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Editor's Note:

ITEM 5e in the English Series of CIDOC DOCUMENTA - ALTERNATIVES in DESIGN

Murray SILVERSTEIN will lead a series of workshops on DESIGN WITH A COMMUNAL PATTERN LANGUAGE as an ICLAS course at CIDOC during March of 0971. The concept of PATTERN LANGUAGE was developed by Christopher ALEXANDER and his associates at the CENTER FOR ENVIRONMENTAL STRUCTURE at Berkeley, California. Specific applications to problems in Latin America and in North America are illustrated in : ALEXANDER, Christopher, HIRSHEN, Sanford, ISHIKAWA, Sara; COFFIN, Christie; ANGEL, Shlomo "Houses Generated By Patterns", and ALEXANDER, Christopher, ISHIKAWA, Sara; SILVERSTEIN, Murray 'A Pattern Language Which Generates Multi-Service Centers", both published at the Center. But in the following draft of a work in progress I have found the common concept most clearly expressed and most concisely put into the framework of the author's wholistic approach. I therefore suggest this reading to participants in Murray SILVERSTEIN's course and to those of the extended seminar.

(Sascha ILLICH)

ALEXANDER, Christopher
The Environment; summary of a work in progress. Berkeley, California, 71.01

INTRODUCTION

Suppose you are trying to create a flower - a new kind of flower. How will you do it? Of course you will not dream of trying to build it cell by cell, with tweezers. You know that any attempt to build such a complex and delicate thing directly would lead to nothing. The only flowers which men have built directly, piece by piece, are plastic flowers. If you want to make a living flower, there is only one way to do it - you will have to build a seed - for the flower - and then let it, this seed, generate the flower.

So long as we architects and planners go on trying to build environments, directly piece by piece, these environments will be dea, just like the plastic flower. We can only build a living environment directly, by creating seeds for our environment - putting the seeds in everybody's hands - and letting the seeds do the work.

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This book started years ago, simply as a part of my own personal struggle to make buildings more living and more whole. But I soon realized that even if I myself succeed in making a few small places whole and living, that is almost nothing compared with the vastness of our environment. How will it ever be possible for the entire environment, all the places we live in, to be entirely whole and living also. No one person can help the wholeness of a city by a few individual acts of design; and I began to wonder if there was any way in which life and wholeness could ever find its way into the city at large, and into all the houses, of all the people who live in it.

To make the city whole - whole for all the people who live there - that is a problem of design also - but not the kind that you can do with a pencil. If it was fully whole, the city would be immensely orderly - but not with a visible, straightjacked order - more with a kind of subterranean order, like the order you can feel in a man who is at peace. How would it be possible for this kind of order to find its way into a city.

I realised right away, that the city is not built by a few people, who could graciously give this kind of order to it. A city will only become whole if all the millions of people in the city, whose acts of building and design create and re-create the city constantly, can all be suffused by this kind of wholeness and this, of course, will only happen if each one of them can do what

I want to be able to do myself - to make places which are whole.

So I saw, then, that the task of giving the city coherence and order, as a totality, meant simply that every single person living in the city - not just a few architects - could share the ability to make it whole and living: in short, that any person in society could do what the greatest architects and zen masters have always dreamed of.

Is this impossible. I do not think it is. I began to see that the problem of giving this ability to all the people in society, was exactly the same as the problem of giving it to myself; since if I could find a way to give it to myself, then anyone else could have it too.

These two threads are going through the book, all the time. On the one hand the book is my own effort to find a way of making individual buildings which are more whole - this is a personal problem, which anyone of you may share with me. On the other hand, there is the larger question: since my own designs, or yours, are just a few drops in an ocean, what guarantee is there that our environment will ever be whole and coherent as a totality. We can only hope to make the environment whole, as a totality, in this larger sense, if everyone who lives in it, you and I, and everyone else, knows how to make each one of our small acts help to make it whole.

It is because the larger problem and the smaller problem are connected in this way, that the image of the living flower is so central. The central problem of the flower is: <u>How is the growth and repair of billions of individual cells in the flower coordinated to make the total organism whole at every stage of its development</u>?

