



THE
NATURE
OF
ORDER

*An Essay on the Art of Building
and
The Nature of the Universe*

CHRISTOPHER ALEXANDER

BOOK TWO

THE PROCESS OF
CREATING LIFE

CHAPTER THIRTEEN

PATTERNS

GENERIC RULES FOR MAKING CENTERS

OR

"MAKING LIFE ENJOYABLE"



1 / INTRODUCTION

In previous chapters, I have discussed unfolding mainly from a formal point of view, discussing the way that centers grow, and how they grow in such a way as to allow coordination and adaptation among the parts of the emerging whole as it becomes a building.

But, of course, there is an enormous subject, not yet dealt with at all: the question of the functional origin of a building, and the definition of the functions that are to go into it. In any sane process which is able to make living structure in buildings, giving proper attention to the functional basis of the building—to what people need, and want, and

desire, in order to make themselves comfortable—is paramount. For a building it is the essence of its worth.

I have not discussed this subject earlier, because the way that functional information enters the building process, cannot be well understood without a grasp of the geometrical aspects of the formative process. Even the question of what the building does, and how well it does it, can be understood properly only in the context of the geometry.

We have now had a sufficient preparation in geometry and structure, to begin a detailed discussion of the functional basis of a building.



2 / STRUCTURE-PRESERVING TRANSFORMATIONS AS THE ORIGIN OF FUNCTION

At the beginning of every building design process, it is necessary to get an idea of what is going to happen in the building, how it is going to work. But this activity of defining functions ahead of time is far more subtle than it might seem.

As I have said in Book 1 (chapter 11, pages 403-39) that all functions, when they are working well in a building, are associated with living centers. This means that all the "functions" which are to be defined for a building need to be expressed as rules for making centers. And, above all, the choice of these centers is vital: To a very great extent, the finished project will be defined, controlled, in its behavior and its feeling, by the choice of key centers which are to appear in it.

Simple examples of traditional function and its centers. A rose trellis around a cottage door is simple enough: It forms a center, it creates enjoyment through color, smell, and it enhances the love of living things. Though it is small, and the

center is not high among the more significant centers in the built environment—still, the choice of this one type of center has a huge effect on house and village. It is just one center, and a small one; but it has a huge effect on what life is like in that place. In another case, a repeating center and its functions may be very large, visible, and highly significant in the way that function and behavior are made to change. Dulles airport for Washington, D.C., was largely defined by the mobile lounges which Eames and Saarinen invented as a new way of getting from the airport to the plane. It was a new kind of center that transformed the way an airport works.

Such examples show us how the quality of human culture is embodied in the repeating centers which are current in a place. Indeed, as we know very well, the needs which people have in buildings are richly modified by culture. A house for an Arab family in Morocco, for a Japanese

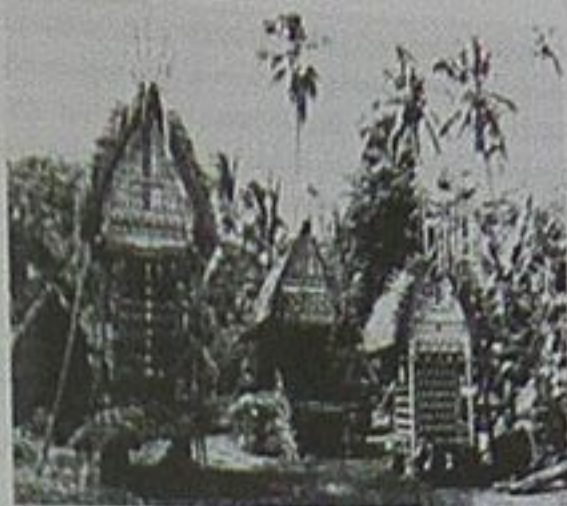
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The circle of houses typical in Trobriand society. The circle was one of the major patterns which defined their culture.



Physical character of the Trobriand houses around the circle. Here is another major pattern which defined their culture.

family in Japan, for an English family, a Russian family—are all quite different things. In any particular society, the centers which are recognized are specific, and identify a particular (culture-borne) way of life.² The way of life of Americans in Fort Lauderdale, the way of life of Trobriand islanders in a Trobriand village; the way of life of Indians living in a high density part of Delhi—each has its own complex system of centers. In each of these cases, the way of life, the existence, is defined by centers that are peculiar to that culture.

So, for instance, the Trobriand islanders in a village typically arranged their houses in a circle around a common area.³ The chief's house at one point of the circle, with storehouses on either side, crossed the axis of the village. Collective yam stores were placed at points around the inner circle, on either side of the axis, leading to the chief's house and main common house. This was the way the world made sense for Trobrianders, was comfortable, and was consistent with their culture, their values, their beliefs. It was all embodied, summarized, in the centers that appear in this typical layout of a village. The archetypal centers, which define the classic Trobriand village, are the physical and geometrical embodiment of a wholeness which will then support, reflect, sustain, the essence of their culture.

Thus, the task of defining centers, for a new building, or for a neighborhood, is one of the deepest and most significant kinds of work which can be undertaken, in trying to establish a new way of life, and a physical environment which supports that way of life.

The process of choosing or defining functional centers, if it is to be part of a living process, must itself derive, then, in some fashion, from the existing wholeness. Like the elaboration of geometry itself, the pre-operational phase when the centers-to-be are being defined must be drawn from the existing wholeness by structure-preserving transformations.

What exactly does this mean? It means, mainly, that the centers that are to be injected into a new building project—the generic entities or patterns which are to be the building blocks of the project, and which are to define it—must come in large part from the human culture where the project is happening—and therefore, of course, from the culture that exists.

When we begin a building project, our clues about what should be built, what should be done next, must come not only from the land but from society, too, and from the culture where this is being done. We are faced with the empty canvas, and we puzzle about what to do. It is the human family which makes

us build a house, it is the concept of transportation and community which makes us seek roads and sidewalks; it is the way that people are in their custom and behavior, which provides the all-important physical subtleties. So, the response to the land, even if it is to be structure-

preserving, a true unfolding process, must be rooted, always, in the whole, in the cultural and human whole and the land and the ecological and natural whole and the physical wholeness of that place which forms the context of our work.



3 / PATTERN LANGUAGES

About twenty-five years ago, my colleagues and I invented a class of theoretical systems modeled on the generative systems used in traditional society. We called them pattern languages.⁴ A pattern language is essentially a way of defining generic centers, and then using them, sequentially, in design projects. The entities we called *patterns* were — albeit in an early formulation — somewhat similar to the entities I now call *centers*. One might say that every pattern which was defined under that theory was, in effect, a rule for making or partly making some important type of center, necessary to the life of a living human environment.

The theory of pattern languages was first put forward in *A PATTERN LANGUAGE AND IN THE TIMELESS WAY OF BUILDING*. Secondary statements of the theory were published in *HOUSES GENERATED BY PATTERNS*, *A PATTERN LANGUAGE WHICH GENERATES MULTI-SERVICE CENTERS*, and *THE OREGON EXPERIMENT*.⁵ There are, in addition, a great number of recent publications by many other authors who have used these ideas and built on them during the last twenty years. Many are in the field of architecture.⁶ In recent years a rich and varied addition to the literature has come in from computer scientists, writing in the field of software design.⁷

The essential ideas of pattern language theory are the following:

1. In traditional cultures, successful environments were always built by using pattern languages. They showed people how to make an al-

most infinite variety of buildings by combining and recombining the patterns, and contained within the process a modest guarantee that the buildings would be successful. Hence the great variety and beauty of buildings built by traditional societies.

2. Each culture had its own pattern language. The pattern languages reflected differences from culture to culture, and often really embodied the culture as a whole, in the form of rules which defined the spatial structure of the built environment.

3. The patterns were, for the most part, based on human needs, understanding, necessity. They reflected the deep practical daily concerns of people and were, as rules, expressed in a form which made it possible to put those things into the built environment in an immediate, practical, and effective form.

4. At the same time, although patterns vary from culture to culture, and while human needs vary and are highly specific in different human cultures, there is a core of material — a central invariant structure — which is common to all cultures. A portion of this invariant core — at least a sketch of such a thing — is described in a PATTERN LANGUAGE.

This much of the theory is descriptive. But for the most part, the main purpose of the pattern language theory was not descriptive but prescriptive. We discovered that it is possible to create pattern-language-like systems artificially.

That is:

5. It is possible to create a system of pattern languages, embodying human needs, which may then be used to generate the structure of a building, which may then be modified by a combination of the patterns.

6. It is possible to create a pattern language which may then be used to generate what new patterns may be needed in a given context, in the sense that the patterns of them may, in the patterns, families, deep that in some of our new era are.

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That is:

3. It is possible to create pattern languages for our own time, which, like traditional languages, embody knowledge, cultural subtlety, human need, and empirical information about the structure of living environments, in a form which may then be used to generate living centers by a combinatorial unfolding process.

4. It is possible to invent and create new pattern languages, artificially, by trying to see what new patterns will solve problems that exist in a given context. Although these may be new, in the sense that they are newly defined, many of them may, obviously, be versions of ancient patterns, familiar in different cultures, but so deep that in some form they are still relevant to our new era and new settings.

5. The objectivity of the patterns is context-sensitive, and always includes a built-in reference to the context for which that pattern works.

6. The patterns, because of their explicitness, allow discussion, debate, and gradual improvement of the material.

7. The artificial language will work well only to the extent that it embraces a *whole*—that is to say, to the extent that it comprises everything that needs to be said about a given building situation, and that the various patterns it contains work together as a whole system, which accounts for all morphology that is required to design, plan, design, or make, a complete building of that type and its immediate surroundings.

8. These artificial languages, like traditional languages, can then be used to steer pro-

cesses of design and building, just as traditional languages played that role in traditional society.

9. For any new building project it is necessary to construct such a language, merely to provide a clear functional basis for the character and organization of the building. The language that is written down, at the beginning of a project may be invented from scratch, composed of known languages that have been re-combined, or may be a modification of a known language developed earlier. This will vary, according to the degree that the project is new, not yet fully understood, or old and familiar.

One might say that every new pattern defined under the theory of pattern languages is a rule for creating a certain type of (new) living center, needed and appropriate in a given range of contexts. More precisely, one may express the relationship of the two theories like this: Each pattern is a rule which describes a type of strong center that is likely to be needed, on a recurring basis, throughout a particular environment or class of environments. Further, a pattern not only describes a recurring center, but also describes a relation between other generic centers. The pattern both describes a generic center, and describes a generic relation among other generic centers. But it must be remembered that the pattern describes a *generic* center, not a particular center. In this sense the pattern is not so much like an element in an erector set, but more a rule for making a certain kind of center capable of making an infinite number of particular centers of the same type, whenever they are needed.



