

THE CITY AS A MECHANISM FOR SUSTAINING HUMAN CONTACT

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People come to cities for contact. That's what cities are: meeting places. Yet the people who live in cities are often contactless and alienated. A few of them are physically lonely: almost all of them live in a state of endless inner loneliness. They have thousands of contacts, but the contacts are empty and unsatisfying.

What physical organization must an urban area have, to function as a mechanism for sustaining deeper contacts?

Before we can answer this question, we must first define exactly what we mean by "contact" and we must try to understand just what it is about existing cities that prevents the deepest contacts from maturing. Once we have done that, we can define a set of characteristics which an urban area requires to sustain the contacts. This paper therefore has four parts:

In the first part I shall define the most basic, and most urgently needed kind of contact, intimate contact.

In the second part, I shall present a body of evidence which strongly suggests that the social pathologies associated with urban areas-- delinquency and mental disorder--follow inevitably from the lack of intimate contact.

In the third part, I shall describe the interplay of phenomena which causes the lack of intimate contact in urban areas today.

These phenomena are facets of a single complex syndrome: the autonomy-

withdrawal syndrome. I shall try to show that this syndrome is an inevitable by-product of urbanization, and that society can only recreate intimate contacts among its members if they overcome this syndrome.

In the fourth part, I shall show that in order to overcome the autonomy-withdrawal syndrome a city's housing must have twelve specific geometric characteristics, and I shall describe an arrangement of houses which has these characteristics.

I. INTIMATE CONTACT

Modern urban society has more contact and communication in it than any other society in human history. People who would never have been in contact in a pre-industrial society, are in contact today. There are more contacts per person, and there are more kinds of contact. Individuals are in touch with a larger world than they ever were before. As metropolitan areas grow, society will become even more differentiated, and the number and variety of contacts will increase even more. This is something that has never happened before, in the whole of human history, and it is very beautiful: Durkheim said so long ago, in the Division of Labor in Society.¹ Melvin Webber and Marshall McLuhan and Richard Meier are saying it eloquently today.²

But as the individual's world expands, the number of contacts increases, and the quality of contact goes down. A person only has twenty-four hours in his day. As the total number of his contacts increases, his contacts with any one given person become shorter, and less frequent, and less deep. In the end, from a human point of view, they become altogether trivial. It is not surprising that in just those urban centers where the greatest expansion of human contacts has taken place, men have begun to feel their alienation and aloneness more sharply than in any pre-industrial society. People who live in cities may think that they have lots of friends; but the word friend has changed its meaning. Compared with friendships of the past, most of these new friendships are trivial.

Intimate contact in the deepest sense, is very rare. Intimate contact is that close contact between two individuals in which they reveal themselves in all their weakness, without fear. It is a relationship in which the barriers which normally surround the self, are down. It is the relationship which characterises the best marriages, and all true friendships. We often call it love. It is hard to give an operational definition of this kind of intimate contact: but we can make it reasonably concrete, by naming two essential pre-conditions without which it can't mature.

These conditions are:

1. The people concerned must see each other very often, almost every day, though not necessarily for very long at a time.
2. They must see each other under informal conditions, without the special overlay of role or situation which they usually wear in public.

In more detail:

1. If people don't meet almost every day--even if they meet once a week, say--they never get around to showing themselves; there are too many other things to talk about: the latest news, the war, the taxes, what mutual acquaintances have been doing lately. These things can easily fill an evening once a week. Unless people meet more often, they never have a chance to peel the outer layers of the self away, and show what lies inside.
2. Many people meet every day at work. But here the specific role relationship provides clear rules about the kinds of

things they talk about, and also defines the bounds of the relationship--again there is little chance that the people penetrate each other, or reveal themselves. The same thing is true if they meet under "social" circumstances, where the rules of what is proper make deep contact impossible.

These two conditions are not sufficient--they do not guarantee intimate contact--but they are necessary. If these conditions are not met, intimate contact can't mature.³

It may help to keep in mind an even more concrete criterion of intimacy. If two people are in intimate contact, then we can be sure that they sometimes talk about the ultimate meaning of one another's lives: and if two people do sometimes talk about the ultimate meaning of their lives, then we are fairly safe in calling their contact an intimate contact. If they do not talk about these things, then they are not really reaching each other, and their contact is superficial.

By this definition, it is clear that most so-called "friendly" contacts are not intimate. Indeed, it is obvious that the most common "friendly" occasions, provide no opportunity for this kind of contact to mature. Friends who come round to dinner once a month ("Honey, why don't we have them round to dinner sometime"), or the acquaintances who meet for an occasional drink together, clearly do not satisfy the two conditions which I have defined. At these occasions, people neither reach each other, nor do they reveal themselves. Let us therefore, begin by asking what social mechanism is required to make contacts intimate.

