

MAKING THE GARDEN

Christopher Alexander calls for a humane architecture
that raises our eyes to God.

It has taken me almost fifty years to understand fully that there is a necessary connection between God and architecture, and that this connection is, in part, empirically verifiable. Further, I have come to the view that the sacredness of the physical world—and the potential of the physical world for sacredness—provides a powerful and surprising path towards understanding the existence of God, whatever God may be, as a necessary part of the reality of the universe. If we approach certain empirical questions about architecture in a proper manner, we will come to see God.

Christopher Alexander is emeritus professor of architecture at the University of California, Berkeley, and the author of *A Pattern Language*; *The Nature of Order, Volumes I-IV*; and *The Battle for the Life and Beauty of the Earth*.

Only in the last twenty years has my understanding of this connection taken a definite form, and it continues to develop every day. It has led me to experience explicit visions of God, and to understand, in some very small measure, what kind of entity God may be. It has also given me a way of talking about the divine in concrete, physical terms that everybody can understand.

There can be little doubt that the idea of God, as brought forth from the nineteenth and twentieth centuries, has slowly become tired . . . to such an extent that it has difficulty fitting into everyday twenty-first-century discourse. As it stands, it is almost embarrassing to many people, in many walks of life. The question is: Can we find a way to mobilize, afresh, the force of what was once called God, as a way of helping us to recreate the beauty of the Earth?

The view put forth here does not leave our contemporary, physical view of the universe untouched. Indeed, it hints at a conception which must utterly transform our conception of ourselves and our place in the universe. It shows us, in a new fashion, a glimpse of a beauty and majesty in the smallest details of human existence.

All this comes from the work of paying attention to the Earth, its land and rocks and trees, its buildings, the people and ants and birds and creatures all together, and the blades of grass. It comes from realizing that the task of making and remaking the Earth—that which we sometimes call architecture—is at the core of any commonsense understanding of the divine.

In 1956, I began for the first time, consciously, to try to find out what architecture is. I had received a degree in mathematics, at Trinity College, Cambridge, and, as I had always intended, began a second degree, this time in architecture, also at Trinity. As I took in what I was being taught, I felt that the then-prevailing idea of architecture was rootless and arbitrary, mainly governed by styles and pointless quirks of style, and that what architects typically said about it was peculiar, often meaningless and egocentric. In 1958, as early as I could after completing my architecture degree, I left to go to the United States, to do a Ph.D. in architecture at Harvard. That was the moment when I first got my feet on the ground, and began trying to define the nature of architecture from first principles.

To have something solid that I could be sure of, I started by examining the smallest particles of functional effect that I could discern in buildings, paying attention to small and sometimes barely significant aspects of the ways that buildings affect people. My

purpose in doing this was to focus on the smallest particles of *fact* that I could be certain of: something that was extraordinarily difficult given the porridge of mush that then passed for architectural theory. In those early years, my studies were based on the most ordinary, miniscule observations about usefulness and the effect of buildings on the people who lived in them, always keeping the observations modest, reliable, and detailed—small enough and solid enough that I could be sure that they were true.

At first I included very small particulars of functional effect of any kind that made a practical difference to daily life . . . a shelf beside the door where one could put a packet down while searching for one's keys, for instance, or the possibility of a sunbeam coming into a room and falling on the floor.

I soon realized that some of these details were very much more significant than others. Those like the first (the shelf) tended to be pedestrian, even though useful; while those like the second (the sunbeam) were more uplifting, and clearly mattered more in some obvious but profound sense. They had a greater impact on people's mental and emotional health. And they had more to do with beauty. So I began to focus on those miniscule points that mattered more, in the sense of the second example. Gradually, then, I was able to see how buildings support human well-being—not so much mechanical or material well-being, but rather the emotional well-being that makes a person feel comfortable in himself. And as I studied these small effects carefully, gradually I was led to a conception of the wholeness and wellness that might, under ideal circumstances, arise between buildings and human beings.