The central problem of environmental design is very similar: How can the millions of our individual and personal acts of building cooperate to make an environment which is coherent, whole, and living as a totality, at every moment of its life?

BOOK 1. WHOLENESS: CONDITIONS FOR THE CREATION OF WHOLENESS
BOOK 2. LANGUAGE: A COMMON PATTERN LANGUAGE
BOOK 3. DESIGN: USING A COMMON PATTERN LANGUAGE TO MAKE DESIGNS
BOOK 4. WHOLENESS: THE CREATION OF WHOLENESS

BOOK 1 - CONDITIONS FOR THE CREATION OF WHOLENESS

INTRODUCTION

In this first book I try to define the conditions under which an environment can become whole. There is no doubt that some environments, in traditional society, have been more wholesome, more healthy, more beautiful, better integrated with nature - in short, more whole than ours. And there is little doubt that our environment, like many of us, is not whole. How does this happen. Why do some environments become whole, and others not. The secret lies in the processes by which the environment gets made. To try and get at it, I first define the concept of wholeness, as exactly as I can, then define the formative processes which give an environment its form, and then deduce the conditions under which these formative processes will make it whole.

PART 1.1 - WHAT IS A WHOLE ENVIRONMENT

INTRODUCTION

The idea of wholeness is elusive. I have tried to capture it in three different ways, first by definition, then by example, and then by feeling. In the first four chapters I define it, first for any system, then for an environment. In the next three chapters I try to do it by example - I give examples of wholeness in a city, in a building, and in a simple garden gate. In the last three chapters I try to convey the feeling of an environment which is whole. In many ways the feeling of what is whole, is deeper, and stronger than the definitions. The definitions are my poor attempts to explain the basis of the feeling; and someone who does not feel, in his bones, what something is like when it is whole, will certainly not be helped by the definitions. Someone who does share the feeling, may find that the definitions make the feeling a little sharper, and a little more precise.

PART 1.1 - CONCLUSION

The concept of wholeness sums up everything good about an environment. It starts with man and ends with nature - we our-

selves cannot become whole in an environment which is not whole. The concept of wholeness covers the entire reach of design - it covers the broadest sweep of culture, and the smallest window sill. It covers peacefulness, and harmony, beauty and function. The concept can never be defined precisely - it is too deep for that - but no matter what we want of the environment, we want it to be whole. An environment which is whole, is fully real - in a whole environment we can be in touch with ourselves, and know our own reality - anything short of it is stifling, and prevents us from being fully real.

PART 1.2 - HOW DOES AN ENVIRONMENT GET ITS FORM

INTRODUCTION

I have defined a whole environment. The natural question is: How can we make our environment whole. Before we can answer that question, we must first ask "How does an environment ever get made at all".

We have seen that an environment is an arrangement of parts in space: and that it is whole or unwhole according to the nature of the parts, and the way they are arranged. Where does the arrangement come from?

Once we understand where the arrangement of parts in an environment comes from - in short, how it gets its form - then we can ask: "Given the way that an environment gets formed, what must we do to be sure that the processes which form it make it whole"

1.21 The arrangement of parts in an environment always has a pattern
1.22 Morphological laws
1.23 Parts themselves a shorthand for morphological laws
1.24 The character of an environment is entirely given it by its morphological laws

1.25 Where do the morphological laws come from
1.26 Naive functionalism
1.27 An archetypal image
1.28 Combination of images
1.29 The concept of a pattern language
1.210 A pattern language is creative
1.211 The function of a pattern language
1.212 Everyone has a pattern language
1.213 The people who built environments in history all had pattern languages too
1.214 Even the greatest architects make their designs from pattern languages
1.215 All your design knowledge is always in the form of patterns
1.216 All environments get their form from pattern languages

PART 1.2 - CONCLUSION

I have shown that an environment always gets its form from certain systems of images, called pattern languages, in the minds of its builders, and that all environments that men have ever built, all environments which men are building now, and all environments which men will ever build, must get their form in this same way - from the pattern languages in the minds of their builders. There is no escape from the fact that environments are formed by the pattern languages in peoples minds. It is a face about human nature. There is no other way that any man made environment can get its form.