In pre-industrial society, intimate contacts were sustained by primary groups. "A primary group is a small group of people charac-

terised by intimate face to face association and cooperation".⁴

The three most universal primary groups are the family, the neighborhood group of elders, and the childrens play-group. These three primary groups have existed in virtually every human society, and they have been primary in forming the social nature and ideals of the individual. It is clear that the contacts which these primary groups created do meet the two conditions I have named. The members of a primary group meet often--almost daily; and they meet under unspecialised conditions, where behavior is not prescribed by role, so that they meet as individuals, man to man. It is therefore clear that in a society where primary groups exist, the primary groups do serve as mechanisms which sustain intimate contact.

Because intimacy is so important, and because primary groups have, so far, always been the vehicles for intimate contact, many anthropologists and sociologists have taken the view that man cannot live without the primary groups.⁵

Here are two typical statements: First Homans, writing in 1950:

"In the old society, man was linked to man; in the new agglomeration--it cannot be called a society--he is alone.

... All the evidence of psychiatry shows that membership in a group sustains a man, enables him to maintain his equilibrium under the ordinary shocks of life, and helps him to bring up children who will in turn be happy and resilient. If his group is shattered around him, if he leaves a group in which he was a valued member, and if, above all, he finds no new group to which he can relate himself, he will, under stress, develop

disorders of thought, feeling, and behavior. His thinking will be obsessive, elaborated without sufficient reference to reality; he will be anxious or angry, destructive to himself or to others; his behavior will be compulsive, not controlled; and, if the process of education that makes a man easily able to relate himself to others is itself social, he will, as a lonely man, bring up children who have a lowered social capacity. The cycle is vicious; loss of group membership in one generation may make men less capable of group membership in the next. The civilization that, by its very process of growth, shatters small group life will leave men and women lonely and unhappy."⁶

Second - Linton: "Although the disintegration of local groups in our society may progress even further than it has, the author is inclined to regard it as a transitory phenomenon. The sudden rise of the machine and of applied science has shattered Western civilization and reduced Western society to something approaching chaos. However, unless all past experience is at fault, the society will once more reduce itself to order. What the new order will be no one can forecast, but the potentialities of the local group, both for the control of individuals and for the satisfaction of their psychological needs are so great that it seems unlikely that this unit will be dispensed with."⁷

Linton wrote those words in 1936. In the years since then, many architects and planners have tried to recreate the local primary group artificially, by means of the neighborhood idea. They have hoped that if people would only live in small physical groups, round modern village greens, the social groups would follow the same pattern; and that these artificial groups would then once more provide the intimate

contact which is in such short supply in urban areas today.⁸ But this idea of recreating primary groups by artificial means is unrealistic and reactionary: it fails to recognize the truth about the open society. The open society is no longer centered around place-based groups: and the very slight acquaintances that do form round an artificial neighborhood are once again trivial: they are not based on genuine desire.⁹ Though these pseudo-groups may serve certain ancillary purposes--(neighbors may look after one another's houses while they are away)--there is no possible hope that they could sustain truly intimate contact, as I have defined it.

The only vestige of the primary groups which still remains is the nuclear family. The family still functions as a mechanism for sustaining intimate contact. But where the extended family of pre-industrial society contained many adults, and gave them many opportunities for intimate contact, the modern nuclear family contains only two adults. This means that each of these adults has at most one intimate contact within his family. (Although the contact between parent and child is, in a colloquial sense, an intimate one, it is not the kind of contact which I am discussing here: it is essentially one-sided: there can be no mutual revealing of the self between adults and children.) Furthermore, one third of all households in urban areas, contain only one adult (either unmarried, widowed or divorced¹⁰). These adults have no intimate contacts at all, at home.

As ways of providing intimate contact, it seems that primary groups are doomed. Modern urban social structure is chiefly based on secondary contacts--contacts in which people are related by a

single role relationship: buyer and seller, disc-jockey and fan, lawyer and client.¹¹ Not surprisingly, the people who find themselves in this dismal condition, try madly to make friends. Urban Americans are world famous as an outgoing, friendly people. They are able to make friends very fast: and they join associations more than almost any other people. It is not hard to see that **this is an inevitable** consequence of urbanization and mobility, and will ultimately happen everywhere, as urban society spreads around the world. In a society where people move about a lot, the individuals who are moving must learn to strike up acquaintances quickly--it is essential for them, since they very often find themselves in situations where they don't know anybody. By the same token, since deep-seated, old, associations are uncommon, people rush to join new associations and affiliations, to fill the gap they feel. Instant friendship is well adapted to the circumstances which the average American urban dweller faces. But the very life stuff of social organization--true participation among people who learn to penetrate each other--is missing. Outward friendliness adds nothing to the need for deeper contact: it trivializes contact.

