

[Paper presented for a special session on Christopher Alexander, annual meeting of the Environmental Design Research Association (EDRA), Sacramento, CA, May 2007]

## **Christopher Alexander and a Phenomenology of Wholeness**

David Seamon  
Architecture Department  
Kansas State University, 211 Seaton Hall  
Manhattan, KS 66506  
[triad@ksu.edu](mailto:triad@ksu.edu)  
[www.arch/ksu/edu/seamon/](http://www.arch/ksu/edu/seamon/)

### **Abstract**

This chapter focuses on Christopher Alexander's contribution to a phenomenology of wholeness, by which is meant finding conceptual and practical ways for understanding how things belong together so that they can indeed belong, whether one speaks of the parts of a well made building, the steps in an effective construction process, or the elements of a helpful theory. Throughout his professional efforts, Alexander has sought to delineate a theory of wholeness that might generate a making of wholeness, which in turn might offer further insight into a theory of wholeness. His work demonstrates how an inspired reciprocity between thinking and making might lead to deeper understandings and more livable places.

### **Introduction**

“Within myself I have always been aware of a single, unbroken whole in what I do.”  
—Christopher Alexander (Grabow 1983, p. ix)

As far as I know, Christopher Alexander has never described his work as phenomenological, yet I would argue that his efforts, point of view, and discoveries readily relate to a phenomenological perspective and method (1). For example, his work to create a “pattern language” can fairly be described as an implicit phenomenology of designable situations contributing to a sense of place, just as his four-volume *The Nature of Order (NO)* can be interpreted as a phenomenology of a particular kind of order that Alexander calls *wholeness*, which, whether in nature or humanmade, is the “source of the coherence which exists in any part of the world” (*NO*, vol. 1, p. 90). Wholeness, he says, is integrally related to other lived qualities like beauty, eloquence, good health, well being and—most integrally—vitality and life.

A central aim in Alexander's work is to understand how the parts of a made thing—whether a handsome carpet or a gracious building or an animated urban district—belong together and have their proper place in the whole (Alexander 1975, 1979, 1981, 1985, 1987, 1993, 1995, 2003, 2002-05, 2007). He also asks how wholeness, whether as understanding or making, comes into being and how an ever-deepening reciprocity between understanding and making might allow for more and more wholeness to unfold. Perhaps most strikingly, Alexander has pursued a quest for wholeness throughout his entire professional career: “Within myself I have always been aware of a single, unbroken whole in what I do,” he reported to biographer and commentator Stephen Grabow (1983, p. ix).

In this presentation, I focus on Alexander's contribution to a phenomenology of wholeness, by which I mean finding conceptual and practical ways for understanding how things belong together so that they can indeed belong, whether one speaks of the parts of a well made building, the steps in an effective construction process, or the elements of a helpful theory. Throughout his professional efforts, Alexander has sought to delineate a theory of wholeness that might generate a making of wholeness, which in turn might offer further insight into a theory of wholeness. His work demonstrates how an inspired reciprocity between thinking and making might lead to deeper understandings and more livable places.

### **A Phenomenology of Wholeness**

To specify what a phenomenology of wholeness might entail, I turn to the insightful hermeneutic-phenomenological work of physicist Henri Bortoft (1996; also 1971, 1985; Stefanovic 1991, 2000), who argues that the whole cannot be explained through some sequential, analytical approach that breaks the whole into a set of parts and then reassembles them piecemeal by cerebral effort as might, for example, a systems approach to ecology. Instead, the whole can only be understood by entering further into its parts through a mode of careful, intuitive encounter uniting perception, feeling, and thinking. In other words, there is a way to see how the whole is present throughout its parts, so that, in any one of the parts, the whole can be found, sometimes more clearly, sometimes less. As one finds ways to better understand the parts, so the whole to which they belong becomes better defined; in turn, this progressive clarity of the whole sheds additional light on the parts, which become yet more understandable and say more about the whole. There is a process of reciprocal insight—a virtuous circle resonating between parts and whole.