Starting with these humble and detailed pictures of what seemed to matter in a building, for fifty years I have struggled to provide a basis for architecture that can sustain human feeling and the human spirit. I made an effort to penetrate the logic of architecture, and the logic of architectural value, in the hope that I could alter the devastating effect on human beings and on human society of what had become known as “modern” architecture. I hoped to replace this faceless thing with an idea and practice of architecture that would help us sustain the sanctity of life, both in our hearts and in society.

During my years as a professor at the University of California, Berkeley, I encountered considerable resistance from the faculty and administration. Even though the religious content of my work was certainly not articulated in those early years, my colleagues in the department of architecture

made continuous efforts to diminish the importance of my work, and did their best to dissuade students from taking my classes. The spiritual content and underlying message of my approach, though always presented in a form acceptable to common sense, struck them (rightfully) as an attack on the prevailing forms of thought and practice in fashionable twentieth-century architecture.

I could not knuckle under. To protect my ability to teach and to protect my students, I was obliged during the period of 1985 to 1992 to undertake a First Amendment lawsuit against the university, since the university was undermining my right to teach what I believed to be true. I was by then a full professor in the department, and my work was in large part *empirical*, but it took seven long years before I prevailed in my right to teach the approach I had formulated, and was able publicly to go ahead with research and further reasoning that seemed empirically adequate to me.

During all these years I still had not formulated an explicit way of understanding the connection between God and architecture, nor had I found it necessary to do so. But half-consciously, it was always at the heart of what I was doing. Questions about the nature of God, the relation between God and our concepts of modern physics, the apparent disparities between the various views of God presented in different cultures and religions, were with me every day. For one or two decades, I also immersed myself in various forms of practice—Zen Buddhism, psychotherapy, private forms of meditation—to do what I could to sharpen and clear my mind. As a practicing Roman Catholic, I learned much from Christian mystics (especially *The Cloud of Unknowing*); Sufi saints (Mevlana, Ibn Arabi); Buddhist and Taoist writers (Chuang Tzu and Lao Tse, especially the *Tao Te Ching*); Zen poets (especially Bashō); south sea anthropologists Gregory Bateson, Ruth Benedict, and Jane Resture; the Sanskrit classical canon; Western writers such as the French psychiatrist Hubert Benoit; Aldous Huxley; and the Enlightenment (especially Spinoza).

As time went on, I also began formulating practical and modest theories, which enabled me (and others) to build better buildings. Some of my works became widely read, and translated into many languages. These theories were focused on the search for a deeper sense of well-being—not thermal comfort or energy saving, but a deeper psychological and emotional comfort, in which people could feel their own existence as human beings. These theories gradually

became widely accepted, but also continued to raise discomfort in the profession. They plainly were at odds with the stark and ego-centered view of buildings that was then being taught by most teachers of architecture, and that was commonly accepted in late-twentieth-century society as the “correct” view.

As a result of struggling to understand these things at a deeper level, while establishing a foundation that seemed ordinary and practical, I found it more and more difficult to fit together a well-defined scientific or intellectual model of what was going on in a way that could encompass these simple matters. And yet it was also clear to me that the empirical reality of these simple matters could not be denied, and certainly could not be abandoned.

In the period from 1979 to 1990, I found to my surprise that I was gradually forced to wrestle with questions about the nature of reality, of space, of value, and of human freedom. As I moved forward, the need to clarify these issues became more and more apparent. I also found that within the positivistic, scientific canon I had grown up with while studying at Cambridge, it was virtually impossible even to formulate adequate concepts that would be capable of solving the more profound issues that lie at the root of architecture.