People may not be ready to admit that most of their contacts are trivial; but they admit it by implication, in their widespread nostalgia for college days, and for army days. What is it that makes the college reunions so powerful? Why do grown men and women at reunions pretend to be boys and girls again? Because at college, they had **an experience which many of them never have again:** they had many intimate friends; intimate contact was commonplace. The same is true of army days. However grizzly war may be, it is a fact that

the vast majority of men never forget their army days. They remember the close comradeship, the feelings of mutual dependence, and they regret that later life never quite recreates this wonderful experience again.

All the recent studies of dissatisfaction when slum dwellers are forced to move, say essentially the same.¹² So far these studies have been used to demonstrate the poor quality of new towns and urban renewal; but this is really incidental. No one has been bold enough to face the larger fact. These people are moving from a traditional place-based society into the larger urban society where place-based community means nothing. When they make the move they lose their intimate contacts. This is not because the places they go to are badly designed in some obvious sense which could be easily improved. Nor is it because they are temporarily uprooted, and have only to wait for the roots of community to grow again. The awful fact is that modern urban society as a whole, has found no way of sustaining intimate contacts.

Some people believe that this view is nothing but nostalgia for an imaginary past: and that what looks like alienation is really just the pain of parting from traditional society, and the birth pang of a new society.¹³

I do not believe it. I believe that intimate contacts are essential for human survival: and indeed, that each person requires not one, but several intimate contacts at any given time. I believe that the primary groups which sustained intimate contact were an essential functional part of traditional social systems: and that

since they are now obsolete, it is essential that we invent new social mechanisms, consistent with the direction that society is taking, and yet able to sustain the intimate contacts which we need.

Expressed in formal terms, this belief becomes a fundamental hypothesis about man and society:

An individual can only be healthy and happy when his life contains three or four intimate contacts. A society can only be a healthy one, if each of its individual members has three or four intimate contacts at every stage of his existence.¹⁴

Every society known to man, except our own, has provided conditions which allow people to sustain three or four intimate contacts. Western industrial society is the first society in human history where man is being forced to live without them. If the hypothesis is correct, the very roots of our society are threatened. Let us therefore examine the evidence for the hypothesis.

II. EVIDENCE

Unfortunately, the only available evidence is very indirect. Individual health is hard to define; social health is even harder. We have no indices for low grade misery or sickness: we have no indices for fading social vitality. In the same way, the relative intimacy of different contacts is hard to define and has never explicitly been studied. The evidence we really need, showing a correlation between the intimacy of people's contacts, and the general health and happiness of their individual and social lives, does not exist.

In a strictly scientific sense, it is therefore only possible to examine a very extreme version of the hypothesis: namely, that extreme lack of contact causes extreme and well-defined social pathologies like schizophrenia and delinquency. Several large scale studies do support this extreme form of the hypothesis.

Faris and Dunham studied the distribution of mental disorders in Chicago in the 1930's. They found that paranoid and hebephrenic schizophrenias have their highest rates of incidence among hotel residents and lodgers, and among the people who live in the rooming house districts of the city. They are highest, in other words, among those people who are most alone.¹⁵

Faris and Dunham also found that the incidence of schizophrenia among whites was highest among those whites living in predominantly negro areas, and that the incidence for negroes was highest among those negroes living in predominantly non-negro areas.¹⁶ Here again, the incidence is highest among those who are isolated.

Alexander Leighton and his collaborators have spent ten years in Stirling County, Nova Scotia, studying the effect of social disintegration on mental disorders.¹⁷ To stress the fact that people in a disintegrated society exist as isolated individuals, without any kind of emotional bonds between them, he calls the disintegrated society a collection. In a collection there are numbers of individuals occupying the same geographical area, having non-patterned encounters with each other. They have no personal contacts of any sort; they have no voluntary associations with one another--let alone any kind of intimate contact between households.¹⁸ They are suspicious about making friends, and try to keep clear of all involvements with people.¹⁹

These people have substantially higher rates of psychophysiological, psychoneurotic, and sociopathic disorders, than people who live in a closely knit traditional community.²⁰

