A Human Way of Building

Christopher Alexander (1936–2022)

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> In 1975, the Viennese architect Christopher Alexander was invited by the government of the Mexican state of Baja California to develop a social housing project in the border city of Mexicali. In collaboration with thirteen students from the University of California, Berkeley and a team of local architects, the plan was conceived together with five families who responded to an invitation to design and build their own homes, and realized in 1976. This project, portrayed in depth in Alexander's book, *The Production of Houses* (1984), is still in existence and in use, under the auspices of the Autonomous University of Mexicali (UABC) and UNICOM (the University for the Community).

Architecture does not begin with a blank page. This idea, which might seem insignificant, is rather one of the most crucial starting points for debating the purpose and dimension of built space. In the book *The Empty Space*, Peter Brook starts by saying, "I can take any empty space and call it a bare stage. A man walks across this empty space whilst someone else is watching him, and this is all that is needed for an act of theatre to be engaged."[1] In real life, we do not walk across empty spaces; there are no bare stages; and placing a building in a ground is not enough to practice architecture. Behind what we call space, environment, and surface, there is a history, a climate, vegetation, an underground, and a life full of events. To presume that architecture starts with a blank page is to imagine that that space is a stage and that, like theatre, it is a simulation. It is also to assume that,

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[1] Brook, Peter. *The Empty Space.* New York: Atheneum, 1968.

just as the theatre director decides actors' roles, emotions, and desires, the architect decides those of inhabitants.

Christopher Alexander (1936–2022) was a British-US (born in Vienna) architect and theorist who understood that empty spaces do not exist, that architecture starts from the place and its inhabitants. Alexander conceived of architecture based on *plenitude*, which means that the people inhabiting buildings, houses, and plazas could find joy, beauty, and happiness in spaces. In order for this to happen, first it was necessary to understand how people relate to and become aware of architecture and cities, and then, how to create functional tools so that anyone can choose to build their ideal place. This radical way of thinking could be compared to breaking the fourth wall in Brechtian theatre: giving voice to the spectators, or, in Alexander's case, the inhabitants. But he not only proposed asking people's opinion, but also involving them in the imaginative process of conceiving a place that they would occupy: a place in which they could find their identity and well-being. For Alexander, inhabitants were the center of architecture.

With the idea of integrating society into this process, Alexander, along with Sara Ishikawa and Murray Silverstein, wrote the seminal book, *A Pattern Language*, in 1977, which presents a repertoire of entities (253 patterns) that serve as a basis for solving construction problems. Each pattern is a type of link that connects with another, creating a network through which one can shape virtually anything, from the most minimal and domestic detail to superstructures in communities and cities. In Alexander's own words, "This is a fundamental view of the world. It says that when you build a thing you cannot merely build that thing in isolation, but also must repair the world around it, so that the

larger world at that one place becomes more coherent, and more whole."[2] The most characteristic aspect of these patterns is that they are not formulas or defined blocks (as if they were modules); rather they are proposals and questions for inhabiting and belonging to the world. The *language* is an index from which elements are selected that users adapt to their desires, their notions of beauty, and the actions that they carry out in their everyday and social life.

Building one's own space, based on the book of patterns, is a method that Alexander and his collaborators defined as *piece-meal growth*, which means that the architecture starts with the microscopic (e.g., a doorknob) and is assembled with other entities until it reaches the macroscopic level (e.g., the roadways of a city). Most notably, the pattern language is conceived less as a manual of forms, methods, and materials— although they are included in it—and more as an essay on modern philosophy—that is, through the problems that are raised in it, different social, economic, human, and cultural spheres are brought to the fore. We can take "Pattern 58," dedicated to "Carnival", as an example. It describes how, "just as an individual person dreams fantastic happenings to release the inner forces which cannot be encompassed by ordinary events, so too a city needs its dreams"[3] and argues that some part of the city should be set aside as carnival, in which tournaments, dances, and theatre take place: a space that helps people liberate their madness. Other patterns include such dissimilar titles as "Old People Everywhere," "Eccentric Nucleus," "High Places," "Animals," "House for One Person," "Bus Stop," and "Sleeping in Public," etc. In other words, it includes both public and private spheres, as