The great difficulty, however, is finding a way to move into and encounter the parts as they are in themselves so that the whole will be foreshadowed and seen, more and more fully. How do we encounter the parts most advantageously so that we can better

see and understand the whole? How can one avoid describing the parts in an unfaithful way or arbitrarily constructing a counterfeit whole unfaithful to the parts? In this sense, any act of understanding or doing is revealing the right parts in their right relationship as they mark out the larger whole. Bortoft explains:

If a part is to be an arena in which the whole can be present, it cannot be any old thing. Parts are not bits and pieces, because a part is only a part if it is such that it can bear the whole. There is a useful ambivalence here: “to bear,” in the sense of “to pass through” and “to carry”; and “to bear” in the sense of “to suffer,” where this is taken in the sense of “to undergo.” By itself the part is nothing, not even a part, but the whole cannot be whole without the part. The part becomes significant itself through becoming a bearer of the whole (Bortoft 1971, p. 54).

### **Alexander’s Shifting Efforts toward a Phenomenology of Wholeness**

Bortoft's discussion of parts and whole has bearing on Alexander's work because, throughout, he has sought ways to understand and make the whole through attempting to identify, gather, and intensify right parts. At different times in his professional career, Alexander has applied different labels to the wholeness he seeks —“the quality without a name,” “the timeless way of building,” “creating pattern languages,” “density,” “degrees of life,” “fundamental properties sustaining wholeness,” or “wholeness-extending transformations.”

In his “pattern language” period, which Grabow (1983, p. 109) identifies by the period 1967 to 1973, Alexander and his colleagues sought the right parts by gathering examples of buildings and places throughout the world that evoke a sense of order, robustness, and comfort; then identifying and explicating underlying physical qualities, or patterns, that might be drawn on to conceive future buildings and places. Significantly, these patterns are not things but constellations of environment/experience relationships potentially sustaining, through the physical world, a sense of human and environmental well being. As Grabow explains, this “pattern language” phase centered on the “discovery that the sense of being completely alive has a clear phenomenological counterpart in space—a particular quality of space that one can actually see as well as feel” (Grabow 1983, pp. 66-67).

Pattern language is a significant effort to understand environmental wholeness because, first, it provides a compilation of time-tested environmental possibilities, envisioned and arranged from larger to smaller scale, that contribute to a place exuberance; second, the approach provides a programmatic means for explicating new patterns as needed and integrating them with existing patterns to concretize new

pattern languages for buildings, places, and situations not imagined in the original language of 253 patterns.

### **Making and Life-Evoking Geometry**

From Bortoft's perspective, pattern language is most successful in that, through the process of identifying and organizing patterns into a larger structure of belonging, the designer and client move toward a clear design vision grounded in makeable qualities and relationships sustaining a strong environmental ambience. Beginning about 1973, however, Alexander began to realize that the pattern-language process alone offered little help in transforming a particular design vision into actual construction and wholesome places.

According to Grabow (1983, p. 128), one impetus for this recognition was his Center for Environmental Structure's pattern-language design for a mental health clinic in Modesto, California, which, when actually built by a construction firm using conventional building methods, ended up seeming little different from standard modernist architecture. About this time, too, Alexander realized that other designers and builders, using the pattern language, were producing buildings that had the same "mechanical, death-like morphology" of other current architecture (ibid.).

This failure of pattern language to produce buildings of beauty and grace led Alexander to recognize that he must incorporate an understanding of process into his theory of wholeness. As he reported to Grabow (ibid., p. 137), people who make things typically do not understand "the extent to which what is done or what happens is a product of the processes that are governing events behind the scenes."

Though his eventual explication of the making process is wide-ranging and includes such dimensions as politics, economics (including the capital cost of building and the mortgage process by which it is financed), ontology, and even metaphysics, he ultimately gives most attention to two major topics: first, the identification of life-evoking geometrical properties that might provide a link between the original pattern language and its physical manifestation; second, the process of construction, especially identifying a way of building by which each step of design and construction flows from preceding steps and points toward the next step in the construction process.