Langner and Michael, studying the incidence of mental disorders in Manhattan, find that people who report less than four friends have a substantially higher chance of mental disorder than those who report more than four friends.²¹ What is more, their findings suggest that this effect may even be partly responsible for the well known correlation between low socioeconomic status and high rates of mental disorder and delinquency.²² Langner and Michael find that people in the lowest socioeconomic groups tend to have fewer friends than the people in the highest socioeconomic groups. Thus in the lowest group, 12.7 percent report no friends; in the highest group, only 1.8 percent report no friends.²³ This may seem surprising to those readers who have an image of the lower socioeconomic groups as urban

villagers, with widespread webs of friendship and kinship. Although the people who live in depressed areas of cities do occasionally still have such a traditional society, and many friends, most of them live in conditions of extreme social disorganization. They do lack intimate friends: and it is very possible that this lack of intimate friends plays a substantial part in the correlation between poverty and mental disorder. Langner and Michael show, finally, that membership in formal organizations and clubs, and contact with neighbours, have relatively slight effect on mental health-- thus supporting the idea that the contacts must be intimate before they do much good.²⁴

Many minor studies support the same conclusion. Most important among them, are the widely known correlations between age and mental health, and between marital status and mental health. Various studies have shown that the highest incidence of mental disorders, for males and females, occur above age 65, and indeed, that, the highest of all occur above 75.²⁵ Other studies have shown that the incidence rates for single, separated, widowed and divorced persons are higher than the rates for married persons. Rates per thousand, for single persons, are about one and a half times as high as the rates for married persons, while rates for divorced and widowed persons are between two and three times as high.²⁶

Of course the disorders among old people may be partly organic: but there is no getting away from the fact that old people are almost always more lonely than the young; and that it is usually hard for them to sustain substantial contacts with other people. In the same

way, although the disorders among divorced and single people could actually be the sources of their isolation, not caused by it, the fact that the rate is equally high for widowers and widows makes this very unlikely. In both cases we are dealing with populations of individuals who are exceptionally prone to isolation. The simplest possible explanation, once again, is that the loss of intimate contact causes the disorders.

So far we have discussed only cases of adult isolation. It is very likely that the effects of social isolation on children are even more acute: but here the published evidence is thinner.

The most dramatic available results come from Harlow's work on monkeys. Harlow has shown that monkeys isolated from other infant monkeys during the first six months of life, are incapable of normal social, sexual or play relations with other monkeys in their later lives:

"They exhibit abnormalities of behavior rarely seen in animals born in the wild. They sit in their cages and stare fixedly into space, circle their cages in a repetitively stereotyped manner, and clasp their heads in their hands or arms and rock for long periods of time ... the animal may chew and tear at its body until it bleeds ... similar symptoms of emotional pathology are observed in deprived children in orphanages and in withdrawn adolescents and adults in mental hospitals."²⁷

It is well known that infant monkeys--like infant humans--have these defects if brought up without a mother or a mother surrogate. It is not well known that the effects of separation from other infant monkeys are even stronger than the effects of maternal deprivation.

Indeed, Harlow showed that although monkeys can be raised successfully without a mother, provided that they have other infant monkeys to play with, they cannot be raised successfully by a mother alone, without other infant monkeys, even if the mother is entirely normal. He concludes:

"It seems possible that the infant-mother affectional system is dispensible, whereas the infant-infant system is a sine-qua-non for later adjustment in all spheres of monkey life."²⁸

In Harlow's experiments, the first six months of life were critical. The first six months of a rhesus monkey's life correspond to the first three years of a child's life. Although there is no formal evidence to show that lack of contact during these first three years damages human children--and as far as I know, it has never been studied--there is very strong evidence for the effect of isolation between the ages of four to ten. There is also an informal account by Anna Freud, which shows how powerful the effect of contact among tiny children can be on the emotional development of the children.

Anna Freud describes five young German children who lost their parents during infancy in a concentration camp, and then looked after one another inside the camp until the war ended: at which point they were brought to England.²⁹ She describes the beautiful social and emotional maturity of these tiny children. Reading the account, one feels that these children, at the age of 3, were more aware of each other and more sensitive to each others needs, than many people ever are.

The most telling study is that by Herman Lantz.³⁰ Lantz questioned a random sample of 1000 men in the United States Army, who

had been referred to a mental hygiene clinic because of emotional difficulties. Army psychiatrists classified each of the men as normal, suffering from mild psychoneurosis, severe psychoneurosis, or psychosis.

