LITTERA SCRIPTA MANET
“The letter once written remains”

American Planning Association – Utah Chapter
Fall Conference 2021

“A City in Not a Tree”
SUMMARY OF THE LANGUAGE

22. NINE PER CENT PARKING
23. PARALLEL ROADS
24. SACRED SITES
25. ACCESS TO WATER
26. LIFE CYCLE
27. MEN AND WOMEN

both in the neighborhoods and the communities, and in
between them, in the boundaries, encourage the forma-
tion of local centers;

28. ECCENTRIC NUCLEUS
29. DENSITY RINGS
30. ACTIVITY NOYES
31. PROMENADE
32. SHOPPING STREET
33. NIGHT LIFE
34. INTERCHANGE

around these centers, provide for the growth of housing
in the form of clusters, based on face-to-face human
groups;

35. HOUSEHOLD MIX
36. DEGREES OF PUBLICNESS
37. HOUSE CLUSTER
38. ROW HOUSES
39. HOUSING HILL
40. OLD PEOPLE EVERYWHERE

SUMMARY OF THE LANGUAGE

93. FOOD STANDS
94. SLEEPING IN PUBLIC

This completes the global patterns which define a
town or a community. We now start that part of the
language which gives shape to groups of buildings, and
individual buildings, on the land, in three dimensions.
These are the patterns which can be "designed" or
"built"—the patterns which define the individual build-
ings and the space between buildings; where we are deal-
ing for the first time with patterns that are under the
control of individuals or small groups of individuals,
who are able to build the patterns all at once.

The first group of patterns helps to lay out the overall
arrangement of a group of buildings: the height and
number of these buildings, the entrances to the site, main
parking areas, and lines of movement through the com-
plex;

95. BUILDING COMPLEX
96. NUMBER OF STORIES
97. SHIELDED PARKING
98. CIRCULATION REALMS
99. MAIN BUILDING
100. PEDESTRIAN STREET
101. BUILDING THOROUGHFARE
102. FAMILY OF ENTRANCES
103. SMALL PARKING LOTS
23 PARALLEL ROADS

The octoline pattern of streets in planned cities. Cars can average 20%
and trips across town have 10 to 15 miles per hour.
118 ROOF GARDEN*

From roof vantage, up roof be built, perhaps make another room, where people can get away (118), where a chimney in the roof—chimney flask, for the same way of baking (109).
I INDEPENDENT REGIONS**
Metropolitan regions will not come to balance until each one is small and autonomous enough to be an independent sphere of culture.

There are four separate arguments which have led us to this conclusion: 1. The nature and limits of human government. 2. Equity among regions in a world community. 3. Regional planning considerations. 4. Support for the intensity and diversity of human cultures.

1. There are natural limits to the size of groups that can govern themselves in a human way. The biologist J. B. S. Haldane has remarked on this in his paper, "On Being the Right Size":

... just as there is a best size for every animal, so the same is true for every human institution. In the Greek type of democracy all the citizens could listen to a series of orators and vote directly on questions of legislation. Hence their philosophers held that a small city was the largest possible democratic state. (J. B. S. Haldane, "On Being the Right Size," The World of Mathematics, Vol. II, J. R. Newman, ed. New York: Simon and Schuster, 1956, pp. 363–65).

It is not hard to see why the government of a region becomes less and less manageable with size. In a population of \( N \) persons, there are of the order of \( N^2 \) person-to-person links needed to keep channels of communication open. Naturally, when \( N \) goes beyond a certain limit, the channels of communication needed for democracy and justice and information are simply too clogged, and too complex; bureaucracy overwhelms human processes.

And, of course, as \( N \) grows the number of levels in the hierarchy of government increases too. In small countries like Denmark there are so few levels, that any private citizen can have access to the Minister of Education. But this kind of direct access is quite impossible in larger countries like England or the United States.

We believe the limits are reached when the population of a region reaches some 2 to 10 million. Beyond this size, people become remote from the large-scale processes of government. Our estimate may seem extraordinary in the light of modern history; the nation-states have grown mightily and their governments hold power over tens of millions, sometimes hundreds of millions, of people. But these huge powers cannot claim to have a natural size.
Therefore:

Wherever possible, work toward the evolution of independent regions in the world; each with a population between 2 and 10 million; each with its own natural and geographic boundaries; each with its own economy; each one autonomous and self-governing; each with a seat in a world government, without the intervening power of larger states or countries.