What is the conclusion. If an environment is unwhole, it is unwhole because the pattern languages which its builders use, are making it unwhole. If its form comes from the pattern languages, it is only through the pattern languages that this form can be changed. An environment will only become more whole if the pattern languages which people use to make it,,are themselves designed to make it whole

PART 1.3 UNDER WHAT CONDITIONS WILL THE PROCESSES WHICH MAKE ENVIRONMENTS, MAKE AN ENVIRONMENT WHOLE

INTRODUCTION

We have seen that every environment gets its form from the pattern languages in the minds of its builders; and that, in some way or another, it must be these languages which decide whether the environment becomes whole or not. The question is: "When do the pattern languages make it whole, and when don't they?"

Essentially, the answer to this question is: An environment cannot become whole, unless its builders have a common pattern language. In the chapters which follow I shall explain the reasons for this conclusion.

B.S.

PART 1.3 - CONCLUSION

An environment cannot become whole unless the pattern languages used by its builders are so commonly understood, and widely shared, that everyone helps to design the environment. When an environ-

ment is created by specialists using a multitude of specialized and private languages, as our environment is today, it is impossible for it ever to become whole. Like the tower of babel, it must soon destroy itself.

BOOK 1 - CONCLUSION

I have defined an environment which is whole, as one in which we ourselves can become whole. I have shown that every environment gets its form from the action of the pattern languages in the minds of the people who build it. And I have shown that an environment can only become whole, if these pattern languages are widely shared, and used by everybody.

The conclusion is simple. If we ourselves want to become whole, we must work towards the creation of a shared pattern language, which all of us contribute to, and which all of us can use - so that the environment we build will become whole as we build it, and allow us, ourselves, to become whole in it.

BOOK 2 - LANGUAGE: A COMMON PATTERN LANGUAGE

INTRODUCTION

In this book, I shall try to define a type of pattern language, which can become a common pattern language for our society.

To do this, I must first define a pattern language so explicitly, that anyone can understand and use it, and then define the criteria for a good language so clearly, that any common language will be bound to improve gradually, under the impact of these criteria.

2.1 WHAT IS A COMMON PATTERN LANGUAGE
2.2 WHEN IS A PATTERN LANGUAGE WHOLE
2.3 HOW TO CREATE A PATTERN WHICH IS WHOLE
2.4 THE ULTIMATE TEST OF ANY PATTERN IS ITS REALITY

PART 2.1 - WHAT IS A PATTERN LANGUAGE

An ordinary language, like english, is a combinatorial system which allows us to make arrangements of words, called sentences, by following the rules of grammar and meaning. A pattern language is an ordered system of parts and patterns, which allows us to make arrangements of parts, called designs, by following the patterns. The structure of a pattern language then, must establish a relationship between parts and patterns, so that they form an ordered system.

In this first part of book two, I define the structure of a pattern language.

2.11 Forces
2.12 What is a part
2.13 The connection between parts and patterns
2.14 What is a context
2.15 The structure of a pattern language
2.16 An easy way of representing the structure of a pattern language
2.17 Piecemeal change

PART 2.1 - CONCLUSION

A pattern language, is a network in which the parts are nodes, and the patterns are arrows. The location of each part, with re-

spect to other parts, is given by the patterns (arrows) which come into it from above. The location of the parts within a given part - its internal design - is given by the patterns (arrows) which go out of it below. The network which represents a language, can be represented in the form of a simple loose-leaf book, which anyone can use.

PART 2.2 - WHEN IS A PATTERN LANGUAGE WHOLE

INTRODUCTION

Now we face the question of right and wrong. We cannot share a pattern language, unless we can manage to share the values it is based on. A pattern language is not morally neutral - it deals directly with the difference between right and wrong. How can we reach agreement about the difference between right and wrong.

We have already laid the groundwork, by taking wholeness as the basis of our efforts. We have already said that we want the environment to be whole: and, by definition, if our pattern language helps to make the environment whole, it will be right. But the fact that a pattern language is explicit, does not by itself mean that it will help you to make environments which are whole. As we have seen in Book 1, everyone has a pattern language, at this very minute; and many of these pattern languages are very bad ones. Obviously an explicit pattern language can just as easily be bad.

