

As well as Christopher Alexander's new books, the library also has his classics: *A Pattern Language*, and *A Timeless Way of Building*.

While preparing this issue, we found an essay by Matthew Barton on a German website devoted to Joseph Beuys. Referring to Beuys's work with bees and the qualities of warmth, he describes Beuys's appeal for the younger generation in his freshness of spirit. While Barton's essay—at once poetic and political—constitutes an important marker, it is more indicative of Beuys's renewed importance than descriptive of the work itself. Readers can, however, delve into the question further by reading David Adams's essay: "From Queen Bee to Social Sculpture: The Artistic Alchemy of Joseph Beuys," which appears as an afterword in the 1998 edition of Steiner's lectures on bees.

From a different direction, the library recently acquired the "Bolk Companions," phenomenological approaches to medicine, reviewed here by physician Cathy Sims-O'Neil. Readers may recall our review of Jos Verhulst's *Developmental Dynamics*, based in large part on the work of Steiner's contemporary, the Dutch morphologist Louis Bolk. For the past 30 years, an institute bearing Bolk's name has been pursuing research in agriculture, ecology, and healthcare, with a focus on the conditions of overall systems—their vitality, capacity for self-regulation and self-healing, and the extent to which they express the intrinsic nature of plants, animals, and human beings. All phenomena are linked within a complex relationship; in the final analysis, they are all part of the same whole, which includes people, and thus the researcher. Research is approached from each disciplinary level as well as the interdisciplinary, and focuses on developing and maintaining awareness of the links between direct perceptions and systemic understandings. The four booklets in the series are available from the Bolk Instituut (website: www.louisbolk.nl at a reduced price).

As always, our shorter annotations include many books worthy of fuller attention—so many books, so little space!

Making Better Worlds: Christopher Alexander's *The Nature of Order*

The Nature of Order: An Essay on the Art of Building and the Nature of the Universe.

Vol. 1: *The Phenomenon of Life* (476 pgs.); vol. 2: *The Process of Creating Life* (635 pgs.); vol. 3: *A Vision of a Living World* (697 pgs.); vol. 4: *The Luminous Ground* (355 pgs.).

By Christopher Alexander

Berkeley, CA: Center for Environmental Structure, 2002–2005

Review by David Seamon

"We have a vision of buildings taking their form continuously through a smooth step-by-step process in which each step preserves the structure of what was there before."

—Christopher Alexander, *The Nature of Order*, vol. 3, p. 678

The Nature of Order is architect Christopher Alexander's four-volume masterwork. His aim is to lay out the conceptual and applied foundation for an entirely new way of doing ar-

chitecture and shaping human life. Lavishly illustrated with almost 2,000 images carefully arranged to stir readers to look and see more deeply, *The Nature of Order* will some day no doubt be recognized as one of the great theoretical and practical achievements of our time, not only for architecture but also for understanding the profound obligation that human beings have to make the best of possible worlds.

It is difficult to decide what is most remarkable about this stunning work. One imposing feature is the inclusion of many of Alexander's designed projects—over 100 artistic and architectural works ranging from fine arts, decorative arts, and interiors; through houses, workplaces, and gardens; to institutional buildings, campuses, and entire urban neighborhoods. Most importantly, Alexander has made or built many of these projects. Some of the most impressive examples include glassware for the Royal Dutch glassworks (1997); an employee-designable office furniture system for Herman Miller (1988); a children's clothing factory in Berkeley, California (1988); community-built, low-income housing projects in Mexicali, Mexico (1976) and Santa Rosa de Cabal, Colombia (1990); the five-story Emoto apartment building in Tokyo (1987); the Julian Street Inn, a homeless shelter in San Jose, California (1988); the West Dean Visitor's Centre in West Sussex, England (1995); and the New Eishen University campus near Tokyo (1985). Too often in the past, Alexander has unfairly been written off by critics as "only a theorist." The practical and artistic creativity demonstrated by his completed projects offers powerful evidence that he is also an exceptional designer.

