particular spatial configuration of pathways support people’s coming together bodily in space or remaining apart. How, for example, does the spatial layout of city sidewalks and streets contribute to whether urbanites meet in co-presence and co-awareness and thereby generate urban places that are active and robust rather than empty and lifeless?
In exploring this potential relationship between lived body and pathway configuration, I draw on an example that may seem at first glance contrary to Merleau-Pontyan phenomenology: the analytic, instrumentalist work of architectural theorist Bill Hillier and colleagues (Hillier 1996, Hillier and Hansen 1984), who have developed a theory called *space syntax*, which examines measurable, empirical connections between spatial structure and human movement, especially pedestrians traversing cities. Hillier’s work is relevant to a Merleau-Pontyan phenomenology of environmental embodiment because he demonstrates, albeit in reductive, objectivist fashion, that different pathway arrangements contribute to how individual moving bodies come together in bodily co-presence and co-awareness or stay spatially separated. Partly through empirical studies of pre-modern settlements in southern France and elsewhere, Hillier came to realize that these places incorporate a pathway configuration he calls the *beady-ring structure*. In looking at the map of the small French town of Gassin (figure 2), for example, one notes that, first, building entrances face directly on town open spaces; second, the streets of the town narrow and widen like beads on a string; and, third, these streets form a series of rings and loops. This irregular ringed structure, coupled with direct building entry, gives Gassin a high degree of connectivity and access in that there are many potential routes along which one can move through the town. Once one knows Gassin well, it is relatively easy, in terms of convenient building entries and pathways, to get from one place to another. Because it is highly permeable and richly interconnected, the town’s pathway system readily supports smooth and efficient pedestrian movement.

![Figures 2 & 3 about here](image)

By developing a series of topological measures based partly on graph theory, Hillier eventually established a quantitative means to predict, in a particular settlement system, the pathways with the most and least amounts of pedestrian movement. Figure 3 illustrates Gassin’s summary movement map, in which streets of greatest and least movement activity are represented, respectively, by solid and hatched lines. Hillier discovered that, for many pre-modern settlements throughout the world, including cities, the underlying pathway structure of the most active streets (solid lines in figure 3) reflects what he called a *deformed wheel*—in other words, a pathway structure that roughly suggests a wheel whose rim, hub, and spokes mark the streets that most powerfully draw to themselves the pedestrian movement from less active streets and, thereby, are alive with commerce, street activity, and public life (Hillier 1989, 1996). Hillier also discovered that, nestled between these more active pathways of the deformed wheel are less used streets (hatched lines) that deflect pedestrian movement and, typically, indicate residential pockets of quiet and seclusion. Hillier concludes that, for many traditional settlements, the most active areas abut the quietest areas: the places of street life, publicness, and strangers’ mixing with locals are a short distance from the more private, residential areas used mostly by locals only. Publicness and privacy, work and home, outsiders and insiders, movement and rest, activity and quiet—all lie apart geographically yet close together existentially. Hillier (1989, 11) explains:
By linking the interior of the settlement to the periphery in several directions—and always in the direction of the main entrances to the settlement and the neighboring towns—the effect of the [most active] lines is to access the central areas of the town from outside, while at the same time keeping the core lines close to the [less active] areas, in effect linking them together. Since the core lines are those that are most used by people, and also those on which most space-dependent facilities like shops are located, and the [less active] areas are primarily residential, the effect of the core is to structure the path of strangers through the settlement, while at the same time keeping them in a close interface with inhabitants moving about inside the town. The structure of the core not only accesses strangers into the interior of the town, but also ensures that they are in a constant probabilistic interface with moving inhabitants.

In terms of environmental embodiment and Merleau-Ponty’s body-subject, Hillier’s work is instructive because it suggests that larger-scaled environmental qualities like pathway configuration contribute to the particular lived geography of a place, including how lived bodies moving through space come together interpersonally and communally (Hillier 2005). Though Hillier’s quantitative measures and mappings are a limited, secondhand rendition of the lived environmental richness of body-subjects-meeting-in-space-that-becomes-place, his empirical evidence does suggest that widening environmental and spatial dimensions of the world offer an environmental “field” for interpersonal corporeality to unfold in one way rather than another. I repeat Morris’ claim that “Our sense of space is enfolded in an outside, in a world that crosses our body” (2008, 6). In terms of pathway configuration and other environmental and architectural aspects of the world, one might say that lived body, lived space, and lived environment are mutually enfolded, each in the other, and all grounded in and engaging perception and body-subject: “on the one hand the world itself contracted into a comprehensive grasp, and on the other the body itself as a knowing-body” (PhP 408).