Lantz then put each man into one of three categories: those who reported having five friends or more at any typical moment when they were between 4 and 10 years old, those who reported an average of about two friends, and those who reported having no friends at that time. The following table shows the relative percentages in each of the three friendship categories separately. The results are astounding:

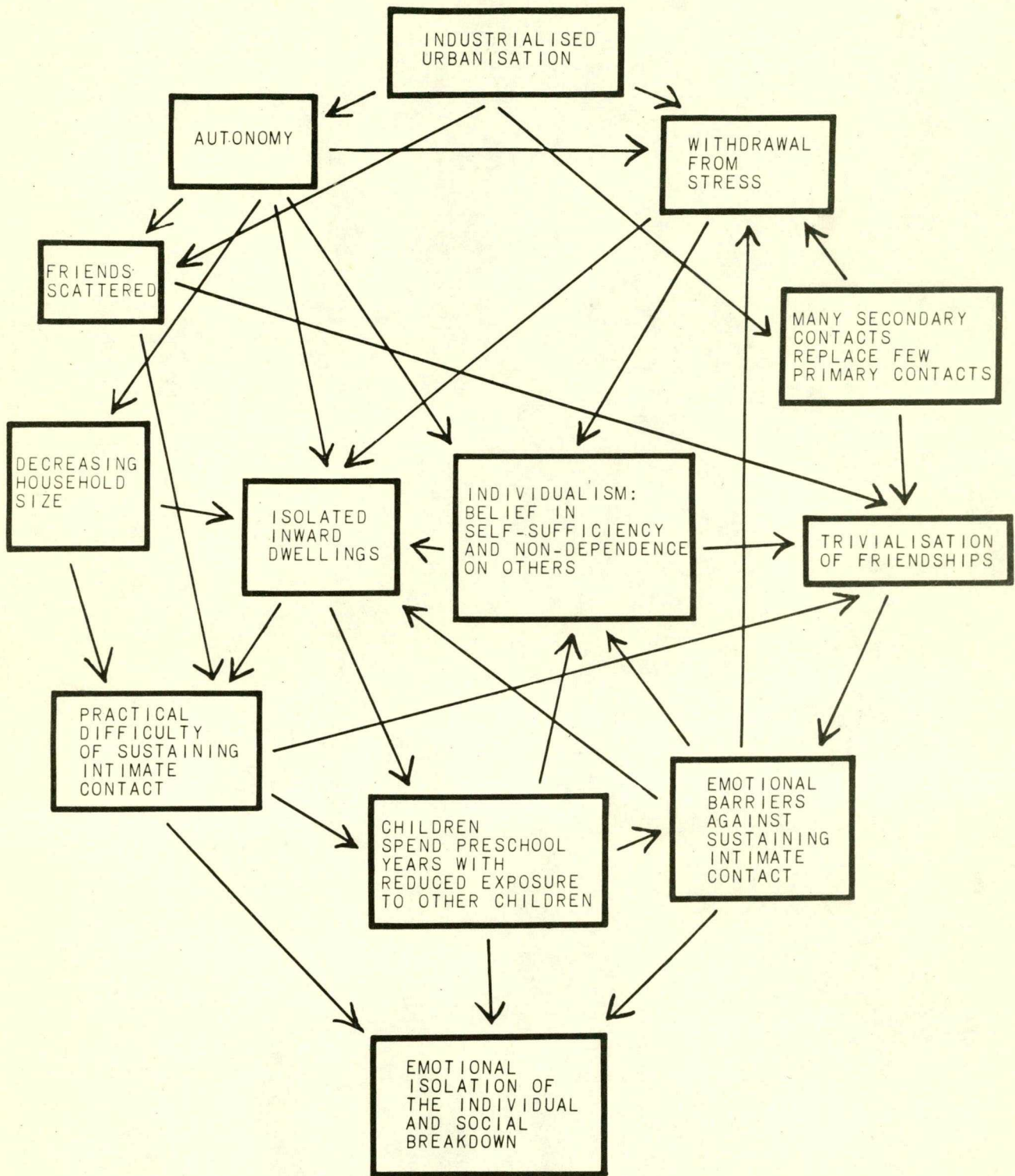
	<u>5 or more friends</u>	<u>About 2 friends</u>	<u>No friends</u>
Normal	39.5	7.2	0.0
Mild Psychoneurosis	22.0	16.4	5.0
Severe Psychoneurosis	27.0	54.6	47.5
Psychosis	0.8	3.1	37.5
Other	<u>10.7</u>	<u>18.7</u>	<u>10.0</u>
	100.0	100.0	100.0

Among children who have five friends or more, 61.5 percent have mild cases, while 27.8 percent have severe cases. Among children with no friends, only 5 percent have mild cases, and 85 percent have severe cases.

It is almost certain then, that lack of contact, when it is extreme, has extreme effects on people. There is a considerable body of literature beyond that which I have quoted.³¹ Even so, the evidence is sparse. We cannot be sure that the effect is causal: and we have

found evidence only for those relatively extreme cases which can be unambiguously counted. From a strictly scientific point of view, it is clearly necessary to undertake a special, extensive study, to test the hypothesis in the exact form that I have stated it.

