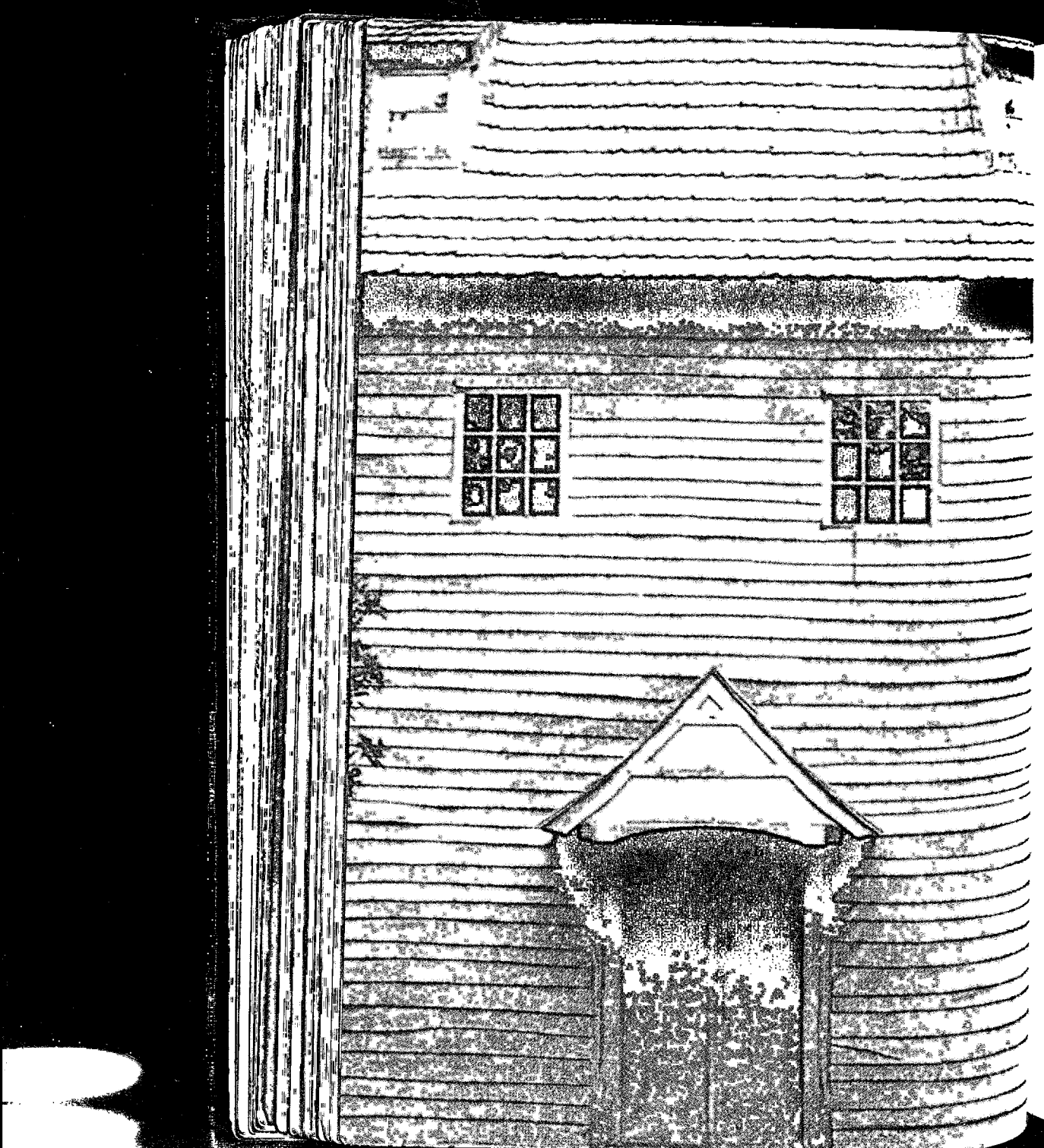

Finally, in this last chapter of part 1, we shall see what happens geometrically, when a building or a town is made entirely of patterns which are living.