Up until that time, I had accepted the academic, positivistic, scientific philosophy and practice of my youth. I had been trained in physics and mathematics, and assumed, virtually as part of my educational birthright, that these scientific disciplines could be relied on, and that I should not step outside the intellectual framework that they provided. But to solve the practical and conceptual problems in architecture, I now embarked on a study of a series of concepts that, though formulated more or less within scientific norms, nevertheless opened ways of thinking that were highly challenging to the academic establishment:

- Wholeness
- Value, as an objective concept
- Unfolding wholeness
- Connection with the inner self
- Centers
- Structure-preserving transformations
- Degrees of life

I introduced these concepts and a few others only because I found them essential to the task of thinking clearly about the life of buildings. Yet they were almost undefinable within the terms of contemporary scientific thinking. This was true to such a degree

that even raising these topics as matters for discussion in professional architectural circles caused raised eyebrows, obstructive reactions, and little sincere effort to get to the bottom of the issues.

One by one, then, I allowed these new concepts into my everyday way of thinking, doing my best to hold to scientific rigor and clarity, yet trying to formulate models that would adequately portray the needed concepts in a way that made sense of them.

During 1978–1985, I went as far as I was able in laying the groundwork of a new model. One might say that this new model relied heavily on new forms of experiment, in which a person would attempt to judge the quality of an action, building, painting, or place by consulting his own self as to the degree of wholeness that appeared in the items under discussion or investigation.

This was the beginning of a very new way of thinking about architecture, which viewed the environment and its structure as an instrument interacting with human beings in such a way that people could heal themselves. In short, it was the beginning of a practical theory of healing environments—still far from the subject of God—but now perhaps beginning, subtly, to point in that direction.

My coworkers and I put forward this theory in a number of books, of which the most important was probably *A Pattern Language*, which has (I am told) become the best-selling architecture book of all time. Companion volumes included *The Timeless Way of Building*; *A New Theory of Urban Design*; *The Production of Houses*; *The Linz Café*; and *The Oregon Experiment*, all published between 1975 and 1987. These six books laid out a theory with which people could produce well-functioning environments for themselves.

As my colleagues and I continued experiments in which we did our best to apply these principles to real building projects, it became more and more clear that we needed to sharpen our idea of health and clarify the target of this work. It was urgent to develop a more solid conceptual and experimental foundation that could provide us with practical ways of judging which environments, and which *kinds* of environments, were indeed most successful in sustaining or promoting health.

This task began to lead, for the first time, to empirical hints of the presence of God. In effect, we began to discover a new kind of empirical complex in buildings and works of art that is connected with the human self, spirituality, social and mental health, God, ways of understanding the role that love plays in establishing wholeness, the role of art, and conscious

awareness of the human being as part of some greater spiritual entity. These arguments were later conveyed in the four books of *The Nature of Order*.

I would like to summarize our work by explaining this new kind of empirical complex in the following way. In any part of what we call nature, or any part of a building, we see, at many levels of scale, coherent entities or centers, nested in each other, and overlapping each other. These coherent entities all have, in varying degree, some quality of “life.”

For any given center, this quality of life comes about as a result of cooperation between the other living centers at several scales, which surround it, contain it, and appear within it. The degree of life any one center has depends directly on the degrees of life that appear in its associated centers at these different scales. In short, the life of any given entity depends on the extent to which that entity had unfolded from its own previous wholeness, and from the wholeness of its surroundings.

When one contemplates this phenomenon soberly, it is hard to imagine how it comes about. But what is happening is, in effect, that life appears, twinkling, in each entity, and the cooperation of these twinkling entities creates further life. You may view this phenomenon as ordinary. Or you may think of it as the Buddhists of the Hua-Yen canon did, when they viewed it as the constantly changing God-like tapestry that *is* God, and from which life comes.

In this view, architecture contributes to the world to just that extent to which it plays its role in this tapestry, and that, in turn, comes about as a result of the extent to which a building, or an outdoor place between buildings, or a doorway, is composed entirely of entities that are themselves whole and entire, and which—each one of them—make us feel whole and entire. This is, in any case, an attempt to make a picture of the whole.

With this, with a searchlight focused on the whole, I could no longer really avoid the topic of God.