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[2] Alexander, Christopher, Ishikawa, Sara, Silverstein Murray. *A Pattern Language*, New York: Oxford University Press, 1977, xiii.
[3] Idem., 300.

well as activity niches that involve issues of mobility and exchange, or of isolation and privacy. To understand the relationship between the individual and collective human dynamics, and their significance in the construction of cities and buildings, it is necessary to connect them, to make a network of branches adapted to each situation.

In the book's introduction, the authors clarify, "this language, like English, can be a medium for prose, or a medium for poetry. This difference between prose and poetry is not that different languages are used, but that the same language is used, differently."[4] Therefore, the patterns of this language are not part of a list of formulas or typologies, but rather they seek to unite the organic and natural life of the environment with the *aliveness* of the human condition and its habitats; it proposes the interconnection between a tree, a central plaza, a hallway, a light or a bench, with games, dance, walking, playing hide-and-seek, or waiting.

Alexander was a fierce critic of modern architecture, considering it *egotistical*, a position that caused a stir among many in the field; he argued that modern architecture focused on function and form ignored human life and acts. In his book *The Timeless Way of Building* (1979), which preceded *A Pattern Language*, Alexander put forth a way of practicing architecture that arises from the "internal nature of people, animals, plants, and the matter that are in it." In the manuscript, he poses the idea of a living architecture, in which events and daily routines, as well as the way of being with others, are what define the "aliveness," the timeless, and the "quality without a name" of a place and its buildings. The "quality without a name" is as simple as wanting to be in a place without knowing the

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[4] Idem., xli.

specific reason why, and as complex as deciphering what it is that makes a place timeless. Alexander then proceeded by deciphering biological and scientific systems to discover how things are created: an atom that appears to have the same structure as others, but, under a microscope, is shown to be unique; the seed that produces a flower and depends on the interactions among its millions of cells to grow; or the "relaxed geometry" of a tree that has an infinite number of leaves that are apparently equal, but differ in their anatomy. Through this dichotomy between the singular and the multiple, Alexander posits that there is a *genetic code* behind all of this:

> So, I began to wonder if there was a code, like the genetic code, for human acts of building? Is there a fluid code, which generates the quality without a name in buildings, and makes things live? Is there some process which takes place inside a person's mind when he allows himself to generate a building or a place which is alive? And is there indeed a process which is so simple too, that all the people of society can use it, and so generate not only individual buildings, but whole neighborhoods and towns? It turns out there is. It takes the form of language. [5]

Through language, Alexander established a parallel between words and patterns, between grammar and buildings—that is, a similarity between the act of speaking and the act of building: two knowledges that are intrinsic to human nature. However, architecture, despite being based on a common code (a pattern of languages), must delve into the language and bring it to life. Otherwise, we run the risk of repeating useless languages (we can cite as an example modular houses, concrete skyscrapers, or what Alexander called "soulless" modern architecture). Language that is repeated without being adapted is, for

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[5] Alexander, Christopher. *The Timeless Way of Building*, New York: Oxford University Press, 1979, 156.

Alexander, a dead and empty language. Therefore, each city must re-create its language from within: "a living pattern language… shows each person his connection to the world in terms so powerful that he can re-affirm it daily by using it to create new life in all the places round about him."[6] Going even further, the language must emerge from the place itself to have *uniqueness*.