A pattern language can only help you make environments which are whole, if the language is, in some global sense, itself also whole. In this part of the book, I shall define the idea of a whole pattern language, in an exact empirical sense.

The difference between pattern languages which make the environment more whole, and those which don't, lies in the problems which they solve. Of course every pattern must solve the problem which it states - this is obvious, almost trivial. But a pattern which solves a bad problem, well, can make the environment less whole, not more whole. To be sure that a pattern is good, we must be sure that the problem which it solves is worth solving.

When is a problem worth solving. This is one of the oldest moral and ethical questions. Yet it turns out that there is a precise way of talking about it, and that it leads us to a set of conditions which a good pattern must satisfy. These conditions define the difference between something valuable, and something worthless - the difference, if you like, between right and wrong. There is no shrinking away from it - the problem of right and wrong is at the heart of environmental design, and it must be faced.

PART 2.2 - CONCLUSION

A whole pattern language is one which defines an environment which is whole. An environment is whole when each individual person, social group, and part of nature in it, can itself become whole, by its own efforts. This means that a whole pattern language is

one in which the patterns that define the organization of any part, are always in harmony with the forces emerging from that part, so that the people in the environment can always resolve their own conflicts for themselves.

Each culture has its own pattern language. The wholeness of a pattern language is a kind of self-consistency; one small change in the context, will create an entirely different pattern language, as it becomes whole.

PART 2.3 - HOW TO CREATE A PATTERN

INTRODUCTION

Suppose now, that you want to create a pattern which is whole, to fill a gap in a pattern language. How can you do this.

Somehow, a pattern must give you a way of expressing your deepest and subtlest intuitions and feelings about the environment, in a way which communicates to other people, so that they can share your feelings, and so that you can share theirs. How can you take an intuition, or a feeling, and make a pattern out of it, with some guarantee that the pattern will honestly make the environment more whole, and not simply impose some purely personal fantasy on other people.

2.313 Independence
2.314 A good pattern doesn't cost any more
2.315 An example of a bad pattern
2.316 Every pattern always tentative
2.317 Critical experiments
2.318 Need for boldness
2.319 Every pattern an attempt to state an imperative

PART 2.3 - CONCLUSION

A pattern is an explicit principle of design which can be shared, reused, and criticised. To make it sharable, each pattern must define a context, a problem, and the relationship among parts, needed to solve that problem in that context.

A pattern can never be captured exactly. It is a morphological feeling, fluid and alive. However, inspite of this, indeed because of it, it is vital that every pattern be formulated as exactly as possible, in the most challenging and categorical manner, so that it invites discussion and experiment and re-formulation - with the full knowledge that every pattern is always tentative and temporary, always waiting for someone to reformulate it at a deeper and more incisive level.

A good pattern is one which makes the environments which it applies to, more whole. It is possible, in principle at least, to decide whether or not a pattern is good in this sense, by empirical means.

What is the conclusion. Even in a society like ours, where people have thousands of different values and beliefs, it is possible to find a common basis for value, and a common basis for criticising and improving patterns - and it is possible to imagine, therefore, that out of our present multitude of different values and beliefs, it will be possible to create a common pattern language, which rests on a core of human experience so deep, that

it cuts across the private values and beliefs, and gives us a common basis for building an environment which is good for all of us.

PART 2.4 - THE ULTIMATE TEST OF EVERY PATTERN IS ITS REALITY

INTRODUCTION

The study of conflicts, is based on the forces which exist in a situation now.

People ask: How can the study of what exists, tell us anything about what ought to be. In order to know what ought to be, we must decide, for ourselves, what we want, and move towards that. We cannot rely merely on observations about the present.

In this last part of this book, I shall try to show that this is a superficial and dangerous argument - since it tends to move us away from the forces which are real in peoples lives - and that what is real, here and now, will by itself always lead us directly towards the most visionary conceptions of the future.

PART 2.4 - CONCLUSION

Study of the forces which exist in a system now, will always lead us towards the future, provided that we try to invent new patterns which resolve the new conflicts which arise. The invention of new patterns is like the Hegelian process of development: existing conflicts continuously give way to new forms of organization which resolve the conflicts and in which new conflicts need to be resolved.