However, just because the scientific literature doesn't happen to contain the relevant evidence, that doesn't mean that we don't know whether the hypothesis is true or not. From our own lives we know that intimate contact is essential to life; and that the whole meaning of life shows itself only in the process of our intimate contacts.³² The loss of intimate contacts touches each one of us--each one of you who reads this paper. The evidence I have quoted happens to concern only people who are suffering from some form of extreme social isolation. But the loss of intimate contacts is not restricted to these people. It applies equally to the man who is happily married, a father of four children and a member of numerous local groups. This man may seem to have many contacts--indeed he does --but the way that our society works today, he is still most likely lacking intimate contact as I have defined it, and therefore, if my hypothesis is right, even this lucky man is still suffering from disorders which are only different in degree from the extreme disorders I have mentioned. The way of life we lead today makes it impossible for us to be as close to our friends as we really want to be. The feeling of alienation, and the modern sense of the "meaninglessness" of life, are direct expressions of the loss of intimate contact.



III. THE AUTONOMY-WITHDRAWAL SYNDROME

As far as we can judge then, people need three or four intimate contacts at every moment of their lives, in order to survive. If they don't have these contacts they undergo progressive deterioration, and disintegration. It is therefore clear that every human society must provide social mechanisms which sustain these intimate contacts, in order to survive as a society. Yet as we know, the historic mechanisms which once performed this function for our own society, are breaking down.

I shall now try to show that we are not merely faced with the collapse of one or two social mechanisms, but rather, with a massive syndrome, a huge net of cause and effect in which the breakdown of primary groups, the breakdown of intimacy itself, the growth of individualism, and the withdrawal from the stress of urbanised society, are all interwoven. I shall call this syndrome the autonomy-withdrawal syndrome.

To study the syndrome, let us begin with the most obvious mechanical reasons for the breakdown of intimate contacts. I have already named them. In pre-industrial societies the two institutions which sustained intimate contacts between adults were the extended family and the local neighborhood community. These two primary groups have almost entirely disappeared. The family has shrunk; friends have scattered.

The modern metropolis is therefore a collection of many scattered households, each one small. In the future, individual households will probably be even smaller, and the average size of urban areas

even larger.³³ Under these circumstances the three or four intimate contacts which each individual needs are no longer available in his immediate physical surroundings: not in his shrunken family, nor in his neighborhood. We must therefore ask how, in a society of scattered, mobile individuals, these individuals can maintain intimate contact with one another.

Let us go back to the two conditions which intimate contact requires: (1) The people concerned must see each other very often, almost daily; and (2) they must see each other under informal conditions, not controlled by single role relationships, or social rules. How can a society of scattered, mobile individuals meet these two conditions?

The first answer which comes to mind is this: Since friendships in modern society are mostly based on some community of interest, we should expect the institutions which create such friendships--workplace, golfclub, ski resort, precinct headquarters--to provide the necessary meeting ground. It sounds good; but it doesn't work. Though people do meet each other in such groups, the meetings are too infrequent; and the situation too clearly prescribed. People achieve neither the frequency, nor the informality, which intimacy requires. Further, people can only reach the true intimacy and mutual trust required for self-revelation when they are in private.

Frequent, private, almost daily meeting between individuals, under conditions of extreme informality, unencumbered by role prescriptions or social rules, will only take place if the people visit one another in their own homes. It is true that occasional meetings in public places may also be very intimate: but the regular, constant,

meetings which are required to build up the possibility of intimacy cannot happen in public places. In a society of scattered mobile individuals people will therefore only be able to maintain intimate contacts with one another if they are in the habit of constant informal visiting or "dropping-in".

In modern American society dropping-in is thought of as a peculiar European custom. Yet in fact, dropping-in is a normal part of life in every pre-industrial society. In part it has to be, because there are no telephones in pre-industrial society. But dropping-in is not merely the pre-industrial version of what we do by phone. The very notion of friendship demands that people be almost totally exposed to one another. To be friends, they must have nothing to hide; and for this reason, informal dropping-in is a natural, and essential, part of friendship. This is so fundamental that we may even treat it as a definition of true friendship. If two people feel free to drop in on each other knowing that they will be welcome, no matter what is happening, we can be sure that they are intimate friends; if two people feel inhibited about dropping in on each other, we can be sure they are not truly intimate. Why is dropping-in so rare in mobile urban society?