These built projects also provide real-world support for Alexander's audacious effort to generate a radical new way of making supportive and sustainable environments. He has little good to say about modernist, postmodernist, and deconstructivist architectures, which he lambasts as "ugly, strange buildings that do not preserve the structure of the earth" (vol. 3, p. 691). To provide a replacement, he works unstintingly to find a way to create built environments that sustain "a wholesome, life-supporting world" (vol. 3, p. 2)—what he wryly calls at one point a "second modern architecture" (vol. 2, chap. 21).

Wholes Becoming Alive

What Alexander earnestly seeks as an alternative to today's untoward, edgy, image-driven buildings is a "living architecture"—that is, "an architecture in which every part, every building, every street, every garden is alive" (vol. 2, p. 2). To design the built environment well is to *make life* in the sense that the designed environment can, on one hand, be comfortable, beautiful, robust, and whole, or, on the other hand, be disconcerting, unseemly, lifeless, and fragmented. We arrive at Alexander's definition of *order*, by which he means an ever-intensifying making and unfolding of life, which, depending on the particular situation to be sustained, might refer to poise, handsomeness, exuberance, happiness, solace, holiness, awe, sense of community, emotional weight—in short, the right ambience and feelings for the particular moments and experiences the built environment is meant to encourage.

The theoretical and pragmatic means for actualizing a living architecture is what Alexander calls the "generation of life-supporting processes." In volume one, *The Phenomenon of Life*, he explores, through fifteen structural properties such as "levels of scale," "contrast," "gradients," and so forth, the space-imbued qualities that contribute to order and life. Particularly important is the need to identify and make *strong centers*, a structural property of well-made things, buildings, or places that refers to any sort of geometric or lived focus and intensity—for example, a striking ornamental pattern, a well-shaped and placed window, a strong

sense of building entry, a house gracefully placed on its site, a lively plaza loyally used by regulars, an animated street, or a well-loved neighborhood.

Alexander's major purpose in volume two, *The Process of Creating Life*, is to establish a design method for generating order and life through an incremental intensification of strong centers at all levels of physical scale, from city and urban district through building layout and massing to architectural structure, ornament, and furnishings.

Method-wise, the impetus and activator for this all-encompassing intensification is step-by-step attention and concern, whereby each stage in the design of the particular project becomes a pointer for what is to come next through the recognition (guided in part by the fifteen properties) of creating more and more centeredness, density, order, and life. Alexander writes: "The essence of life in any system lies in the adaptive response of each new development in the system to the previously existing state.... It *cannot* be achieved by a mechanical framework, by *any* mechanical system, nor by any stereotyped or stylistic response. Rather, it comes about only when the response of each act of building has been fresh, authentic, and autonomous, called into being by previous and present circumstance, shaped only by a detailed and living overall response to the whole" (vol. 3, p. 22).

The Basic Principle

For some readers, this description may seem complicated intellectually and impractical operationally. Once, however, one understands the basic principle—essentially, "the slow process of getting things right" (vol. 2, p. 8)—he or she realizes the great good sense of Alexander's proposal, yet its vast difference from current architectural practice where paper plans are the beginning and end of all building designs, which are then turned over to a contractor and other parties for actual construction and finishing.

Alexander argues that pre-modern societies built in a fundamentally different way that involved a process of generative unfolding developed slowly over time through trial and error, then largely fixed through routine, tradition, and ritual. One example he gives is Samoan canoe making, guided by a song that, verse by verse, directs the vessel's step-by-step making—finding a tree, cutting it down, hollowing the trunk, and so forth. Although every canoe made in this way would be unique, the clearly laid out procedure "guarantees that the operation being performed always fits beautifully and naturally into the gestalt of the canoe, as far as it has been created so far. Structure is preserved. Centers multiply and grow. The whole becomes alive" (vol. 2, p. 87).