Although this process will preserve traditional patterns where they are appropriate, and will never create change for the sake of change, it will also lead to a far more genuine kind of visionary architecture, than those so called "visions" which are merely efforts to be different.

The utlimate criterion for a good pattern is its reality. In the end your own ability to discover patterns and improve them, depends only on your own ability to perceive reality.

BOOK 2 - CONCLUSION

I have shown you how to construct a pattern language which is whole. To be whole the patterns in the language must be individually whole; and the language must also be whole as a totality. When a pattern language is whole, the forces which emanate from the parts of the environment which the language defines, are always put in harmony by the patterns which define the physical arrangement of those parts.

No language is ever perfectly whole. However, a language is so constructed, that it can become more and more whole, by a steady process of piecemeal evolution. Every language contains the impulse toward its own future development within it.

Since a language is perfectly explicit, anyone can use it; anyone can criticise it; and anyone can contribute to its development. And since the rules for a good pattern do not depend on any one personal system of values, but on the very general concept of wholeness, which underlies all values, it is perfectly possible to imagine that a widely accepted common pattern language might evolve, even in a society where people have widely different values.

BOOK 3 - DESIGN: USING A COMMON PATTERN LANGUAGE TO MAKE DESIGNS

INTRODUCTION

You know what a pattern language is - and you know how to develop your own pattern language, so that it becomes more and more whole. Now, how will you use your language, to create designs.

Even more vital, how will you use your language to create designs, if you are not an architect and have no training as an architect.

Our environment today, is unwhole because it is designed by specialists - architects and planners - and will only become whole when everyone designs it. A common pattern language must allow anybody, whether he has special training or not, to create whole designs.

It means, in plain words, that the pattern language must contain, within it, the power which architects have sought for thousands of years - the power to create wholes, which, even in its most rudimentary form, takes years of insight and professional training to acquire.

This problem is by far the greatest challenge of the pattern language theory. Its solution is the culmination of the theory.

PART 3.1 - PREPARING FOR DESIGN

INTRODUCTION

There are two steps to the process of using a pattern language to make a design. In the first step, a person creates a sequence of patterns, which is his conception, ahead of time, of the thing he will design. In the second step, he uses this sequence of patterns to make the design itself.

I shall discuss the first of these two steps in this part of the book; in the next part I shall discuss the second.

The problem in the first step is to find a way of grasping the collection of patterns which must appear in a design, as a totality, that you can see them all so clearly, that you can succeed in creating a unity in which they all appear in balance with one another.

PART 3.1 - CONCLUSION

In order to make a design, you must first prepare a sequence of patterns for that design. In this sequence of patterns, the patterns are in an order which allows you to integrate them, and form a single unified image of a design, as you read through the sequence.

This sequence of patterns is fundamental to the design process. You cannot make a design until you have this sequence clear. Making the sequence is a constructive and creative act of the utmost difficulty.

The pattern language is so constructed that you can take this sequence of patterns directly from the language, in the proper order. In a certain simplified sense, the sequence of patterns is itself a pattern language - but one exactly tailored to the specific design you are just going to make.

We are now ready to see how you can use this sequence of patterns, in the act of design itself, to make a design.

PART 3.2 - THE ACT OF DESIGN

INTRODUCTION

Imagine, now, that you have created a morphological sequence of patterns for a particular design, and you are ready to make the design. The design will only become whole, if you use the sequence in a certain way. In this part of the book I shall describe this way.

PART 3.2 - CONCLUSION

I have shown that the use of a pattern language, like the use of english, depends on a deep intuitive process, which must go on in the imgaination, unhampered by paper, drawings or any other external media. In short , I have shown that a pattern language must be used the same way that english is used to make a sentence - the design comes out entire, from a process which takes place entirely in the mind. If the process takes place entirely in the persons mind, the order of the language guarantees that the design will unfold in his mind, to form an organic and coherent whole.

BOOK 3 - CONCLUSION

The use of a common pattern language is simple and explicit. Although a poet will always be able to use a language better than

the next man, anyone can use a language: It does not depend on any special design training. And by using a language simply and naturally anyone can use it to make any part of his environment more whole.