Within each region, encourage the population to distribute itself as widely as possible across the region—the distribution of towns (2). . . .
within each region work toward those regional policies which will protect the land and mark the limits of the cities:

2. The Distribution of Towns
3. City Country Fingers
4. Agricultural Valleys
5. Lace of Country Streets
6. Country Towns
7. The Countryside
the pattern helps maintain the indispensable balance (1) by cooling regions more subtropical agriculturally, and it will create and convert regions (2) almost automatically by preserving agricultural land in urban areas. But just exactly which land ought to be preserved, and which land built upon?

4.4.4

The land which is best for agriculture happens to be best for building too. But it is limited—and once destroyed, it cannot be regained for centuries.

In the last few years, suburban growth has been spreading over all land, as if almost not. It eats up this limited resource and, worse, still, destroys the possibility of farming close to cities once and for all. But we know, from the arguments of every country process (3), that it is important to have open land near the places where people live. Since the middle land which can be used for farming lies mainly in the valleys, it is essential that the valley floors within our urban regions be left untouched and kept for farming.

The most complete study of this problem that we know comes from Dan H. Harg (Design With Nature, New York: Natural History Press, 1969). In his "Room for the Valleys" (Wallace-Wells, Boston: 1969), he shows how urban development can be directed to the hillsides and plateaus, leaving the valleys clear. The pattern is important, also, by the fact that there are several possible practical approaches to the task of implementation (Wallace, pp. 77-96).

Therefore:

Preserve all agricultural valleys as farmland and protect this land from any development which would destroy or lock up the unique fertility of the soil. Even when valleys
For row houses, place houses along pedestrian paths that run at right angles to local roads and parking lots, and give each house a long frontage and a shallow depth.

Make the individual houses and cottages as long and thin along the paths as possible—some thin houses (1091); vary the houses according to the different household types—THE FAMILY (176), HOME FOR A SMALL FAMILY (56), HOME FOR A COUPLE (77), HOME FOR ONE PERSON (78); build roads along the paths, at right angles to them—parking lots (138), network of paths and cars (12), with small parking lots off the roads—small parking lots (115). In other respects build row houses in clusters—house clusters (17), building clusters (95).
... at the still higher densities required in the inner ring of the community's reserve zones (10), and second, densities that allow no houses per acre or even four stories high. Insinuatingly, the house clusters become like hills.

Every town has places in it which are so central and desirable that at least 30 to 40 households per acre will be living there. But the apartment houses which reach this density are almost all impersonal.

In the pattern town own homes (79), we discern the fact that every family needs its own home with land to build on, land where they can grow things, and a home which is unique and clearly marked as theirs. A typical apartment house, with flat walls and identical windows, cannot provide these conditions.

The form of the measure house comes essentially from three requirements. First, people need to maintain contact with the ground and with their neighbors, for more contact than higher or living families. Second, people want no cheapo garden or yard. This is among the most common reasons for their rejecting apartment living. And third, people crave for variation and uniqueness in their homes, and this desire is almost always satisfied by high-rise construction, with its regular facades and identical units.

1. Connection to the ground and to neighbors. The strongest evidence comes from D. M. Fanning ("Families in Flat," British Medical Journal, November 1927, pp. 315-320). Fanning shows a direct correlation between incidence of mental disorder and high-rise living. These findings are presented in detail in our recent study (21). High-rise living, it appears, has a terrible tendency to make people alone, estranged, in their apartment. Home life is split away from casual social life by elevators, hallways, and long stairs. The desire to go out for some light a life becomes formal and outward; and unless there is some specific task which brings people out in the world, the tendency is to stay home, alone.

2. Housing hill

Fanning also found a striking lack of communication between families in the higher flats he studied. Women and children were especially isolated. The women felt they had little reason to take the trip from their apartment to the ground, except to go shopping. They and their children were effectively imprisoned in their apartments, out of touch from the ground and from their neighbors.
build housing three or four stories high, build a hill of houses. Build them to form stepped terraces, sloping toward the south, served by a great central open stair which also faces south and leads toward a common garden...