4 / PATTERNS AS GENERIC CENTERS AND THE EVOLUTION OF NEW CULTURE

Let us now ask how we may go about creating a system of patterns or generic centers to provide the elements for a given building process?

A living process only rarely creates living centers from scratch. In most cases, the living pro-

cess makes use of solutions or partial solutions to previously encountered problems, in the form of pre-established coded schemes, or rules for making instances of generic centers.¹ The process then uses these generic centers again and again as it

encounters different real-world situations. In organic nature, this is familiar. A gene is an organism's way of remembering how to form previously successful adaptations in ensuing generations of new organisms. The gene essentially remembers, and allows re-use of, a generic solution to a recurring problem. In architecture, traditional pattern languages played the same role. When we build a house, or a door, or a path, or a garden, these words describe worked-out culturally defined generic centers — pattern-like concepts which can be generated in a thousand forms to make actual centers in the world. The good environments in traditional society could be built because people had pictures of what worked; these pictures were agreed upon, and used and re-used, over and over again.

Memorized nuggets of solution, like the patterns in traditional society, like genes in the growth of organisms, are necessary to any complex adaptive system and its process.⁹ But in architecture the use of re-usable patterns does not only occur in *living* process. After all, damaged 20th-century building process, too, had its patterns — for example, many principles of traffic, building, and planning that were (and are) in use. The trouble is, of course, that many of these present-day patterns did not lead to creation of living structure, but rather the reverse — because they were based on criteria for success such as profit or insurance or limited managerial efficiency, which had little to do with the fitness of the living structure as a whole. For example, the common practice of placing motels and apartment buildings over at-grade parking, common in the United States during the 1970s and 1980s, was efficient because it was the cheapest way to do it. But it caused serious damage to the living structure of the pedestrian world and community fabric.¹⁰

The key difference between the patterns which arose in the 20th-century profit-oriented system and those which must accompany a living process, is that in a living process the patterns define types of centers which reinforce, support, bring out the life of the whole.

For a society to have living processes, attention to the whole must once again become the framework, so that the system of patterns which are used as support for the living process acts together to take care of the whole. Only this will make the living whole a possible outcome.

The crux of the whole thing is that we seek patterns which are *good*, patterns which will generate life when we create them in a building built in the context we are facing.

In our modern world, where societies are often in flux, the stability and coherence of such a traditional society is rarely found. Instead, people are usually struggling to create for themselves a system of coherent environmental objects and spaces, in which they can live well, be comfortable, and feel at ease.

But this means that people must *create* (artificially) what was taken for granted in traditional society: a system of patterns describing centers which can form the backbone of a new wholeness in a new society. Equally, the ecologists and biologists and forest management people try to create a system of patterns for centers which will provide the underpinning of a living ecological communities; educators create patterns for centers like classrooms, seminars, group discussion, individual education, which might provide the underpinning of a stable and healthy process of education; transportation experts try to create a system of new effective patterns for freeways, roads, parking. Throughout society people are working to create the basic underpinning of what may be a healthy world, capable of being coherent, realized within new building forms, capable of sustaining new kinds of community, family, society. And of course the patterns which are being created — and the centers which these patterns describe — vary from nation to nation, from village to village, from culture to culture, from subculture to subculture within the mosaic of a modern metropolis like London or Tokyo or San Francisco.

The process of finding these deep generalized culture-borne centers, discussing them, evaluating them, settling on them, and then

applying them is a major practical part of

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the point. It is, necessarily, the first and most essential part of the general unfolding process which takes place as we construct our world.



THE HUMAN CENTER AS A PART OF PHYSICS

Suppose I am sitting in my living room. The big chair, the carpet, the tables, the windows, form centers in the room. These centers are more or less congruent with the way my family and I use the room. But suppose now that I have invited two friends from India to tea, and I am sitting with them. In their minds may be a cultural pattern, or predisposition, to sit on the floor. In India, the floor is more salient, more of a habitable space, than it is in California. My friends carry this in their minds.

While my friends are in the room, the wholeness has changed. The saliency of the tables, and the saliency of the table-chair system in the room has decreased slightly; the presence of half-formed centers nearer to the floor, perhaps a system of centers which includes cushions, carpet and the floor, has increased. So the wholeness, which is the system of all the centers with their relative strengths, is changed. I do not mean that while we are sitting there our idea of the world has changed, or that our image of the world has changed. In this example, I mean that, while these people are having tea in my living room, the living room itself has changed. Its wholeness has changed slightly.

To make sure that this point is clear, I shall give a more dramatic, purely physical example. Imagine a chair in a room. As an experiment, I get a big ball of scrap iron, on a rope, and hang it so that the scrap iron is hovering near the seat of the chair. In conventional thinking, the chair is unchanged. I have simply brought a bundle of scrap iron near the chair. But seen from the point of view of wholeness, the situation is quite different. When the chair stands by itself, there is the set of most salient centers in space. The

chair in its wholeness is then defined by this system of salient centers. When I bring the scrap iron towards the chair, the wholeness changes. Suddenly, for instance, the bowl-shaped seat of the chair is less coherent as a center than it was before. New centers, formed by the scrap iron, have meanwhile become *more* salient. New configurations have become more vivid, old configurations are less vivid. As a result the chair itself has changed. Its wholeness has changed, because the entire system of centers is altered: if I view "the" chair as defined by its wholeness, the chair itself has changed.

This is a new point of view. It is no longer true to say that the same chair is there, and has merely been juxtaposed with some scrap iron. Instead since the new wholeness is altogether changed, and since the chair, properly seen, is *defined by the wholeness*, the chair after the scrap iron is a different chair from what it was before, even though the scrap iron is not touching it. Its space, and the system of salient centers have been reconfigured. It has changed.

Although it could seem like a small revision of terminology to see the world like this, it is a profound change of consciousness of the world as a whole. It recognizes that wholeness is a very subtle structure, changing all the time, and vulnerable to very small encroachments in its surroundings. What we see as the physics of the chair, its mathematical structure, then appears subtle and vulnerable: it is not constant and fixed. It is changing, subtly, all the time, as influences from the world around enter the picture, and modify the relative salience of different centers in and around the chair, thus forming, reforming and altering the wholeness which was "the chair."

In the light of this example, let us consider a more drastic cultural example than before. Point Lobos is a beautiful small peninsula near the Big Sur, California. Consider the wholeness of this place at two different epochs, one as we know it today, the other as it was at the time of the Yurok Indians. The Yurok had a very strong affinity for rocks, trees. These things entered into their lives

in a profound and practical sense, and their life was intertwined with them; each thing in the world was, for them, its functional character: a certain rock was "fishing rock," a certain tree was "meat-smoking-wood-tree" and so on. Let us now imagine such men going to Point Lobos, today a park with rocks, cypresses, seals swimming off the coast, chipmunks, waves, pebbles. We view this as a place of a natural beauty. The salient centers are the paths, seals, cypresses. Each of these things has its saliency as a tourist attraction, as a precious nature preserve. But at the time of the Yurok, the relative saliencies were different. The rocks and seals and fish formed centers of a different character and different saliency. Thus, at that time, the wholeness was a different wholeness. The wholeness, made as it is from the centers that exist in that place, each with its different saliencies, was *actually* different. Like the chair, modified and changed when the scrap iron hangs in front of it, the world of Point Lobos as a physical system was something different then from what it is today.

When that place was inhabited by the Yurok, the relative saliencies of centers had one structure. When it is inhabited, as it is today, by us modern-day Californians in nylon shorts, with our ideas about the world, the saliencies are different. Above all, the place is now different because its wholeness is now different. It does not merely *seem* different, or have a different human picture of it. It is different. Mathematically, it is a different thing.

If, then, we seek to allow the world to unfold, thus creating life, it is this, the subtle, modified wholeness, affected as it is by culture, which must then unfold truthfully, to produce a living thing. The wholeness is, in large part, defined by the culture of that moment. The *unfolding of wholeness is both an unfolding of part from the culture which exists, and an unfolding of a new (future) culture from the culture of the present*. And all this is to be defined by the pattern language which reflects the inner needs and inner character, of the human and physical situation.



6 / DISCOVERING NEW PATTERN LANGUAGES: HOW TO DRAW A VISION OF THE FUTURE FROM THE STUDY OF THE PRESENT

There was always one great difficulty with the study of pattern languages, and with the language my colleagues and I, and others, published. *Where did the patterns come from?*

Much of our early work implicitly made use of the idea that good patterns were to be derived, somehow, from existing culture, thus ensuring a relation to the subtleties of culture variation, and preserving things that were good and important, which had been swept aside in the onrush of modern civilization. But there was always hanging over this process, a sword of Damocles. If — in a procedure — one takes the patterns from existing culture, then one merely reiterates what is being built. That is not necessarily good.

Who is to say which bits of culture are to be preserved, and which bits laid aside? In many cases the reason for studying patterns in the first place was to define better patterns, deeper and better generic centers, in the hope of making a more sustaining, more life-giving environment. But these patterns which we discovered were obtained partly by judgment.

I have said earlier (Book 1, Preface, pages 12–13) that the patterns in a PATTERN LANGUAGE were judged by many to be *true* in some sense. But this truth was of a new type, which recognized the life of a situation, or of a building, as a real thing. The truth of a pattern had to do with the question, "Does injection of this pattern into contexts of the stated type, in fact make these envi-

ronments more alive?" This required making judgments about generic centers and the degree to which they sustain life, and judging which generic centers do the most to create, or contribute to, the life of the environment!

So how was one to find good patterns? Was this a process of observing existing culture — hence very conservative? Was it an arbitrary process — without a solid basis that one could determine? Or might it be a process where one could somehow make legitimate judgments about culture and society as they are, yet then use these observations to move forward to a new state, in a non-arbitrary way? In this latter case, which was perhaps our hope, one seemed to face the most profound and disturbing moral problems, since it was not clear how one could ever reach "the truth" about such matters.

Was there, indeed, any way in which one might, by observation of culture as it is, decide in what direction that culture ought to go, in the future? Could one, then, draw the future from the present, by any kind of objective process?