From one perspective, Alexander's four-volume *The Nature of Order* can be understood as his effort to incorporate life-evoking geometry and step-by-step construction into a process of making that sustains environmental and place well being. To deal with the matter of geometry, he identifies a set of fifteen geometric

properties (table 1) that he claims recur in all things, buildings, places, and situations sustaining wholeness and life. To deal with the matter of step-by-step design and construction, he develops a method of making whereby each step in the process becomes a pointer for what is to come next through the recognition, guided in part by the fifteen principles, of creating more and more centeredness, density, order, and life. His means toward this end is ten structure-enhancing actions that he claims potentially intensify the life and wholeness of the thing made (table 2 and figure 1).

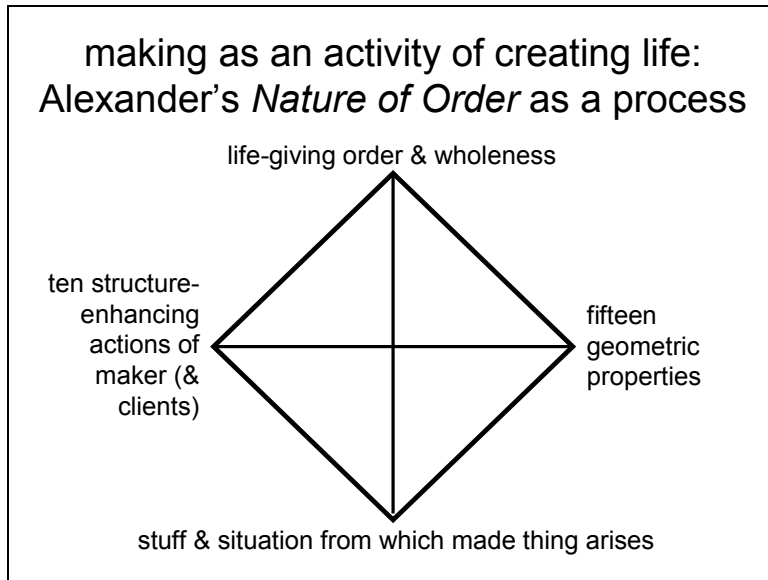
Table 1

Alexander's 15 properties of wholeness	
• Levels of scale	• Contrast
• Strong centers	• Gradients
• Boundaries	• Roughness
• Alternating repetition	• Echoes
• Positive space	• The void
• Good shape	• Simplicity & inner calm
• Local symmetries	• Not separateness
• Deep interlock & ambiguity	

Table 2

Alexander's 10 structure-enhancing actions	
1. Step-by-step adaptation.	7. Evoking & being guided by a deep feeling of whole.
2. Each step helping to enhance the whole.	8. Finding coherent geometric order.
3. Always making centers.	9. Establishing a form language that rises from & shapes thing being made.
4. Allowing steps to unfold in the most fitting order.	10. Always striving for simplicity by which thing becomes more coherent & pure.
5. Creating uniqueness everywhere.	
6. Working to understand needs of clients & users.	

Figure 1



### ***Nature of Order* as a Phenomenology of Wholeness**

In the last part of this paper, I want to suggest one way that a phenomenological critique of *The Nature of Order* might proceed by giving attention to Alexander's fifteen geometric properties that he argues are present wherever there is manifested a sense of wholeness and life. Alexander claims that, however they are expressed in the particular instance, this wholeness and life are "a real, well-defined structure, not merely a cognitive impression" (Alexander 2003, p. 7). More so, he argues that this sense of life is present not only in living things but potentially present anywhere in anything where the situation manifests a certain geometric presence—specifically the fifteen geometric properties. He explains:

[A]ll space and matter, organic or inorganic, has some degree of life in it [sic], and that matter/space is more alive or less alive according to its structure and arrangement (*NO*, vol. 1, p. 4).

[The key idea] "is that what grows and unfolds, grows and unfolds as a natural consequence of what is, because it literally grows out of the wholeness—a structure in space— ... a structure of symmetries that exist in the way that a given portion of space is differentiated (*NO*, vol. 4, p. 321).

