# A PATTERN LANGUAGE

TOWNS · BUILDINGS · CONSTRUCTION

*Christopher Alexander*

*Sara Ishikawa Murray Silverstein*

*with*

*Max Jacobson Ingrid Fiksdahl-King Shlomo Angel*

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# USING THIS BOOK

## A PATTERN LANGUAGE

Volume 1, *The Timeless Way of Building*, and Volume 2, *A Pattern Language*, are two halves of a single work. This book provides a language, for building and planning; the other book provides the theory and instructions for the use of the language. This book describes the detailed patterns for towns and neighborhoods, houses, gardens, and rooms. The other book explains the discipline which makes it possible to use these patterns to create a building or a town. This book is the sourcebook of the timeless way; the other is its practice and its origin.

The two books have evolved very much in parallel. They have been growing over the last eight years, as we have worked on the one hand to understand the nature of the building process, and on the other hand to construct an actual, possible pattern language. We have been forced by practical considerations, to publish these two books under separate covers; but in fact, they form an indivisible whole. It is possible to read them separately. But to gain the insight which we have tried to communicate in them, it is essential that you read them both.

*The Timeless Way of Building* describes the fundamental nature of the task of making towns and buildings.

It is shown there, that towns and buildings will not be able to become alive, unless they are made by all the people in society, and unless these people share a common pattern language, within which to make these buildings, and unless this common pattern language is alive itself.

In this book, we present one possible pattern language, of the kind called for in *The Timeless Way*. This language is extremely practical. It is a language that we have distilled from our own building and planning efforts over the last eight years. You can use it to work with your neighbors, to improve your town and neighborhood. You can use it to design a house for yourself, with your family; or to work with other people to design an office or a workshop or a public building like a school. And you can use it to guide you in the actual process of construction.

The elements of this language are entities called patterns. Each pattern describes a problem which occurs over and over again in our environment, and then describes the core of the solution to that problem, in such a way that you can use this solution a million times over, without ever doing it the same way twice.

For convenience and clarity, each pattern has the same format. First, there is a picture, which shows an archetypal example of that pattern. Second, after the picture, each pattern has an introductory paragraph, which sets the context for the pattern, by explaining how it helps to complete certain larger patterns. Then there are three diamonds to mark the beginning of the problem. After the diamonds there is a headline, in bold type. This

headline gives the essence of the problem in one or two sentences. After the headline comes the body of the problem. This is the longest section. It describes the empirical background of the pattern, the evidence for its validity, the range of different ways the pattern can be manifested in a building, and so on. Then, again in bold type, like the headline, is the solution—the heart of the pattern—which describes the field of physical and social relationships which are required to solve the stated problem, in the stated context. This solution is always stated in the form of an instruction—so that you know exactly what you need to do, to build the pattern. Then, after the solution, there is a diagram, which shows the solution in the form of a diagram, with labels to indicate its main components.

After the diagram, another three diamonds, to show that the main body of the pattern is finished. And finally, after the diamonds there is a paragraph which ties the pattern to all those smaller patterns in the language, which are needed to complete this pattern, to embellish it, to fill it out.

There are two essential purposes behind this format. First, to present each pattern connected to other patterns, so that you grasp the collection of all 253 patterns as a whole, as a language, within which you can create an infinite variety of combinations. Second, to present the problem and solution of each pattern in such a way that you can judge it for yourself, and modify it, without losing the essence that is central to it.

Let us next understand the nature of the connection between patterns.

The patterns are ordered, beginning with the very largest, for regions and towns, then working down through neighborhoods, clusters of buildings, buildings, rooms and alcoves, ending finally with details of construction.

This order, which is presented as a straight linear sequence, is essential to the way the language works. It is presented, and explained more fully, in the next section. What is most important about this sequence, is that it is based on the connections between the patterns. Each pattern is connected to certain "larger" patterns which come above it in the language; and to certain "smaller" patterns which come below it in the language. The pattern helps to complete those larger patterns which are "above" it, and is itself completed by those smaller patterns which are "below" it.

Thus, for example, you will find that the pattern ACCESSIBLE GREEN (60), is connected first to certain larger patterns: SUBCULTURE BOUNDARY (13), IDENTIFIABLE NEIGHBORHOOD (14), WORK COMMUNITY (41), and QUIET BACKS (59). These appear on its first page. And it is also connected to certain smaller patterns: POSITIVE OUTDOOR SPACE (107), TREE PLACES (171), and GARDEN WALL (173). These appear on its last page.

What this means, is that IDENTIFIABLE NEIGHBORHOOD, SUBCULTURE BOUNDARY, WORK COMMUNITY, and QUIET BACKS are incomplete, unless they contain an ACCESSIBLE GREEN; and that an ACCESSIBLE GREEN is itself incomplete, unless it contains POSITIVE OUTDOOR SPACE, TREE PLACES, and a GARDEN WALL.

And what it means in practical terms is that, if you

want to lay out a green according to this pattern, you must not only follow the instructions which describe the pattern itself, but must also try to embed the green within an IDENTIFIABLE NEIGHBORHOOD or in some SUB-CULTURE BOUNDARY, and in a way that helps to form QUIET BACKS; and then you must work to complete the green by building in some POSITIVE OUTDOOR SPACE, TREE PLACES, and a GARDEN WALL.

In short, no pattern is an isolated entity. Each pattern can exist in the world, only to the extent that is supported by other patterns: the larger patterns in which it is embedded, the patterns of the same size that surround it, and the smaller patterns which are embedded in it.

This is a fundamental view of the world. It says that when you build a thing you cannot merely build that thing in isolation, but must also repair the world around it, and within it, so that the larger world at that one place becomes more coherent, and more whole; and the thing which you make takes its place in the web of nature, as you make it.

Now we explain the nature of the relation between problems and solutions, within the individual patterns.

Each solution is stated in such a way that it gives the essential field of relationships needed to solve the problem, but in a very general and abstract way—so that you can solve the problem for yourself, in your own way, by adapting it to your preferences, and the local conditions at the place where you are making it.

For this reason, we have tried to write each solution in a way which imposes nothing on you. It contains only those essentials which cannot be avoided if you really

want to solve the problem. In this sense, we have tried, in each solution, to capture the invariant property common to all places which succeed in solving the problem.

But of course, we have not always succeeded. The solutions we have given to these problems vary in significance. Some are more true, more profound, more certain, than others. To show this clearly we have marked every pattern, in the text itself, with two asterisks, or one asterisk, or no asterisks.

In the patterns marked with two asterisks, we believe that we have succeeded in stating a true invariant: in short, that the solution we have stated summarizes a *property* common to *all possible ways* of solving the stated problem. In these two-asterisk cases we believe, in short, that it is not possible to solve the stated problem properly, without shaping the environment in one way or another according to the pattern that we have given—and that, in these cases, the pattern describes a deep and inescapable property of a well-formed environment.

In the patterns marked with one asterisk, we believe that we have made some progress towards identifying such an invariant: but that with careful work it will certainly be possible to improve on the solution. In these cases, we believe it would be wise for you to treat the pattern with a certain amount of disrespect—and that you seek out variants of the solution which we have given, since there are almost certainly possible ranges of solutions which are not covered by what we have written.

Finally, in the patterns without an asterisk, we are certain that we have *not* succeeded in defining a true

invariant—that, on the contrary, there are certainly ways of solving the problem different from the one which we have given. In these cases we have still stated a solution, in order to be concrete—to provide the reader with at least one way of solving the problem—but the task of finding the true invariant, the true property which lies at the heart of all possible solutions to this problem, remains undone.

We hope, of course, that many of the people who read, and use this language, will try to improve these patterns—will put their energy to work, in this task of finding more true, more profound invariants—and we hope that gradually these more true patterns, which are slowly discovered, as time goes on, will enter a common language, which all of us can share.

You see then that the patterns are very much alive and evolving. In fact, if you like, each pattern may be looked upon as a hypothesis like one of the hypotheses of science. In this sense, each pattern represents our current best guess as to what arrangement of the physical environment will work to solve the problem presented. The empirical questions center on the problem—does it occur and is it felt in the way we have described it?—and the solution—does the arrangement we propose in fact resolve the problem? And the asterisks represent our degree of faith in these hypotheses. But of course, no matter what the asterisks say, the patterns are still hypotheses, all 253 of them—and are therefore all tentative, all free to evolve under the impact of new experience and observation.

Let us finally explain the status of this language, why

we have called it "A Pattern Language" with the emphasis on the word "A," and how we imagine this pattern language might be related to the countless thousands of other languages we hope that people will make for themselves, in the future.

*The Timeless Way of Building* says that every society which is alive and whole, will have its own unique and distinct pattern language; and further, that every individual in such a society will have a unique language, shared in part, but which as a totality is unique to the mind of the person who has it. In this sense, in a healthy society there will be as many pattern languages as there are people—even though these languages are shared and similar.

The question then arises: What exactly is the status of this published language? In what frame of mind, and with what intention, are we publishing this language here? The fact that it is published as a book means that many thousands of people can use it. Is it not true that there is a danger that people might come to rely on this one printed language, instead of developing their own languages, in their own minds?

The fact is, that we have written this book as a first step in the society-wide process by which people will gradually become conscious of their own pattern languages, and work to improve them. We believe, and have explained in *The Timeless Way of Building*, that the languages which people have today are so brutal, and so fragmented, that most people no longer have any language to speak of at all—and what they do have is not based on human, or natural considerations.

We have spent years trying to formulate this language, in the hope that when a person uses it, he will be so impressed by its power, and so joyful in its use, that he will understand again, what it means to have a living language of this kind. If we only succeed in that, it is possible that each person may once again embark on the construction and development of his own language—perhaps taking the language printed in this book, as a point of departure.

And yet, we do believe, of course, that this language which is printed here is something more than a manual, or a teacher, or a version of a possible pattern language. Many of the patterns here are archetypal—so deep, so deeply rooted in the nature of things, that it seems likely that they will be a part of human nature, and human action, as much in five hundred years, as they are today. We doubt very much whether anyone could construct a valid pattern language, in his own mind, which did not include the pattern ARCADES (119) for example, or the pattern ALCOVES (179).

In this sense, we have also tried to penetrate, as deep as we are able, into the nature of things in the environment: and hope that a great part of this language, which we print here, will be a core of any sensible human pattern language, which any person constructs for himself, in his own mind. In this sense, at least a part of the language we have presented here, is the archetypal core of all possible pattern languages, which can make people feel alive and human.

## SUMMARY OF THE LANGUAGE

A pattern language has the structure of a network. This is explained fully in *The Timeless Way of Building*. However, when we use the network of a language, we always use it as a *sequence*, going through the patterns, moving always from the larger patterns to the smaller, always from the ones which create structures, to the ones which then embellish those structures, and then to those which embellish the embellishments. . . .

Since the language is in truth a network, there is no one sequence which perfectly captures it. But the sequence which follows, captures the broad sweep of the full network; in doing so, it follows a line, dips down, dips up again, and follows an irregular course, a little like a needle following a tapestry.

The sequence of patterns is both a summary of the language, and at the same time, an index to the patterns. If you read through the sentences which connect the groups of patterns to one another, you will get an overview of the whole language. And once you get this overview, you will then be able to find the patterns which are relevant to your own project.

And finally, as we shall explain in the next section, this sequence of patterns is also the "base map," from

which you can make a language for your own project, by choosing the patterns which are most useful to you, and leaving them more or less in the order that you find them printed here.

✣ ✣ ✣

*We begin with that part of the language which defines a town or community. These patterns can never be "designed" or "built" in one fell swoop—but patient piecemeal growth, designed in such a way that every individual act is always helping to create or generate these larger global patterns, will, slowly and surely, over the years, make a community that has these global patterns in it.*

1. INDEPENDENT REGIONS

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

through city policies, encourage the piecemeal formation of those major structures which define the city;

8. MOSAIC OF SUBCULTURES

9. SCATTERED WORK

10. MAGIC OF THE CITY

11. LOCAL TRANSPORT AREAS

build up these larger city patterns from the grass roots, through action essentially controlled by two levels of self-governing communities, which exist as physically identifiable places;

12. COMMUNITY OF 7000

13. SUBCULTURE BOUNDARY

14. IDENTIFIABLE NEIGHBORHOOD

15. NEIGHBORHOOD BOUNDARY

connect communities to one another by encouraging the growth of the following networks;

16. WEB OF PUBLIC TRANSPORTATION

17. RING ROADS

18. NETWORK OF LEARNING

19. WEB OF SHOPPING

20. MINI-BUSES

establish community and neighborhood policy to control the character of the local environment according to the following fundamental principles;

21. FOUR-STORY LIMIT

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 formation of local centers;

28. ECCENTRIC NUCLEUS

29. DENSITY RINGS

30. ACTIVITY NODES

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

between the house clusters, around the centers, and especially in the boundaries between neighborhoods, encourage the formation of work communities;

41. WORK COMMUNITY
42. INDUSTRIAL RIBBON
43. UNIVERSITY AS A MARKETPLACE
44. LOCAL TOWN HALL
45. NECKLACE OF COMMUNITY PROJECTS
46. MARKET OF MANY SHOPS
47. HEALTH CENTER
48. HOUSING IN BETWEEN

between the house clusters and work communities, allow the local road and path network to grow informally, piecemeal;

49. LOOPED LOCAL ROADS
50. T JUNCTIONS
51. GREEN STREETS
52. NETWORK OF PATHS AND CARS
53. MAIN GATEWAYS
54. ROAD CROSSING
55. RAISED WALK
56. BIKE PATHS AND RACKS
57. CHILDREN IN THE CITY

in the communities and neighborhoods, provide public open land where people can relax, rub shoulders and renew themselves;

58. CARNIVAL

59. QUIET BACKS

60. ACCESSIBLE GREEN

61. SMALL PUBLIC SQUARES

62. HIGH PLACES

63. DANCING IN THE STREET

64. POOLS AND STREAMS

65. BIRTH PLACES

66. HOLY GROUND

in each house cluster and work community, provide the smaller bits of common land, to provide for local versions of the same needs;

67. COMMON LAND

68. CONNECTED PLAY

69. PUBLIC OUTDOOR ROOM

70. GRAVE SITES

71. STILL WATER

72. LOCAL SPORTS

73. ADVENTURE PLAYGROUND

74. ANIMALS

within the framework of the common land, the clusters, and the work communities encourage transformation of

the smallest independent social institutions: the families, workgroups, and gathering places. The family, in all its forms;

75. THE FAMILY
76. HOUSE FOR A SMALL FAMILY
77. HOUSE FOR A COUPLE
78. HOUSE FOR ONE PERSON
79. YOUR OWN HOME

the workgroups, including all kinds of workshops and offices and even children's learning groups;

80. SELF-GOVERNING WORKSHOPS AND OFFICES
81. SMALL SERVICES WITHOUT RED TAPE
82. OFFICE CONNECTIONS
83. MASTER AND APPRENTICES
84. TEENAGE SOCIETY
85. SHOPFRONT SCHOOLS
86. CHILDREN'S HOME

the local shops and gathering places.