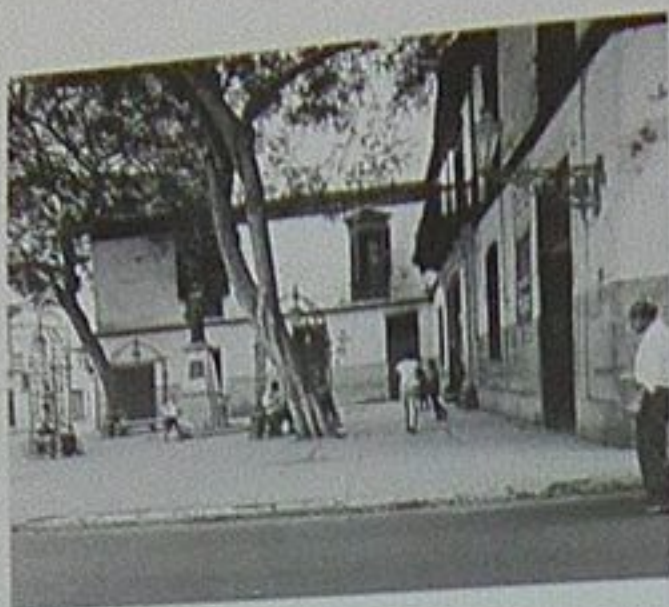
This is of course, exactly what the unfolding process seeks to do. But at that time, twenty years ago, the idea that there might be an unfolding process which would allow one to derive the patterns (which were to generate the structure of present and future environments) from the wholeness of existing culture, and so solve this problem, was never explicitly addressed.



7 / A NEW LANGUAGE FOR HOUSES IN PERU

For the sake of an example of how this process goes, let me describe what my colleagues and I did when we visited Peru in 1969. We were in an

international competition, organized by the United Nations, to design low-cost houses for Peruvian families. There were 20 competitors.

*Activity nodes**Car-pedestrian symbiosis**Car-pedestrian symbiosis**Shops on the corners*

one from each of 15 countries outside Peru, and 15 Peruvian architects. We were the American team. To do the preliminary work, our team of four Americans went to live in Lima for a month. Each of us found a family to live with, and we met every night in a room we rented in Lima to compare notes, and write down what we knew.¹¹

Before going to Lima, we read various anthropologists' reports about Peruvian society. It all seemed very exotic, but none of it seemed even remotely useful when we were living in our Peruvian families. For instance, ethnographic reports claimed that Peruvians kept the windows closed at night, even in hot weather, because they

didn't want ghosts to come through the window with the night air. I never heard anyone say anything like this while I was living in the district of Victoria in Lima.

I found that I could imagine the Peruvian feelings best just by being one of them. For instance it was a dangerous place, and it wasn't safe to leave windows open at night. That was not all the explanation one needed for why the windows had to be closed, even when it was scorching hot. I found that if I looked at life from the point of view of being one of them, my own feelings, and my own knowledge of what had to be done, was more reliable than anything else as an indicator of what was needed for a Peruvian family.



Family in the comedor, the heart of the house



Front door mirror



Watching the street: the activity which defines the mirador



The traditional Peruvian mirror

The *comedor* (dining room) in the middle of the house, where everyone came by, watched TV, or sat and talked on the way in or out, was a wonderful place. Being a member of that family, I knew that I needed and wanted such a room—and I could feel exactly where it needed to be in the house (in the middle of everything). I could feel that it needed to be positioned so that everyone came through it, on their way in, or their way out—I barely needed to ask any questions about this: I could feel it, all of it, but I could feel it only by being one of them. I, myself (as Chris Alexander) didn't have a house like that, and I don't want a house like that—because for me, in Berkeley, with my family, it would not have

made sense—it would not have been part of things, or part of the way my life works. But as a member of that Peruvian family, in the Peruvian culture, in the context of that family which I was a part of, it *did* make sense. It was natural, necessary, and I could feel its necessity, as part of me.

There were four of us making these observations. When we four team members, each making this kind of observation in the family where we were staying, compared notes, if anything didn't check out with all four of us, we rejected it. So, any mistake, caused by the alienation of one family, or caused by our own alienation as observers, got pushed out. What was left was only that stuff which corresponded to common

feelings, felt by four different people, in four different families.

When we published the pattern language for the Peruvian houses, people in Peru said that our pattern language and our houses we designed from the pattern language were a more accurate reflection of Peruvian reality than even the Peruvian architects had managed.¹²

People wondered how we did it. But it was really very simple, and we did nothing more than I have just described. We identified the centers by getting so deeply into the situation that we could feel, in our own bodies, just which ones needed to be there.

The essential technique in the observation of centers, in any social situation, and in any culture, is to allow the feelings to generate themselves, inside you. You have to say, "What would I do if I were one of the people living here, what would it be like for me?" thus inserting yourself into the situation, and then using your own common sense and feelings as a measuring instrument.

Of course you must always check with people, explicitly. You cannot assume you are right. You have to check. On the other hand, checking doesn't mean just do what people say; their own sense of what is involved can also be in error. One must always go to the root, asking what is likely to create the most life, and maintaining a cautious skepticism, even while pursuing these difficult and soul-searching questions.

For concreteness, I reproduce the following list of patterns my colleagues and I identified in 1969 for Peruvian communities and houses.¹³

SUBCULTURE CELLS
DEGREES OF PUBLICNESS
LOOPED LOCAL ROADS
T-JUNCTIONS
DIRECT VISIBLE PARKING
TINY PARKING LOTS
PASEO
ACTIVITY NUCLEI
CAR-PEDESTRIAN SYMBIOSIS
PEDESTRIAN 50 CM ABOVE THE CAR

KNUCKLE AT ROAD CROSSING
CENTRAL MARKET
EVENING CENTERS
WALK-THROUGH SCHOOLS
VISIBLE KINDERGARTENS
WALLED SOCIAL GARDENS
CELL GATEWAY
MULTI-PURPOSE OUTDOOR ROOM
SHOPS ON CORNERS
CENTRIPETAL PEDESTRIAN PATH
STREET FOOTRAIL
FLOWERS ON THE STREET
LONG THIN HOUSE
PERIMETER WALL
CROSS-VENTILATED HOUSE
LIGHT ON TWO SIDES OF EVERY ROOM
PATIOS WHICH LIVE
TAPESTRY OF LIGHT AND DARK
THE SALA: INTIMACY GRADIENT
BATHROOM POSITION
PUERTA FALLA
FIESTA
STAIRCASE STAGE
THICK WALLS
FAMILY ROOM CIRCULATION
FAMILY ROOM ALCOVE
KITCHEN-COMEDORE RELATIONSHIP
HOME WORKSHOP
TWO SERVICE PATIOS
ELBOW-ROOM KITCHEN
INDIVIDUAL BED ALCOVE
BED CLUSTERS
MASTER BED LOCATION
MASTER BEDROOM DRESSING SPACE
OLD PEOPLE DOWNSTAIRS
SERVANT SLEEPING SPACE
TWO-COMPARTMENT BATHROOM
CLOTHES-DRYING CLOSET
ENTRANCE TRANSITION
FRONT DOOR RECESSES
MIRADOR
FRONT DOOR BENCH
GALLERY SURROUND
TRANSLUCENT OPENING PATIO AND
LIGHT FROM TWO-STORY PATIO
SUNSHINE IN PATIO

TWO-METRE
SHOP FRONT
RENTAL
CONTINUOUS
MORTAR
COMPOSITE
COMPOSITE
SULPHUR
PLUMBING
CONTINUOUS

What is the status of these centers? To what degree these centers reflect Peruvian reality? If they are idealized, they might be a better world than cars, or parking lots, or ideas about the use of sulphur, for example. Still, much so that they are included in a pattern. This day, as observed, comfortable, almost then, are rooted in to climate and place. So, this list of took, at that time, background in Lima, fit, and from which We tried—in our identify the centers day life (shops on

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What exactly is the fiction, cold observation these patterns? And the nature of some or typical? To what

TWO-METER BALCONY
SHOP FRONT POSSIBILITY
RENTAL
CONTINUOUS FLOATING FLAB
MORTARLESS BLOCK WALL
COMPOSITE BAMBOO FOAM BEAM
COMPOSITE BAMBOO FOAM PLANK
SULPHUR REINFORCING
PLUMBING ACCUMULATOR
CONTINUOUS ELECTRIC OUTLET

What is the status of this list of centers? To some degree these centers are based on observation; they reflect Peruvian life as it was in 1969. Some are idealized, they contain our ideas of what might be a better way to arrange pedestrians and cars, or parking lots. Some are almost no more than ideas about how something might be done: the use of sulphur as structural reinforcement, for example. Still others are highly general — so much so that they were later generalized and included in a PATTERN LANGUAGE and remain, to this day, as observations of what makes people comfortable, almost all over the world. These, then, are rooted in psychology. Some are specific to climate and place, not exactly to culture.

So, this list of centers describes what we took, at that time, to be the core of the cultural background in Lima, into which houses had to fit, and from which houses might be generated. We tried — in our inexperienced fashion — to identify the centers which really existed in everyday life (SHOPS ON CORNERS), and those which

we believed existed in people's consciousness (THE SALA), and those which existed, latent, in dreams and traditions but were actually disappearing from modern Peruvian society. Others reflected modern aspects of Peruvian city life. FOOTBALL IN THE STREET described the peculiarly Peruvian form of street football, CAR-PEDESTRIAN SYMBIOSIS described the way that cars were, then, a focus of activity.

All in all, this list of centers is a partial picture of the wholeness which existed in Peru at the time. Yet, because these centers exist in culture, they have a carrying force, a generative power. They may be used to create copies of themselves, or many specific individual centers, in Peruvian communities and houses, which reflect and embody these generic culture-defined patterns. So a certain person may now build a sala in his house, and this sala then exists in his new house as a new center which has unfolded from the wholeness of the culture, and has, in its specific details, also unfolded from the particular geometry of the house and its setting in the street. Thus the fact that THE SALA is on the list of centers, gives birth to real centers in the world, generates them.

The culture-borne centers play a genetic role, not unlike the role played by genes in an organism. They describe what is — in a deep, inner sense. And they also describe how the world can be generated, to become congruent with people's inner feelings, aspirations, habits, and society.



8 / THE TYPE OF OBSERVATION WHICH LEADS TO DISCOVERY OF LIVING CENTERS: SEEKING TRADITION AND SEEKING THE NEW

What exactly is the relation between fact and fiction, cold observation and inspired vision, in these patterns? And to what extent is the traditional nature of some of these patterns necessary, or typical? To what extent is the appearance of a

hypermodern pattern like CAR-PEDESTRIAN SYMBIOSIS also typical of what must happen when true unfolding takes place? Let us concentrate on the extent to which the process of finding, discovering, these generic centers, is a true

unfolding which can carry a culture from its past state, into the future.

Certainly the majority of these patterns from Lima were rooted in observation. We did not invent them. We *saw* them. We extracted them, as we thought, from the situations we saw around us, and in the people we were with.

Yet we were looking at people with charmed eyes. We asked ourselves, like psychiatrists, what was best in them, what were the things about the people we were with that were most deeply rooted, in which these people felt anchored. What conditions — we asked ourselves — did create for the people of Lima a condition in which they felt most whole, at peace with themselves? Of course, the answer to that question is bound to be both traditional and modern.