In the essay *The City Is Not a Tree* (1965), Alexander starts by critiquing artificial cities, those that do not grow with time, but rather, are designed from the onset by a single architect. These cities, he argues, are organized according to a tree diagram, that is, from a center (or trunk) from which branches emerge that do not intersect with one another. Structures are designed this way, according to Alexander, because it is difficult to imagine the city as an irregular and latent organism: the city as tree not only entails hierarchy, but also does not allow for interactions and intersections to occur between the complex layers of urban life and its public spheres. By zoning campuses, nursing homes, factories, and playgrounds, to name a few areas of activity, life in common becomes dissociated, and cultural and intergenerational exchange is weakened. By contrast, Alexander proposed designing cities based on a *semilattice*, with the aim of making the city a "receptacle for life," in which different activities, jobs, cultures, and generations can coexist. Alexander wrote that text in 1965, an era in which the ideology of architecture was undergoing radical changes: modern cities were expanding based on typologies designed to reorganize new industries—its prosperity based on the idea of a productive and capitalist future, or what has been called "an urban machine," despite being considered utopian and social models. The semilattice was a concept that not only influenced the era's new architectural theory,

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[6] Ibid., 348.

but also possibilities for creating designs and technologies in which information can break with the vertical order to incorporate a framework of overlapping branches.

In 1967, Alexander founded the Center for Environmental Structure (CES), based on the idea of "not getting involved in nostalgia for past centuries, but rather developing a modern interpretation of living structures that can speak to us, to our cultural specificity, and our times." Through CES, Alexander and his collaborators not only designed sustainable housing, garden, and building projects in different parts of the world, but also conceived a new theory of architecture focused on humans, based on the idea that the most beautiful and complete cities have not been constructed by architects, but rather have been intuitively built by their inhabitants.

The Mexicali Experimental Project

In 1975, Alexander was invited by Julio Martínez, then Director of the Department of Public Workers of the government of the state of Baja California, Mexico, to give a presentation in Mexicali about the Center for Environmental Structure. Instead, the architect proposed carrying out a project to put his theories into practice, which, to his surprise, was approved by the government. With an initial plan of building thirty low-cost houses[7] in the border city of Mexicali, an agreement was reached with the government, the Architecture Department of the Universidad Autónoma del Estado de Baja California (UABC), and CES. From the beginning, it was determined that the architect, along with a team of collaborators (Howard Davis, Julio Martínez, and Don Corner) and the inhabitants themselves, would have absolute freedom to experiment, apportion the lots, design, and

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[7] Each of the houses had to cost less than $3,500 USD at the time (1975). For more, see *The Production of Houses*, New York: Oxford University Press, 1985.

build the houses. This meant that tasks that would normally be assigned to different specialists (designers, engineers, administrators, builders, masons, etc.) would be taken up by the participants themselves under the concept that Alexander defined as the *architect-builder*, a way of decentralizing the work and attending to each aspect of construction, from costs and contracts to buying and organizing materials.

An announcement by ISSSTECALI (a service institute for government workers) invited families who met certain requirements[8] to receive a loan that would help them build their own house, at that time in what was called the Conjunto Orizaba.[9] The announcement stated that each family would engage in a "self-construction" process, while receiving advice from the architects, for which they would need to contribute their free time and personal labor." Thus, this is how the Rodríguez, Hernández de Guzmán, Cosío Colbert, Tapia Betancourt, and Reyes López de Serna families were chosen for the first quadrant in this process that was soon called "The Mexicali Experimental Project."

From the beginning, an area called "The Builder's Yard" (BY), a place that Alexander considered fundamental for any type of construction, was defined. The BY is where construction experiments could be conducted to scale, where building prototypes, materials, and equipment were kept, and also where *pattern languages* could be tested. However, the aim of this space—along with being within the construction site—is that it functions as an anchor for the community: it is where inhabitants meet, share space, hold discussions, eat, etc. When the project ends, the BY becomes a community center or plaza

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[8] The requirements to apply to ISSSTECALLI's call included: being affiliated to the institution; not receiving a salary greater than 5,000 pesos; not having their own house; being married with a minimum of two children; being willing to provide their time and to be taught to design their own house and build it.

[9] The project originally planned for thirty houses, however, only five houses were built.

that can be shared by all the inhabitants. In the Mexicali project, this space was, and is still, known as *El Sitio*.