**Merleau-Ponty, Architecture, and Environment**

For researchers trained in architecture and the environmental disciplines, Merleau-Ponty’s understanding of people-in-world is difficult to grasp because we have been so thoroughly educated in a dualistic Cartesian tradition assuming that environment shapes people, or people shape environment, or the two mutually shape each other. In all his work, Merleau-Ponty attempts to circumvent any dualistic relationship, since always because of the lived body, people and world are intertwined; they are existentially one rather than conceptually two.

In his interpretation of Merleau-Ponty’s understanding of environment, philosopher Shaun Gallagher (1986, 163) points out that, on one hand, the lived body can be said to incorporate environment: “Phenomenally, the environment is precisely a ‘manipulatory area’ for the lived body—something potentially to be taken up and incorporated” (ibid.). This incorporation is seen in Merleau-Ponty’s examples of feather and cane that cease to be objects as the fashionable woman and the blind man become sensible to them as bodily extensions and thereby integrate them into body-subject and world (ibid.). This incorporation is also seen in time-space routines and place ballets that contribute to the lived body’s inhabiting place. In this sense, the environment is a distance-gathering protraction of perception and body-subject:

All of these incorporations or embodiments require the same ability to appropriate ‘boundaries and directions’ in a given environment, to establish ‘lines of force’, in short, to organize the environment, ‘to build into the geographical setting a behavioral one’ [PhP 112]. Geographically, or objectively, the environment is distinguished as standing over and against the living body.
Phenomenally, or experientially, the environment is an indefinite extension of the lived body (Gallagher, *ibid.*).

But Gallagher also points out that the environment “conditions the body in such a way that the body is the expression or reflection of the environment” (*ibid.*). In this sense, the environment appropriates the lived body and thereby contributes to the particular manner through which individuals and groups inhabit a world. As Merleau-Ponty writes, “the environment is that living connection comparable, or rather identical, with the existing parts of my body itself” (PhP 205).

Gallagher emphasizes that, ultimately, Merleau-Ponty seeks to circumvent any division between person and environment with the result that, in his last writings, he develops the notion of flesh—the intertwining of sense and being sensed, touch and being touched, encounter and being encountered, moving and being moved—a sort of “formative medium” between person and world, a kind of already-and-always-present commingling between experience and world experienced (VI 147). Importantly in this notion, there is the flesh of the lived body but there is also the flesh of the world—the appropriated environment (Aravot 2002, 209; Evans 2008, 188). As Merleau-Ponty writes:

> Where are we to put the limit between the body and the world, since the world is flesh?.... The world seen is not “in” my body, and my body is not “in” the visible world ultimately: as flesh applied to a flesh, the world neither surrounds it nor is surrounded by it. A participation in and kinship with the visible, the vision neither envelops it nor is enveloped by it definitely.... My body as a visible thing is contained within the full spectacle. But my seeing body subtends this visible body, and all the visibles with it. There is a reciprocal insertion and intertwining of one in the other (VI, 138).

Gallagher (*ibid.*) points out that, as this passage suggests, Merleau-Ponty ultimately envisions the person-world situation as a “kinship,” “communion,” “reciprocal insertion,” and mutual “intertwining.” In such experienced intimacy, the lived body neither envelops the environment “nor is enveloped by it in any definitive manner. The limits of one are lost in the other” (Gallagher, *ibid.*). This dynamic communion between the flesh of the body and the flesh of the world is the fulcrum of possibilities for architectural and environmental concerns. On one hand, we must better understand how the sensory and motor dimensions of the lived body contribute to place making, inhabitation, and human well being. On the other hand, we must better understand the parallel contribution of architectural, environmental, and spatial elements and qualities.