87. INDIVIDUALLY OWNED SHOPS
88. STREET CAFE
89. CORNER GROCERY
90. BEER HALL
91. TRAVELER'S INN
92. BUS STOP

*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 buildings and the space between buildings; where we are dealing 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 complex;

fix the position of individual buildings on the site, within the complex, one by one, according to the nature of the site, the trees, the sun: this is one of the most important moments in the language;

104. SITE REPAIR

105. SOUTH FACING OUTDOORS

106. POSITIVE OUTDOOR SPACE

107. WINGS OF LIGHT

108. CONNECTED BUILDINGS

109. LONG THIN HOUSE

within the buildings' wings, lay out the entrances, the gardens, courtyards, roofs, and terraces: shape both the volume of the buildings and the volume of the space between the buildings at the same time—remembering that indoor space and outdoor space, yin and yang, must always get their shape together;

110. MAIN ENTRANCE

111. HALF-HIDDEN GARDEN

112. ENTRANCE TRANSITION

113. CAR CONNECTION

114. HIERARCHY OF OPEN SPACE

115. COURTYARDS WHICH LIVE

116. CASCADE OF ROOFS

117. SHELTERING ROOF

118. ROOF GARDEN

when the major parts of buildings and the outdoor areas have been given their rough shape, it is the right time to give more detailed attention to the paths and squares between the buildings;

119. ARCADES
120. PATHS AND GOALS
121. PATH SHAPE
122. BUILDING FRONTS
123. PEDESTRIAN DENSITY
124. ACTIVITY POCKETS
125. STAIR SEATS
126. SOMETHING ROUGHLY IN THE MIDDLE

now, with the paths fixed, we come back to the buildings: within the various wings of any one building, work out the fundamental gradients of space, and decide how the movement will connect the spaces in the gradients;

127. INTIMACY GRADIENT
128. INDOOR SUNLIGHT
129. COMMON AREAS AT THE HEART
130. ENTRANCE ROOM
131. THE FLOW THROUGH ROOMS
132. SHORT PASSAGES
133. STAIRCASE AS A STAGE
134. ZEN VIEW
135. TAPESTRY OF LIGHT AND DARK

within the framework of the wings and their internal gradients of space and movement, define the most important areas and rooms. First, for a house;

136. COUPLE'S REALM

137. CHILDREN'S REALM

138. SLEEPING TO THE EAST

139. FARMHOUSE KITCHEN

140. PRIVATE TERRACE ON THE STREET

141. A ROOM OF ONE'S OWN

142. SEQUENCE OF SITTING SPACES

143. BED CLUSTER

144. BATHING ROOM

145. BULK STORAGE

then the same for offices, workshops, and public buildings;

146. FLEXIBLE OFFICE SPACE

147. COMMUNAL EATING

148. SMALL WORK GROUPS

149. RECEPTION WELCOMES YOU

150. A PLACE TO WAIT

151. SMALL MEETING ROOMS

152. HALF-PRIVATE OFFICE

add those small outbuildings which must be slightly independent from the main structure, and put in the access from the upper stories to the street and gardens;

153. ROOMS TO RENT

154. TEENAGER'S COTTAGE

155. OLD AGE COTTAGE

156. SETTLED WORK

157. HOME WORKSHOP

158. OPEN STAIRS

prepare to knit the inside of the building to the outside, by treating the edge between the two as a place in its own right, and making human details there;

159. LIGHT ON TWO SIDES OF EVERY ROOM

160. BUILDING EDGE

161. SUNNY PLACE

162. NORTH FACE

163. OUTDOOR ROOM

164. STREET WINDOWS

165. OPENING TO THE STREET

166. GALLERY SURROUND

167. SIX-FOOT BALCONY

168. CONNECTION TO THE EARTH

decide on the arrangement of the gardens, and the places in the gardens;

169. TERRACED SLOPE

170. FRUIT TREES

171. TREE PLACES

172. GARDEN GROWING WILD

173. GARDEN WALL

174. TRELLISED WALK

175. GREENHOUSE

176. GARDEN SEAT

177. VEGETABLE GARDEN

178. COMPOST

go back to the inside of the building and attach the necessary minor rooms and alcoves to complete the main rooms;

179. ALCOVES

180. WINDOW PLACE

181. THE FIRE

182. EATING ATMOSPHERE

183. WORKSPACE ENCLOSURE

184. COOKING LAYOUT

185. SITTING CIRCLE

186. COMMUNAL SLEEPING

187. MARRIAGE BED

188. BED ALCOVE

189. DRESSING ROOM

fine tune the shape and size of rooms and alcoves to make them precise and buildable;

190. CEILING HEIGHT VARIETY

give all the walls some depth, wherever there are to be alcoves, windows, shelves, closets, or seats;



*At this stage, you have a complete design for an individual building. If you have followed the patterns given, you have a scheme of spaces, either marked on the ground, with stakes, or on a piece of paper, accurate to the nearest foot or so. You know the height of rooms, the rough size and position of windows and doors, and you know roughly how the roofs of the building, and the gardens are laid out.*

*The next, and last part of the language, tells how to*

*make a buildable building directly from this rough scheme of spaces, and tells you how to build it, in detail.*

Before you lay out structural details, establish a philosophy of structure which will let the structure grow directly from your plans and your conception of the buildings;

205. STRUCTURE FOLLOWS SOCIAL SPACES

206. EFFICIENT STRUCTURE

207. GOOD MATERIALS

208. GRADUAL STIFFENING

within this philosophy of structure, on the basis of the plans which you have made, work out the complete structural layout; this is the last thing you do on paper, before you actually start to build;

209. ROOF LAYOUT

210. FLOOR AND CEILING LAYOUT

211. THICKENING THE OUTER WALLS

212. COLUMNS AT THE CORNERS

213. FINAL COLUMN DISTRIBUTION

put stakes in the ground to mark the columns on the site, and start erecting the main frame of the building according to the layout of these stakes;

214. ROOT FOUNDATIONS

215. GROUND FLOOR SLAB

216. BOX COLUMNS

217. PERIMETER BEAMS

218. WALL MEMBRANES

219. FLOOR-CEILING VAULTS

220. ROOF VAULTS

within the main frame of the building, fix the exact positions for openings—the doors and windows—and frame these openings;

221. NATURAL DOORS AND WINDOWS

222. LOW SILL

223. DEEP REVEALS

224. LOW DOORWAY

225. FRAMES AS THICKENED EDGES

as you build the main frame and its openings, put in the following subsidiary patterns where they are appropriate;

226. COLUMN PLACE

227. COLUMN CONNECTION

228. STAIR VAULT

229. DUCT SPACE

230. RADIANT HEAT

231. DORMER WINDOWS

232. ROOF CAPS

put in the surfaces and indoor details;

233. FLOOR SURFACE

234. LAPPED OUTSIDE WALLS

235. SOFT INSIDE WALLS

236. WINDOWS WHICH OPEN WIDE

237. SOLID DOORS WITH GLASS

238. FILTERED LIGHT

239. SMALL PANES

240. HALF-INCH TRIM

build outdoor details to finish the outdoors as fully as the indoor spaces;

241. SEAT SPOTS

242. FRONT DOOR BENCH

243. SITTING WALL

244. CANVAS ROOFS

245. RAISED FLOWERS

246. CLIMBING PLANTS

247. PAVING WITH CRACKS BETWEEN THE STONES

248. SOFT TILE AND BRICK

complete the building with ornament and light and color and your own things;

249. ORNAMENT

250. WARM COLORS

251. DIFFERENT CHAIRS

252. POOLS OF LIGHT

253. THINGS FROM YOUR LIFE

## CHOOSING A LANGUAGE FOR YOUR PROJECT

All 253 patterns together form a language. They create a coherent picture of an entire region, with the power to generate such regions in a million forms, with infinite variety in all the details.

It is also true that any small sequence of patterns from this language is itself a language for a smaller part of the environment; and this small list of patterns is then capable of generating a million parks, paths, houses, workshops, or gardens.

For example, consider the following ten patterns:

PRIVATE TERRACE ON THE STREET (140)
SUNNY PLACE (161)
OUTDOOR ROOM (163)
SIX-FOOT BALCONY (167)
PATHS AND GOALS (120)
CEILING HEIGHT VARIETY (190)
COLUMNS AT THE CORNERS (212)
FRONT DOOR BENCH (242)
RAISED FLOWERS (245)
DIFFERENT CHAIRS (251)

This short list of patterns is itself a language: it is one of a thousand possible languages for a porch, at the front of a house. One of us chose this small language, to build

a porch onto the front of his house. This is the way the language, and its patterns, helped to generate this porch.

I started with PRIVATE TERRACE ON THE STREET (140). That pattern calls for a terrace, slightly raised, connected to the house, and on the street side. SUNNY PLACE (161) suggests that a special place on the sunny side of the yard should be intensified and made into a place by the use of a patio, balcony, outdoor room, etc. I used these two patterns to locate a raised platform on the south side of the house.

To make this platform into an OUTDOOR ROOM (163), I put it half under the existing roof overhang, and kept a mature pyracanthus tree right smack in the middle of the platform. The overhead foliage of the tree added to the roof-like enclosure of the space. I put a wind screen of fixed glass on the west side of the platform too, to give it even more enclosure.

I used SIX-FOOT BALCONY (167) to determine the size of the platform. But this pattern had to be used judiciously and not blindly—the reasoning for the pattern has to do with the minimum space required for people to sit comfortably and carry on a discussion around a small side-table. Since I wanted space for at least two of these conversation areas—one under the roof for very hot or rainy days, and one out under the sky for days when you wanted to be full in the sun, the balcony had to be made 12 x 12 feet square.

NOW PATHS AND GOALS (120): Usually, this pattern deals with large paths in a neighborhood, and comes much earlier in a language. But I used it in a special way. It says that the paths which naturally get formed by people's walking, on the land, should be preserved and intensified. Since the path to our front door cut right across the corner of the place where I had planned to put the platform, I cut the corner of the platform off.

The height of the platform above the ground was determined by CEILING HEIGHT VARIETY (190). By building the platform approximately one foot above the ground line, the ceiling height of the covered portion came out at between 6 and 7 feet—just right for a space as small as this. Since this height above the ground level is just about right for sitting, the pattern FRONT DOOR BENCH (242) was automatically satisfied.

There were three columns standing, supporting the roof over

the old porch. They had to stay where they are, because they hold the roof up. But, following COLUMNS AT THE CORNERS (212), the platform was very carefully tailored to their positions—so that the columns help define the social spaces on either side of them.

Finally, we put a couple of flower boxes next to the "front door bench"—it's nice to smell them when you sit there—according to RAISED FLOWERS (245). And the old chairs you can see in the porch are DIFFERENT CHAIRS (251).

You can see, from this short example, how powerful and simple a pattern language is. And you are now, perhaps ready to appreciate how careful you must be, when you construct a language for yourself and your own project.

*The finished porch*

The character of the porch is given by the ten patterns in this short language. In just this way, each part of the environment is given its character by the collection of patterns which we choose to build into it. The character of what you build, will be given to it by the language of patterns you use, to generate it.

For this reason, of course, the task of choosing a language for your project is fundamental. The pattern language we have given here contains 253 patterns. You can therefore use it to generate an almost unimaginably large number of possible different smaller languages, for all the different projects you may choose to do, simply by picking patterns from it.

We shall now describe a rough procedure by which you can choose a language for your own project, first by taking patterns from this language we have printed here, and then by adding patterns of your own.

1. First of all, make a copy of the master sequence (pages xix–xxxiv) on which you can tick off the patterns which will form the language for your project. If you don't have access to a copying machine, you can tick off patterns in the list printed in the book, use paper clips to mark pages, write your own list, use paper markers—whatever you like. But just for now, to explain it clearly, we shall assume that you have a copy of the list in front of you.

2. Scan down the list, and find the pattern which best describes the overall scope of the project you have in mind. This is the starting pattern for your project. Tick it. (If there are two or three possible candidates, don't worry: just pick the one which seems best: the others will fall in place as you move forward.)