If, as Alexander is claiming here, the degree of life present in a situation is equivalent to that situation's degree of geometric structure (and vice versa) then the fifteen properties, phenomenologically, should have some sort of direct transposition into human life—in other words, they should in some way reflect and sustain the human lifeworld—i.e., the individual's or group's everyday world of taken-for-

grantedness that is not normally made an object of conscious attention.

When one examines the fifteen properties with a phenomenological eye, one notes that some can be directly related to phenomenological aspects of the lifeworld—perhaps most directly, the property of “not-separateness, which, in Alexander’s presentation, involves each part of a situation, place, or made thing melting “into its neighbors” (ibid., vol. 1, p. 233). From a phenomenological perspective, not-separateness can readily be transposed into the central phenomenological principle that human beings and their worlds are never separate; rather human being is always human-being-in-the-world (see Seamon 2000; 2006, 2007; Stefanovic 2000).

One also notes that there are other geometric properties that can be connected to related phenomenological principles, thus centers can be reinterpreted existentially through the phenomenological claim that human lived-space is never uniform but charged with locales and places—particularly the home place—that orient individuals and groups spatially and gather their intentions environmentally. Similarly, “gradients” has a parallel existentially with the experienced fact that one’s lived space ranges in lived meanings from place to place and locale to locale, just as “boundaries” can be interpreted as lived indications of such experiences as enclosure, separation, connection, or penetration.

On the other hand, properties such as “roughness,” “echoes,” “the void,” and “simplicity and inner calm” are less readily rephrased as lifeworld qualities. One might argue that roughness relates to the always tentative and unfinished nature of everyday life and experience, or that the void has relation to the existential need for some degree of privacy and inner quiet, but this kind of parallel construction seems arbitrary and forced. My larger point is that the fifteen properties vary in their range of clarity and transposition when pondered in terms of equivalent lifeworld expression. Yet if these properties are integral to the degree of life in a particular region of space, then logically one would expect that each encompasses and evokes quite specifically a particular range of lifeworld situations and experiences. But not all do.

My hunch is that not all the fifteen properties do because, ironically, they may be too much piecemeal and localist rather than holistic and global. In applying the fifteen qualities to making, Alexander emphasizes that, ultimately, the most important is “strong centers,” which he defines as any sort of spatial concentration or organized focus or place of more intense pattern or activity—for example, an attractive window, a well placed kiosk, an elegant arcade, a welcoming building, or an entire city neighborhood that is well liked and cared for (see especially *NO*, vol. 1, chap.

3). A major weakness with this emphasis on centers, however, may be the fact that a center, both geometrically and existentially, involves a quality of focused intensity that, in its conception and effects, is more piecemeal and local than whole-linked and global.

### **Centers and Global Integration**

One way to clarify this concern about “strong centers” is to turn to architectural theorist Bill Hillier’s space syntax, an environment-behavior theory demonstrating that the people/space relationship, whether for buildings, neighborhoods, or complete settlements, must be understood *both locally and globally* (Hillier 1996, 2005; Hillier & Hanson 1984; Seamon 2004, 2006, 2007). For Hillier, the central local structure is what he calls *convex space*—the quality of local space that relates it to its immediate surroundings. On the other hand, the central global structure is *axial space*—the quality of a local space as it is integrally interconnected with the much larger pathway fabric of which it is part. Axial space has crucial significance for Alexander’s theory of wholeness because it relates to a place’s global pattern—that is, the way the particular spatial configuration of the place’s pathway fabric lays out a potential field of movement that draws people together or keeps them apart.

Though Alexander briefly discusses the differences between Hillier’s two types of space in volume 1 of *The Nature of Order*, he does not seem to realize that his fifteen properties are largely *local* in their interpretation of wholeness (3). For sure, “levels of scale,” “interlock,” and “gradients” speak partially to the way a center relates to other centers larger and smaller, but it also can be said that these properties interpret this interconnectedness mostly *in terms of parts* rather than in terms of configuration and topological relationships and interconnections. Hillier would be critical of Alexander’s understanding of the whole because, at least at the scale of places and human environments, their global wholeness is reduced to local parts, since there is no awareness of the integrative power of pathways (4).