A person feels at peace in the special small living room near the front (the *sala*) because it reflects ancient Peruvian ways, the degree a stranger can come into the house, a comfortable, formal place, to "show." So of course people feel comfortable, deep in themselves, continuing something like this.

Yet at the same time, boys and girls and teenagers also feel comfortable leaning against the battered old cars, talking in the dust and mud of the

unpaved street and glaring sun. And of course, they also feel at ease in a small narrow dark patio, where the glare of the incessant equatorial fog of Lima is cooled by the dark shade. And of course the family in the *comedor*, now gathered around the TV set, is something entirely new, yet also makes people deeply comfortable, because it is so real, so exciting, so everyday.

Which of these patterns, then, does the most to nourish the inner person? It is just those things, those generic centers, which fall out of the ground of their cultural existence, and yet maintain a thread with the past, stand on the past, because it is the most ancient and fundamental relationships and spaces, in which — in the end — people are most anchored — touched, brushed, transformed, by the hypermodern conditions of our age.

What we are looking for, in our attempt to find patterns NOW, for our lives, for our age, for new kinds of centers which will come about by unfolding from the wholeness of the present situation, are these deep patterns, half-existing, and yet carrying forward from the present, the truth about the present wholeness, preserving its structure, yet making themselves consistent with the new age.



9 / THE PROCESS OF FINDING A GOOD CENTER

To show in rather more detail the degree to which the list of centers that are unfolded from what lies deep in people's hearts — hence in their "culture" — is crucial in the life of a building, I will describe the evolution of a single center for a single project. This example happened in 1982, during the early stages of making a single private house in Berkeley, California, for André and Anna. At the moment when this event took place, we had already determined the size of the house (about 1150 square feet) and its overall volume. It was to be a three-story tower, 20 feet by 20 feet in plan on each floor. This was the only

arrangement that would allow us to get the price down to within their budget, since it reduced both roof and foundation price.

We began to face the question of the spatial organization of the inside of the building. To do this, we had to find the most important major centers in the house. I asked Anna and André, What is the house made of? What are its principal rooms?

In the conventional wisdom of the mid-twentieth century (still active then, in 1982) it used to be normal to assume that every house had a kitchen, a living room, and a dining room

one for cooking. But in the 1980's our clients expected discomfort with functions.

The problem room was often too formal. The usually the wife while cooking in the children's supervision.

One solution mid-century American room, "a family kitchen. However, the dining and dining which no one ever more formal and

I found that ten caused gently, because as began to see that just not consistent rooms like the dining room the yet emotionally. People felt more out that the real was not consistent to a given in people's mind their actions.

In the case realized that t

one for cooking, one for sitting, one for eating, but in the 1980's I began to notice that almost all our clients experienced some kind of extreme discomfort with the separation of these three functions.

The problems were manifold. The living room was often too formal. The dining room was too formal. The person cooking (in those days usually the wife) was too far from the action while cooking in the kitchen. And where were the children supposed to play?

One solution that had been common in mid-century America was to include a fourth room, "a family room" as an extension of the kitchen. However, this often left the formal living and dining rooms as deserted wastelands which no one ever used, which then became even more formal and even more dead.

I found that discussion of these problems often caused genuine anguish in almost every family, because as they discussed it family members began to see that the real forces in their lives were just not consistent with these conventional norms like the conventional living room and dining room they may have grown up with. And emotionally, they were still attached to them. People felt more and more distress as they found out that the reality of their own day-to-day lives was not consistent with their emotional attachment to a given system of centers. The centers in people's minds were different from the ones in their actions.

In the case I am discussing, André quickly realized that this discussion was not merely a

practical one. It was, as he put it, a discussion about his whole way of life. Anna felt the same. Both of them felt that their future as man and woman, as a couple and as a family, was on the line. The discussion of spaces, and centers, itself harmless, but profoundly disturbing in its implications for family life, for the relation of man to woman, and much more, created tremendous anxiety. We had to stop talking for a while.

After a three-day period of anguish, I took André and Anna to the site one day, and asked them to stand in the middle of the land, and asked them to visualize, to remember, the most wonderful house they had ever known, the place which made them most comfortable, and where — if they were there now — would make them feel most comfortable. I insisted that they keep their eyes closed while we were doing this, and try to abandon all their preconceptions. A smile came to André's face, and he turned to me, and said that he had begun to see, in his mind's eye, his grandfather's house in the south of France, a big room with a fire and a table, and with the south light streaming in from the outside.

There followed, in the discussion, an immense peacefulness and relaxation, when the idea arose of using a farmhouse kitchen like the one André had known in his grandfather's house in France.

At this moment, indeed, an entirely new way of life presented itself: A big table in front of an open fireplace, with the kitchen counter in the background, and food storage in a pantry.

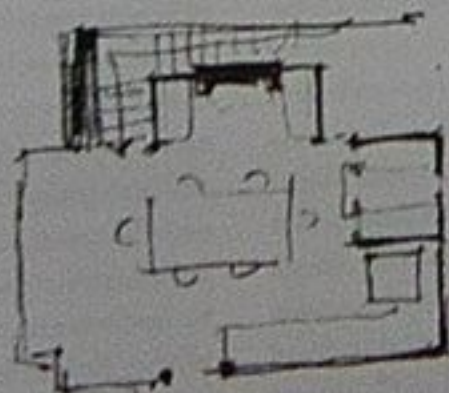
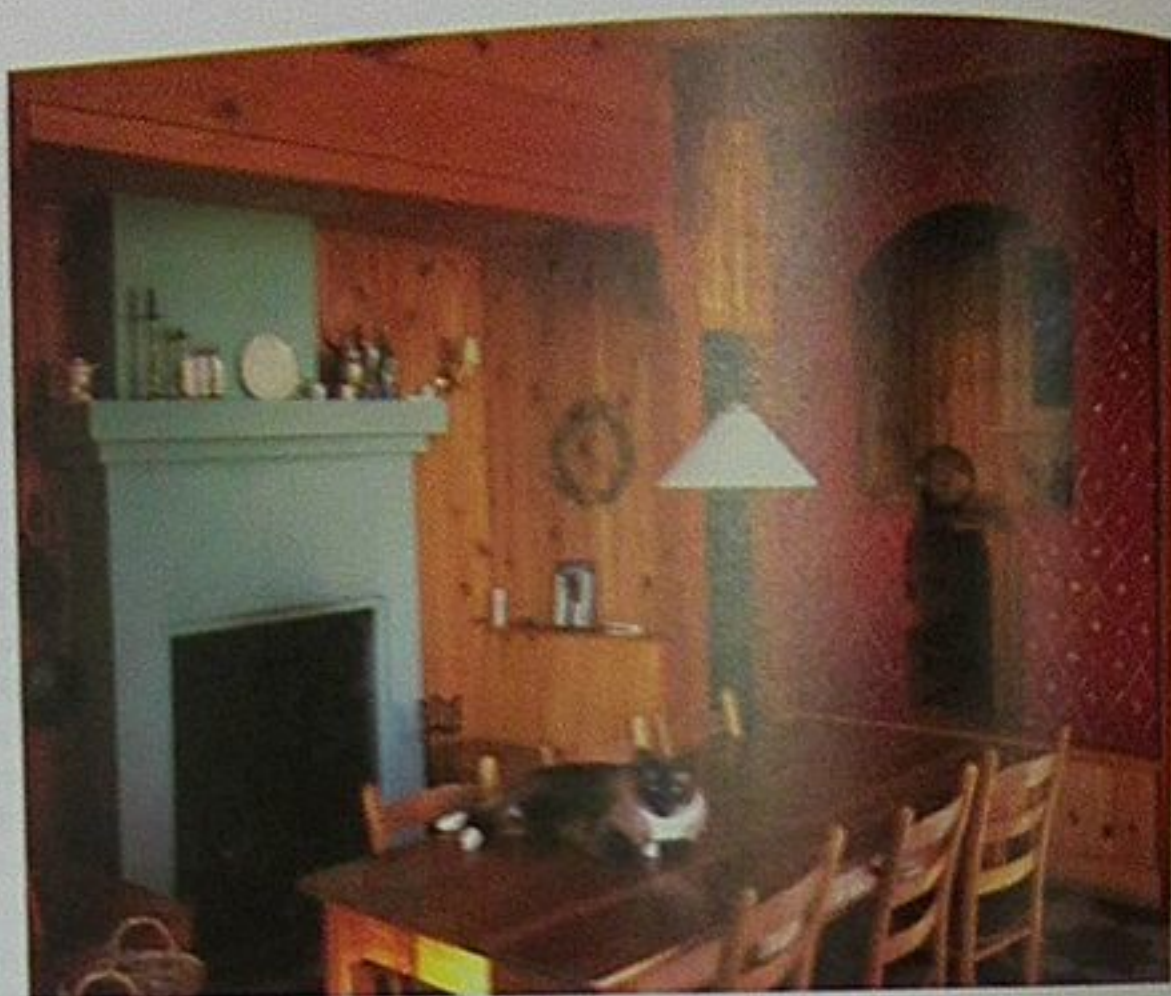


Diagram of the farmhouse kitchen, as first conceived after the pattern was created, 1982



The farmhouse kitchen for André and Anne and their children, as built, 1983

out of the way. Life was to revolve around this room. All the functions were redefined. Suddenly, the turmoil of confusion implicit in the various other versions of living room, dining room, kitchen and so on, fell into place in a comfortable and easy configuration, which was both practical and emotionally satisfying. This simple hard-won insight was completely responsive to the actual behavior and feeling of André's family.

At this moment we had the beginning of the house plan. And, indeed, in the finished house, it is this insight which provides the core of the life of the house.

We must see that what has happened here is something generic, not specific. The discussion was not about this particular house, and its geometry, as much as it was about the generic system of centers which made sense for this family, wherever they might live. Perhaps, by extension, it even touched questions of a general cultural nature, and how men and women in California were to live together. The new centre which had

been formed, the farmhouse kitchen, changed the generic system of centers in the culture, and changed—by implication—the houses which would be generated by the culture. At least, anyway, as far as it touched Anna and André.

I must emphasize that this story describes the addition of only *one* new center to the list of centers for this house. The house was not defined by this one center. But the example suggests, by extension, how emergence of a list of items like this would gradually build up an understanding of how a given building is to get its life.

It is essential to realize that what happened in this case was not merely a redefinition of *function* (a phrase often used by architects). The process was powerful because it defined a new *center*—a *center of function*. Having arrived at an understanding of a particular *center* which must be in the house, our physical grasp of the *center* of this house then became practical—and we were on the road to being able to make a house that would have a real life.