For when a town or building lives, we can always recognize its life—not only in the obvious happiness which happens there, not only in its freedom and relaxedness—but in its purely physical appearance too.

It always has a certain geometric character.

What happens in a world—a building or a town—in which the patterns have the quality without a name, and are alive?

The most important thing which happens is that every part of it, at every level, becomes unique. The patterns which control a portion of the world, are themselves fairly simple. But when they interact, they create slightly different overall configurations at every place. This happens because no two places on earth are perfectly alike in their conditions. And each small difference, itself contributes to the difference in conditions which the other patterns face.

This is the character of nature.

"The character of nature" is no mere poetic metaphor. It is a specific morphological character, a geometric character, which happens to be common to all those things in the world which are not man-made.

To make this character of nature clear, let me contrast it with the character of the buildings being built today. One of the most pervasive features of these buildings is the fact

that they are "modular." They are full of identical concrete blocks, identical rooms, identical houses, identical apartments in identical apartment buildings. The idea that a building can—and ought—to be made of modular units is one of the most pervasive assumptions of twentieth-century architecture.

Nature is never modular. Nature is full of almost similar units (waves, raindrops, blades of grass)—but though the units of one kind are all alike in their broad structure, no two are ever alike in detail.

1. The same broad features keep recurring over and over again.
2. In their detailed appearance these broad features are never twice the same.

On the one hand all oak trees have the same overall shape, the same thickened twisted trunk, the same crinkled bark, the same shaped leaves, the same proportion of limbs to branches to twigs. On the other hand, no two trees are quite the same. The exact combination of height and width and curvature never repeats itself; we cannot even find two leaves which are the same.

The ocean waves all have this character.

The patterns out of which the wave is made are always the same: the curl of the wave; the drops of spray; the spacing of the waves; the fact that roughly every seventh wave is larger than the others . . . There are not many of these patterns.

Yet at the same time, the actual concrete waves themselves are always different. This happens because the

patterns interact differently at every spot. They interact differently with one another. And they interact differently with the details of their surroundings. So every actual wave is different, at the same time that all its patterns are the same precisely as the patterns in the other waves.

So do the drops within the waves.

The distinction between the "global" patterns and the concrete details is not a matter of size. What is true for the waves is also true for the individual droplets. Each drop of a given size has more or less the same shape—yet, again, under a finer microscope, each one is slightly different from the next. At each scale there are global invariants, and detailed variations. In such a system, there is endless variety; and yet at the same time there is endless sameness. No wonder we can watch the waves for hours; no wonder that a blade of grass is still fascinating, even after we have seen a million of them. In all this sameness, we never feel oppressed by sameness. In all this variety, we never feel lost, as we do in the presence of variety we cannot understand.

Even the atoms have this character.

It may surprise you to realize that the same rule even holds for atoms. No two atoms are the same. Each atom is slightly different, according to its immediate environment.

It is particularly crucial to discuss this fact about atoms,

because so many people take "modular" construction for granted. If you challenge the builder of a modular environment, and say that such an environment cannot be alive, he will very likely say that nature itself is built from modular components—namely atoms—and that what is good for nature is good enough for him. In this sense, atoms have become the archetypal images of modular construction.

But atoms are all unique, just like raindrops and blades of grass. Because we use the symbol C for every atom of carbon, and because we know that every atom of carbon has the same number of protons and electrons in it, we assume that all atoms of carbon are identical. We think of a crystal as an array of identical parts. Yet the fact is that the orbits of the electrons are influenced by the orbits of electrons in nearby atoms, and are therefore different in each atom, according to its position in the crystal. If we could examine every atom in very great detail indeed, we would find that no two atoms are exactly alike: each is subtly different, according to its position in the larger whole.

There is always repetition of the patterns.

The patterns repeat themselves because, under a given set of circumstances, there are always certain fields of relationships which are most nearly well adapted to the forces which exist.

The shape of the wave is generated by the dynamics of the water, and it repeats itself wherever these dynamics occur. The shape of the drops is generated by the balance

between gravity and surface tension in the falling drop, and it repeats itself under all circumstances where these are the dominating forces. And the shape of the atoms is created by the inner forces among particles, which once again repeats itself, approximately, everywhere these particles and forces coincide.