In short, I worry that, in Alexander’s explication of wholeness, the underlying degree of configurational links, global interconnectedness (what Hillier refers to as relative “integration”) is left largely out of sight. In his discussion of art works, decorative objects, and buildings as static architecture, this emphasis on the local qualities of wholeness provides powerful insights because these things are more or less independent physical entities that do not house human lifeworlds. On the other hand, the fifteen properties may cast an incomplete understanding when one attempts to apply them to the larger-scale environmental fabric of buildings and places around and within which the lifeworlds of real human beings actually



unfold. This may be a reason why the fifteen properties do not all readily transpose themselves into lifeworld structures, situations, and events.

### **Bortoft's Reaction to *The Nature of Order***

Finally, let me ask how Henri Bortoft might react to Alexander's presentation of wholeness in *The Nature of Order*. Bortoft emphasizes that a part is only a part if it serves a clearly defined whole, and this requirement of precise specificity may touch upon another potential weakness of *Nature of Order*—that, the whole Alexander is attempting to understand is so broad and all-encompassing that the parts are too various and vague, thus evoking less conceptual and practical power than they might if directed toward more specific aims and ends. Exploring the wholeness of a carpet or art work, for example, might require a different point of view and language than what might work for buildings and places as lifeworlds.

It is not really clear whether Alexander's fifteen structural properties have the power to facilitate, at such a broad range of material and lived scale, the clear sense of relationship and interconnectedness offered by the earlier pattern language; nor is it clear that the ten structure-enhancing actions have the practicality or resilience to really move the making process in such a way that it evolves toward the life-giving order and wholeness that Alexander cherishes. In short, Bortoft might say that *The Nature of Order* involves an unfocused whole, the parts of which attempt to bear too much.

I don't mean to suggest by this criticism that Bortoft would find Alexander's efforts ineffective or beside the point. Rather, I suspect he would conclude that the more useful guides for success are Alexander's many more specific conceptual and applied efforts at understanding and making wholeness—for example, his studies of the geometry of early-Turkish carpets (Alexander 1993); his attempt to develop a wholeness-based theory of urban design (Alexander 987); his experiments in self-help design and construction systems (Alexander et al. 1985); his efforts to involve clients and users in the design and building process (Alexander 2003-05, vol. 3).

There is also evidence of success in the built work that Alexander presents in volume 3 of *Nature of Order*. Though some of the projects, especially the houses, seem awkward, roughly constructed, and second rate, other projects evoke the sense of clarity, dignity, and life for which Alexander strives. One strong example is England's West Dean Visitor's Centre, a building that, both inside and out, appears to be striking architecture, expressing a serene stateliness shaped by careful site placement, a simple, majestic form, and handsomely integrated stone, brick, and concrete. These and other built projects presented in *The Nature of*

*Order* demonstrate that Alexander's approach to making can have effective, practical results and is feasible for a wide range of situations, clients, and building types.

Ultimately, Alexander's efforts in *Nature of Order* may be most significant because they help us to "have the taste" for a particular kind of seeing and making process, which, if we could really absorb and make part of ourselves, would open us to both the possibility and reality of a vital, sustaining world. Alexander believes that, if we are to really know and shape our human life in a better way, we must find a radically new means of looking, understanding, and making. *The Nature of Order* demonstrates the remarkable progress he has made toward this arduous and nearly impossible aim.

## Notes

1. Most simply, phenomenology can be defined as the careful description and interpretation of human experience. The focus is on *phenomena*—i.e., things or experiences as people experience those things or experiences. The aim is to describe any phenomenon in its own terms—in other words, as it is as an experience, situation, or event in the real lives of real human beings in real times and places. The goal is not idiosyncratic explication, however, but the identification of underlying lived structures common to many specific experienced instances of the phenomenon. See Seamon 2000, 2007a & b.