I suppose it is fair to say that there are two approaches to the reality of God. One is faith; the other is reason. Faith works easily when it is present, but it is luck, or one’s early history in family life, or a blinding insight of some kind, that determines whether one has faith. Reason is much harder. One cannot easily approach the reality of God by means of reason. Yet in twentieth- and twenty-first-century discourse, reason is almost the only way we have of explaining a difficult thing so that another can participate.

It is reason—the language of science, and its appeal to shareable, empirical observation and

reasoning—that has given our modern era its strength. Yet one is unlikely to encounter God on the basis of reason. There can, however, be a persuasive logic that deals with the whole, and with the deeply enigmatic problems that the concept of the whole opens.

My life began with childlike faith. After then going through the dark forests of positivistic science, to which I gladly gave myself for so many years, I was finally able, through contemplation of the whole, to emerge into the light of day with a view of things that is both visionary and empirical.

It is a view that has roots in faith, and from it builds bridges of scientific coherence towards a new kind of visionary faith rooted in scientific understanding. This new kind of faith and understanding is based on a new form of observation. It depends for its success on our belief (as human beings) that our feelings are *legitimate*. Indeed, my experiments have shown that in the form I have cast them, feelings are more legitimate and reliable, perhaps, than many kinds of experimental procedure.

It is in this way that I was led from architecture to the intellectual knowledge of God. It was my love of architecture and building from which I slowly formed an edifice of thought that shows us the existence of God as a necessary, real phenomenon as surely as we have previously known the world as made of space and matter.

During my years at Berkeley, I never taught or spoke about God explicitly as part of my work as an architect. As professor of architecture, I tried to teach and write in ways that were consistent with my background in science and mathematics. It would have seemed incongruous to bring God into my discussions of architecture because I was simply trying to find out what was true and write it down. A fairly straightforward process, I thought, following well-tested methods of scientific inquiry. So that is what I set out to do, and that is what I did. In my heart, I was always dimly aware that I did maintain an inner knowing that the best way to produce good architecture must somehow be linked to God—indeed, that valuable architecture was always about God, and that this was the source of any strength I had in being able to identify the real thing. But in the early days these stirrings were very much private, interior to me, and subdued.

You see, then, how it is that the careful study of architecture led me—and I believe would inevitably lead any careful and empirical thinker—to thoughts about the nature of things, and the simultaneous

existence of what we may call the objective (outer) nature of things, typically dealt with in science, and at the same time of what we may call the subjective (or inner) nature of things.

What is new is the discovery that the so-called subjective, or inner, view of things is no less objective than the objective or mechanical view of things. When questions about the subjective are asked carefully, and in the right way, they are as reliable as the experiments of physics. This understanding has led to a new view of experiment that uses the human being as a measuring instrument and leads to reliable, shared results when properly done.

This has all come to light because of my intense interest in and focus on architecture. In conventional philosophy, there is nothing that allows one to test the reality of God, or of visions inspired by God. But we ask people to compare two buildings, or two doorways, and to decide which one is closer to God, different people will answer this question in the same way, and with a remarkably high reliability.

All this has a unique ability to point to the reality of God. In theory, other disciplines such as ethics might seem to have more claim to illuminate discussion of God. But the tangible substance of architecture, the fact that in good architecture, every tiny piece is (by definition) suffused with God, either more or less, gives the concept of God a meaning essentially translated from the beauty of what may be seen in such a place, and so allows it to disclose God with unique clarity. Successful architecture ultimately leads us to see God and to know God. If we pay attention to the beauty of those places that are suffused with God in each part, then we can conceive of God in a down-to-earth way. This follows from an awareness in our hearts, and from our active effort to make things that help make the Earth beautiful.

This is not a pastiche of pseudo-religious phrasing. In technical language, it is the structure-preserving or wholeness-extending transformation (described in *The Nature of Order* and capable of being precisely defined) that shows us how to modify a given place in such a way as to give it more life. When applied repeatedly, this kind of transformation is what brings life to the Earth, in any place.