In this chapter, I have suggested what this way of understanding might entail by considering sensory and motor dimensions of environmental embodiment. Though the sensory and motor are always present together in architectural and environmental experience, I have argued that, for conceptual and heuristic purposes, they are usefully considered separately, since the sensory dimension more readily relates to the immediate environment of fully accessible things, while the motor dimension incorporates larger-scale actions and movements via which the full lived contribution of the environment (e.g., pathway configuration) can be known only through experientially-grasable parts as, for example, in the pleasure I feel walking down my favorite neighborhood street teeming with sidewalk life

Merleau-Ponty’s philosophy is difficult to understand, partly because the central phenomenon—the pre-conscious perception of the lived body—is almost always out of sight from conscious awareness. In everyday experience, this latent realm of presence can
only be caught in glimpses as when, for example, I suddenly realize, because it has fallen in a storm, how important a taken-for-granted tree was to the environmental aesthetics of my house and front yard; or I find myself walking to my former departmental office, even though a week ago I moved to a new space in a different wing of the building. For Merleau-Ponty, phenomenology offers a way to bring the latent, undisclosed dimensions of human experience and meaning to scholarly attention. His own efforts have revealed the remarkable but tacit sensibilities, understandings, and actions of the lived body as it always already engages the world at hand. Merleau-Ponty’s discoveries and interpretations offer much for better understanding how architecture and environment contribute integrally to human being-in-the-world.

**Notes**

1. A considerably different version of this chapter was presented as a paper at the conference, “Flesh and Space: Intertwining Merleau-Ponty and Architecture,” College of Architecture, Art and Design, Mississippi State University, Starkville, MS, September, 2009. The author wishes to thank Rachel McCann for her thoughtful critique and suggestions for ways to clarify the potential links between Merleau-Ponty and the theory of space syntax. Note that “PhP” refers to Merleau-Ponty’s *Phenomenology of Perception* (1945/1962); “VI” refers to his *The Visible and Invisible* (1968).

2. Casey (2009, 326-27) identifies three modes of bodily motion in relation to place: first, the body’s staying in place (e.g., I read and write at the desk in my study); second, the body’s moving within a place (e.g., I walk about my study); third, the body’s moving between places (e.g., I walk from study to kitchen or from home to work).

3. I prefer “body-subject” to “body schema” because “subject” better suggests than “schema” the pre-reflective but intelligent awareness of the lived body. Whichever term one uses, it is important to recognize that the underlying imagery of self-autonomy (i.e., body as autonomous agent) can readily lead to another kind of subject-object dichotomy and bifurcation that loses sight of the lived connectedness and intimacy between body and world. As Morris (2004, 36) explains:

   Unfortunately, it is all too easy to reify the body schema [body-subject], to conceive it as an independent thing, a bridge built in advance that is to be abstracted from the movement in which it emerges…. Once we have an ‘it’, a schema, to talk about, our tendency is to turn it into a thing, because our minds and languages—and the body schema itself—disposes us to lend a thingly, solid sens [sense] to the content of the world. Merleau-Ponty himself does not escape this tendency and sometimes even invites misconception of the body schema as some sort of thing.

   In this chapter, I work to avoid the danger of bifurcation, but it is extremely difficult to keep to an understanding and language that faithfully depict the intertwinement of body and world as a lived whole rather than as a body/world duality.

4. The major space-syntax measure is called integration and is based on the simple idea that, in a particular settlement pathway system (e.g., Gassin’s), a pathway into which run many other pathways will be, all other things being equal, more used by pedestrians because they will need to traverse that pathway to get to other pathways and destinations in the settlement (Hillier and Hanson 1984, ch. 3). Such a pathway is said to be integrated in the pathway system. On the other hand, a pathway that has few or no other pathways running into it will be, all other things being equal, less used by pedestrians, since it mostly serves a limited number of users only in its immediate vicinity. Such a pathway is said to be segregated in the pathway system. Using this approach, Hillier and colleagues have developed several quantitative measures to identify a precise integration measure for all pathways in any pathway system. The pathways can then be ranked and mapped; the result is a quantitatively-exact picture of the most integrated and most segregated pathways. To test the real-world accuracy of these secondhand measures, Hillier and colleagues have gone into the field, counting the actual number of pedestrians using particular pathways. These counts have demonstrated a high level of agreement between secondhand integration measure and firsthand pedestrian use (see Hillier 1996, 161; Seamon 2004, 142, n.7).
5. Hillier recognizes that other urban elements like population density, building types, and number, size, and range of functions and land uses, also contribute to urban vitality. He argues, however, that pathway configuration is, ultimately most primary and most crucial. In their most recent research, Hillier and colleagues have sought to develop additional configuration measures to take into account other configurational dimensions, including pathway lengths, angle of pathway intersections, and shortest-distance routes (see Hillier and Lida 2005).