What is the conclusion. The theoretical problem, at the heart of making the environment whole, is solvable. It is possible to create a pattern language which could, in theory, be shared by all the people in society, and used by them to make the environment whole. It now raises the question: Can this theoretical instrument be used, in practice, By the people in our society, to make an environment whole?

BOOK 4 - WHOLENESS: THE CREATION OF WHOLENESS

INTRODUCTION

I must now try to show that the use of pattern languages gives us a practical way of making our environment whole.

There are four things to discuss. The way in which the evolution and refinement of a common pattern language will actually happen. The way in which people will actually use their many versions of the common pattern language, to create for themselves, buildings and cities which are whole. The meaning of these languages, in peoples lives. And finally, the form that this environment will actually take - what will it be like physically, this environment which is becoming whole - what will its design be like.

PART 4.1 - THE EVOLUTION OF A COMMON PATTERN LANGUAGE

What will the process of evolution be like? How will patterns spread from person to person? How will they improve?

There are two main problems to be solved. First, we want to be sure that the evolution of a common language is in no way totalitarian. How can we create a common language, and yet stay free as individuals. And second, how can we be sure that the evolution of the language will go on and on forever - without stopping, at some stage of evolution, and becoming a rigid code, enforced by bureaucrats.

PART 4.1 - CONCLUSION

There is no end to the richness and complexity which the evolution of pattern languages will lead to. Each time some new pattern enters the pool of languages, it frees its inventor from any concern with that level of awareness - frees him to

look deeper into that problem, or deeper into some other.

Each new act of thought then, builds on all past acts of thought, instead of duplicating them. The subtlety of structure captured in the common languages becomes deeper and more intricate every year.

Although the process of evolution will always move towards greater depth and greater wholeness, there is no end to it - there is no static perfect language, which, once defined, will stay defined for ever. No language is ever finished.

The reason is this. Each language specifies a certain structure for some environment. Once realised, in practice, the very existence of that structure will create new forces, which are born for the first time, out of that structure - and these new forces will, of course, create new problems, new conflicts, that need to be resolved by new patterns - which, when added to our languages, will create still newer forces once again.

This is the eternal cycle of development. There is no hope of stilling it, and no need either. We must simply accept the fact that in the process of evolution, there is no final equilibrium. There are passing phases which approach equilibrium - but that is all. The search for equilibrium, the brush in the dark with a moment of stability, the wave which hesitates a moment before it crashes into the sea again - that is the closest we shall come to being satisfied.

PART 4.2 - THE WIDESPREAD USE OF PATTERN LANGUAGES

INTRODUCTION

We know that the environment will only become whole if all the people in society are actively helping to design it. And we have seen that a pattern language gives anyone the skill he needs to design things. How, in practice, will it happen that all the people in society can help to design the environment.

The central problem which we face here, is the one of getting every single person in society into a situation where he can actually visualise and make the spaces which he is to live in. There is a great danger that so called "community involvement" will deteriorate to the point where people are merely consulted about their needs, or given a chance to comment on designs which are provided for them. However, I am convinced that in a healthy society the everyday practice of design, is as important for a persons emotional balance as the everyday act of speech - it is vital that all the people are actually designing their environment for themselves.

How can this happen in a technological society.

PART 4.2 - CONCLUSION

We have seen that it is perfectly possible to invent a series of practical social processes, which will allow all the people in society to take part in designing the environments in which they live and work. Of course, the degree of a persons involvement will decrease, go down, to the extent he shares a particular environment with other people - he will be most involved, in the design of his own rooms - less in the design of his house, less still in the design of his workplace, less still in the design of his neighborhood, and only a little in the overall design of the city which he lives in. However, it is perfectly feasible for him to be involved, as a creator, at every single level - at every level his acts of design can contribute to the full-blooded creation of buildings - and need by no means be restricted to questionnaires and choices.

We are ready, finally, to see what this organic, infinitely various environment might be like.