The first reason, of course, is still mechanical. Two people will not sustain a pattern of daily dropping-in unless they live within a few minutes of each other, ten minutes at the most. Although the car has enormously enlarged the number of people within ten minutes distance of any given household, most of the people in the metropolis are still outside this distance. If we remember that we are concerned with the half dozen individuals who are potentially closest

to any given individual, we must face the fact that in a metropolis these individuals are very likely to live as much as half an hour or an hour apart. At this distance, intimate contact can't develop. They see each other very rarely--at most once or twice a month for dinner--and when they do meet, it is after careful invitation, worked out in advance. These kinds of evening contact have neither the frequency, nor the informality, which intimacy requires.

However, distance alone, though it is a serious obstacle, does not fully explain the loss of intimacy. There is another reason for it, far more devastating, and far more profound: When they get home, they want to get away from all the stress outside. People feel more private than they used to feel. They treasure their quiet moments. A visitor who drops in unasked, at such a moment, even if he is a friend, is an intruder. People do not want to be perpetually exposed: They often want to be withdrawn. But withdrawal soon becomes a habit. People reach a point where they are permanently withdrawn, they lose the habit of showing themselves to others as they really are, and become unable and unwilling to let other people into their own world.

At this stage people don't like others dropping in on them, because they don't want to be caught when they aren't ready: the housewife who doesn't like anyone coming around, except when she has carefully straightened out her house: the family who don't like to mix their friends, and have their friends to visit one couple at a time in case the couples shouldn't get along. Truly intimate contact is not possible to such people. They live behind a social facade. Afraid of showing themselves as they really are, they never reach a truly intimate degree of contact with others.

This fear is partly caused by stress. The man who lives in modern urban society is exposed to innumerable stresses: danger, noise, too many strangers, too much information, and above all, the need to make decisions about the complexities of personal life without the help of traditional mores. These stresses are often too much to bear: so he withdraws from them. He draws a cloak of impenetrability around him, to ward off the too many strangers he meets in the street; he locks his door; he lives buried beneath a system of elaborated social and behavioural defenses against unwelcome and unbidden intrusions from outside. The houses of a century ago were outward looking; the porch had people on it; the front garden was occupied. Today only the slum-dwellers--who sit on the stoop because it is too grim inside--face towards the city. Everyone else has turned away. Even when they are in public, people behave as though the other people who surround them are not there. A man walks down the street with a glazed look, not looking at people's eyes, but focussed determinedly on nothing. A woman cheerfully wears curlers in the street because, although she is curling her hair for people who are real to her, the people who surround her don't exist: she has shut them out.

In its extreme form, this withdrawal turns into schizophrenia: that total withdrawal into the self, which takes place when the outside world is so confusing, or so hard to deal with, that the organism finally cannot cope with it and turns away.³⁴ In the process of withdrawing into the self, the schizophrenic loses sight, entirely, of his dependence on other people. Schizophrenics are completely individualistic: the world they live in is their own world; they do not

perceive themselves as dependent on the outside world in any way, nor do they perceive any interaction between themselves and the outside world. Nor indeed, do they enter into any interaction with the world outside.³⁵

The stress of urban life has not yet had this extreme and catastrophic effect on many people. Nevertheless, what is nowadays considered "normal" urban behavior is strikingly like schizophrenia: it is also marked by extreme withdrawal from stress, and this withdrawal has also led to unrealistic belief in individualism and the self-sufficiency of individuals.

Any objective observer comparing urban life with rural or pre-industrial life must be struck by the extreme individualism of the people who live in cities.³⁶ This individualism has reached its most extreme form in the urban areas of the United States. Though it has often been criticised by non-Americans as a peculiarity of American culture, I believe this view mistaken. Individualism of an extreme kind is an inevitable by product of urbanisation--it occurs as part of the withdrawal from stress. This individualism is very different from healthy democratic respect for the individual's rights. It is a pathological over-belief in the self sufficiency and independence of the individual and the individual family, and a refusal to permit dependences of any emotional weight to form. Where contact with others reaches very high proportions--beyond the capacity of the individual organism--the organism is forced to shut these contacts out, and therefore to maintain an unreal belief in his own powers of self sufficiency.³⁷

An obvious expression of individualism is the huge amount of space which people need around them in the United States. Edward Hall has shown that each person carries an inviolable "bubble" of personal space around with him and that the size of the bubble varies according to the intimacy of the situation which the person is involved in.³⁸ He has also shown that the size of bubble required varies from culture to culture. It is remarkable that people need a larger bubble in the United States, for any given situation, than in any other country; this is clearly associated with the fear of bodily contact, and with the fact that people view themselves as isolated atoms, separate from everybody else.

This isolation of the individual is also expressed clearly by the love of private property in the United States, and the wealth of laws and institutions which keep people's private property inviolate.