Though Alexander has not linked his work with phenomenology, biographer and commentator Stephen Grabow emphasizes that the heart of Alexander's vision is "the discovery that the sense of being completely alive has a clear phenomenological counterpart in space—a particular quality in space that one can actually see as well as feel" (pp. 66-67; 115-16). One of the most useful roles that a phenomenological perspective and language could offer Alexander relates to his efforts to deal with what he calls "values" (as distinct from the so-called "facts" of analytical science) and the "subjective" nature of human feeling. Alexander writes:

[U]nion of system behavior with the subjective experience of the observer is fundamental to what I have to say, fundamental to the idea of wholeness as something not merely present in an objective material system but also present in the judgment, feeling and experience of the observer...[We need] observations of a type which can only be obtained when we agree to use the observer's feeling of his or her own wholeness, as a measuring instrument. Yet subjective as it sounds to our mechanistic ears, this is nonetheless objective. It opens the door to a new standard of observation, and a new

methodology of measurement. In architecture... where my observations have been careful and extended over several decades, I can say positively that valid and profound results and findings cannot be reached without meeting this condition (2003, p. 13).

Phenomenology can be defined as an intuitive, qualitative science that readily accepts individual and group feeling, intuition, and experience as a valid subject of study and as a means for studying the thing of interest—in this case, wholeness, beauty, and life.

2. In fact, at the end of discussion of each of the fifteen geometric property in volume 1, Alexander attempts to link that property with particular pattern-language patterns; for example, in relating “levels of scale” to regions and communities, he explains that “independent regions,” “community of 7000,” “identifiable neighborhood,” and “hierarchy of open space” “all show that distinct and definite levels of scale in the large structure of the city will help maintenance of human community” (*NO*, vol. 1, p. 150). These explications are skeletal, however, and largely unsatisfactory in their effort to demonstrate a convincing link between the physical and existential, the geometric and lived.

3. He uses Hillier’s work as evidence that “it is not really possible to keep function and space separate” (*NO*, vol. 1, p. 417).

4. This lack of global interconnectedness is seen in the San Francisco waterfront design that Alexander (1987) presents in his *New Theory of Urban Design*, his first extended presentation and use of the concept of “centers.” Though there is much about this project to praise, its major failing is a poorly envisioned street grid that inhibits local interconnections and movement and provides no clear pathway commingling with the street fabric of the larger city. In his evaluation of the project at the end of *New Theory*, Alexander is aware of this weakness: “[T]he large-scale structure is not as profound as we wanted it to be. Although the general disposition of the main square, mall, small grid, and so on, is quite nice, and is suitably informal, it does not yet have the profound unity of a place like Amsterdam or Venice” (*ibid.*, pp. 234-35).<sup>10</sup>

As I’ve already said, the larger problem here may be Alexander’s concept of centers and their emphasis on focused intensity. No doubt, the weblike structure of the deformed grid (the axial structure that Hillier says is common to most traditional urban and place development) is a kind of center than contains within its mesh smaller, interconnected centers that identify a city’s functioning neighborhoods and

districts. The key point is that the deformed grid is global, citywide, and thus *whole* in its manifestation and results. If Hillier is correct, any theory of urban design must begin at the city's global scale, carefully studying pathway configuration. This understanding then becomes the starting point for determining how a particular district, through new and existing pathway connections, might gain, through natural movement, a vital relationship with the integration fabric of the larger urban whole. As it stands, Alexander's urban theory does not have the means to identify or actualize the underlying, integrative power of the deformed grid. Alexander's theory of wholeness may be attuned to works of art and crafted objects, including architecture as formalist "stuff," but Hillier's work strongly indicates that the theory is incomplete for places and environments working as lifeworlds.