PART 4.3 - A COMMON PATTERN LANGUAGE AS A PICTURE OF A WAY OF LIFE

INTRODUCTION

So far I have described a pattern language as a tool; as a practical instrument for making our environment better. But there is more to it than this: the beauty of the language itself, as a thing which is valuable for its own sake, a thing which illuminates life, and man, and has something to do with man's long future destiny This is what has moved me. This is what

has kept me writing. The beauty of the pattern language means far more to me, than the fact that it is useful - and, in the long run, it may perhaps be the beauty of it, more than the use of it, which moves you too.

4.21. A pattern language as a picture of a culture

4.22. The exchange of patterns

4.23. Emerging consciousness

4.24. The power of patterns over matter

PART 4.3 - CONCLUSION

Since a pattern language is, in essence, a picture of a culture, and a picture of what life is all about, we see that as pattern languages evolve, the people in society will not only become more skilled as designers, but will, at the same time become more conscious - more conscious of themselves, more conscious that they are constantly involved in building a picture of what they want their world to be like.

So, in the end, the evolution of a common pattern language is not merely the practical evolution of a tool, but the evolution of a communal work of art - a great poem, which describes life, in terms so powerful that it can actually turn back on itself, and influence the life which it describes.

PART 4.4 - A WHOLE ENVIRONMENT

INTRODUCTION

Assume that a common pattern language is evolving in society, and that its use is gradually becoming more and more widespread.

What will this environment be like?

4.41. The environment alive

4.42. Variety and sameness

4.43. Deeper patterns

4.44. Still deeper patterns

4.45. Overall structure of a city

4.46. Movement

4.47. Public places

4.48. Community buildings

4.49. Private houses

4.410. Construction

4.411. The whole environment becomes a part of nature

PART 4.4 - CONCLUSION

So we see then, that a whole environment will in the end, be given its form by a very small number of deep deep patterns - perhaps no more than fifty - which go to the very roots of man's nature, and the nature of his materials.

Because each building is designed by different people, each part of the environment will have these same few patterns in it, endlessly repeated, yet combined with endless variation - so that within this great fabric of invariants, each place, each part, each spot, will be unique.

As the patterns become deeper, and as our ability to create variation within sameness grows, slowly our environment will become more and more like nature.

BOOK 4 - CONCLUSION

So now at last we have the answer to the fundamental problem of design: How can the millions of our individual and personal acts of building cooperate to make an environment which is coherent, whole, and living, as a totality, at every moment of its life?

It can happen if all the people in a society have access to a common pattern language, are helping in the evolution of this common language, and are all using this language in their own way, to design their own buildings - and then communicating their designs straight to builders, to get them built.

Under the double impact of people using pattern languages, and the pattern languages constantly evolving, our cities will be constantly reborn, whole like nature, at each moment, yet always being remade in some new form, under the impact of the newest patterns that have entered them, always to be whole again.

CONCLUSION

What I have described in this book, is as ancient as man himself. It is a process which has been going on for thousands of years; None of it is new; each one of us, in his own secret self, is doing it already.

But somehow, for some reason, no one has ever named it. It is so deep, so central, so much a part of us, that no one has ever tried to say it: and because it has never been said, it has only been discovered, slowly, by each person, during the course of his life; and many have been too short lived, or too busy, or too anxious, to discover it at all.

By naming it, even though it cannot properly be named, I have perhaps made what is simple, complicated. But by naming it, I have tried to open a door to what each one of us already has inside himself, and only rarely finds.

Now that I have passed through this door myself, the ideas in the book seem to me like spiritual exercises, which have gradually taught me what it is to be and act like nature. It has taken me ten years to live through these exercises. Now, after forming hundreds of patterns, testing them and sharpening them, and using them, I am finally free to create environments entirely without patterns at all, because the pattern language in me is so deep a part of me, that I have forgotten it again.

Now, I can simply take a tree, and a few pieces of wood, a patch of sunlight, and a seat - and I know what to do to them, how to put them together in a way that is in their nature
as if I myself were nature, or ☐ nature were acting through me.

That is the core of the matter - to act like nature. Once all of us - all the members of the society - are able to act like nature, the environment will become whole again - and only then. Pattern languages are no◊ more than the path towards the training, which lets you learn to act as nature does.