Drawing primarily from evidence and examples of processes in nature as understood by the natural sciences, especially biology and physics, Alexander aims in volume two to create an updated generative process that might be used for 21st-century architecture and design. His means toward this end is a series of ten structure-enhancing actions that he claims will always intensify the life and wholeness of a thing: (1) step-by-step adaptation; (2) each step helping to enhance the whole; (3) always making centers; (4) allowing steps to unfold in the most fitting order; (5) creating uniqueness everywhere; (6) working to understand the needs of clients and users (interestingly, his earlier "pattern language" remains an important tool here); (7) evoking and being guided by deep feeling of the whole; (8) finding coherent geometric order; (9) establishing a form language that arises from and shapes the thing being made; (10) always striving for a simplicity by which the thing becomes more coherent and pure.

Alexander claims that, when thoroughly understood and practically mastered, these steps, always interconnected and overlapping, will contribute unfailingly to a living process that, at

each stage in its development, “always starts from the wholeness as it currently exists at that moment. At the next moment, we take a new step—introducing one new bit of structure (always composed of new, living, centers) into the whole. The new structure may be large, medium, or tiny; it may be physical or abstract; it may occur on the land itself or in a person’s mind, or in the collective understanding of a group of people. But the point is that at every state of every life-creating process, the new bit of structure which is injected to transform and further differentiate the previously existing wholeness, will always extend, enhance, intensify the structure of the previous wholeness by creating further and stronger, living centers.... The structure-enhancing step, which again and again intensifies one center and creates ‘hooks’ to other new centers, might even be called *the* fundamental process” (vol. 2, p. 216).

Generative Process in Design

In volume 3, *A Vision of a Living World*, Alexander demonstrates how, in his design work, he uses the generative process laid out in volume 2 to create life-enhancing things, buildings, and places. Rather than organize each chapter around a particular project and then illustrate how in total it is guided by the generative process, Alexander instead organizes his discussion by environmental and architectural scale, providing evidence for each thematic topic from applicable projects. He begins, at largest scale, with “the form of land and buildings” (five chapters on shaping public space; envisioning large public buildings, including their size, massing, and structural geometry; and incorporating gardens), followed by “making neighborhoods” (four chapters on resident involvement; neighborhood reconstruction; high-density housing; and neighborhood strengthening). Having considered larger-scale place making, Alexander next explores how the generative process can be used to make “actual buildings” (six chapters on addressing user needs; making rooms with character; using and designing construction elements as living centers; requiring that all design be making; continuously inventing new building materials and techniques; and using the generative process for producing large-scale “giant” projects).

In volume 4, *The Luminous Ground*, Alexander explores the deeper reasons and source for life-giving order and wholeness. His concern is “the innermost process”—“that shining something which draws me on” (vol. 4, p. 2). Central to his argument is what he calls the “I”: the interior aspect in nature or a created thing “that makes one feel related to it” (vol. 4, p. 2). Or, again, “the spirit which animates each living center” (vol. 4, p. 2).

Moving into the realm of metaphysics, *The Luminous Ground* is the most tentative of the four volumes and, other than a perceptive chapter on the nature of color, the least relevant to architecture. Echoing and extending themes from his earlier *Timeless Way of Building* (1975), Alexander draws a cosmological picture where all polarities—people/world, time/space, matter/consciousness, knowledge/experience, understanding/making, and the like—are underlaid and ultimately superceded by a primordial ground or “plenum” ranging in intensity dependent on the degree of life and wholeness present in a particular localized region of space. “It appears,” he writes, “that life is inherent in space itself, and in which soul, or spirit, is an inevitable part of matter, which shows through, as the curtain rends, in which not only people, but buildings, flowering bushes, even window sills, have their own life and spirit too, as a real thing, which goes far beyond the mechanical world and is part of the nature of their existence” (vol. 4, pp. 343-44).

Design Sustaining Theory?

In evaluating *The Nature of Order*, a central question is whether Alexander's built work manifests the life-sustaining wholeness that he advocates. Broadly, the answer is both yes and no. Some of his projects, especially many of the houses, are awkward, roughly constructed, and second-rate. Also disappointing are Alexander's oil paintings and sketches, presented throughout the four volumes. Three or four of these pictures suggest a sense of deeper insight, but the majority seem amateurish, slapdash, and just bad art. These weak works detract from his major argument, and one wonders why they were included.