The people lay out their own houses individually, upon the terrace, just as if they were land—very even there (298). Since each terrace overlaps the one below it, each house has its garden on the house below—now gardens (298). Leave the central stair open to the sky, but give it a roof in wet or snowy climates—perhaps a glass roof—solar panels (357); and place the common food site at the bottom of the stair with playgrounds, flowers, and vegetables for everyone—common land (67), connected plant (98), vegetable garden (177),...

40 OLD PEOPLE EVERYWHERE**
TOWNS

des high speed roads must always be placed in such positions that at least one side of every local transport area has direct access to open country.

1. Most important of all, high speed roads must be shielded sufficiently to protect the life around them. This means that they must either be sunk, or shielded by each house, putting structures, or warehouses, which will not be damaged by the noise.

Therefore:

1. Place high speed roads (freeways and other major arteries) so that:

2. At least one high speed road lies tangent to each local transport area.

3. Each local transport area has at least one side not bounded by a high speed road, but directly open to the countryside.

4. The road is always sunk, or shielded along its length by homes, or earth, or industrial buildings, to protect the nearby neighborhoods from noise.

* Ring road makes child

Always place the high speed roads on boundaries between suburban and urban areas, and never along waterfronts—access to water (21). Place industry and by passing garages next to the roads, and use them, whenever possible, in near noise shields—INDUSTRIAL AREAS (22), SHIELDED INDUSTRY (25).
... another network, not physical like transportation, but conceptual and equal in importance, is the network of learning: the thousands of interconnected situations that cover all over the city, and which in fact comprise the city's 'curriculum': the way of life it teaches to its young.

***

In a society which emphasizes teaching children and students—and adults—becomes passive and unable to think or act for themselves. Creative, active individuals can only grow up in a society which emphasizes learning instead of teaching.

There is no need to add to the criticism of our public schools. The system is extensive and can hardly be improved. The processes of learning and teaching, too, have been extensively studied. The question now is what to do. (George Meinig, New York: Vintage, 1969, p. 3).


Both describe a style of learning that is quite the opposite from schools. It is geared specifically to this task: opportunities for learning that are widespread and available to everyone.

The alternative network started through the schools is the voluntary participation in society through networks which provide access to all in the community for learning. In fact, those networks now exist, but are not made use of for educational purposes. The value of schooling is not to have any positive consequences, but inevitably lead to their incorporation into the educational process.

Schools are designed on the assumption that there is a secret to everything in life, that the quality of life depends on knowing that secret; that success can only be measured in monetary success; and that only teachers can properly assist these students. An individual with a school and a college degree or the ability to come up with a pyramid of failed students can only do to those also carry the proper sign.

18. Network of Learning

New educational definitions would look quite different from this. While Baudrillard's model must be on both sides of the scale: on the one hand, to allow access to the resources of our culture, or at least familiarity, if the same one is not the same. Moreover, such new definitions should be based on the idea of each person could have access without expectation of success—public spaces in which one and others outside their immediate vicinity now become available.

While network administration would concentrate primarily on the building and maintenance of such providing access to resources, the paraprofessional would help the student to find the path which best suits him to his goal. If a student wants to learn the spoken language of a Chinese neighbour, the technique would be available to help them learn it, and to help them make the textbook and methods work with their aims, character, and time available for study. He can even make it available to others by finding the best places for supervision. He can then assert his individual or society who wants to find challenging ways to discuss his hermeneutic. Like the network administrative, the pedagogical concern consists of both a professional educator. Access to learning should be gained by individuals through the use of educational resources.

In addition to the alternative conclusions of the Carnegie Commission, the last year has brought into focus a series of important documents which show how responsible people are becoming aware of the fact that, for working-class children in particular, the most important part of the educational process is to encourage awareness of the value of education. In Canada, the Ministry of Education and the National Education Commission has requested that no written or oral educational system for formal education could provide the same opportunities for those unable to read. The problem of these has become a recommendation of the value of education, which proposes to abolish the easy of the education of the poor. In a model of the education which is not only best for the poor, in favor of free educational opportunities provided throughout the world be it to be said that the educational network can start to grow in order to help make in schools and out of the way of the education. (Abridged from pp. 76 and 99 in Disadvantaged Society by Ivan Illich, Vol. 12 in World Perspectives Series, edited by Ruth Weiss Ancher, New York: Harper & Row, 1974).