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The example is typical, not just for houses, but for all kinds of building problems. It is the precise definition of building functions through new types of centers — and often the reconfiguration of the essential centers which have to carry the functions — which brings a project to fruition. It is not only a question of defining certain functions and then accommodating them in the geometry. *It is a question of rearranging the functions, redefining the nature and meaning of the way the thing works — which suddenly opens the door to a new comfortable life, which will actually work.*

In this example, we begin to see centers, not merely as nodes or central elements in a physical composition, but as nodes or centers of energy in the configuration of a life. As we see from the ex-

ample, it is not enough to say that a building which comes to life solves its functional problems correctly. Instead the inner functions themselves, no less than the geometrical order, have to be rearranged, created as centers, so that the truth of the real forces in the system can unfold.

I hope it is clear to the reader that the process which created this insight was, in a new guise, once again the fundamental process. It was because we asked ourselves, collectively, "What next thing can we do that will positively affect the life of this household?", and pursued this difficult question to its end, that we got the result, and were able to define this one new center — even though, at that stage, still abstractly.



10 / ESSENTIAL CENTERS NOT GIMMICKS

Living process works only to the extent that it is based on patterns which go to essentials: patterns which really create centers that support the deeper aspects of human life. A picture of wholeness will be a true picture only to the extent that it describes essentials. It is the *essential* content of the centers in a place which creates its life; their *basic content*, not their outward form. The life comes about when the centers have been chosen for their essential character. They go to the root of the life in a place. It is the essence which is contained in the centers that define the life.

To illustrate this point, on pages 358-59 I show six examples of generic centers from the small town of Ravello in Italy, pairing them with six examples of modern developer-construction in California. In each pair, the example from California is on the left, the example from Ravello is on the right. Italians, traditionally, have a way of doing things which often focusses on *essential content*. As a result, the centers they use are more concentrated, more spare, and go more to the heart of the matter, to the heart of the way a place or a building lives.

At first sight, the examples from Ravello seem crudely made. We may consider them rustic, or old-fashioned. However, most of them, though they look old, were made in the 20th century. No matter how crudely made they are, their essence is in their content.

For example, in the first picture, look at the flowerbed along the top of the wall. There is a walkway which goes from the upper street down past the cathedral, to the square. In this wall, there is a flowerbed, actually made as a channel in the top of the wall.

The effect of this flowerbed is incredible. It puts the flowers at eye level, just where you see them most intensely. Their smell is beautiful, just near your face. Walking alongside this wall, you have a center, the flowerbed, at the same height as your eyes, your nose. It is unforgettable. Compared with the powerful impact it makes on you, the exact design, or shape is totally unimportant. It is the choice of a strong center that might be called *FLOWERBED AT EYE-LEVEL ALONG THE TOP OF THE WALL*, which is the crucial thing.



Development: Redwood planter box, hexagonal for "design."



Ravello: Flowerbed growing in the top of a wall. The flowers are at eye-height for a passerby.



Development: A bench made to impress



Ravello: A bench with a view.



Development: Fancy railing with no purpose



Ravello: Ordinary gutter and drain—just right



Development: "Designed"



Development: Heavy-handed paving in developer-built, do, and give



Development: Fancy balustrade



Development: "Designed" light pole—made to impress



Ravello: Ordinary light and electric box—only for light



Development: Heavy-handed and authoritarian bollards and paving in developer-built place: they tell you what to do, and give no options.



Ravello: Flowerpots used as traffic markers in Ravello's square: they allow cars in, but suggest they should stay out. It works.



Development: Fancy balustrade from a pretentious house



Ravello: Painted steel rail in a Ravello palace: modest

Samarkand held by the Aga Khan foundation in 1991, called for the reconstruction of a central city area about 1000 meters by 500 meters, and which was to contain a great variety of activities that would form a new city core.

I wrote the following "poem"—a list of partially formed centers—at the very beginning of our work on the Samarkand project, almost the day we began, long before we had worked it through.

1. It is a sequence of public squares, gardens, and buildings, which will form the new center of the city of Samarkand, uniting historic and traditional buildings and quarters.
2. There is a new dimension here, a center of spiritual life. It is not a commercial center, not a cultural center, not a religious center in the old idea. It is not a convention center. Somehow, this new center of the city of Samarkand, unites old and new, weaves together the thread of the silk road, the tomb of Timur the Great, with the modern world, and a vision of the world in which comfortable human concern, and a spiritual awareness of the importance of life, is visible, felt, and active.
3. It is an inspiring place to go. A place of pilgrimage, which will receive visitors from the five continents, in increasing thousands.
4. A network of beautiful paths, formed by columns, colonnades, brick walls, buildings, gardens. This network of paths, which passes across the whole area, is formed by the building masses which arise out of it, and by formal gardens.
5. Do the paths open into courtyards, ponds, gardens, hidden places? Are they formed only by mysterious buildings, rising in color, tile, and marble? Are there figures, statues, animals, Gods, people, statues standing at the places where the paths cross?
6. Are the animals themselves covered with mysterious animals?
7. Is there any reference to voyages?
8. The main thing one is aware of is a network of green and beautiful jewel-like streets. Each has lush trees, seats, platforms, streams.
9. These green streets, made by their trees, benches, sitting platforms, and edges, form a lacework of

places to walk. They are like parks, long and narrow, you can explore for many hours, walking around these streets.

10. Each one of the streets arrives on some new treasure. Each building is like a treasure, arrived at by the green streets.

11. Samarkand, historically, and in the time of Ulugh Beg, was a crossroads of the world. In the Tang dynasty period, every conceivable exotic substance, or idea, or artifact, or art on earth, came through Samarkand. No matter where it went, or where it came from, it went through Samarkand.

12. Somehow, then, one may imagine these green heavenly paths, as a network—almost a mythical bazaar in which reference to these many exotic substances exists.

13. The blue tilework of the Timurids, the hand-painted blue tiles, with small black, yellow, and white detail, on mud brick—these tiles, and the yellow bricks are in evidence on walls, domes, courtyards throughout the center. It is a thread which connects.

14. The whole network of paths is almost like a forbidden city. A place which is walled, punctured at very occasional places which allow one to enter, a special area that contains its own magic.

This was the very first list I wrote for the project. After trying to understand the system of patterns as a whole, and as we worked on it, the list was then transformed as a whole to modify the global feeling and content of what this place was going to be—as it matured in our understanding. We kept on thinking of the whole way of life which would be created by these patterns, and then changed the patterns, intensified them, improved them, made the centers more explicit, as our understanding of this whole increased. We kept on working at it until the living whole revealed itself, as fully as we could manage, in the list of centers. After much more work, the list—or pattern language—for the project ended up with the following centers: Note, the earlier statements are written in the active form, in italics, which sketches the content of each possible center. The second, longer list which



A model of the new city center for Samarkand built for the Aga Khan competition. This model embodied, in diagrammatic form, the geometric meaning of the pattern language we wrote for Samarkand, 1983.

follows is given in small capital letters, to indicate that by this stage the ideas had materialized and solidified as *centers*—as potentially solid objects which were reliable and recognizable as entities.

THE FORBIDDEN CITY
MASSIVE SURROUNDING WALL
THE FESTIVAL PROMENADE
VIEW TO REGISTAN
THE OBSERVATORY
THE ORCHARD OF PEACH TREES
MAIN TERRACE
OUTDOOR THEATER
CRAFT SCHOOL AND BAZAAR
THE INNER CITY
SMALL HOTELS
WALLED PATH
MUSIC SCHOOL
INNER CITY GATE
FIVE SMALL WALLED GARDENS
CHAIKHANAS
MAIN STREET FROM THE REGISTAN
FOUNTAINS AND STREAMS
EXHIBITION HALL
COVERED BAZAAR
THE LIBRARY
THE MANUSCRIPT MUSEUM
ARCHED BRIDGE

THE MAIN BRIDGE
SOCCER AND GAMES
WALL OF ARCHES
GATES IN THE OUTER WALL
THE HOSPICE OR KULLIYE
INNER PART OF THE FORBIDDEN CITY
BLUE-TILED WALKS
THE MOSQUE

The photograph above shows the model we made for the project, on the basis of this pattern language.

This example gives an idea of the vital role which generic centers can play in creating a whole. In this example these centers, *the list alone*, creates an almost magical atmosphere. As soon as we name them, *just from naming them*, we begin to feel the aura of the place. The patterns are evocative. It doesn't even matter in what order we take the centers. The mere list, itself, already conveys a profound atmosphere, and defines, in great degree the atmosphere of the place which will be made up of these centers. It creates the atmosphere right away. It is these centers which play the defining role. In Book 3, chapter 4, I show a drawing I made with my apprentices to show the physical character of this system of centers when they are realized.

Our entire language stage of work is a glimpse of the whole which is to be created. We keep working, trying to create, trying to find a system of centers which is let loose in a thing that comes

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In the next (and from a much longer for the Eishin between 1983 and about 200 parts a high school and request it was difficult Japan at that time merely by reading their rough descriptions happen in this context from what we

Above all we have a complete whole defined by the important aspects contained in these centers. This way of defining this way of tremendous insight into the life of any complex, is defined by what will contain.

There is an entire site. Inside the outer boundary to about one-fifth

Our entire approach during the pattern language stage of work on a living process, is to get a glimpse of the centers that will make the building which is to be designed, come to life as a whole. We keep on making lists, doing experiments, trying to find out what the list will generate, trying to find out the key centers, until we have a system of centers in mind, which, when it is let loose in a real situation, will make something that comes to life.

The essence of the point, is to find—or create—a set of centers which, together, will generate a complete and coherent object of the type we are looking for. We keep trying out our rudimentary list to see what sort of whole this list of centers will generate. We then use intuition and feeling to judge the deficiencies in the whole which is created, to make us aware of more centers that still need to be created.



12 / THE EISHIN SCHOOL PATTERN LANGUAGE

In the next (and last) example, I give excerpts from a much longer language, the list of centers for the Eishin school in Japan, constructed between 1983 and 1985. The full list contained about 200 patterns, and defines a way of life for a high school and university.¹⁴ At our client's request it was different from any existing school in Japan at that time (1981). We can see and feel, merely by reading the names of the centers and their rough description, that what was going to happen in this new school would be very different from what we are familiar with.

Above all we can see this new way of life as a complete whole. The way it works is completely defined by the list of centers. Thus in all important aspects the life of the new school is contained in these centers, and the list of centers defines this way of life in its entirety. This gives us tremendous insight into the vast extent to which the life of any given building or building complex, is defined by the list of centers which it will contain.

1. GLOBAL CHARACTER

- There is an outer boundary which surrounds the site.
- Inside the outer boundary, there is an inner boundary which surrounds a smaller area; about one-fifth of the whole site.