3. Turn to the starting pattern itself, in the book, and read it through. Notice that the other patterns mentioned by name at the beginning and at the end, of the pattern you are reading, are also possible candidates for your language. The ones at the beginning will tend to be "larger" than your project. Don't include them, unless

you have the power to help create these patterns, at least in a small way, in the world around your project. The ones at the end are "smaller." Almost all of them will be important. Tick all of them, on your list, unless you have some special reason for not wanting to include them.

4. Now your list has some more ticks on it. Turn to the next highest pattern on the list which is ticked, and open the book to that pattern. Once again, it will lead you to other patterns. Once again, tick those which are relevant—especially the ones which are "smaller" that come at the end. As a general rule, do not tick the ones which are "larger" unless you can do something about them, concretely, in your own project.

5. When in doubt about a pattern, don't include it. Your list can easily get too long: and if it does, it will become confusing. The list will be quite long enough, even if you only include the patterns you especially like.

6. Keep going like this, until you have ticked all the patterns you want for your project.

7. Now, adjust the sequence by adding your own material. If there are things you want to include in your project, but you have not been able to find patterns which correspond to them, then write them in, at an appropriate point in the sequence, near other patterns which are of about the same size and importance. For example, there is no pattern for a sauna. If you want to include one, write it in somewhere near BATHING ROOM (144) in your sequence.

8. And of course, if you want to change any patterns, change them. There are often cases where you may have a personal version of a pattern, which is more true, or

more relevant for you. In this case, you will get the most "power" over the language, and make it your own most effectively, if you write the changes in, at the appropriate places in the book. And, it will be most concrete of all, if you change the name of the pattern too—so that it captures your own changes clearly.

Suppose now that you have a language for your project. The way to use the language depends very much on its scale. Patterns dealing with towns can only be implemented gradually, by grass roots action; patterns for a building can be built up in your mind, and marked out on the ground; patterns for construction must be built physically, on the site. For this reason we have given three separate instructions, for these three different scales. For towns, see page 3; for buildings, see page 463; for construction, see page 935.

The procedures for each of these three scales are described in much more detail with extensive examples, in the appropriate chapters of *The Timeless Way of Building*. For the town—see chapters 24 and 25; for an individual building—see chapters 20, 21, and 22; and for the process of construction which describes the way a building is actually built see chapter 23.

## THE POETRY OF THE LANGUAGE

Finally, a note of caution. This language, like English, can be a medium for prose, or a medium for poetry. The difference between prose and poetry is not that different languages are used, but that the same language is used, differently. In an ordinary English sentence, each word has one meaning, and the sentence too, has one simple meaning. In a poem, the meaning is far more dense. Each word carries several meanings; and the sentence as a whole carries an enormous density of interlocking meanings, which together illuminate the whole.

The same is true for pattern languages. It is possible to make buildings by stringing together patterns, in a rather loose way. A building made like this, is an assembly of patterns. It is not dense. It is not profound. But it is also possible to put patterns together in such a way that many many patterns overlap in the same physical space: the building is very dense; it has many meanings captured in a small space; and through this density, it becomes profound.

In a poem, this kind of density, creates illumination, by making identities between words, and meanings, whose identity we have not understood before. In "O Rose thou art sick," the rose is identified with many

greater, and more personal things than any rose—and the poem illuminates the person, and the rose, because of this connection. The connection not only illuminates the words, but also illuminates our actual lives.

O Rose thou art sick.
The invisible worm,
That flies in the night
In the howling storm:

Has found out thy bed
Of crimson joy:
And his dark secret love
Does thy life destroy.

WILLIAM BLAKE

The same exactly, happens in a building. Consider, for example, the two patterns BATHING ROOM (144) and STILL WATER (71). One defines a part of a house where you can bathe yourself slowly, with pleasure, perhaps in company; a place to rest your limbs, and to relax. The other is a place in a neighborhood, where this is water to gaze into, perhaps to swim in, where children can sail boats, and splash about, which nourishes those parts of ourselves which rely on water as one of the great elements of the unconscious.

Suppose now, that we make a complex of buildings where individual bathing rooms are somehow connected to a common pond, or lake, or pool—where the bathing room merges with this common place; where there is no sharp distinction between the individual and family processes of the bathing room, and the common pleasure of the common pool. In this place, these two patterns

exist in the same space; they are identified; there is a compression of the two, which requires less space, and which is more profound than in a place where they are merely side by side. The compression illuminates each of the patterns, sheds light on its meaning; and also illuminates our lives, as we understand a little more about the connections of our inner needs.

But this kind of compression is not only poetic and profound. It is not only the stuff of poems and exotic statements, but to some degree, the stuff of every English sentence. To some degree, there is compression in every single word we utter, just because each word carries the whisper of the meanings of the words it is connected to. Even "Please pass the butter, Fred" has some compression in it, because it carries overtones that lie in the connections of these words to all the words which came before it.

Each of us, talking to our friends, or to our families, makes use of these compressions, which are drawn out from the connections between words which are given by the language. The more we can feel all the connections in the language, the more rich and subtle are the things we say at the most ordinary times.

And once again, the same is true in building. The compression of patterns into a single space, is not a poetic and exotic thing, kept for special buildings which are works of art. It is the most ordinary economy of space. It is quite possible that all the patterns for a house might, in some form be present, and overlapping, in a simple one-room cabin. The patterns do not need to be strung out, and kept separate. Every building, every room,

every garden is better, when all the patterns which it needs are compressed as far as it is possible for them to be. The building will be cheaper; and the meanings in it will be denser.

It is essential then, once you have learned to use the language, that you pay attention to the possibility of compressing the many patterns which you put together, in the smallest possible space. You may think of this process of compressing patterns, as a way to make the cheapest possible building which has the necessary patterns in it. It is, also, the only way of using a pattern language to make buildings which are poems.

# 18 NETWORK OF LEARNING*

. . . another network, not physical like transportation, but conceptual, and equal in importance, is the network of learning: the thousands of interconnected situations that occur 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—become 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 critique is extensive and can hardly be improved on. The processes of learning and teaching, too, have been exhaustively studied. . . . The question now is what to do. (George Dennison, *Lives of Children*, New York: Vintage Books, 1969, p. 3.)

To date, the most penetrating analysis and proposal for an alternative framework for education comes from Ivan Illich in his book, *De-Schooling Society*, and his article, "Education without Schools: How It Can Be Done," in the *New York Review of Books*, New York, 15 (12): 25–31, special supplement, July 1971.

Illich describes a style of learning that is quite the opposite from schools. It is geared especially to the rich opportunities for learning that are natural to every metropolitan area:

The alternative to social control through the schools is the voluntary participation in society through *networks* which provide access to all its resources for learning. In fact these networks now exist, but they are rarely used for educational purposes. The crisis of schooling, if it is to have any positive consequence, will 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 secrets can be known only in orderly successions; and that only teachers can properly reveal these secrets. An individual with a schooled mind conceives of the world as a pyramid of classified packages accessible only to those who carry the proper tags.

*New educational institutions would break apart this pyramid. Their purpose must be to facilitate access for the learner: to allow him to look into the windows of the control room or the parliament, if he cannot get in the door.* Moreover, such new institutions should be channels to which the learner would have access without credentials or pedigree—public spaces in which peers and elders outside his immediate horizon now become available. . . .

While network administrators would concentrate primarily on the building and maintenance of roads providing access to resources, the pedagogue would help the student to find the path which for him could lead fastest to his goal. If a student wants to learn spoken Cantonese from a Chinese neighbor, the pedagogue would be available to judge their proficiency, and to help them select the textbook and methods most suitable to their talents, character, and the time available for study. He can counsel the would-be airplane mechanic on finding the best places for apprenticeship. He can recommend books to somebody who wants to find challenging peers to discuss African history. Like the network administrator, the pedagogical counselor conceives of himself as a professional educator. Access to either could be gained by individuals through the use of educational vouchers. . . .

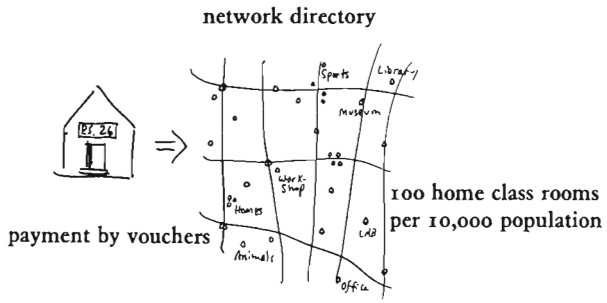
In addition to the tentative conclusions of the Carnegie Commission reports, the last year has brought forth a series of important documents which show that responsible people are becoming aware of the fact that schooling for certification cannot continue to be counted upon as the central educational device of a modern society. Julius Nyere of Tanzania has announced plans to integrate education with the life of the village. In Canada, the Wright Commission on post-secondary education has reported that no known system of formal education could provide equal opportunities for the citizens of Ontario. The president of Peru has accepted the recommendation of his commission on education, which proposes to abolish free schools in favor of free educational opportunities provided throughout life. In fact he is reported to have insisted that this program proceed slowly at first in order to keep teachers in school and out of the way of true educators. (Abridged from pp. 76 and 99 in *Deschooling Society* by Ivan Illich. Vol. 44 in World Perspectives Series, edited by Ruth Nanda Anshen, New York: Harper & Row, 1971.)

In short, the educational system so radically decentralized becomes congruent with the urban structure itself. People of all walks of life come forth, and offer a class in the things they know and love: professionals and workgroups offer apprenticeships in their offices and workshops, old people offer to teach whatever their life work and interest has been, specialists offer tutoring in their special subjects. Living and learning are the

same. It is not hard to imagine that eventually every third or fourth household will have at least one person in it who is offering a class or training of some kind.

Therefore:

**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, raised by community tax. Build new educational facilities in a way which extends and enriches this network.**

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Above all, encourage the formation of seminars and workshops in people's homes—HOME WORKSHOP (157); make sure that

each city has a "path" where young children can safely wander on their own—CHILDREN IN THE CITY (57); build extra public "homes" for children, one to every neighborhood at least—CHILDREN'S HOME (86); create a large number of work-oriented small schools in those parts of town dominated by work and commercial activity—SHOPFRONT SCHOOLS (85); encourage teenagers to work out a self-organized learning society of their own—TEENAGE SOCIETY (84); treat the university as scattered adult learning for all the adults in the region—UNIVERSITY AS A MARKETPLACE (43); and use the real work of professionals and tradesmen as the basic nodes in the network—MASTER AND APPRENTICES (83). . . .

# 19 WEB OF SHOPPING*

. . . this pattern defines a piecemeal process which can help to locate shops and services where they are needed, in such a way that they will strengthen the MOSAIC OF SUBCULTURES (8), SUBCULTURE BOUNDARIES (13), and the decentralized economy needed for SCATTERED WORK (9) and LOCAL TRANSPORT AREAS (11).

**Shops rarely place themselves in those positions which best serve the people's needs, and also guarantee their own stability.**

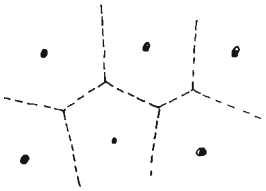
Large parts of towns have insufficient services. New shops which could provide these services often locate near the other shops and major centers, instead of locating themselves where they are needed. In an ideal town, where the shops are seen as part of the society's necessities and not merely as a way of making profit for the shopping chains, the shops would be much more widely and more homogeneously distributed than they are today.

It is also true that many small shops are unstable. Two-thirds of the small shops that people open go out of business within a year. Obviously, the community is not well served by unstable businesses, and once again, their economic instability is largely linked to mistakes of location.

To guarantee that shops are stable, as well as distributed to meet community needs, each new shop must be placed where it will fill a gap among the other shops offering a roughly similar service and also be assured that it will get the threshold of customers which it needs in order to survive. We shall now try to express this principle in precise terms.

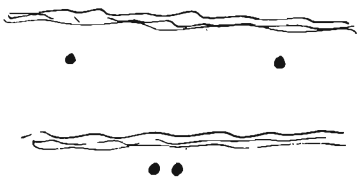
The characteristics of a stable system of shops is rather well known. It relies, essentially, on the idea that each unit of shopping has a certain catch basin—the population which it needs in order

to survive—and that units of any given type and size will therefore be stable if they are evenly distributed, each one at the center of a catch basin large enough to support it.



*Catch basins.*

The reason that shops and shopping centers do not always, automatically, distribute themselves according to their appropriate catch basins is easily explained by the situation known as Hotelling's problem. Imagine a beach in summer time—and, somewhere along the beach, an ice-cream seller. Suppose now, that you are also an ice-cream seller. You arrive on the beach. Where should you place yourself in relation to the first ice-cream seller? There are two possible solutions.



*Two approaches to the ice-cream problem.*

In the first case, you essentially decide to split the beach with the other ice-cream seller. You take half the beach, and leave him half the beach. In this case, you place yourself as far away from him as you can, in a position where half the people on the beach are nearer to you than to him.

In the second case, you place yourself right next to him. You decide, in short, to try and compete with him—and place yourself in such a way as to command the whole beach, not half of it.

Every time a shop, or shopping center opens, it faces a similar choice. It can either locate in a new area where there are no other competing businesses, or it can place itself exactly where all the other businesses are already in the hope of attracting their customers away from them.

The trouble is, very simply, that people tend to choose the second of these two alternatives, because it seems, on the surface, to be safer. In fact, however, the first of the two choices is both better and safer. It is better for the customers, who then have stores to serve them closer to their homes and work places than they do now; and it is safer for the shopkeepers themselves since—in spite of appearances—their stores are much more likely to survive when they stand, without competition, in the middle of a catch basin which needs their services.