In short, the educational system to radically decentralized becomes emergent with the urban network itself. People of all walks of life come north, and offer a class in the things they know and how professionals and working-class offer apprenticeships to these offices and work-ups and people offer to teach whatever they need and trained for it been, qualifications offer tutoring in their special subjects. Living and learning are the
TOWNS

Instead of the lock-step of compulsory schooling in a fixed place, work in piecemeal ways to decentralize the process of learning and enrich it through contact with many places and people all over the city: workshops, teachers at home or walking through the city, professionals willing to take on the young as helpers, older children teaching younger children, museums, youth groups traveling, scholarly seminars, industrial workshops, old people, and so on. Conceive of all these situations as forming the backbone of the learning process: survey all these situations, describe them, and publish them as the city's curriculum: then let students, children, their families and neighborhoods weave together for themselves the situations that comprise their "school" paying as they go with standard vouchers, paid by community tax. Build new educational facilities in a way which extends and enriches this network.

FURTHER NETWORKS

Each city has a "pati" where young children can safely wander on their own---children in the city (177) build ad hoc public "homes" for children, and so every neighborhood at least contains one home (86); create a large number of work-oriented small schools in those parts of town dominated by work and commercial activity; encourage parents to work out a sub-organized learning society of their own---self-organized learning (84); raise the university as scattered adult learning for all the adults in the region---university as a marketplace (85); and use the real work of professionals and tradesmen in the basic nodes in the network---craftsmen and apprentices (85). . . .
A Pattern Language is being spoken in Occidental

Near Occidental there is a beautiful sloping lot with views of nearby redwood and fir covered hillsides and a long view of Mt. Saint Helena.

On this exceptional site a new house is emerging. The house is being built by Leff Construction from Sebastopol and is designed by world-famous architect Christopher Alexander and his architectural firm in Berkeley, PatternLanguage.com.

His book, A Pattern Language, has become a bible of sorts for architects, architectural students and design enthusiasts. A Pattern Language identifies those characteristics of a building which have universal appeal.

Window and door sizes and proportions, wall and ceiling heights, hallway widths and room sizes and shapes are some of the important design elements that Alexander discusses in his book.

A Pattern Language also recognizes and discusses the importance of the home’s orientation on its site and in the larger landscape.

When these concepts are incorporated into a building, the design is developed first at the planning stage and then again on site during construction. Alexander has organized the building sequence into 32 distinct operations. At the beginning of each operation, the design for that stage is mocked up on site, and may be adjusted before the final design decision is reached. All of the design decisions are evaluated with an eye to the budget so that if an on-site design adjustment increases the cost, the additional money is taken from elsewhere in the building. For example, a window seat may be added while a fireplace hearth is simplified to pay for it.

The building design is flexible but the budget is managed carefully to

The process of building a home based on PatternLanguage.com principles also takes into account the home’s visual impact on the site and the comfort and needs of the occupants.

Please see page 6

Massive concrete beams seem to emerge from the soil
Occidental homesite offers a strong link to inside and outside of shelter

From Page 5

keep costs reasonable and stay within the owner's budget.

The project in Occidental is a 3,000 square-foot home made up of a two-story element with single story wings at each end. This creates a courtyard surrounded on three sides by the walls of the house.

There is a strong connection between the interior of the building and the exterior courtyard through the use of expanses of glass windows and doors.

Trellises and structures that Alexander calls "exterior works" add to the effect. The house is built with massive concrete beams and columns at the first floor forming a superstructure that appears to be emerging from the land on which it is built.

The in-fill walls and second floor are constructed with a lighter wood frame but also blend successfully with the home's surroundings.

The use of unconventional building materials such as the concrete beams and columns combined with the very careful ongoing building design achieves a house with extended durability and functionality.
The process of building a home based on PatternLanguage.com principles also takes into account the home's visual impact on the site and the comfort and needs of the occupants.

The result is a home that may not be easily identifiable in terms of its style, but when completed the structure will enhance the occupants' lives and the surrounding landscape.

The timeless quality of the design of a PatternLanguage.com home and the care taken by Leff Construction to respect the philosophy of A Pattern Language ensure that it will be in place many years after the mere conventionally designed houses in the neighborhood are gone or have been drastically remodeled.

David Leff is owner of Leff Construction in Sebastopol. His telephone number is 833-4800.