But there is always variation and uniqueness in the way the patterns manifest themselves.

Each pattern is a generic solution to some system of forces in the world. But the forces are never quite the same. Since the exact configuration of the surroundings at any one place and time is always unique, the configuration of the forces which the system is subject to is also unique—no other system of forces is ever subject to exactly the same configuration of forces. If the system is responsible to the forces it is subject to, it follows that the system too, must be unique; it cannot be exactly like any other, even though it is roughly similar. This is not an accidental consequence of the uniqueness of each system: it is an essential aspect of the life and wholeness of each part.

In short, there is a character in natural things which is created by the fact that they are reconciled, exactly, to their inner forces.

For from the play of repetition and variety at every level, it follows that the overall geometry is always loose and fluid. There is an indefinable roughness, a looseness,

a relaxedness, which nature always has: and this relaxed geometry comes directly from the balance of the repetition and variety.

In a forest which is alive, it would be impossible for all the trees to be identical; and it would be impossible for one tree itself to be alive, if its leaves were all the same. No system whose component parts are so unresponsive to the forces they are subject to, could maintain itself successfully; it could not be alive or whole. It is a crucial fact about the wholeness of the tree that every leaf be slightly different from the next. And of course, since the same argument applies at every level, it means that the component parts of nature are unique at every level.

This character will happen anywhere, where a part of the world is so well reconciled to its own inner forces that it is true to its own nature.

All those things which we loosely call *nature*—the grass, the trees, the winter wind, deep blue water, yellow crocuses, foxes, and the rain—in short the things which man has not made—are just those things which are *true* to their *own* nature. They are just those things which are perfectly reconciled with their own inner forces. And the things which are not "nature" are just those things which are at odds with their own inner forces.

And any system which is whole must have this character of nature. The morphology of nature, the softness of its lines, the almost infinite variety and the lack of gaps—all

this follows directly from the fact that nature is whole. Mountains, rivers, forests, animals, rocks, flowers all have this character. But they do not have it simply by accident. They have it because they are whole, and because all their parts are whole. Any system which is whole must have this character.

It follows that a building which is whole must always have the character of nature, too.

This does not mean that a building or a town which is alive will look like a tree, or like a forest. But, it will have the same balance of repetition and variety that nature does.

On the one hand, patterns will repeat themselves, just as they do in nature.

If the patterns out of which a thing is made are alive, then we shall see them over and over again, just because they make sense. If the way a window looks onto a tree makes sense, then we shall see it over and again; if the relationship between the doors make sense, we shall see it for almost every door; if the way that the tiles are hung makes sense, we shall see almost all the tiles hung in this way; if the arrangement of the kitchen in the house makes sense, it will be repeated in the neighborhood.

In short, we shall find the same elements, repeating over and over again—and we shall see the rhythms of their repetition. The boards in the siding of the house, the

balusters in the railing of a balustrade, the windows in the buildings, panes within the windows, the same approximate roof shape repeated over and again, the similar columns, similar rooms, similar ceilings, ornaments repeated, trees and the boles of trees repeated in their pattern, seats repeated, whitewash repeated, colors repeated, avenues, gardens, fountains, roadside places, trellises, arcades, paving stones, blue tiles . . . all repeated, whichever of them are appropriate in any given place.

On the other hand, of course, we shall find the physical parts in which the patterns manifest themselves unique and slightly different each time that they occur.

Because the patterns interact, and because the conditions are slightly different around each individual occurrence, the columns in an arcade will all be slightly different, the boards in the siding of the house will be slightly different, the windows will vary slightly, the house will vary, trees' positions will vary, seats will be different even at the same time that they recur . . .

The repetition of patterns is quite a different thing from the repetition of parts.

When two physical windows are identical the relationships which they have to their surroundings are different, because their surroundings are different.

But when the relationships to their surroundings—their

patterns—are the same, the windows themselves will all be different, because the sameness of the patterns, interacting with the difference of the contexts, makes the windows different.