Alexander and his collaborators realized that imagining architecture, at the same time as building it and making decisions about the physical space, would require another type of approach:

> From the very beginning of our project, we were conscious, above all, that it was a "construction" project—that the making of these buildings was, above all, an act of *making*, not merely an act of design […] to build buildings which are buildings of the people, humane, simple, perhaps joyful, innocent, would require an entirely new type of building process.[10]

Starting from two specific pattern languages—"Common Land" and "House Cluster"—the project began with meetings and discussions between the architects and representatives of each family on the physical plot of land. Reaching consensus, they decided the best place to position the houses according to the desired level of privacy and defined the common areas.

They quickly came to an agreement about the community space and about the size of each house: 60 m^2 (plus yards, parking space, etc.). Using the principles of *The Timeless Way of Building*, each family designed the interior space of their house according to their needs, with the number of rooms, bathrooms, and spaces appropriate to their interests—a fundamental principle for making houses human with their own character. In Alexander's words: "A house is an organic system, like a living creature. Its fabric cannot be properly adapted to its needs and functions unless the process of adapting goes all the way down to the small details."[11] Therefore, from the beginning, the process considered a series of actions and operations departing from an imperfect and undefined idea, through which,

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[10] Idem., 100.
[11] Ídem., 221.

instead of building according to a plan, houses were built through creative and human input and need.

       The book *The Production of Houses* describes in detail each of the operations carried out to build the houses in Mexicali: from excavation, leveling the land, the location of pipes and cost control, to the innovative methods that were used to build the houses. Additionally, it also describes the construction blocks that were made of local soil and cement, and that were mass-produced using an innovative Italian *Rosacometta* machine to interconnect them. The vaulted roofs were woven with wooden strips in the form of a basket and covered with chicken mesh and concrete. The book also has a chapter dedicated to the "human process," which describes the rhythm, spirit, humor, and emotion that formed a crucial part of the construction. In contrast to the factory environment in which most construction takes place, Alexander narrated fragments of the experience in his diary, in which he talks about family co-existence, mutual aid, and the small celebrations held at the end of the day.

       The five houses were finished in 1976 and, since the government considered the process very slow—compared to modular and massive urban complexes—and the houses' appearance handcrafted and not "new," the authorities decided to abandon the project. Over time, the families—and later, their descendants who inhabited the houses—subdivided the lots to have more privacy, for security, and due to communal arguments about water and services.[12] The Sitio (the Builder's Yard) is currently under the auspices of the Universidad Autónoma del Estado de Baja California and is a treatment center for the nursing faculty

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[12] In *Lessons from the Mexicali Experimental Project*, Ana Laura Ruesjas describes the experience of project's inhabitants decades later and examines the benefits and contradictions generated by the project: https://architecturesofspatialjustice.files.wordpress.com/2013/09/w07_ruesjas_lessons_from_the_mexicali_experimental_project.pdf

where they offer disease detection services and share family planning methods. Currently (2023), it is still possible to see original parts of the five houses, along with their modifications, as well as *El Sitio* (located across the street), which can be recognized by its basket vaults, block columns, pool, and central patios.

The Mexicali Experimental Project, one of the many that Alexander carried out through CES,[13] put the "human point of view," collective organization, and the vernacular in the center of architecture, as forms that reshaped challenges of housing and density in urban contexts. Aware of the many failings and errors of a project that is imagined, designed, and built at the same time, including the time and bureaucracy required to carry it out, Alexander still thought that building this way is a process that can change the paradigm, seeing the world based on other more human solutions closer to our way of living in an increasingly alienated world.[14]

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[13] Among the most notable are the New Eishin University on the outskirts of Tokyo (built between 1982 and 1987), as well as the Shelter for Homeless in San Jose California (1989).

[14] In 2002, Alexander wrote *The Nature of Order*, four books that condense his theory of architecture and inhabited space.