Earth—our physical Earth and its inhabitants—sand, water, rocks, birds, animals, and trees—this is the garden in which we live. We must choose to be gardeners. We must choose to make the garden beautiful. Understanding this will give us intellectual insight into the nature of God, and also give us faith in God as something immense yet also as something

modest, something which lies under the surface of all matter, and which comes to life and shines forth when we treat the garden properly.

The most urgent, and I think the most inspiring, way we can think about our buildings is to recognize that each small action we take in placing a step, or planting a flower, or shaping a front door of a building is a form of worship—an action in which we give ourselves up, and lay what we have in our hearts at the door of that fiery furnace within all things, which we may call God.

We will only see God in the world around us if the quality of the architecture is right—an almost unattainable condition in today's world. Why is it almost impossible? Because in an epoch when God was not acknowledged, it became virtually impossible for people to build the kinds of buildings where God appears. The whole purpose of the work I have done is to show that the presence of God in a matter-configuration is an objectively existing condition, and that there are specific paths and methods and habits of thought through which we may create buildings where the presence of God can be seen and felt.

The two go hand in hand.

We cannot make an architecture of life if it is not made to reflect God—an objective condition. And, by a surprising twist, the search for a true architecture, that is to say, a real architecture that works, and in which this feeling of rightness is present in every bone, in an irreligious era has the unique power to bring back the reality of God to center stage in our concerns.

My work has proven this to me: There is available to us a form of transformation that, each time it is applied, extends and enhances the wholeness of the land, whether rural or urban. The act of transformation also puts us in touch with ourselves by making the land of the Earth become more and more deeply connected to our selves. An environment, when made in this way, may even be regarded as a vision of our inner selves.

The best state for the land—our best actions on the land, in the land, and in the buildings—will come from our awareness of its wholeness and from our awareness of its connection with our own selves—that is to say, with God, the substrate of the universe that is the origin of who and what we are.

As I have said, grasping the wholeness, awakening our ability to see it and to adhere to it—these are all profound and often difficult. In order to understand these operations from a practical and mathematical point of view, we need to be guided by an inner voice, and I believe that voice is tantamount to a vision of God. Thus, although it is formless and shapeless, nevertheless it is this vision of God that draws us on.

That new vision can become a new source of inspiration and motivation. I call it new not because it is at root genuinely new. Of course it is not—it is ancient. But it is entirely new in our era to take such a thing with full seriousness, and to be able to derive from it well-fashioned, scientifically endowed conceptions of what is needed to heal a given place. It will not be governed by money or profit; it will not be governed by social politics; it will be governed simply by the desire and firm intention to make beauty (which is to say, true life) around us.

Perhaps that sounds as though it is not solid enough for sober and enlightened action. Quite the opposite is true. The vision of God we hold in our inner eye, which we draw from the hills and mountains, from the cities, towers, and bridges, from the great oak trees, and the small and tender arbors, from the stones and tiles that have been carefully laid, it is that which *is* God, and which we encounter as we try to find a vision of God in the world. It guides us, as if with a certain hand, towards a future which is yet more beautiful.

The capacity to make each brick, each path, each baluster, each windowsill a reflection of God lies in the heart of every man and every woman. It is stark in its simplicity. A world so shaped will lead us back to a sense of right and wrong and a feeling of well-being. This vision of the world—a real, solid physical world—will restore a vision of God. Future generations will be grateful to us if we do this work properly.

Taking architecture seriously leads us to the proper treatment of tiny details, to an understanding of the unfolding whole, and to an understanding—mystical in part—of the entity that underpins that wholeness. The path of architecture thus leads inexorably towards a renewed understanding of God. This is an understanding true within the canon of every religion, not connected with any one religion in particular, something which therefore moves us beyond the secularism and strife that has torn the world for more than a thousand years. ■



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