Let us now consider the global nature of a web which has this character. In present cities, shops of similar types tend to be clustered in shopping centers. They are forced to cluster, in part because of zoning ordinances, which forbid them to locate in so-called residential areas; and they are encouraged to cluster by their mistaken notion that competition with other shops will serve them better than roughly equal sharing of the available customers. In the "peoples" web we are proposing, shops are far more evenly spread out, with less emphasis on competition and greater emphasis on service. Of course, there will still be competition, enough to make sure that very bad shops go out of business, because each shop will be capable of drawing customers from the nearby catch basins if it offers better service—but the accent is on cooperation instead of competition.

*The existing web.*

*The peoples' web.*

To generate this kind of homogeneous people's web, it is only necessary that each new shop follow the following three-step procedure when it chooses a location:

1. Identify all other shops which offer the service you are interested in; locate them on the map.

2. Identify and map the location of potential consumers. Wherever possible, indicate the density or total number of potential consumers in any given area.

3. Look for the biggest gap in the existing web of shops in those areas where there are potential consumers.

*The gap in services.*

Two colleagues of ours have tested the efficiency and potential stability of the webs created by this procedure. ("Computer Simulation of Market Location in an Urban Area," S. Angel and F. Loetterle, CES files, June 1967.) They chose to study markets. They began with a fixed area, a known population density and purchasing power, and a random distribution of markets of different sizes. They then created new markets and killed off old markets according to the following rules. (1) Among all of the existing markets, erase any that do not capture sufficient business to support their given size; (2) among all of the possible locations for a new market, find the one which would most strongly support a new market; (3) find that size for the new market that would be most economically feasible; (4) find that market among all those now existing that is the least economically feasible, and erase it from the web; (5) repeat steps (2) through (4) until no further improvement in the web can be made.

Under the impact of these rules, the random distribution of

markets at the beginning leads gradually to a fluctuating, pulsating distribution of markets which remains economically stable throughout its changes.

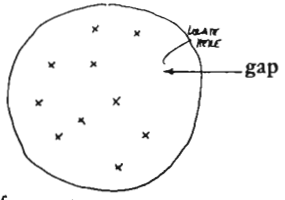
Now of course, even if shops of the *same* kind are kept apart by this procedure, shops of *different* kinds will tend to cluster. This follows, simply, from the convenience of the shopper. If we follow the rules of location given above—always locating a new shop in the biggest gap in the web of similar shops—then, within that gap there are still quite a large number of different possible places to locate: and naturally, we shall try to locate near the largest cluster of other shops within that gap, to increase the number of people coming past the shop, in short, to make it more convenient for shoppers.

The clusters which emerge have been thoroughly studied by Berry. It turns out that the *levels* of clustering are remarkably similar, even though their spacing varies greatly according to population density. (See *Geography of Market Centers and Retail Distribution,* B. Berry, Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1967, pp. 32–33.) The elements in this web of clustering correspond closely to patterns defined in this language.

Therefore:

**When you locate any individual shop, follow a three-step procedure:**

1. **Identify all other shops which offer the service you are interested in; locate them on the map.**
2. **Identify and map the location of potential consumers. Wherever possible, indicate the density or total number of potential consumers in any given area.**
3. **Look for the biggest gap in the existing web of shops in those areas where there are potential consumers.**
4. **Within the gap in the web of similar shops, locate your shop next to the largest cluster of other kinds of shops.**




shops of same type

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We estimate, that under the impact of this rule, a web of shopping with the following overall characteristics will emerge:

| | Population | Distance Apart (Miles) |
|---|---|---|
| MAGIC OF THE CITY (10) | 300,000 | 10* |
| PROMENADES (31) | 50,000 | 4* |
| SHOPPING STREETS (32) | 10,000 | 1.8* |
| MARKETS OF MANY SHOPS (46) | 4,000 | 1.1* |
| CORNER GROCERIES (89) | 1,000 | 0.5* |

* These distances are calculated for an overall population density of 5000 per square mile. For a population density of D persons/square mile, divide the distances by $\sqrt{D/5000}$. . . .

# 20 MINI-BUSES*

. . . this pattern helps complete the LOCAL TRANSPORT AREAS (11) and the WEB OF PUBLIC TRANSPORTATION (16). The local transport areas rely heavily on foot traffic, and on bikes and carts and horses. The web of public transportation relies on trains and planes and buses. Both of these patterns need a more flexible kind of public transportation to support them.

**Public transportation must be able to take people from any point to any other point within the metropolitan area.**

Buses and trains, which run along lines, are too far from most origins and destinations to be useful. Taxis, which can go from point to point, are too expensive.

To solve the problem, it is necessary to have a kind of vehicle which is half way between the two—half like a bus, half like a taxi—a small bus which can pick up people at any point and take them to any other point, but which may also pick up other passengers on the way, to make the trip less costly than a taxi fare.

Recent research, and full-scale experiments, have shown that a system of mini-buses, on call by telephone, can function in this fashion, taking people from door to door in 15 minutes, for no more than 50 cents a ride (1974): and that the system is efficient enough to support itself. It works just like a taxi, except that it picks up and drops off other passengers while you are riding; it goes to the nearest corner to save time—not to your own front door; and it costs a quarter of an average taxi fare.

The system hinges, to a certain extent, on the development of sophisticated new computer programs. As calls come in, the computer examines the present movements of all the various mini-buses, each with its particular load of passengers, and decides which bus can best afford to pick up the new passenger, with the least detour. Two-way radio contact keeps the mini-buses in communication with the dispatcher at the computer switchboard. All this, and other details, are discussed fully in a review of current


*Canadian mini-bus.*

dial-a-bus research: *Summary Report—The Dial-a-Ride Transportation System,* M.I.T. Urban Systems Laboratory, Report # USL-TR-70-10, March 1971.

Dial systems for buses are actually coming into existence now because they are economically feasible. While conventional fixed-route public transport systems are experiencing a dangerous spiral of lower levels of service, fewer passengers, and increased public subsidies, over 30 working dial-a-bus systems are presently in successful operation throughout the world. For example, a dial-a-bus system in Regina, Saskatchewan, is the *only* part of the Regina Transit System which supports itself (*Regina Telebus Study: Operations Report, and Financial Report,* W. G. Atkinson et al., June 1972). In Batavia, New York, dial-a-bus is the sole means of public transport, serving a population of 16,000 at fares of 40 to 60 cents per ride.

We finish this pattern by reminding the reader of two vital problems of public transportation, which underline the importance of the mini-bus approach.

First, there are very large numbers of people in cities who cannot drive; we believe the mini-bus system is the only realistic way of meeting the needs of all these people.

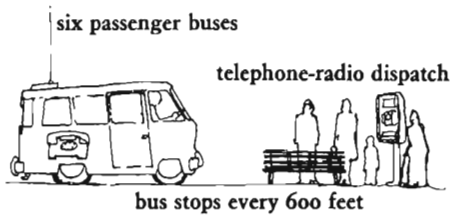
Their numbers are much larger than one would think. They are, in effect, a silent minority comprising the uncomplaining old and physically handicapped, the young and the poor. In 1970, over 20 percent of U.S. households did not own a car. Fifty-seven and five-tenths percent of all households with incomes under $3000 did not own a car. For households headed by persons 65 years of age or older, 44.9 percent did not own a car. Of the youths between 10 and 18 years of age, 80 percent are dependent on others, including public

transit, for their mobility. Among the physically disabled about 5.7 million are potential riders of public transportation if the system could take them door-to-door. (Sumner Myers, "Turning Transit Subsidies into 'Compensatory Transportation,' " *City*, Vol. 6, No. 3, Summer 1972, p. 20.)

Second, quite apart from these special needs, the fact is that a web of public transportation, with large buses, boats, and trains, will not work anyway, without a mini-bus system. The large systems need feeders: some way of getting to the stations. If people have to get in their cars to go to the train, then, once in the car, they stay in it and do not use the train at all. The mini-bus system is essential for the purpose of providing feeder service in the larger web of public transportation.

Therefore:

**Establish a system of small taxi-like buses, carrying up to six people each, radio-controlled, on call by telephone, able to provide point-to-point service according to the passengers' needs, and supplemented by a computer system which guarantees minimum detours, and minimum waiting times. Make bus stops for the mini-buses every 600 feet in each direction, and equip these bus stops with a phone for dialing a bus.**

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Place the bus stops mainly along major roads, as far as this can be consistent with the fact that no one ever has to walk more than 600 feet to the nearest one—PARALLEL ROADS (23); put one in every INTERCHANGE (34); and make each one a place where a few minutes' wait is pleasant—BUS STOP (92). . . .

*establish community and neighborhood policy to control the character of the local environment according to the following fundamental principles:*

21. FOUR-STORY LIMIT

22. NINE PER CENT PARKING

23. PARALLEL ROADS

24. SACRED SITES

25. ACCESS TO WATER

26. LIFE CYCLE

27. MEN AND WOMEN

# 26 LIFE CYCLE*

. . . a real community provides, in full, for the balance of human experience and human life—COMMUNITY OF 7000 (12). To a lesser extent, a good neighborhood will do the same—IDENTIFIABLE NEIGHBORHOOD (14). To fulfill this promise, communities and neighborhoods must have the range of things which life can need, so that a person can experience the full breadth and depth of life in his community.

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**All the world's a stage,**
**And all the men and women merely players:**
**They have their exits and their entrances;**
**And one man in his time plays many parts,**
**His acts being seven ages.**

As, first the infant,
Mewling and puking in the nurse's arms.
And then the whining schoolboy, with his satchel
And shining morning face, creeping like snail
Unwillingly to school. And then the lover,
Sighing like furnace, with a woeful ballad
Made to his mistress' eyebrow. Then the soldier,
Full of strange oaths, and bearded like the pard,
Jealous in honour, sudden and quick in quarrel,
Seeking the bubble reputation
Even in the cannon's mouth. And then the justice,
In fair round belly with good capon lined,
With eyes severe and beard of formal cut,
Full of wise saws and modern instances;
And so he plays his part. The sixth age shifts
Into the lean and slipper'd pantaloon,
With spectacles on nose and pouch on side;
His youthful hose, well saved, a world too wide
For his shrunk shank; and his big manly voice,
Turning again toward childish treble, pipes
And whistles in his sound. Last scene of all,
That ends this strange eventful history,
Is second childishness and mere oblivion,
Sans teeth, sans eyes, sans taste, sans every thing.
(Shakespeare, *As You Like It*, II.viii.)

To live life to the fullest, in each of the seven ages, each age must be clearly marked, by the community, as a distinct well-marked time. And the ages will only seem clearly marked if the

ceremonies which mark the passage from one age to the next are firmly marked by celebrations and distinctions.

By contrast, in a flat suburban culture the seven ages are not at all clearly marked; they are not celebrated; the passages from one age to the next have almost been forgotten. Under these conditions, people distort themselves. They can neither fulfill themselves in any one age nor pass successfully on to the next. Like the sixty-year-old woman wearing bright red lipstick on her wrinkles, they cling ferociously to what they never fully had.

This proposition hinges on two arguments.

A. The cycle of life is a definite psychological reality. It consists of discrete stages, each one fraught with its own difficulties, each one with its own special advantages.

B. Growth from one stage to another is not inevitable, and, in fact, it will not happen unless the community contains a balanced life cycle.

## *A. The Reality of the Life Cycle.*

Everyone can recognize the fact that a person's life traverses several stages—infancy to old age. What is perhaps not so well understood is the idea that each stage is a discrete reality, with its own special compensations and difficulties; that each stage has certain characteristic experiences that go with it.

The most inspired work along these lines has come from Erik Erikson: "Identity and the Life Cycle," in *Psychological Issues*, Vol. 1, No. 1, New York: International Universities Press, 1959; and *Childhood and Society*, New York: W. W. Norton, 1950.

Erikson describes the sequence of phases a person must pass through as he matures and suggests that each phase is characterized by a specific developmental task—a successful resolution of some life conflict—and that this task must be solved by a person before he can move wholeheartedly forward to the next phase. Here is a summary of the stages in Erikson's scheme, adapted from his charts:

1. *Trust vs. mistrust:* the infant; relationship between the infant and mother; the struggle for confidence that the environment will nourish.

2. *Autonomy vs. shame and doubt:* the very young child; relationship between the child and parents; the struggle to stand on

one's own two feet, to find autonomy in the face of experiences of shame and doubt as to one's capacity for self-control.

3. *Initiative vs. guilt:* the child; relationship to the family, the ring of friends; the search for action, and the integrity of one's acts; to make and eagerly learn, checked by the fear and guilt of one's own aggressions.

4. *Industry vs. inferiority:* the youngster; relationship to the neighborhood, the school; adaptation to the society's tools; the sense that one can make things well, alone, and with others, against the experience of failure, inadequacy.

5. *Identity vs. identity diffusion:* youth, adolescence; relationship to peers and "outgroups" and the search for models of adult life; the search for continuity in one's own character against confusion and doubt; a moratorium; a time to find and ally oneself with creeds and programs of the world.

6. *Intimacy vs. isolation:* young adults; partners in friendship, sex, work; the struggle to commit oneself concretely in relations with others; to lose and find oneself in another, against isolation and the avoidance of others.

7. *Generativity vs. stagnation:* adults; the relationship between a person and the division of labor, and the creation of a shared household; the struggle to establish and guide, to create, against the failure to do so, and the feelings of stagnation.