- The area inside the inner boundary is called the inner precinct. It is a dense area where the school and college have their major buildings.
- Between the inner and outer boundary is the outer precinct: an area filled with gardens, sports fields, and various freestanding outer buildings.
- The buildings and the site are given their character by stone foundation walls, wood columns, white walls, a few special places with red lacquered wood, wide overhanging roofs, dark roof surfaces, stones and grass on the ground.

2. THE INNER PRECINCT

- The entrance to the inner precinct begins at the outer boundary. At a key point in the outer boundary, there is a gate.
- This main gate is a building.
- From the main gate to the inner boundary, there is an entrance street. The entrance street is flanked with walls or trees, and is extremely quiet.
- Where the entrance street meets the inner boundary there is a second gate.
- Inside the second gate, there is a public yard. This public yard is formed by a great hall, which forms the main side of the yard.
- Beyond the public yard and through a third gate is the essential center of the school and uni-

center. This essential center is reached through several layers, which have been described. And it contains further layers and further levels of quietness, within itself.

This essential center is fairly large — itself a world, bounded, within the inner precinct and formed by paths and gates. This essential center contains a large part of the high school and a large part of the university.

Opening from this essential center are those parts of the university and high school which are specialized and separate.

Since the essential center is at one and the same time, the heart and crossroads of the school and university, it has the rough form of a cross — formed by crossing paths. Because it resembles the character *ta* (a cross in a square) we have therefore named it the Tanoji Center.

At the crossing of the streets and paths which form the Tanoji Center, there is a smaller center. This place is the kernel of the busy part of the Tanoji Center.

And, opening from the far side of the Tanoji Center is a higher and most peaceful place that we call the college cloister. This is the inner sanctum of the university, and the most peaceful place of all. It is chosen to be in a place which invites contemplation.

Also opening directly from the Tanoji Center is the homebase street. The homebase street is a wide, lively, sunny street formed by the individual home room buildings where the high-school students have their classes.

Opening through gates on another side of the Tanoji Center is a lawn. This lawn, especially for the use of college students, is surrounded by the college buildings, and leads directly to the lake.

The lake is a peaceful place, to rest. . . .

A further excerpt from the pattern language gives some of the details:

8. INTERIOR CHARACTER

The interior character is warm and subdued: wooden columns, floors and walls in places, pale yellow wall color, comparable to golden chrysanthemums, paper or silk; near-white sliding screens and ceilings.

Floors of many buildings are raised, slightly more than usual, off the ground.

Classrooms have polished wooden floors, or carpets, and shoes are not worn inside the classrooms.

All homebase classrooms have big windows facing south.

Many rooms have gallery spaces to one side, where light comes in beyond, and shines through screens.

Many walls and other surfaces are wooden, with natural unfinished wood.

The classrooms and other rooms are furnished with very solid wooden desks, which several students share.

In the larger buildings, there are mirrors where students see themselves.

Outside the buildings, there are often flower beds.

And inside, here and there, throughout the school, there are surprising soft highlights of color, shining out among the subdued colors of the rest, a figure painted in pale kingfisher blue in one place; a golden yellow iris in another.

The full original pattern language which we constructed in 1982 contained about 200 centers.¹¹ These centers, completely governed and defined the life of the school. Even before we had any idea about the physical configuration of the buildings, their shape, or design, or the way these centers were to be made real in space, it was already obvious that the school was going to be given its life to an enormous degree, merely by this list of centers. Regardless of the particular architecture which followed from this list of generic centers, or the way these centers would later be embodied in a real place with real form.



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In the rain on the Eishin campus, students hurrying from class to class. Christopher Alexander, 1985

the list of centers *alone* already defined the essentials of the place and its way of life, and its *degree* of life, to an enormous degree.

Once again I go to a single detail in this list of centers. One of the patterns in this pattern language for the Eishin school, describes the fact that classrooms are separate buildings, and implies, therefore, that it is will be necessary to walk in the rain to go from class to class.

One could have made a different choice, to keep the classrooms together, and to protect students and teachers from all rain. The key centers in the two cases are these (here again I use small capitals to emphasize the entity-like character of the centers):

A standard Japanese high school contains these patterns:

CASE 1

ONE BUILDING FOR ALL CLASSROOMS
CLASSROOMS ATTACHED
WALLS OR FLOORS BETWEEN
CLASSROOMS
COVERED PASSAGES PROTECTED
FROM RAIN

Instead, the new kind of high school formed by our pattern language contains these patterns:

CASE 2

SEPARATE CLASSROOM BUILDINGS
EACH BUILDING LIKE A HOUSE
GARDENS BETWEEN CLASSROOMS
PATHS CONNECTING CLASS-
ROOMS EXPOSED TO RAIN

In what sense is the second list more essential than the first? *It is more essential, because it deals with feeling, and at a much deeper level.* The second system of centers is more deeply connected to human feelings *as they really are.* This large topic is taken up fully in chapter 14.

It is also useful to understand that the second system is rooted more in the wholeness of the Japanese culture itself. Before we began our work in Japan, the old Eishin school (on its previous site) was arranged like case 1. There was one huge block with many classrooms. But if one examined that wholeness carefully, one could see that within it (the world defined by the case 1 patterns), the truth of the second set of centers (the world defined by the case 2 patterns) lay there, latent, waiting to be derived. The desire for autonomy of different teachers, and different classes was already a real thing in their lives. The enlivening character of the rain on people's faces was even then a real thing, observable in life. The deadening effect of being in passages all day long was also a real thing, also observable. The

centers of autonomous classrooms in the second list were latent in the actual existence of the people and the place *as it already was.* The centers of rain on your face and centers of unprotected paths were latent in the actual existence of the people and the place, *as it all was.* The centers of gardens between classrooms was latent in the actual existence of the people and the place *as it actually was then.*

What, then, defines essential centers and distinguishes them from trivial centers? The answer, briefly put, is this. The essential centers are those whose presence is already latent in the field — which go to the heart of the living structure that is already there — which summarize, or encapsulate, the essence of the real life which is going on.

Of course, in a period of history where people like to stress the arbitrariness of all things, such an idea may seem doubtful or impossible to accept. But the crux of all life is, nevertheless, the difference between recognizing the essential thing and separating it from the trivial thing



13 / THE DEEP NATURE OF PATTERNS AND PATTERN LANGUAGES

A pattern language is a created thing. It is a work of poetry, a work of art. It is potentially as profound in its way as a building can be.

The intensive character of questioning people, to find their deep wishes and deep needs, might, mistakenly, be thought to be some kind of market research, or opinion survey. But the power of the pattern languages, such as the one developed for the Eishin campus, hinges on something very different which they contain: A geometrically constructive aspect of their emotion and their content.

A well-constructed, deeply constructed pattern language has the power, within it, to help people visualize geometric configurations that are whole. This arises, because, deep inside the

elements of the pattern language there are references to, and hints of, the fifteen transformations. Thus, the agenda of the pattern language not only aims to record and objectify the positive things and relationships which are needed by a given culture, or a given population, or a given group of people. If it is any good, it also has within it, a driving force which will make geometrical wholeness easily visible and more easily attainable. This arises because the fifteen properties are embedded, sometimes loosely, sometimes precisely, in the patterns.

So a pattern language, if it has been well-constructed, sublimates the inner desires and necessities which have connection to our feelings and dreams, transforms them into geometrical

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14 /

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that they have the power to become living flesh in buildings.



14 / LOOKING FOR GLIMPSES OF ETERNAL LIFE

The pattern language, then, is that aspect of the world which steers buildings towards the creation of a living state. For example, the decision implicit in the definition of high-school classrooms as far apart, makes it necessary to use umbrellas. And that, in turn, makes it inevitable that the students will feel the rain. Here we looked inside the culture, as it is, and tried to bring forward a deeper truth, a cultural reality beyond or inside the present cultural reality, yet legitimate and, I think, necessary, because it is more true to people's deepest feelings.

This rain on their faces is not harmful but beneficial. By experiencing the rain, they become more one with themselves: the existence of the rainy streets, the umbrellas. The umbrella-filled street is a being; it is a picture of the self, quite different in its poetic substance and in the life which is experienced there from the dry, air-conditioned perfect concrete-box schools and classrooms of the 1970's. Among the Italian examples from Ravello, the flowerbed in the top of the wall is a strange and unexpected thing. Yet it touches the heart immediately. If I ask myself which is closer to my self — these odd channels in the walls with flowers at head height where I can smell them, or the pristine flowerboxes of the developer's project — it is easy to answer that it is the Italian flowers on the wall top which are closer to my heart.

This is what it means to have centers which have life in them — that the entity defined by a pattern digs deep into the experience of life, and creates a feeling of life lived, life passed, the sadness and tranquility and happiness of actual life, raw as it is.

Before starting to make anything, or design anything, one has to choose and define the con-

tent of the centers functionally and geometrically, and their relationships. This list of centers out of which the thing is to be made is sometimes expressed as a pattern language. But this is only one possible way of doing it. The main thing is that you must get clear what the essential centers are which will give the thing an actual profound life. Once you have that clear mentally, you can start the actual geometrical unfolding of the plan or the design.

Ultimately, the success of your list of centers, your pattern language, determines whether or not the thing which is created will have life. So, the effort to make a list of centers is a way of trying to predict the way the life is going to go, and what it is going to depend upon. It succeeds if, indeed, life comes about because of it. And the list of centers — even before it serves to make a building — must be judged according to the likelihood of its creating life. This can be done. You can often tell just from looking at a list of centers that it may not produce life, because you can tell that it has obvious gaps, or problems, or misses the main point in some essential way.

Above all, what we are looking for are just those centers which will intensify the life of the place. To do this, we have to work, with a constant intuition about the life, at what is going to intensify this life. This can only be done in a spiritual state of mind. We shall arrive at the stuff which produces life only by having a sense, in us, of what will actually make life in the real thing.

The extent to which I am able to do this depends on the extent of my own mental and emotional awakening. I have to ask myself, first, What is real life in a person? What kind of thing will produce real, deep life in an event? What

will bring real life to the conditions of a building, or garden, or street, or town? What kinds of events make us feel close to our own wholeness? And in the end my ability to ask these questions requires that I ask which kinds of centers will do the most to produce real spiritual life in people: which things, events, moments, kinds of centers, will create a spiritual awakening in a person or a person's life.

Finally, then, I am in the state of trying to see, like Bashō, what will most concretely reveal the most translucent inner being in a person.¹ When I eat, eat. When I walk, walk. I am trying to find those aspects of sight, sound, smell, the sandwich eaten on the back of the truck, the sun rays on the bedroom floor, which will illuminate existence and make a person come in touch with his eternal life.