## References

- Alexander, Christopher, Silverstein, Murray, Angel, Shlomo, Ishikawa, Sara, and Abrams, Denny, 1975. *The Oregon Experiment*. New York: Oxford University Press.
- Alexander, Christopher, Ishikawa, Sarah, and Silverstein, Murray, 1977. *A Pattern Language*. New York: Oxford University Press.
- Alexander, Christopher, 1979. *The Timeless Way of Building*. New York: Oxford University Press.
- Alexander, Christopher, 1981. *The Linz Café*. New York: Oxford University Press.
- Alexander, Christopher, Davis, Howard, Martinez, Julio, and Corner, Dan, 1985. *The Production of Houses*. New York: Oxford University Press.
- Alexander, Christopher, Anninou, Artemis, King, Ingrid, and Neis, Hajo, 1987. *A New Theory of Urban Design*, New York: Oxford University Press.
- Alexander, Christopher, 1993. *A Foreshadowing of 21st Century Art: The Color and Geometry of Very Early Turkish Carpets*. New York: Oxford University Press.
- Alexander, Christopher, Black, Gary, and Tsutsui, Miyoko, 1995. *The Mary Rose Museum*. New York: Oxford University Press.
- Alexander, Christopher, 2003. New Concepts in Complexity Theory Arising from Studies in Architecture: An Overview of the Four Books of *The Nature of Order* with Emphasis on the Scientific Problems which Are Raised (24 pp.). *Katarxis No. 3* [on-line journal at: [www.katarxis3.com/](http://www.katarxis3.com/); accessed 5 May 2007].
- Alexander, Christopher, 2002-05. *The Nature of Order*, 4 vols. Berkeley: Center for Environmental Structure.
- Alexander, Christopher, 2007. Empirical Findings from *The Nature of Order*, *Environmental and Architectural Phenomenology*, 18 (1): 11-19,
- Bortoft, Henri, 1971. The Whole: Counterfeit and Authentic. *Systematics*, 9 (2): 43-73.

- Bortoft, Henri, 1985. Counterfeit and Authentic Wholes: Finding a Means for Dwelling in Nature. In D. Seamon and R. Mugerauer, eds., *Dwelling, Place and Environment: Toward a Phenomenology of Person and World* (pp. 281-302). New York: Columbia University Press.
- Bortoft, Henri, 1996. *The Wholeness of Nature*, Hudson, New York: Lindesfarne Press.
- Grabow, Stephen, 1983. *Christopher Alexander and the Search for a New Paradigm in Architecture*. London: Oriel Press.
- Hillier, B., 1996. *Space Is the Machine*. Cambridge: Cambridge University Press.
- Hillier, B., 2005. Between Social Physics and Phenomenology: Explorations towards an Urban Synthesis? *Proceedings of the 5<sup>th</sup> Space Syntax Symposium*, vol. 1, pp. 3-23. Delft, 2005.
- Hillier, B. & Hanson, J., 1984. *The Social Logic of Space*. Cambridge: Cambridge University Press.
- Seamon, David, 2000. A Way of Seeing People and Place: Phenomenology in Environment-Behavior Research. In Wapner, S., Demick, J., Yamamoto, T. et al., eds., *Theoretical Perspectives in Environment-Behavior Research*, pp. 157-78. New York: Plenum.
- Seamon, D., 2004. Grasping the Dynamism of Urban Place: Contributions from the Work of Christopher Alexander, Bill Hillier, and Daniel Kemmis, pp. 123-45 in Tom Mels, ed., *Reanimating Places*. Burlington, Vermont: Ashgate.
- Seamon, David, 2006. Interconnections, Relationships, and Environmental Wholes: A Phenomenological Ecology of Natural and Built Worlds, pp. 53-86 in M. Geib, ed. *Phenomenology and Ecology*. Pittsburgh: Simon Silverman Center of Phenomenology.
- Seamon, David, 2007. A Lived Hermetic of People and Place: Phenomenology and Space Syntax [keynote address]. In *Proceedings, Sixth International Space Syntax Conference*. Istanbul: Istanbul Technical University.
- Stefanovic, Ingrid Leman, 1991. Evolving Sustainability: A Rethinking of Ontological Foundations. *Trumpeter*, 8, 194-200.
- \_\_\_\_\_, 2000. *Safeguarding Our Common Future*. Albany, NY: SUNY Press.