6. Phenomenologically, it is not entirely clear how or why the pattern of physical movement generated by the deformed grid contributes to the larger environmental phenomenon of “lively urban place.” One conjecture offered by Steadman (2005, 484) is that, practically, to save time, effort, and resources, people take the easiest routes, where “easiest” typically refers to physical convenience, sometimes in terms of shortest distance but perhaps more often in terms of pathway connectedness and permeability. A large number of shortest paths run through the web shaped by the most integrated pathways in a specific urban district; thus, along stretches of these most integrated pathways, people in that district move and meet.

7. For both design research and practice, space syntax offers a useful picture of how the physical world—specifically, its configurational qualities—contributes to place experience and place making, particularly Hillier’s discovery that the relative place vitality of a city is more than likely grounded in a multi-scaled nesting of deformed wheels—what Hillier (1996, ch. 4) calls the deformed grid. Hillier appears to demonstrate conclusively that most urban pathway systems have traditionally been an integrated fabric of smaller deformed wheels that interlock to form a much larger deformed grid sustaining the robustness of the city as a whole. He also points out that twentieth-century urban design and planning regularly replaced the city’s deformed grid with treelike systems of segregated pathways that undermined the intimate relationship between local and settlement-wide integration—for example, the “cul-de-sac and loop” pattern of low-density, automobile-dependent suburbs or the hierarchical circulation layouts of many modernist housing estates.

Recently, space syntax has played a major programming role in several British design projects, including the rehabilitations of London’s Trafalgar Square and Nottingham’s Old Market Square. Space syntax analysis has also contributed to planning and designing London’s Millenium Bridge by projecting rates of pedestrian use for specific bridge locations and by indicating which locations would be best for invigorating public and private development along the Thames. For overviews of these projects and others, see the space syntax website at: http://www.spacesyntax.com/ [accessed September 4, 2010].

References
Lin, Yuan. 1991. “LeCorbusier’s Chapel at Ronchamp, Frank Lloyd Wright’s Unitarian Church, and Mies van der Rohe’s Chapel at IIT: A Phenomenological Interpretation of Modern Sacred Architecture Based on Thiis-Evensen’s Archetypes in Architecture.” Master’s thesis, Department of Architecture, Kansas State University, Manhattan, KS.


**Figures and Captions**

![Figure 1](image1.png)

Figure 1. Schematic drawings illustrating Thiis-Evensen’s three existential qualities of motion, weight, and substance as relating to wall (left), roof (center) and floor (right). The convex wall seems to move out expansively toward the stick-figure experiencer who, in contrast, is drawn in toward the concave wall. The pointed-arched vault evokes a roof that seems light and rising, while the heavy, massive lintel evokes a sense of threatening collapse because of which the experiencer may hesitate to go through and in. The floor of the wooden bridge suggests a natural softness and a sense of separation from the Earth, whereas the stone bridge intimates hardness, solidity, and terrestrial groundedness. Drawings by Yuan Lin and derived from descriptions in Thiis-Evensen 1989 (from Lin 1991, 16; copyright 1991 Yuan Lin and used with permission).

![Figure 2](image2.png)

Figure 2. The southern French town of Gassin. Note how Gassin’s pathway configuration illustrates Hillier’s “beady-ring structure” (from Hillier and Hanson 1984, 90; copyright 1984 Cambridge University Press and used with permission).
Figure 3. Gassin’s “deformed wheel.” Streets of potentially greatest movement are marked by the solid lines, whose shape roughly suggests a wheel with hub, rim, and spokes. In contrast, the hatched lines indicate streets of potentially less movement; overall, they are located in between the more active streets (from Hillier and Hanson 1984, 117; copyright 1984 by Cambridge University Press and used with permission).