NOTES

1. The case that it is the defining elements or entities which define most of the structure in any given environment, was originally made in Christopher Alexander, *DETERMINATION OF COMPONENTS FOR AN INDIAN VILLAGE* (London: Pergamon, 1963).

2. The fact that every environment is given its essential life by the key generic centers, is now receiving wider and wider recognition. See also Christopher Alexander, Sandy Hirshen, Shlomo Angel, and Sara Ishikawa *HOUSES GENERATED BY PATTERNS* (Berkeley: Center for Environmental Structure, 1969). Also published in Christopher Alexander Sara Ishikawa and Murray Silverstein, *A PATTERN LANGUAGE WHICH GENERATES MULTI-SERVICE CENTERS* (Berkeley: Center for Environmental Structure, 1967). Christopher Alexander and Daniel Solomon et al., *A CITY OF GARDENS: ORDINANCE FOR MULTI-FAMILY HOUSING IN PASADENA* (Pasadena: City Planning Department, 1987).

3. Ken Costigan, "Pattern Language for the Trobriand Islands," Department of Architecture, Masters thesis, first written 1975, formally approved 1996.

4. Christopher Alexander, *THE TIMELESS WAY OF BUILDING* (New York: Oxford University Press, 1979); Christopher Alexander, Sara Ishikawa, Murray Silverstein, Ingrid King, Shlomo Angel, and Max Jacobson, *A PATTERN LANGUAGE* (New York: Oxford University Press, 1977).

5. See references in note 2.

6. Andrés Duany, Sarah Susanka, Dan Solomon, and others have also begun to recognize the importance of patterns as defining entities, and have put forward versions of the same idea in pattern books, provided as tools for planning in a growing number of communities.

7. Among the pioneering books on pattern languages in computer science: Erich Gamma, Richard Helm, Ralph Johnson, John Vlissides, *DESIGN PATTERNS: ELEMENTS OF REUSABLE OBJECT-ORIENTED SOFTWARE*

(Menlo Park, California: Addison Wesley, 1995); James Coplien and Douglas Schmidt, *PATTERN LANGUAGE IN PROGRAM DESIGN* (Menlo Park, California: Addison Wesley, 1995); Richard Gabriel, *PATTERNS OF SOFTWARE* (New York: Oxford University Press, 1996).

8. John Holland has given an extraordinary and up-to-date mathematical account of the way schemata may appear in any successful adaptive system: *ADAPTATION IN NATURAL AND ARTIFICIAL SYSTEMS* (Cambridge, Mass: M.I.T. Press, 1993), especially 66-74.

9. Ibid.

10. In an investment-oriented economy, the profit motive can easily gain the advantage. Patterns which are good for profit, are easy to define. And they spread easily.

11. Discussion of Peruvian patterns in Alexander, Hirshen, Ishikawa, Angel, Coffin, *HOUSES GENERATED BY PATTERNS* was reprinted, in part, in David Low, *THE GROWTH OF CITIES* (London: Elek Books, THE ARCHITECT'S YEAR BOOK 13, 1971).

12. Juror's Report and Minority Report on the International Competition for Low-Cost Housing, United Nations, Lima, Peru, 1969-70.

13. From *HOUSES GENERATED BY PATTERNS*.

14. Taken from Christopher Alexander and Hay Neils, *BATTLE: THE STORY OF A HISTORIC CLASH BETWEEN WORLD SYSTEM A AND WORLD SYSTEM B* (New York: Oxford University Press, to be published).

15. The complete list, with discussion of the process used to obtain the pattern language and the patterns, will be published in *BATTLE: THE STORY OF A HISTORIC CONFLICT BETWEEN WORLD-SYSTEM A AND WORLD SYSTEM B*.

16. The reference to the poet Bashō is to all his work but I should like to refer perhaps especially to *THE NARROW ROAD TO THE FAR NORTH*, a book of prose and haiku on Bashō's journey, in which the ordinariness and concreteness of existence is illuminated.

CHAPTER FOURTEEN

DEEP FEELING

THE MAN WHO LIVES WITH THE
DEEP FEELING OF THE WORLD
IS THE MAN WHO LIVES WITH THE
DEEP FEELING OF THE WORLD



INTRODUCTION

We come now, to the most important and most profound aspect of living process. I believe it is the deepest issue in this book. I believe it is the most enlightening and appealing. Yet it may also prove, intellectually, to be the most controversial and the most difficult to accept.

The issue has to do with feeling.

I assert, simply, that all living process hinges on the production of deep feeling. And I assert that this one idea encapsulates all the other ideas, and covers all the other aspects of living process. It may also be said that this vision of living pro-

cess is, or if true may turn out to be, in the end, of the greatest importance for the future of mankind.

Yet perhaps there is no other place in this book where the intellectual paradigm I offer is more at odds — at least on the surface — with the Cartesian paradigm. At first sight it would almost seem absurd to claim that every living process may be recognized, or measured in its degree of efficacy, according to the depth of its capacity to produce deep feeling. Yet I believe this is so.



1 / WHOLENESS AND FEELING

How, in practice, can a person keep paying attention to the whole; how can one achieve successful differentiation and structure-enhancing transformations at every step of a living process?

I have mentioned elsewhere that wholeness and "deep structure" are enormously difficult to see.¹ Especially in a complex, real-world case, the task of finding the most structure-enhancing step available is therefore, in practice, extremely hard.² Our current modes of perception are not always tuned to seeing wholeness in the world around us; and the exact definition of the structure of wholeness — the system of centers at all scales, with their attendant degrees of life and coherence — is cumbersome and hard to grasp when we try to grasp it by analytical means. Yet in order to move forward, and to find agreement in larger, communal projects, it is imperative that we do have a workable and practical method of seeing wholeness, and assessing the degree to which any proposed next step does increase the life and wholeness of an evolving structure. Otherwise there is no effective way of choosing the next step forward in any given process. How is this to be done?

This difficulty is experienced even in a small task like the ongoing work of a painting, even in the placing of the next brushstroke. The difficulty is more clearly experienced during the work of making an emerging building plan of a new design: how to take the next decision about content, position, size. And it is experienced most vividly in a large project when many people together are taking decisions and where — together — people must decide what next step will do most to preserve, extend, and enhance the life of a larger place in a city neighborhood.

Yet people in traditional society seem to have managed these tasks with less difficulty than we do. How were builders and artisans in traditional society able to pay attention to the whole? How could they stay focused on the life of the whole? What did they do to accomplish this? What did they do to make their actions structure-enhancing?

In part, we already have a theoretical answer to this question, as explained in Book 4, chapters 8 and 9. Each observer is able to judge the whole

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2 / DEEP

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to see and experience the whole, by paying attention to the question: Is the emerging building increasing my own wholeness? Is it increasing the feeling I experience when I am in touch with that thing? Is it becoming like a mirror of my own self? Is it becoming like the soul?

But, less obscurely expressed, the extent to which a building is coming to life can be steered by the extent to which it has deep feeling in it, deep feeling that we experience. This can be done for any emerging entity — town, painting, garden, pottery bowl, plaza, table, window, street.

The living process can therefore be steered, kept on course towards the authentic whole, when the builder consistently uses the emerging feeling of the whole as the origin of his insight, as the guiding light at the end of the tunnel by which he steers. I am suggesting that if the builder, at each step of a living process, takes that step which contributes most to the feeling coming from the work, always chooses that which has the more profound feeling, then this is tantamount — equivalent — to a natural process in which the step-wise forward-moving action is always governed by the whole.

Roughly this, I am almost certain, is what traditional builders did. They paid attention to the feeling of the emerging structure: and thus were able to stay within the guidelines of the existing and transforming whole. Guided by feeling, they were able to function almost like nature: They were able to make each small step count in the emergence of a new unfolding whole.

For us, in our era, it is not so easy. The word "feeling" has been contaminated. It is confined

with sentimentality — with feelings for the purely such as comfort, sadness, anger — which confuse rather than help because they make us feel just what we feel, which kind of feeling should I follow? The feeling I am talking about is entirely different. It is feeling in the singular, which comes from the whole. It comes to us, but it originates in the wholeness which is actually there. The process of imagining, and extending, and creating the whole, and the process of using feeling, are one and the same. That feeling, that feeling, is the experience of the whole.

Being guided by the whole, and being guided by feeling, are therefore nearly synonymous. What I call feeling is the mode of perception and awareness which arises when a person pays attention to the whole. When people pay attention to the whole, they are experiencing feeling. It may seem far-fetched to suggest that all questions of city planning, engineering, transportation — even the question of building — should be decided by feeling, by the feeling of the whole. But that is, indeed, exactly what I am proposing. It is an intelligent and practical way forward.

This principle may be formulated as an essential rule. In any living process, at any point of design or making, the way forward, the next step which is most structurally satisfying, is that step which most intensifies the feeling of the emerging whole. Feeling then goes on human beings not merely to structure-perceiving transformations. It is the process of intensifying deep feeling in the whole which goes on direct access to the core of living process. Although extraordinary, if judged by the standards of 20th-century perception, this process is nevertheless what and how.

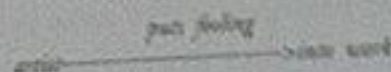


2 / DEEP FEELING MUST BE THE CORE OF LIVING PROCESS

My emphasis on feeling is not meant to say that you or I, the architect or the builder or the user, should express our feelings when we are working.

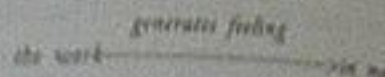
During the early part of the 20th century there was a school of thought where a great deal was said about artists expressing their feelings: as if

ART AS EXPRESSION
(THIS IS NOT VERY INTERESTING)



Not this

FEELING IN THE WORK OF ART
(THIS IS ESSENTIAL AND IMPORTANT)



This is what must be happening

this was supposed somehow to be the purpose and pathway of art. Artists sometimes tried to do this by placing paint to record their emotions, throwing paint at the wall, pouring their emotion *into* the work. In each case the artist tried to send his feeling *into* the work, in the name of: "I am expressing my feelings." In all these cases the idea was that the feeling goes from the artist *into* the work while the work is being made.

Producing a building which has feeling is something different. Creating a building which works as a whole by using structure-preserving transformations through deep feeling is quite another matter. In this case it is not important whether the architect's feeling goes *toward* the building. *What matters is that the building — the room, the canyon, the painting, the ornament, the garden — as they are created, send profound feeling back towards us.* It means that if I am the builder I set out to produce a neighborhood, or a landscape, or a building, or a window as if it was an instrument, as a specific geometrical substance which will work back on me or on any other person and create feeling in me or in that person. *The feeling comes from the object back to me after it is made, does not go from me to the object while I am making it.* Here the question all the time is: Within the step that I am taking now, can I take the next step in such that way that the evolving work has its deep feeling increased the most? What step, of all possible steps, will add the most to the feeling we experience when we are in or near that place?