Indeed, the different parts will be unique because *the patterns are the same.*

Consider, for example, the pattern SUNNY PLACE, which creates a spot in the sun, along the south side of a building, just where the outdoor space gets used, and where the building opens out to it. This pattern may create a series of similar spots, along the southern edge of a long row of houses—but then, just where the houses turn a corner, it generates a special place, which sticks out half into the street, low walls to protect its sides, perhaps a canvas canopy—a place which everyone in the neighborhood remembers and looks for.

This unique place is not created by some arbitrary searching for uniqueness. It is created by the repetition of the pattern which calls for a spot in the sun, and by the interaction of this pattern with the world.

And we shall find the same at every scale. Where there are many houses, the houses will be similar in form, but each will be unique, according to the nature of the people who live in it, and because each has a slightly different combination of relationships to the land, the sun, the streets, the community.

The windows of a given house will all be broadly similar, according to their patterns, but again no two will

be the same in detail—each will be different according to its exact position, the direction of the light, the size of room, the plants outside the room.

And from the repetition of the patterns, and uniqueness of the parts, it follows, as it does in nature, that buildings which are alive are fluid and relaxed in their geometry.

Again, this doesn't mean that buildings ought to look like animals, or plants. The vertical, the horizontal, and the right angle are too central to the nature of human space to make that possible. But in a place which is alive, these right angles are rarely exact; the spacing of parts is hardly ever perfectly even. One column is a little thicker than another, one angle is a little larger than a right angle, one doorway is just a little smaller than the next, each roof line departs just an inch or two from the horizontal.

A building in which angles are all perfectly right angles, in which all windows are exactly the same size, and in which all columns are perfectly vertical, and all floors perfectly horizontal, can only reach its false perfection by ignoring its surroundings utterly. The apparent imperfections of a place which is alive are not imperfections at all. They follow from the process which allows each part to be fitted carefully to its position.

This is the character of nature. But its fluidity, its roughness, its irregularity, will not be true, unless it is made in the knowledge that it is going to die.

No matter how much the person who makes a building is able to understand the rhythm of regularity and irregularity, it will mean nothing so long as he creates it with the idea that it must be preserved because it is so precious.

If you want to preserve a building, you will try to make it in materials which last and last forever. You will try to make sure that this creation can be preserved intact, in just its present state, forever. Canvas must be ruled out because it has to be replaced; tiles must be so hard that they will not crack, and set in concrete, so that they cannot move, and so that weeds will not grow up to split the paving; chairs must be made perfect, of materials which never wear or fade; trees must be nice to look at, but may not bear fruit, because the dropped fruit might offend someone.

But to reach the quality without a name, a building must be made, at least in part, of those materials which age and crumble. Soft tile and brick, soft plaster, fading coats of paint, canvas which has been bleached a little and torn by the wind, . . . fruit, dropping on the paths, and being crushed by people walking over it, grass growing in the cracks between the stones, an old chair, patched, and painted, to increase its comfort . . .

None of this can happen in a world which lasts forever.

The character of nature can't arise without the presence and the consciousness of death.

So long as human images distort the character of nature, it is because there is no wholehearted acceptance of the

nature of things. So long as there is not wholehearted acceptance of the nature of things, people will distort nature, by exaggerating differences, or by exaggerating similarities. They do this, ultimately, in order to stave off the thought and fact of death.

So finally the fact is, that to come to this, to make a thing which has the character of nature, and to be true to all the forces in it, to remove yourself, to let it be, without interference from your image-making self—all this requires that we become aware that all of it is transitory; that all of it is going to pass.

Of course nature itself is also always transitory. The trees, the river, the humming insects—they are all short-lived; they will all pass. Yet we never feel sad in the presence of these things. No matter how transitory they are, they make us feel happy, joyful.

But when we make our own attempt to create nature in the world around us, and succeed, we cannot escape the fact that we are going to die. This quality, when it is reached, in human things, is always sad; it makes us sad; and we can even say that any place where a man tries to make the quality, and be like nature, cannot be true, unless we can feel the slight presence of this haunting sadness there, because we know at the same time we enjoy it, that it is going to pass.

THE GATE

To reach the quality without a name we must then build a living pattern language as a gate.