Looking east toward Mt. St. Helena over the Santa Rosa plain.
A City is Not a Tree:
50th Anniversary Edition

Christopher Alexander

with
new commentaries by
Mike Batty • Luis Bettencourt • Howard Davis
Jaap Dawson • Bin Jiang • Michael W Mehaffy
Hans Joachim Neis • Sergio Porta • Yordan Rife
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edited by
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Sustasis Press
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In 1965, the architect and design theorist Christopher Alexander published a landmark theoretical critique of modern urban design, and by extension, modern design in general. His critique was different from others of the day in that it was not based on a social or political argument, but on a structural analysis, rooted in then-emerging insights from the fields of mathematics and cognition.

Here, published again on its fiftieth anniversary, is Alexander's classic text, together with new interpretive commentaries and discussions by leading theorists and practitioners. This volume is destined to become an invaluable resource for a new generation of students and practitioners.

"One of the classic references in the literature of the built environment and associated fields."
— Resource for Urban Design Information (rudi.net)

"At a time of increasing concern over the adequacy of design methods, "A City is not a Tree" broke open and reconfigured the debate."
— Charles Jencks and Karl Kröpf

"It pointed clearly to a change in the way we need to think about cities — not as ensembles of one-off components that are hierarchically sorted, but as systems with global properties that manifest at local places. That, for me, is also the key insight and power of Space Syntax as a methodology."
— Bill Hillier, Chairman of the Bartlett School of Graduate Studies, University College London

"Seen from the distance of half a century, Christopher Alexander's "A city is not a tree" remains a landmark in our thinking about cities and design...It is a new beginning. The first step on a journey — for Alexander and for urbanism — to discover what the city really is. Its design novelty is to place the problems of architecture and urban planning on the same level of those in physics or biology and to seek answers using the scientific method, expressed in mathematical language."
— Luis Bettencourt, Santa Fe Institute
A CITY IS NOT A TREE

BY CHRISTOPHER ALEXANDER

The tree of my title is not a green tree with leaves. It is the name for a pattern of thought. The semi-lattice is the name for another, more complex, pattern of thought.

In order to relate these abstract patterns to the nature of the city, I must first make a simple distinction. I want to call those cities which have arisen more or less spontaneously over many, many years natural cities. And I shall call those cities and parts of cities which have been deliberately created by designers and planners artificial cities. Sienna, Liverpool, Kyoto, Manhattan are examples of natural cities. Levittown, Chandigarh, and the British New Towns are examples of artificial cities.

It is more and more widely recognized today that there is some essential ingredient missing from artificial cities. When compared with ancient cities that have acquired the patina of life, our modern attempts to create cities artificially are, from a human point of view, entirely unsatisfactory.

view's campaign against the way in which new construction and telegraph poles are wrecking the English town, based its remedies, essentially, on the idea that the spatial sequence of buildings and open spaces must be controlled if scale is to be preserved—an idea that really derives from Camillo Sitte's book about ancient squares and piazzas.

Another kind of remedy, in protest against the monotony of Levittown, tries to recapture the richness of shape found in the houses of a natural old town. Llewelyn Davies' village at Rushbrooke in England is an example—each cottage is slightly different from its neighbor, the roofs jut in and out at picturesque angles.

A third suggested remedy is to get high density back into the city. The idea seems to be that if the whole metropolis could only be like Grand Central Station, with lots and lots of layers and tunnels all over the place, and enough people milling around in them, maybe it would be human again.

Both the tree and the semi-lattice are ways of thinking about how a large collection of many small systems goes to make up a large and complex system. More generally, they are both names for structures of sets.

In order to define such structures, let me first define the concept of a set. A set is a collection of elements which for some reason we think of as belonging together. Since, as designers, we are concerned with the physical living city and its physical backbone, we most naturally restrict ourselves to considering sets which are collections of material elements such as people, blades of grass, cars, bricks, molecules, houses, gardens, water pipes, the water molecules that run in them, etc.

When the elements of a set belong together because they cooperate or work together somehow, we call the set of elements a system.

For example, in Berkeley at the corner of Hearst and Euclid, there is a drug store, and outside the drug store a traffic light. In the...
“The semilattice is the structure of a complex fabric; it is the structure of living things — of great paintings and symphonies.”

Christopher Alexander, 1965
Traditional society

Open society

overlapping groups of friends

(Christopher Alexander)

“A city is not a tree”
THOUGHTS? QUESTIONS? IDEAS?