In the course of using this method, we shall also find, from time to time, that as we move forward, *before we take an action*, we can grasp the latent structure as an emotional substance, we may feel it as a vision — a dimly held feeling

which describes where we are going, but is *not* yet concrete, in physical and geometrical terms. This means we can sense, ahead of time, the quality of the completed whole — even when we cannot yet visualize it. We then keep this quality alive in our minds and use it as the basic guiding light, which steers us towards our target. The final target, then, has the *feeling* which we anticipated much earlier, but often has an unexpected, unfamiliar *geometry*.

The feeling which steers us in this fashion is a vision — but it is *not* an arbitrarily *invented* vision. It is a vision of something we may call the *emotional substance* of the coming work, a feeling which arises in us, as a response to the wholeness which exists. It is therefore reasonably accurate, reliable, and stable. We can get it, and then keep on coming back to it. It evolves, as the project does, and as our concrete understanding evolves. Thus, as the geometry develops, the feeling is kept intact, but becomes more and more solid — provided we do not depart from the feeling that existed in us at the beginning. So, this feeling which guides us is our response to the wholeness — first to that wholeness which existed at the beginning. Subsequently it is our response to the wholeness as it evolves and emerges from our actions. It is our knowledge of what kind of thing is needed to complete that wholeness, and make it more alive.

I have previously described wholeness in mathematical detail so that we understand the wholeness as a *real* structure. It is something *real* and substantial in the world. But even though it can be described as a mathematical structure, it is too complex to take in by purely analytical means. In order to get the whole, to grasp it, one must feel it. Its wholeness *can* be felt. Using our

own feeling as a guide, we can put ourselves into the work, we grasp, and receive — together with the work — not an emotion, but a feeling, rather, a move toward wholeness.

The feeling which the artist, himself to the work, appears within him: It is, then, the work itself. The structure of the "trying" to appear is the core of what must be received in order to undergo transformations in the process, feeling

INTRODUCTION

Since the various meanings of the word "wholeness" are interconnected, we must first of all see how they are connected.

1. I am talking of the wholeness of a work of art. When we grasp it, we obtain a feeling which puts us in touch with the whole.

2. I am also talking of the wholeness of a person. We confront the wholeness of a person, and we can feel it. It should go as its own feeling.

3. I am also talking of the wholeness of a building. It creates — generates — encounters it. This is the obligation and the feeling in people — discussion.

4. Fourth is the wholeness of a work of art and when it is begun, before it is begun, we have a dimly held vision of a dim awareness, and we, as we move forward,

own feeling as a way of grasping the whole, we can put ourselves in a receptive mode in which we grasp and respond to, the existing wholeness — together with its latent structure. This is not an emotional move away from precision. It is, rather, a move *towards* precision.

The feeling we seek is a condition in which the artist, builder, or participant opens himself to the whole, allows the whole to appear within him, and allows it to act within him. It is, then, the feeling which arises from the work itself. Above all, that which is latent, the structure just below the surface that is "trying" to appear, can be felt. And this is the core of what must be observed, felt, and perceived in order to make structure-preserving transformations feasible. Thus, during a living process, feeling is being used as the surest and

most reliable way for the artist or builder to receive the wholeness, nourish it, and respond to it, preserve it, and enhance it.

From the feeling that exists in us as our reaction to the wholeness that was originally there, we progress, step by step, towards a geometry which induces in us, a more and more intense feeling. I judge my success as an architect, at each moment and at every step in the emerging process, by the degree to which the work, as far as it has gone, intensifies my feeling when I am there — and, by extension, intensifies the feeling of every other person, too.

That is the essence of living process. It is a movement towards a structure which is *precious*. And, above all, it is a movement toward a structure which makes us feel our own existence most deeply.

INTERWOVEN MEANINGS OF THE WORD "FEELING" IN A LIVING PROCESS

Since the word "feeling" has several different interwoven meanings in relation to a living process, I shall explicate the different ways that feeling and living process are connected.

1. I am talking about feeling as a way of grasping the wholeness of a situation. We grasp wholeness by feeling it; we obtain a nearly visceral feeling of the whole which puts us in touch with the whole.

2. I am also talking about a feeling of what to do next — at any given instant in the unfolding of the whole. This feeling, too, is generated in us as a feeling. We confront the whole, look at it, in the state it has reached, and we can feel where it wants to go or where it should go as its unfolding continues.

3. I am also talking about the importance of the idea that a building or any made object, when it has life, *creates* — generates — deep feeling in the person who encounters it. This principle that a thing, given life, has the obligation and function in the world to induce deep feeling in people — that is a third ingredient of my discussion.

4. Fourth is the fact that while making something, and when it is begun, or not yet finished, sometimes before it is begun, we carry the feeling, in the form of a dimly held vision of emotional substance. We begin with a dim awareness, and we carry that dim awareness with us as we move forward through concrete acts of struc-

ture-preserving unfolding to generate a new and vigorous whole.

5. Fifth is the fact that this feeling or vision of emotional substance comes into our minds from the whole which exists. It is the existing whole that inspires the feeling or vision of what it might become as it unfolds. This is why feeling helps us to perform structure-preserving transformations. By following feeling, we are able to come close to the process of structure-preserving unfolding that must characterize the living process.

6. We have the fact that as artists, or as citizens, we need to be aware that any made thing — building, room, street, or ornament — has the obligation to create experience of deep feeling in us. We may think of this by saying that the thing itself has feeling when it lives.

7. Finally, there is always a structure latent in any given wholeness. This latent structure is the weakly held system of centers that are not quite defined yet, only partly articulated as a structure — yet which carry the inspiration of what this thing might be, where it might go. Every wholeness carries within it this "vector" in time, pointing in some direction, and indicating where it might go. This is the most important aspect of wholeness, and the reason we must try to "feel" the structure when attempting structure-preserving transformations, hence every step of a living process. That, too, is experienced by us as feeling.



3 / A PANEL OF YELLOW BLOSSOMS

How can all this — a vision of a given wholeness experienced through feeling — affect our actions? Let us consider a panel painted for the interior of a building as a tiny part of the wall surface. In the panel which I show here, from the wholeness of the place where I was doing the work, I began with an inner feeling of a shining blue. It was an intense blue, sky-like, yet more intense, illuminated by the light of yellow stars.

During the work of painting, this inner feeling of blue which I could see clearly in my mind's eye, though it was not yet realized, acted as a kind of vision to guide the work of the painting.

I began by trying to find an actual physical color which matched the light I saw in my mind. I found a beautiful soft shining blue, manganese blue, white, and cerulean blue, with a touch of ultramarine and grey. I began by painting this blue over the whole panel. When I filled the panel, I painted small yellow stars all over it, in an effort to make the blue shine more. It was, at this stage, partially beautiful.

However, it seemed flat and incomplete, and did not yet match the energy of the heavenly blue I could still see in my mind's eye. I began trying to intensify it. I worked for eight hours, adding more and more color — big daubs of orange and



Yellow Blossoms, oil on wooden panel, 1987

yellow towards the bottom. After eight hours, the painting was ruined, a mess. I began again, but the yellow daubs interacted with the blue, and the shine in just the way of that feeling had been.

In frustration and I wiped the whole panel. But I had discovered the physical device for the feeling of heavenly blue in my mind's eye. To make that created the feeling of painting needed to be at the top.

I began again.

4 / GRASPING

Here is another example of how to be the clue to whole something alive. I discussed with Sim V. that feeling is not enough, too vague, too emotional, making a sustainable life, just have to concern life, water, plants, about a healthy pond, these ecological facts, knowledge, our understanding. And it is true, little about what it is sustainable, harmonious, chemical detail, and that we are trying to about the ecology of detailed by themselves make that pond good and facts about sustainable breeding, water treatment.

yellow towards the top; blobs of dark red near the bottom. After eight hours of work, the painting was ruined, a mess. But there was a spark created by the yellow daubs. I noticed that the way they interacted with the blue, did begin to make it shine in just the way that I had seen; a glimmer of that feeling had begun to enter in.

In frustration at the build-up of thick paint, I wiped the whole panel clean with turpentine. But I had discovered the essential thing about the physical device needed to realize the deep feeling of heavenly blue that remained in my mind's eye. To make the blue shine, in the way that created the feeling I had experienced, the painting needed big yellow blossoms towards the top.

I began again. This second time, I started

with these yellow blossoms, put them in first. Even now, the painting was *about* the shining blue, but I only painted yellow blossoms. Then gradually, over the next few days, I painted the pale blue blossoms, dark grey panel, red panels, green stems, and in between the yellow blossoms, the small amount of blue. Even in this blue, most of it was pale, reddish, towards lilac. Only one spot, no more than one square inch, has the literal color of the original shining blue. Yet the painting is still mainly about this blue, and what it takes to make it shine — to realize the feeling of that original blue in my mind's eye.

From the beginning to the end, even when the panel reached its final "yellow" state, I held the vision of the inner shining blue, that had first prompted me to make the panel in that place.



4 / GRASPING THE FEELING OF A FISHPOND AS A WHOLE

Here is another example of the way feeling must be the clue to wholeness, when we seek to make something alive. I once had an interesting discussion with Sim Van der Ryn. He was arguing that feeling is not enough. In his view it was too vague, too emotional. For instance, he said: "In making a sustainable fishpond which works, you just have to concentrate on the facts about fish life, water, plants, and so on, ecological facts about a healthy pond." I told him: "It is true that these ecological facts are a necessary part of our knowledge, our understanding of how to make a pond. And it is true that many of us know too little about what it requires to make the world sustainable, harmonious in its biological and chemical detail, and so on. But suppose, indeed, that we are trying to build a fishpond. The facts about the ecology of the pond — no matter how detailed by themselves — will not tell us how to make that pond good. Even if we have theories and facts about sustainability, edge plants, fish breeding, water temperature, types of weed,

types of insect, and so on — even with all of this we will not succeed in making the pond have life unless we also have a clear inner feeling — a subliminal perception, and awareness, and anticipation — of what life in that pond will be like." That means we must have a dim awareness within us, of what a pond with life is like, as a whole and in its feeling. If we do have that feeling of life clear (for the fishpond), we can then use it to guide us. It will help us move towards a pond which does have life. But if we do not have such a feeling clear in us, no amount of knowledge about ecology and sustainability will get us to a pond that has life in the sense I am discussing. We shall just be left scrambling mentally, churning about, marshaling our facts, making experiments perhaps — but still not clarified by an inner vision which tells us what to do. Building the pond, stocking it, putting weeds in it, placing bushes around it, we need to be guided by an inner vision of good life in this pond. We must have a feeling, in us, which will