On the other hand, there are a good number of buildings in *The Nature of Order* that, in various ways, evoke the sense of clarity, dignity, and life for which Alexander strives. One example is the Mexicali project, in which low-income families built their own houses by mastering a twenty-three-step construction process devised by Alexander and his design-build team. Though a kind of "funky vernacular" in appearance, these dwellings seem to be comfortable homes, and photographs of the site several years after construction indicate how some families have used their construction expertise to make well-designed improvements. This project demonstrates that, with professional supervision, ordinary people can become decent designers and initiate constructive change in their built environment.

A second impressive project is San Jose's Julian Street homeless shelter, which, though from some vantage points awkward visually, seems to provide a stable, grounded environment where people without a place might begin to retrieve a sense of self-worth and at-homeness. This project is also significant because of the dining-hall's unusual concrete trusses, the story of which nicely illustrates Alexander's central building principle of step-by-step construction and his willingness to incorporate computer analysis into his designs.

Perhaps Alexander's two most dynamic projects are England's West Dean Visitors' Centre and Japan's New Eishen University. Both inside and out, the visitors' center is striking architecture, expressing a serene stateliness and grace shaped by careful site placement, a simple, majestic form, and handsomely-integrated materials like brick, stone, and concrete. This building is probably the single best work presented in *The Nature of Order* and a telling example of what a life-enhancing architecture might be.

The Eishen school is significant because of its size (30 buildings), complexity (a 9-acre site with lake and other water features), and cost (13 million dollars). Designed and built with the continuous input of faculty and students, the site and buildings have been carefully arranged to enhance the natural setting and to foster a sense of school identity and community. The wooden post-and-beam construction of some of the major buildings is spectacular, and, overall, the project demonstrates that, even at a large scale, Alexander's approach can involve users and be carried out on time and on budget, using the best of traditional and modern structural and construction techniques to make imposing architecture.

These and other built projects presented in *The Nature of Order* demonstrate that Alexander's theory of making can have effective, practical results and is feasible for a wide range of situations, clients, and building types. Ultimately, however, he would not wish to be judged on his finished projects alone. Rather, he sees each of these projects as an experiment—as another opportunity to figure out and refine a way of learning and making that can generate order and life. Here lies Alexander's unique contribution: his ceaseless effort to understand order-invoking process and, through that understanding, to help the world become more coherent and alive. Alexander defies categories: he is a thinker and designer, scientist and artist,

philosopher and builder. He realizes that, if we are to really know and shape our world in a better way, we must find a radically new means of looking, understanding, and making. Without a doubt, *The Nature of Order* demonstrates the extraordinary progress he has made toward this arduous and nearly impossible aim.

Alexander, however, is only one individual, and the most important test of his theory is if it will convince other interested parties in sufficient numbers to commit themselves to his approach. Whether this commitment will happen is uncertain, though it is propitious that Alexander's earlier *Pattern Language* continues to sell well and is used by a loyal and growing following of designers and non-designers, including a dedicated group of software engineers who have used Alexander's work to develop an "object-oriented programming."

Implications for Architecture

How will Alexander's professional colleagues respond to *The Nature of Order*? Many architects and other designers will vehemently reject Alexander's radical approach because it calls into question so many long-held professional assumptions. In the kind of architecture that Alexander sees in the future:

- The architect must realize deeply that everything in nature and every aspect of a building has life. Focusing and intensifying that life becomes the ultimate criterion for professional effort and for architectural success or failure.
- Trendy image-making as currently practiced must be supplanted by a wish to make buildings and places that sustain the concerns and delights of everyday living. How can the architect contribute to "the comfort of belonging to the places where we live and work"? (vol. 3, p. 66).
- No longer is the architect an artist discovering his or her design through creative inspiration. Design is a slow, step-wise process that involves as many wrong as right moves. Inspiration remains important but must be balanced with persistence, good sense, and empathetic attention to real-world needs and constraints.
- Architecture is no longer designing but making, which also means that architecture no longer takes place in the office but through study, discovery, construction, and revision in the field. The architect participates in all aspects of the making of a building, having at least some firsthand knowledge of craft and construction skills. He or she works with subcontractors and pays continuous attention to the quality of their work.
- Good design is not a matter of individual elements arbitrarily created and arranged in a fixed design conception. Instead, good design can only evolve through process and through variously-scaled concentrations of density that amplify one another and both intensify and are strengthened by the larger whole. No building is a pre-defined collection of parts straitjacketed in paper plan but, rather, an evolving field of larger and smaller centers, each supporting and strengthening one another in a web of overlaps and interconnections. One cannot understand a building's parts without understanding their relations to the building's whole and their placement and situation in the building's larger fabric of centers.
- Clients and users must continually be involved with the making of a building. Different participants understand different things, thus group involvement often leads to insights and possibilities that the architect alone might not realize.

- Ornament returns as an integral part of architecture because it is the primary means for making smaller-scaled centers. No longer considered arbitrary or designed arbitrarily, ornament is “the natural and necessary way in which fine structure unfolds to its smallest detail” and thereby “completes” a building.

Assumptions like these shatter almost all aspects of current architecture, and one might conclude that Alexander’s vision, because it is so threatening, will have little professional impact. Intriguingly, Alexander suggests otherwise by arguing that more and more people today grow increasingly dissatisfied with the chaotic and ugly state of their built environment. Laypeople, he suggests, understand much better than professionals that something is deeply askew in the way we make and use the physical world. He suggests that, if architects don’t make major changes in how they work and what they design, then other concerned parties may move in to fill the void. If this should happen, architecture as we currently know it will have to change, or it will disappear as rapidly as the horse and carriage did once automobiles were available.

Whether Alexander is right or wrong about the future of architecture, one can say that *The Nature of Order* offers a conceptual guide and practical method that could go far to rejuvenate the buildings and places of our lives and make them comfortable, beautiful, vital—even profound. In this sense, these volumes provoke us to look, to see, to understand, and to act in new ways we have rarely before encountered. Alexander’s ideas move us away from our taken-for-granted thinking toward a sense of higher purpose imbued with order and life. His most lasting contribution is to help us to become more insightful and aware and thereby realize that building a better world is a real possibility, if only we would dare to try.

David Seamon, Ph.D., is Professor of Architecture at Kansas State University in Manhattan, Kansas, USA. His writings and research emphasize a phenomenological approach to place, architecture, and environmental experience. He has edited *Dwelling, Seeing, and Designing: Toward a Phenomenological Ecology* (Albany, New York: State University of New York Press, 1993); and, with Arthur Zajonc, *Goethe’s Way of Science: A Phenomenology of Nature* (Albany, New York: State University of New York Press, 1998). He is editor of the *Environmental and Architectural Phenomenology Newsletter*.

Dr. David Seamon, 211 Seaton Hall, Manhattan, KS 66506-2901 USA.
Tel. 785-532-5953. www.arch.ksu.edu/seamon; triad@ksu.edu.

What Is Art? Conversations with Joseph Beuys

By Volker Harlan, ed.

Clairview Books, 2004

Review by David Adams, Ph.D.

In her foreword to *What Is Art?* Shelley Sacks notes: “Four decades after he first emerged on the international art scene Joseph Beuys’s drawings, objects, installations and actions that

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Editor: Mado Spiegler
Contributing editor:
Fred Paddock
Copyeditor: Judith Soleil
Production: Judith Kiely

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Letters to the editor are welcome.

Contents

- 2 What's Happening in the Library
By Judith Soleil
- 3 A Word from the Editor
By Mado Spiegler

Reviews

- 4 Making Better Worlds: Christopher Alexander's
The Nature of Order
Review by David Seamon
- 10 *What Is Art? Conversation with Joseph Beuys*
By Volker Harlan, ed.
Review by David Adams

Essay

- 13 Bees and Beuys
By Matthew Barton

Review

- 16 *Bolk's Companions for the Study of Medicine*
Review by Cathy Sims-O'Neil
- 18 Annotations