8. *Integrity vs. despair:* old age; the relationship between a person and his world, his kind, mankind; the achievement of wisdom; love for oneself and one's kind; to face death openly, with the forces of one's life integrated; vs. the despair that life has been useless.

### *B. But growth through the life cycle is not inevitable.*

It depends on the presence of a balanced community, a community that can sustain the give and take of growth. Persons at each stage of life have something irreplaceable to give and to take from the community, and it is just these transactions which help a person to solve the problems that beset each stage. Consider the case of a young couple and their new child. The connection between them is entirely mutual. Of course, the child "depends" on the parents to give the care and love that is required to resolve the conflict of trust that goes with infancy. But simultaneously,

the child gives the parents the experience of raising and bearing, which helps them to meet their conflict of generativity, unique to adulthood.

> We distort the situation if we abstract it in such a way that we consider the parent as "having" such and such a personality when the child is born and then, remaining static, impinging upon a poor little thing. For this weak and changing little being moves the whole family along. Babies control and bring up their families as much as they are controlled by them; in fact, we may say that the family brings up a baby by being brought up by him. Whatever reaction patterns are given biologically and whatever schedule is predetermined developmentally must be considered to be a series of potentialities for changing patterns of mutual regulation. [Erikson, ibid. p. 69.]

Similar patterns of mutual regulation occur between the very old and the very young; between adolescents and young adults, children and infants, teenagers and younger teenagers, young men and old women, young women and old men, and so on. And these patterns must be made viable by prevailing social institutions and those parts of the environment which help to maintain them —the schools, nurseries, homes, cafes, bedrooms, sports fields, workshops, studios, gardens, graveyards. . . .

We believe, however, that the balance of settings which allow normal growth through the life cycle has been breaking down. Contact with the entire cycle of life is less and less available to each person, at each moment in time. In place of natural communities with a balanced life cycle we have retirement villages, bedrooms suburbs, teenage culture, ghettos of unemployed, college towns, mass cemeteries, industrial parks. Under such conditions, one's chances for solving the conflict that comes with each stage in the life cycle are slim indeed.

To re-create a community of balanced life cycles requires, first of all, that the idea take its place as a principal guide in the development of communities. *Each building project, whether the addition to a house, a new road, a clinic, can be viewed as either helping or hindering the right balance for local communities.* We suspect that the community repair maps, discussed in *The Oregon Experiment*, Chapter V (Volume 3 in this series), can play an especially useful role in helping to encourage the growth of a balanced life cycle.

But this pattern can be no more than an indication of work

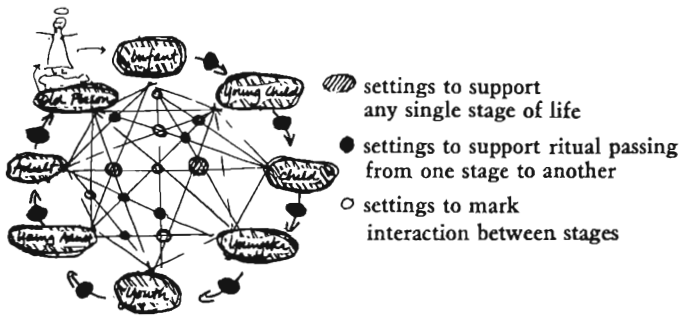
that needs to be done. Each community must find ways of taking stock of its own relative "balance" in this respect, and then define a growth process which will move it in the right direction. This is a tremendously interesting and vital problem; it needs a great deal of development, experiment, and theory. If Erikson is right, and if this kind of work does not come, it seems possible that the development of trust, autonomy, initiative, industry, identity, intimacy, generativity, integrity may disappear entirely.

| STAGE | IMPORTANT SETTINGS | RITES OF PASSAGE |
|---|---|---|
| 1. INFANT *Trust* | Home, crib, nursery, garden | Birth place, setting up the home . . . . out of the crib, making a place |
| 2. YOUNG CHILD *Autonomy* | Own place, couple's realm, children's realm, commons, connected play | Walking, making a place, special birthday |
| 3. CHILD *Initiative* | Play space, own place, common land, neighborhood, animals | First ventures in town . . . . joining |
| 4. YOUNGSTER *Industry* | Children's home, school, own place, adventure play, club, community | Puberty rites, private entrance paying your way |
| 5. YOUTH *Identity* | Cottage, teenage society, hostels, apprentice, town and region | Commencement, marriage, work, building |
| 6. YOUNG ADULT *Intimacy* | Household, couple's realm, small work group, the family, network of learning | Birth of a child, creating social wealth . . building |
| 7. ADULT *Generativity* | Work community, the family town hall, a room of one's own | Special birthday, gathering, change in work |
| 8. OLD PERSON *Integrity* | Settled work, cottage, the family, independent regions | Death, funeral, grave sites |

Therefore:

**Make certain that the full cycle of life is represented and balanced in each community. Set the ideal of a balanced life cycle as a principal guide for the evolution of communities. This means:**

1. **That each community include a balance of people at every stage of the life cycle, from infants to the very old; and include the full slate of settings needed for all these stages of life;**
2. **That the community contain the full slate of settings which best mark the ritual crossing of life from one stage to the next.**

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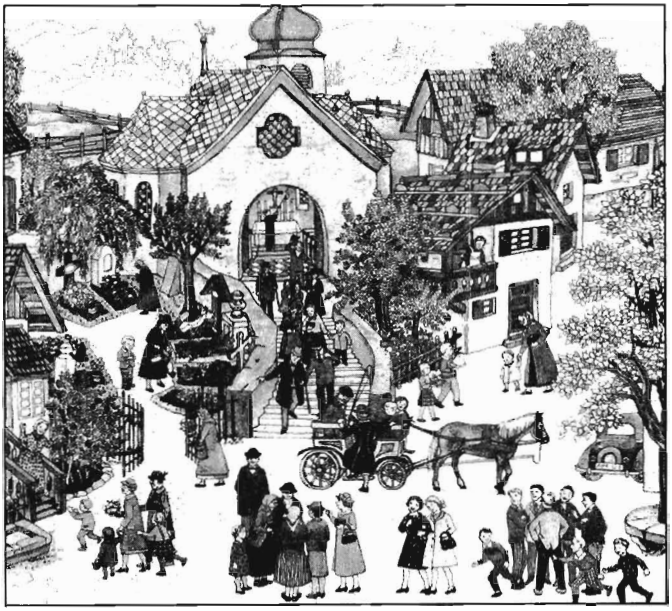
The rites of passage are provided for, most concretely, by HOLY GROUND (66). Other specific patterns which especially support the seven ages of man and the ceremonies of transition are HOUSEHOLD MIX (35), OLD PEOPLE EVERYWHERE (40), WORK COMMUNITY (41), LOCAL TOWN HALL (44), CHILDREN IN THE CITY (57), BIRTH PLACES (65), GRAVE SITES (70), THE FAMILY (75), YOUR OWN HOME (79), MASTER AND APPRENTICES (83), TEENAGE SOCIETY (84), SHOPFRONT SCHOOLS (85), CHILDREN'S HOME (86), ROOMS TO RENT (153), TEENAGER'S COTTAGE (154), OLD AGE COTTAGE (155), SETTLED WORK (156), MARRIAGE BED (187).

# 30 ACTIVITY NODES**



. . . this pattern forms those essential nodes of life which help to generate IDENTIFIABLE NEIGHBORHOOD (14), PROMENADE (31), NETWORK OF PATHS AND CARS (52), and PEDESTRIAN STREET (100). To understand its action, imagine that a community and its boundary are growing under the influence of COMMUNITY OF 7000 (12), SUBCULTURE BOUNDARY (13), IDENTIFIABLE NEIGHBORHOOD (14), NEIGHBORHOOD BOUNDARY (15), ECCENTRIC NUCLEUS (28), and DENSITY RINGS (29). As they grow, certain "stars" begin to form, where the most important paths meet. These stars are potentially the vital spots of a community. The growth of these stars and of the paths which form them need to be guided to form genuine community crossroads.

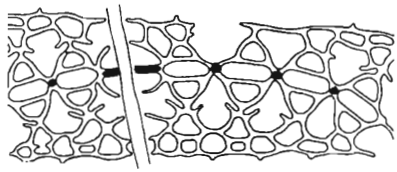
## Community facilities scattered individually through the city do nothing for the life of the city.

One of the greatest problems in existing communities is the fact that the available public life in them is spread so thin that it has no impact on the community. It is not in any real sense available to the members of the community. Studies of pedestrian behavior make it clear that people seek out concentrations of other people, whenever they are available (for instance, Jan Gehl, "Mennesker til Fods (Pedestrians)," *Arkitekten*, No. 20, 1968).

To create these concentrations of people in a community, facilities must be grouped densely round very small public squares which can function as nodes—with all pedestrian movement in the community organized to pass through these nodes. Such nodes require four properties.

First, each node must draw together the main paths in the surrounding community. The major pedestrian paths should converge on the square, with minor paths funneling into the major ones, to create the basic star-shape of the pattern. This is much harder to do than one might imagine. To give an example of the difficulty which arises when we try to build this relationship into a town, we show the following plan—a scheme of

ours for housing in Peru—in which the paths are all convergent on a very small number of squares.



*Public paths converge on centers of action.*

This is not a very good plan—it is too stiff and formal. But it is possible to achieve the same relationship in a far more relaxed manner. In any case the relationship between paths, community facilities, and squares is vital and hard to achieve. It must be taken seriously, from the very outset, as a major feature of the city.

Second, to keep the activity concentrated, it is essential to make the squares rather small, smaller than one might imagine. A square of about 45 × 60 feet can keep the normal pace of public life well concentrated. This figure is discussed in detail under SMALL PUBLIC SQUARE (61).

Third, the facilities grouped around any one node must be chosen for their symbiotic relationships. It is not enough merely to group communal functions in so-called community centers. For example, church, cinema, kindergarten, and police station are all community facilities, but they do not support one another mutually. Different people go to them, at different times, with different things in mind. There is no point in grouping them together. To create intensity of action, the facilities which are placed together round any one node must function in a cooperative manner, and must attract the same kinds of people, at the same times of day. For example, when evening entertainments are grouped together, the people who are having a night out can use any one of them, and the total concentration of action increases—see NIGHT LIFE (33). When kindergartens and small parks and gardens are grouped together, young families with children may use either, so their total attraction is increased.

Fourth, these activity nodes should be distributed rather evenly

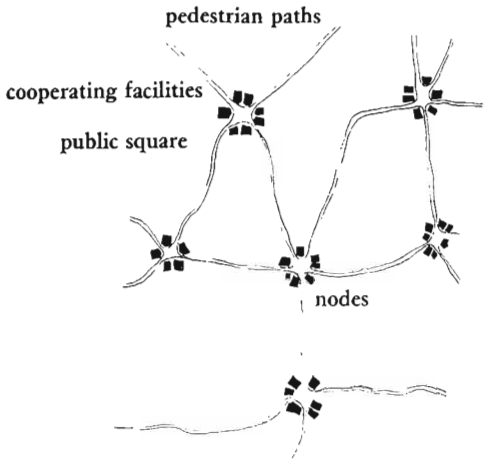
across the community, so that no house or workplace is more than a few hundred yards from one. In this way a contrast of "busy and quiet" can be achieved at a small scale—and large dead areas can be avoided.

*Nodes of different size.*

Therefore:

**Create nodes of activity throughout the community, spread about 300 yards apart. First identify those existing spots in the community where action seems to concentrate itself. Then modify the layout of the paths in the community to bring as many of them through these spots as possible. This makes each spot function as a "node" in the**

**path network. Then, at the center of each node, make a small public square, and surround it with a combination of community facilities and shops which are mutually supportive.**

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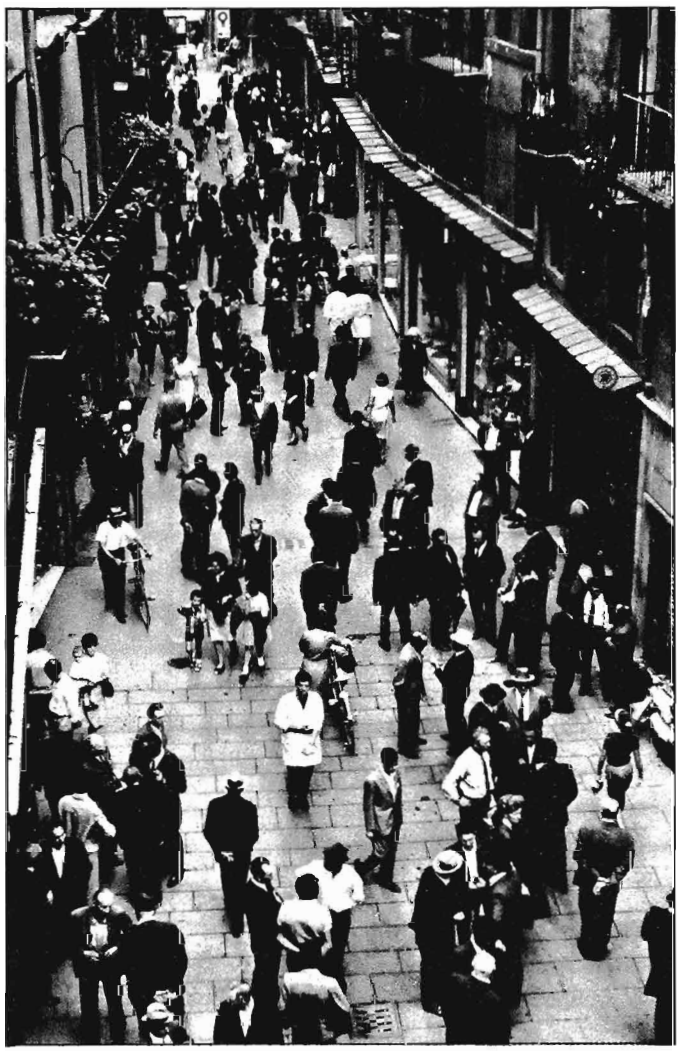
Connect those centers which are most dense, with a wider, more important path for strolling—PROMENADE (31); make special centers for night activities—NIGHT LIFE (33); whenever new paths are built, make certain that they pass through the centers, so that they intensify the life still further—PATHS AND GOALS (120); and differentiate the paths so they are wide near the centers and smaller away from them—DEGREES OF PUBLICNESS (36). At the heart of every center, build a small public square—SMALL PUBLIC SQUARES (61), and surround each square with an appropriate mix of mutually self-reinforcing facilities—WORK COMMUNITY (41), UNIVERSITY AS A MARKETPLACE (43), LOCAL TOWN HALL (44), HEALTH CENTER (47), BIRTH PLACES (65), TEENAGE SOCIETY (84), SHOPFRONT SCHOOL (85), INDIVIDUALLY OWNED SHOPS (87), STREET CAFE (88), BEER HALL (90), FOOD STANDS (93). . . .

# 31 PROMENADE**



. . . assume now that there is an urban area, subdivided into subcultures and communities each with its boundaries. Each subculture in the MOSAIC OF SUBCULTURES (8), and each COMMUNITY OF 7000 (12) has a promenade as its backbone. And each promenade helps to form ACTIVITY NODES (30) along its length, by generating the flow of people which the activity nodes need in order to survive.

**Each subculture needs a center for its public life: a place where you can go to see people, and to be seen.**

The promenade, "paseo," "passegiata," evening stroll, is common in the small towns of Italy, Spain, Mexico, Greece, Yugoslavia, Sicily, and South America. People go there to walk up and down, to meet their friends, to stare at strangers, and to let strangers stare at them.

Throughout history there have been places in the city where people who shared a set of values could go to get in touch with each other. These places have always been like street theaters: they invite people to watch others, to stroll and browse, and to loiter:

> In Mexico, in any small town plaza every Thursday and Sunday night with the band playing and the weather mild, the boys walk this way, the girls walk that, around and around, and the mothers and fathers sit on iron-scrolled benches and watch. (Ray Bradbury, "The girls walk this way; the boys walk that way . . ." *West*, Los Angeles Times Sunday Magazine, April 5, 1970.)

In all these places the beauty of the promenade is simply this: people with a shared way of life gather together to rub shoulders and confirm their community.

Is the promenade in fact a purely Latin institution? Our experiments suggest that it is not. The fact is that the kinds of promenades where this strolling happens are not common in a city, and they are especially uncommon in a sprawling urban region. But experiments by Luis Racionero at the Department of

Architecture at the University of California, Berkeley, have shown that wherever the possibility of this public contact *does* exist, people will seek it, as long as it is close enough. Racionero interviewed 37 people in several parts of San Francisco, living various distances from a promenade, and found that people who lived within 20 minutes used it, while people who lived more than 20 minutes away did not.

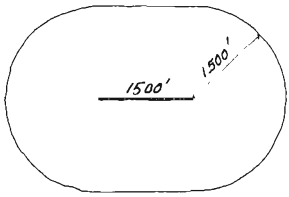
| | Use the promenade | Do not use the promenade |
|---|---|---|
| People who live less than 20 minutes away | 13 | 1 |
| People who live more than 20 minutes away | 5 | 18 |

It seems that people, of all cultures, may have a general need for the kind of human mixing which the promenade makes possible; but that if it is too far, the effort to get there simply outweighs the importance of the need. In short, to make sure that all the people in a city can satisfy this need, there must be promenades at frequent intervals.

Exactly how frequent should they be? Racionero establishes 20 minutes as the upper limit, but his survey does not investigate frequency of use. We know that the closer the promenade is, the more often people will use it. We guess that if the promenade is within 10 minutes or less, people will use it often—perhaps even once or twice a week.

The relation between the catch basin of the promenade, and the actual physical paved area of the promenade itself, is extremely critical. We show in PEDESTRIAN DENSITY (123), that places with less than one person for every 150 to 300 square feet of paved surface, will seem dead and uninviting. It is therefore essential to be certain that the number of people who might, typically, be out strolling on the promenade, is large enough to maintain this pedestrian density along its length. To check this relation, we calculate as follows:

A 10-minute walk amounts to roughly 1500 feet (150 feet per minute), which is probably also about the right length for the promenade itself. This means that the catch basin for a promenade has a shape roughly like this:




*A promenade and its catch basin.*

This area contains 320 acres. If we assume an average density of 50 people per gross acre, then there are 16,000 people in the area. If one-fifth of this population uses the promenade once a week, for an hour between 6 and 10 p.m., then at any given moment between those hours, there are some 100 people on the promenade. If it is 1500 feet long, at 300 square feet per person, it can therefore be 20 feet wide, at the most, and would be better if it were closer to 10 feet wide. It is feasible, but only just.

We see then, that a promenade 1500 feet long, with the catch basin we have defined and the population density stated, should be able to maintain a lively density of activity, provided that it is not more than about 20 feet wide. *We want to emphasize that a promenade will not work unless the pedestrian density is high enough, and that a calculation of this kind must always be made to check its feasibility.*

The preceding figures are meant to be illustrative. They establish a rough order of magnitude for promenades and their catch basin populations. But we have also seen successful promenades for populations of 2000 (a fishing village in Peru); and we have seen a promenade for 2,000,000 (Las Ramblas in Barcelona). They both work, although they are very different in character. The small one with its catch basin of 2000 works, because the cultural habit of the paseo is so strong there, a higher percentage of the people use it more often, and the density of people on the promenade is less than we would imagine—it is so beautiful that people enjoy it even if it is not so crowded. The large one works as a citywide event. People are willing to drive a long distance to it—they may not come as often, but when they do, it is worth the ride—it is exciting—packed—teeming with people.

We imagine the pattern of promenades in a city to be just as varied—a continuum ranging from small local promenades serv-

ing 2000 people to large intense ones serving the entire city—each different in character and density of action.

Finally, what are the characteristics of a successful promenade? Since people come to see people and to be seen, a promenade must have a high density of pedestrians using it. It must therefore be associated with places that in themselves attract people, for example, clusters of eating places and small shops.

*A promenade in Paris.*

Further, even though the real reasons for coming might have to do with seeing people and being seen, people find it easier to take a walk if they have a "destination." This destination may be real, like a coke shop or cafe, or it may be partly imaginary, "let's walk round the block." But the promenade must provide people with a strong goal.

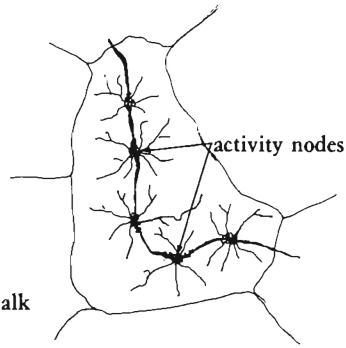
It is also important that people do not have to walk too far between the most important points along the promenade. Informal observation suggests that any point which is more than 150 feet from activity becomes unsavory and unused. In short, good promenades are part of a path through the most active parts of the community; they are suitable as destinations for an evening walk; the walk is not too long, and nowhere on it desolate: no point of the stroll is more than 150 feet from a hub of activity.

A variety of facilities will function as destinations along the promenade: ice cream parlors, coke shops, churches, public gardens, movie houses, bars, volleyball courts. Their potential will depend on the extent to which it is possible to make provisions for people to stay: widening of pedestrian paths, planting of trees, walls to lean against, stairs and benches and niches for sitting,

opening of street fronts to provide sidewalk cafes, or displays of activities or goods where people might like to linger.

Therefore:

**Encourage the gradual formation of a promenade at the heart of every community, linking the main activity nodes, and placed centrally, so that each point in the community is within 10 minutes' walk of it. Put main points of attraction at the two ends, to keep a constant movement up and down.**




No matter how large the promenade is, there must be enough people coming to it to make it dense with action, and this can be precisely calculated by the formula of PEDESTRIAN DENSITY (123). The promenade is mainly marked by concentrations of activity along its length—ACTIVITY NODES (30); naturally, some of these will be open at night—NIGHT LIFE (33); and somewhere on the promenade there will be a concentration of shops—SHOPPING STREET (32). It might also be appropriate to include CARNIVAL (58) and DANCING IN THE STREET (63) in very large promenades. The detailed physical character of the promenade is given by PEDESTRIAN STREET (100) and PATH SHAPE (121). . . .

# 36 DEGREES OF PUBLICNESS**

. . . within the neighborhoods—IDENTIFIABLE NEIGHBORHOOD (14)—there are naturally some areas where life is rather concentrated ACTIVITY NODES (30), others where it is slower, and others in between—DENSITY RINGS (29). It is essential to differentiate groups of houses and the paths which lead to them according to this gradient.

**People are different, and the way they want to place their houses in a neighborhood is one of the most basic kinds of difference.**

Some people want to live where the action is. Others want more isolation. This corresponds to a basic human personality dimension, which could be called the "extrovert-introvert" dimension, or the "community loving–privacy loving" dimension. Those who want the action like being near services, near shops, they like a lively atmosphere outside their houses, and they are happy to have strangers going past their houses all the time. Those who want more isolation like being away from services and shops, enjoy a very small scale in the areas outside their houses, and don't want strangers going past their houses. (See for example, Nancy Marshall, "Orientations Toward Privacy: Environmental and Personality Components," James Madison College, Michigan State University, East Lansing, Michigan.)

The variation of different people along the extrovert-introvert dimension is very well described by Frank Hendricks and Malcolm MacNair in "Concepts of Environmental Quality Standards Based on Life Styles," report to the American Public Health Association, February 12, 1969, pp. 11–15. The authors identify several kinds of persons and characterize each by the relative amount of time spent in extroverted activities and in introverted activities. Francis Loetterle has shed further light on the problem in "Environment Attitudes and Social Life in Santa Clara County," Santa Clara County Planning Department, San Jose,

California, 1967. He asked 3300 households how far they wanted to be from various community services. The results were: 20 per cent of the households interviewed wanted to be located less than three blocks from commercial centers; 60 per cent wanted to be located between four and six blocks away; 20 per cent wanted to be located more than six blocks away (mean block size in Santa Clara County is 150 yards). The exact distances apply only to Santa Clara. But the overall result overwhelmingly supports our contention that people vary in this way and shows that they have quite different needs as far as the location and character of houses is concerned.

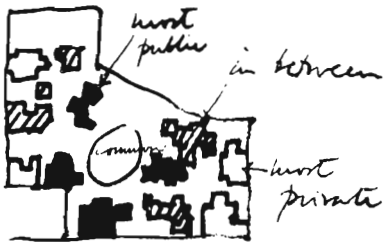
To make sure that the different kinds of people can find houses which satisfy their own particular desires, we suggest that each cluster of houses, and each neighborhood should have three kinds of houses, in about equal numbers: those which are nearest to the action, those which are half-way between, and those which are almost completely isolated. And, to support this pattern we need, also, three distinct kinds of paths:

1. Paths along services, wide and open for activities and crowds, paths that connect activities and encourage busy through traffic.

2. Paths remote from services, narrow and twisting, to discourage through traffic, with many at right angles and dead ends.

3. Intermediate types of paths linking the most remote and quiet paths to the most central and busy ones.

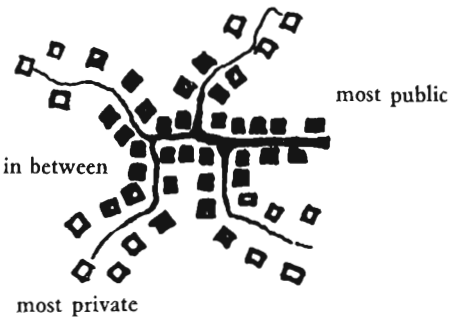
This pattern is as important in the design of a cluster of a few houses as it is in the design of a neighborhood. When we were helping a group of people to design their own cluster of houses, we first asked each person to consider his preference for location on the basis of extrovert-introvert. Three groups emerged: four "extroverts" who wished to be as near the pedestrian and community action as possible, four "introverts" who desired as much remoteness and privacy as possible, and the remaining four who wanted a bit of both. The site plan they made, using this pattern, is shown below, with the positions which the three kinds of people chose.




*In one house cluster: private homes, public homes, and in-between.*

Therefore:

Make a clear distinction between three kinds of homes —those on quiet backwaters, those on busy streets, and those that are more or less in between. Make sure that those on quiet backwaters are on twisting paths, and that these houses are themselves physically secluded; make sure that the more public houses are on busy streets with many people passing by all day long and that the houses themselves are relatively exposed to the passers-by. The in-between houses may then be located on the paths half-way between the other two. Give every neighborhood about equal numbers of these three kinds of homes.



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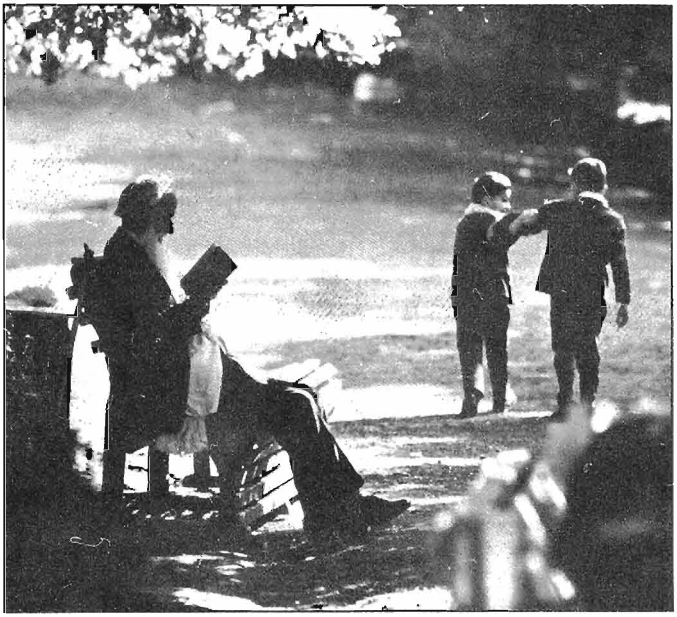
Use this pattern to help differentiate the houses both in neighborhoods and in house clusters. Within a neighborhood, place higher density clusters along the busier streets—HOUSING HILL (39), ROW HOUSES (38), and lower density clusters along the backwaters—HOUSE CLUSTER (37), ROW HOUSES (38). The actual busy streets themselves should either be PEDESTRIAN STREETS (100) or RAISED WALKS (55) on major roads; the backwaters GREEN STREETS (51), or narrow paths with a distinct PATH SHAPE (121). Where lively streets are wanted, make sure the density of housing is high enough to generate the liveliness—PEDESTRIAN DENSITY (123). . . .

# 40 OLD PEOPLE EVERYWHERE**



. . . when neighborhoods are properly formed they give the people there a cross section of ages and stages of development—IDENTIFIABLE NEIGHBORHOOD (14), LIFE CYCLE (26), HOUSEHOLD MIX (35); however, the old people are so often forgotten and left alone in modern society, that it is necessary to formulate a special pattern which underlines their needs.

## Old people need old people, but they also need the young, and young people need contact with the old.

There is a natural tendency for old people to gather together in clusters or communities. But when these elderly communities are too isolated or too large, they damage young and old alike. The young in other parts of town, have no chance of the benefit of older company, and the old people themselves are far too isolated.

Treated like outsiders, the aged have increasingly clustered together for mutual support or simply to enjoy themselves. A now familiar but still amazing phenomenon has sprung up in the past decade: dozens of good-sized new towns that exclude people under 65. Built on cheap, outlying land, such communities offer two-bedroom houses starting at $18,000 plus a refuge from urban violence . . . and generational pressures. (*Time*, August 3, 1970.)

But the choice the old people have made by moving to these communities and the remarks above are a serious and painful reflection of a very sad state of affairs in our culture. The fact is that contemporary society shunts away old people; and the more shunted away they are, the deeper the rift between the old and young. The old people have no choice but to segregate themselves —they, like anyone else, have pride; they would rather not be with younger people who do not appreciate them, and they feign satisfaction to justify their position.

And the segregation of the old causes the same rift inside each individual life: as old people pass into old age communities their ties with their own past become unacknowledged, lost, and there-

fore broken. Their youth is no longer alive in their old age—the two become dissociated; their lives are cut in two.

In contrast to the situation today, consider how the aged were respected and needed in traditional cultures:

> Some degree of prestige for the aged seems to have been practically universal in all known societies. This is so general, in fact, that it cuts across many cultural factors that have appeared to determine trends in other topics related to age. (*The Role of Aged in Primitive Society*, Leo W. Simmons, New Haven: Yale University Press, 1945, p. 69.)

More specifically:

> . . . Another family relationship of great significance for the aged has been the commonly observed intimate association between the very young and the very old. Frequently they have been left together at home while the able-bodied have gone forth to earn the family living. These oldsters, in their wisdom and experience, have protected and instructed the little ones, while the children, in turn, have acted as the "eyes, ears, hands, and feet" of their feeble old friends. Care of the young has thus very generally provided the aged with a useful occupation and a vivid interest in life during the long dull days of senescence. (Ibid. p. 199.)

Clearly, old people cannot be integrated socially as in traditional cultures unless they are first integrated physically—unless they share the same streets, shops, services, and common land with everyone else. But, at the same time, they obviously need other old people around them; and some old people who are infirm need special services.

And of course old people vary in their need or desire to be among their own age group. The more able-bodied and independent they are, the less they need to be among other old people, and the farther they can be from special medical services. The variation in the amount of care they need ranges from complete nursing care; to semi-nursing care involving house calls once a day or twice a week; to an old person getting some help with shopping, cooking, and cleaning; to an old person being completely independent. Right now, there is no such fine differentia-

tion made in the care of old people—very often people who simply need a little help cooking and cleaning are put into rest homes which provide total nursing care, at huge expense to them, their families, and the community. It is a psychologically debilitating situation, and they turn frail and helpless because that is the way they are treated.

We therefore need a way of taking care of old people which provides for the full range of their needs:

1. It must allow them to stay in the neighborhood they know best—hence some old people in every neighborhood.

2. It must allow old people to be together, yet in groups small enough not to isolate them from the younger people in the neighborhood.

3. It must allow those old people who are independent to live independently, without losing the benefits of communality.

4. It must allow those who need nursing care or prepared meals, to get it, without having to go to nursing homes far from the neighborhood.

All these requirements can be solved together, very simply, if every neighborhood contains a small pocket of old people, not concentrated all in one place, but fuzzy at the edges like a swarm of bees. This will both preserve the symbiosis between young and old, *and* give the old people the mutual support they need within the pockets. Perhaps 20 might live in a central group house, another 10 or 15 in cottages close to this house, but interlaced with other houses, and another 10 to 15 also in cottages, still further from the core, in among the neighborhood, yet always within 100 or 200 yards of the core, so they can easily walk there to play chess, have a meal, or get help from the nurse.

The number 50 comes from Mumford's argument:

> The first thing to be determined is the number of aged people to be accommodated in a neighborhood unit; and the answer to this, I submit, is that the normal age distribution in the community as a whole should be maintained. This means that there should be from five to eight people over sixty-five in every hundred people; so that in a neighborhood unit of, say, six hundred people, there would be between thirty and fifty old people. (Lewis Mumford, *The Human Prospect*, New York, 1968, p. 49.)

As for the character of the group house, it might vary from

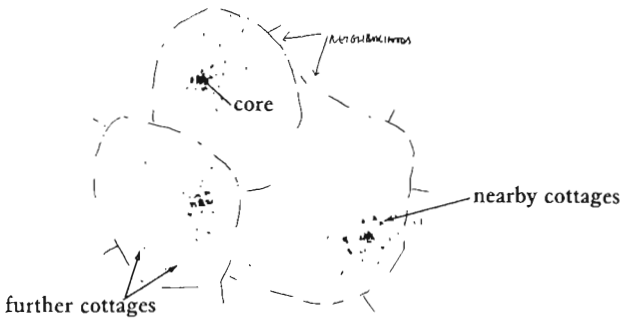
case to case. In some cases it might be no more than a commune, where people cook together and have part-time help from young girls and boys, or professional nurses. However, about 5 per cent of the nation's elderly need full-time care. This means that two or three people in every 50 will need complete nursing care. Since a nurse can typically work with six to eight people, this suggests that every second or third neighborhood group house might be equipped with complete nursing care.

Therefore:

**Create dwellings for some 50 old people in every neighborhood. Place these dwellings in three rings . . .**

1. **A central core with cooking and nursing provided.**
2. **Cottages near the core.**
3. **Cottages further out from the core, mixed among the other houses of the neighborhood, but never more than 200 yards from the core.**

**. . . in such a way that the 50 houses together form a single coherent swarm, with its own clear center, but interlocked at its periphery with other ordinary houses of the neighborhood.**




Treat the core like any group house; make all the cottages, both those close to and those further away, small—OLD AGE

COTTAGE (155), some of them perhaps connected to the larger family houses in the neighborhood—THE FAMILY (75); provide every second or third core with proper nursing facilities; somewhere in the orbit of the old age pocket, provide the kind of work which old people can manage best—especially teaching and looking after tiny children—NETWORK OF LEARNING (18), CHILDREN'S HOME (86), SETTLED WORK (156), VEGETABLE GARDEN (177). . . .

*between the house clusters, around the centers, and especially in the boundaries between neighborhoods, encourage the formation of work communities;*

41. WORK COMMUNITY

42. INDUSTRIAL RIBBON

43. UNIVERSITY AS A MARKETPLACE

44. LOCAL TOWN HALL

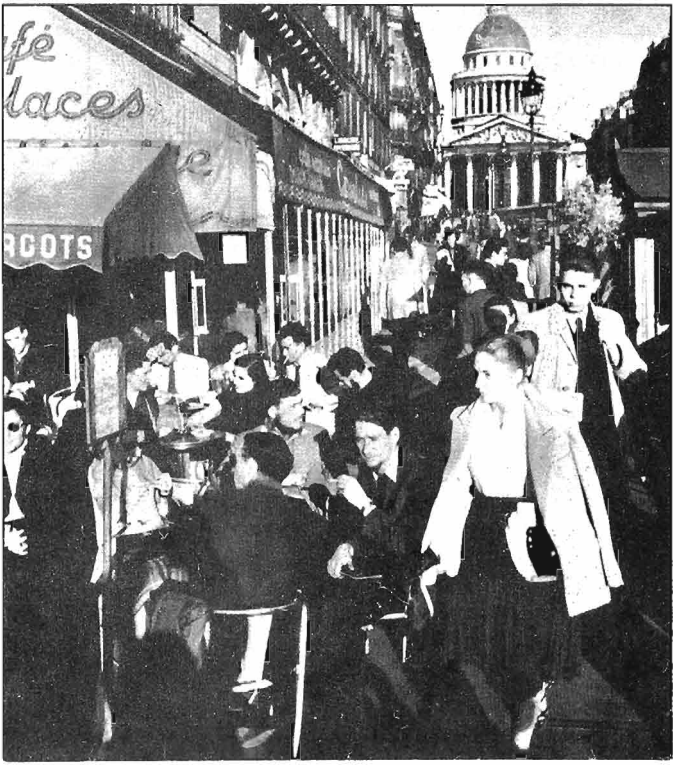
45. NECKLACE OF COMMUNITY PROJECTS

46. MARKET OF MANY SHOPS

47. HEALTH CENTER

48. HOUSING IN BETWEEN

# 43 UNIVERSITY AS A MARKETPLACE



. . . the NETWORK OF LEARNING (18) has established the importance of a whole society devoted to the learning process with decentralized opportunities for learning. The network of learning can be greatly helped by building a university, which treats the learning process as a normal part of adult life, for all the people in society.

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**Concentrated, cloistered universities, with closed admission policies and rigid procedures which dictate who may teach a course, kill opportunities for learning.**

The original universities in the middle ages were simply collections of teachers who attracted students because they had something to offer. They were marketplaces of ideas, located all over the town, where people could shop around for the kinds of ideas and learning which made sense to them. By contrast, the isolated and over-administered university of today kills the variety and intensity of the different ideas at the university and also limits the student's opportunity to shop for ideas.

To re-create this kind of academic freedom and the opportunity for exchange and growth of ideas two things are needed.

First, the social and physical environment must provide a setting which encourages rather than discourages individuality and freedom of thought. Second, the environment must provide a setting which encourages the student to see for himself which ideas make sense—a setting which gives him the maximum opportunity and exposure to a great variety of ideas, so that he can make up his mind for himself.

The image which most clearly describes this kind of setting is the image of the traditional marketplace, where hundreds of tiny stalls, each one developing some specialty and unique flavor which can attract people by its genuine quality, are so arranged that a potential buyer can circulate freely, and examine the wares before he buys.

What would it mean to fashion the university after this model?

1. *Anyone can take a course.* To begin with, in a university marketplace there are no admission procedures. Anyone, at any age, may come forward and seek to take a class. In effect, the "course catalog" of the university is published and circulated at large, in the newspapers and on radio, and posted in public places throughout the region.

2. *Anyone can give a course.* Similarly, in a university marketplace, anyone can come forward and offer a course. There is no hard and fast distinction between teachers and the rest of the citizenry. If people come forward to take the course, then it is established. There will certainly be groups of teachers banding together and offering interrelated classes; and teachers may set prerequisities and regulate enrollment however they see fit. But, like a true marketplace, the students create the demand. If over a period of time no one comes forward to take a professor's course, then he must change his offering or find another way to make a living.

Many courses, once they are organized, can meet in homes and meeting rooms all across the town. But some will need more space or special equipment, and all the classes will need access to libraries and various other communal facilities. The university marketplace, then, needs a physical structure to support its social structure.

Certainly, a marketplace could never have the form of an isolated campus. Rather it would tend to be open and public, woven through the city, perhaps with one or two streets where university facilities are concentrated.

In an early version of this pattern, written expressly for the University of Oregon in Eugene, we described in detail the physical setting which we believe complements the marketplace of ideas. We advised:

> Make the university a collection of small buildings, situated along pedestrian paths, each containing one or two educational projects. Make all the horizontal circulation among these projects, in the public domain, at ground floor. This means that all projects open directly to a pedestrian path, and that the upper floors of buildings are connected directly to the ground, by stairs and entrances. Connect all the pedestrian paths, so that, like a marketplace, they form one major pedestrian system, with many entrances and openings off it. The over-

all result of this pattern, is that the environment becomes a collection of relatively low buildings, opening off a major system of pedestrian paths, each building containing a series of entrances and staircases, at about 50 foot intervals.

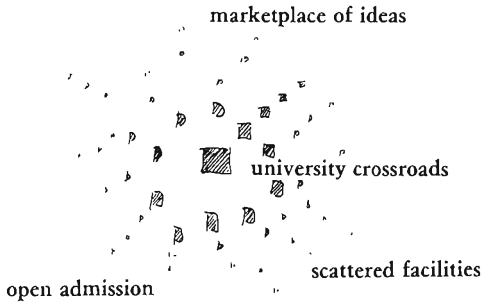
We still believe that this image of the university, as a marketplace scattered through the town, is correct. Most of these details are given by other patterns, in this book: BUILDING COMPLEX (95), PEDESTRIAN STREET (100), ARCADES (119), and OPEN STAIRS (158).

Finally, how should a university marketplace be administered? We don't know. Certainly a voucher system where everyone has equal access to payment vouchers seems sensible. And some technique for balancing payment to class size is required, so teachers are not simply paid according to how many students they enroll. Furthermore, some kind of evaluation technique is needed, so that reliable information on courses and teachers filters out to the towns people.

There are several experiments going forward in higher education today which may help to solve these administrative questions. The Open University of England, the various "free" universities, such as Heliotrope in San Francisco, the 20 branches of the University Without Walls all over the United States, the university extension programs, which gear their courses entirely to working people—they are all examples of institutions experimenting with different aspects of the marketplace idea.

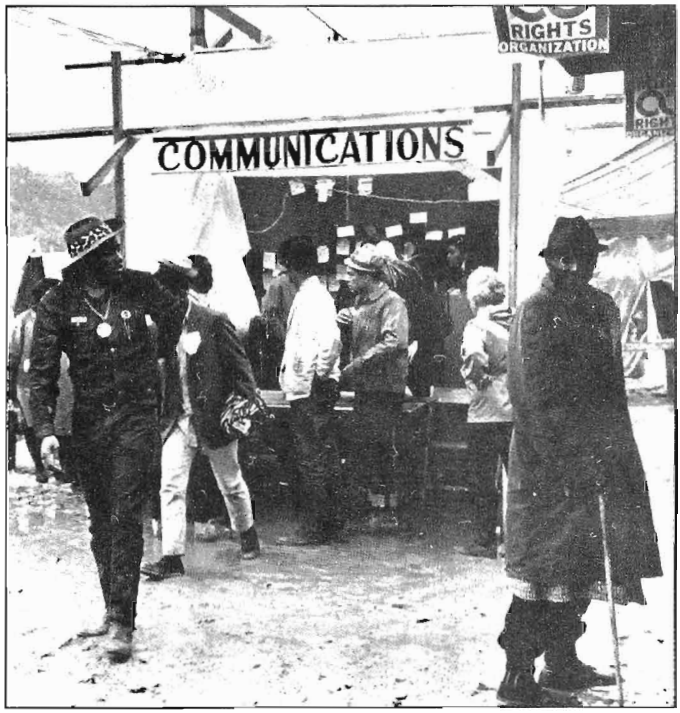
Therefore:

**Establish the university as a marketplace of higher education. As a social conception this means that the university is open to people of all ages, on a full-time, part-time, or course by course basis. Anyone can offer a class. Anyone can take a class. Physically, the university marketplace has a central crossroads where its main buildings and offices are, and the meeting rooms and labs ripple out from this crossroads—at first concentrated in small buildings along pedestrian streets and then gradually becoming more dispersed and mixed with the town.**




Give the university a PROMENADE (31) at its central crossroads; and around the crossroads cluster the buildings along streets—BUILDING COMPLEX (95), PEDESTRIAN STREET (100). Give this central area access to quiet greens—QUIET BACKS (59); and a normal distribution of housing—HOUSING IN BETWEEN (48); as for the classes, wherever possible let them follow the model of MASTER AND APPRENTICES (83). . . .

# 45 NECKLACE OF COMMUNITY PROJECTS



. . . LOCAL TOWN HALL (44) calls for small centers of local government at the heart of every community. This pattern embellishes the local town hall and other public institutions like it—UNIVERSITY AS A MARKETPLACE (43) and HEALTH CENTER (47)—with a ground for community action.

**The local town hall will not be an honest part of the community which lives around it, unless it is itself surrounded by all kinds of small community activities and projects, generated by the people for themselves.**

A lively process of community self-government depends on an endless series of ad hoc political and service groups, functioning freely, each with a proper chance to test its ideas before the townspeople. The spatial component of this idea is crucial: this process will be stymied if people cannot get started in an office on a shoestring.

We derive the geometry of this pattern from five requirements:

1. Small, grass roots movements, unpopular at their inception, play a vital role in society. They provide a critical opposition to established ideas; their presence is a direct correlate of the right to free speech; a basic part of the self-regulation of a successful society, which will generate counter movements whenever things get off the track. Such movements need a place to manifest themselves, in a way which puts their ideas directly into the public domain. At this writing, a quick survey of the East Bay shows about 30 or 40 bootstrap groups that are suffering for lack of such a place: for example, Alcatraz Indians, Bangla Desh Relief, Solidarity Films, Tenant Action Project, November 7th Movement, Gay Legal Defense, No on M, People's Translation Service. . . .

2. But as a rule these groups are small and have very little money. To nourish this kind of activity, the community must provide minimal space to any group of this sort, rent free, with some limit on the duration of the lease. The space must be like a

small storefront and have typewriters, duplicating machines, and telephones; and access to a meeting room.

3. To encourage the atmosphere of honest debate, these storefront spaces must be near the town hall, the main crossroads of public life. If they are scattered across the town, away from the main town hall, they cannot seriously contend with the powers that be.

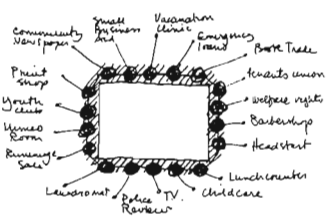
4. The space must be highly visible. It must be built in a way which lets the group get their ideas across, to people on the street. And it must be physically organized to undermine the natural tendency town governments have to wall themselves in and isolate themselves from the community once they are in power.

5. Finally, to bring these groups into natural contact with the community, the fabric of storefronts should be built to include some of the stable shops and services that the community needs—barbershop, cafe, laundromat.

These five requirements suggest a necklace of rather open storefront spaces around the local town hall. This necklace of spaces is a physical embodiment of the political process in an open society: everyone has access to equipment, space to mount a campaign, and the chance to get their ideas into the public arena.

Therefore:

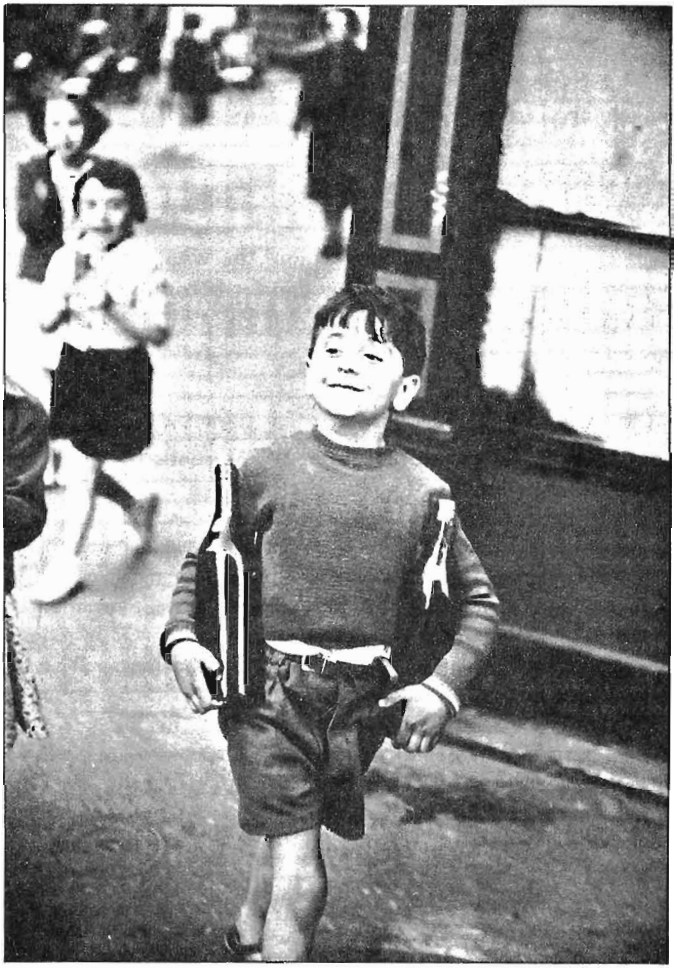
**Allow the growth of shop-size spaces around the local town hall, and any other appropriate community building. Front these shops on a busy path, and lease them for a minimum rent to ad hoc community groups for political work, trial services, research, and advocate groups. No ideological restrictions.**



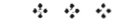
## 45 NECKLACE OF COMMUNITY PROJECTS

Make each shop small, compact, and easily accessible like INDIVIDUALLY OWNED SHOPS (87); build small public spaces for loitering amongst them—PUBLIC OUTDOOR ROOM (69). Use them to form the building edge—BUILDING FRONTS (122), BUILDING EDGE (160), and keep them open to the street—OPENING TO THE STREET (165). . . .

# 57 CHILDREN IN THE CITY



. . . roads, bike paths, and main pedestrian paths are given their position by PARALLEL ROADS (23), PROMENADE (31), LOOPED LOCAL ROADS (49), GREEN STREETS (51), NETWORK OF PATHS AND CARS (52), BIKE PATHS AND RACKS (56). Some of them are safe for children, others are less safe. Now, finally, to complete the paths and roads, it is essential to define at least one place, right in the very heart of cities, where children can be completely free and safe. If handled properly, this pattern can play a great role in helping to create the NETWORK OF LEARNING (18).



**If children are not able to explore the whole of the adult world round about them, they cannot become adults. But modern cities are so dangerous that children cannot be allowed to explore them freely.**

The need for children to have access to the world of adults is so obvious that it goes without saying. The adults transmit their ethos and their way of life to children through their actions, not through statements. Children learn by doing and by copying. If the child's education is limited to school and home, and all the vast undertakings of a modern city are mysterious and inaccessible, it is impossible for the child to find out what it really means to be an adult and impossible, certainly, for him to copy it by doing.

This separation between the child's world and the adult world is unknown among animals and unknown in traditional societies. In simple villages, children spend their days side by side with farmers in the fields, side by side with people who are building houses, side by side, in fact, with all the daily actions of the men and women round about them: making pottery, counting money, curing the sick, praying to God, grinding corn, arguing about the future of the village.

But in the city, life is so enormous and so dangerous, that children can't be left alone to roam around. There is constant danger from fast-moving cars and trucks, and dangerous machinery. There is a small but ominous danger of kidnap, or rape,

or assault. And, for the smallest children, there is the simple danger of getting lost. A small child just doesn't know enough to find his way around a city.

The problem seems nearly insoluble. But we believe it can be at least partly solved by enlarging those parts of cities where small children can be left to roam, alone, and by trying to make sure that these protected children's belts are so widespread and so far-reaching that they touch the full variety of adult activities and ways of life.

We imagine a carefully developed childrens' bicycle path, within the larger network of bike paths. The path goes past and through interesting parts of the city; and it is relatively safe. It is part of the overall system and therefore used by everyone. It is not a special children's "ride"—which would immediately be shunned by the adventurous young—but it does have a special name, and perhaps it is specially colored.

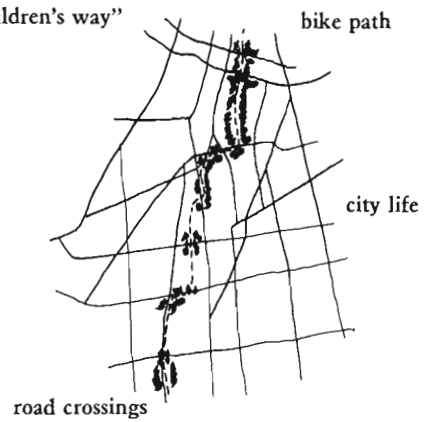

The path is always a bike path; it never runs beside cars. Where it crosses traffic there are lights or bridges. There are many homes and shops along the path—adults are nearby, especially the old enjoy spending an hour a day sitting along this path, themselves riding along the loop, watching the kids out of the corner of one eye.

And most important, the great beauty of this path is that it passes along and even through those functions and parts of a town which are normally out of reach: the place where newspapers are printed, the place where milk arrives from the countryside and is bottled, the pier, the garage where people make doors and windows, the alley behind restaurant row, the cemetery.

Therefore:

**As part of the network of bike paths, develop one system of paths that is extra safe—entirely separate from automo-**

biles, with lights and bridges at the crossings, with homes and shops along it, so that there are always many eyes on the path. Let this path go through every neighborhood, so that children can get onto it without crossing a main road. And run the path all through the city, down pedestrian streets, through workshops, assembly plants, warehouses, interchanges, print houses, bakeries, all the interesting "invisible" life of a town—so that the children can roam freely on their bikes and trikes.

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Line the children's path with windows, especially from rooms that are in frequent use, so that the eyes upon the street make it safe for the children—STREET WINDOWS (164); make it touch the children's places all along the path—CONNECTED PLAY (68), ADVENTURE PLAYGROUND (73), SHOPFRONT SCHOOLS (85), CHILDREN'S HOME (86), but also make it touch other phases of the life cycle—OLD PEOPLE EVERYWHERE (40), WORK COMMUNITY (41), UNIVERSITY AS A MARKETPLACE (43), GRAVE SITES (70), LOCAL SPORTS (72), ANIMALS (74), TEENAGE SOCIETY (84). . . .