Another recent, and extreme form of this worship of the individual exists in certain communities on the west coast of the United States, like Canyon, east of Oakland. The people in Canyon have a cult of honesty--about their individual wants--which leads to total disregard for others. Each one of them eats when he chooses to--in order to be "honest"--which means that groups no longer eat communally around a table. They are highly unresponsive to one another: when they meet, instead of moving physically towards each other as normal people do, they merely incline their heads, or nod with their eyelids. Each individual comes and goes as he pleases: there is no mutuality, no interplay of reaction and response.

Another form of extreme individualism, which threatens the development of intimate contacts, is the exaggerated accent on the nuclear

family. In modern urban society it is assumed that the needs for intimate contact which any one individual has, can be completely met in marriage. This concentration of all our emotional eggs in one basket has gone so far, that true intimacy between any friends except man and wife is regarded with extreme suspicion. As Camus says: In Greece a man and his friend walk down the street holding hands--in Paris people would snigger at the sight.

Perhaps the most vivid of all expressions of individualism is the song People who need people are the luckiest people in the world, top of the U.S. hit parade in 1964.

Where has this exaggerated arrogant view of the individual's strength come from? It is true that it is a withdrawal from stress. But it could never have happened, if it weren't for the fact that urbanisation makes individuals autonomous. The extreme differentiation of society in an urban area means that literally any service can be bought, by anyone. In material terms, any individual is able to survive alone. Women can make a living on their own; teenagers no longer need their families; old people can fend for themselves; men are able to get meals from the local automat, or from the freezer in the supermarket. Insurance is not provided by the extended family, but by the insurance companies. Autonomous trailer houses can exist in the wilderness without community facilities.

Of course these isolated, apparently autonomous individuals, are in fact highly dependent on society--but only through the medium of money. A man in a less differentiated rural economy is constantly reminded of his dependence on society, and of the fact that his very being is totally intertwined with the being of the social

order, and the being of his fellows. The individual who is technically autonomous, whose dependencies are all expressed in money terms, can easily make the mistake of thinking that he, or he and his family, are self-sufficient.

Now, naturally, people who believe that they are self-sufficient, create a world which reinforces individualism and withdrawal. In central cities, this is reflected in the concept of apartments. Though collected together at high densities, these apartments are in fact, like the people themselves, totally turned inward. High density makes it necessary to insulate each apartment from the world outside; the actual dwelling is remote from the street; it is virtually impossible to drop in on someone who lives in an apartment block. Not surprisingly, recent studies report that people who live in apartments feel more isolated than people who live in any other kinds of dwellings.³⁹

But autonomy and withdrawal, and the pathological belief in individual families as self-sufficient units, can be seen most vividly in the physical pattern of suburban tract development. This is Durkheim's dust-heap in the flesh. The houses stand alone: a collection of isolated, disconnected islands. There is no communal land, and no sign of any functional connection between different houses.

If it seems far-fetched to call this aspect of the suburb pathological, let us examine the results of a study undertaken in Vienna in 1956. The city planning department gave a questionnaire to a random sample of 4,000 Viennese, to find out what their housing preferences were. Most of them, when asked whether they would rather

live in apartments or in single family houses, said that they preferred apartments, because they wanted to be near the center where everything was happening.⁴⁰

A Viennese psychiatrist then gave the same questionnaire to 100 neurotic patients in his clinic. He found that a much higher majority of these patients wanted to live in one-family houses, that they wanted larger houses relative to the size of their families, that they wanted more space per person, and that more of them wanted their houses to be situated in woods and trees. In other words, they wanted the suburban dream. As he says: "The neurotic patients are marked by a strong desire to shun reality and to isolate themselves."⁴¹

Most people who move to suburbs are not sick in any literal sense. However, there can be no question that their move is a withdrawal. The four main reasons which people give for moving to the suburbs are:

1. Open space for children, because children can't play safely in central urban areas.⁴²
2. Wanting more space inside the house than they can afford in the central city.⁴³
3. Wanting to own a house of their own.⁴⁴ Ownership protects the owner from the uncertainties of tenancy, from the reliance on others, and from the dangers of the future. It creates the illusion that the owner and his family have a world of their own, where nobody can touch them.
4. Wanting more grass and trees.⁴⁵

Each of these is a withdrawal from stress. The withdrawal is understandable; but the suburb formed by this withdrawal undermines

the formation of intimate contacts in a devastating way. It virtually destroys the children's playgroup.

As we saw earlier, the intimate contacts in pre-industrial society were maintained by three primary groups: the extended family, the neighborhood group, and the children's playgroup. The first two, those which maintain intimate contacts between adults, are obsolete--and need to be replaced. But the third primary group--the children's playgroup--is not obsolete at all. Little children, unlike adults, do choose their friends from the children next door. It is perfectly possible for children's playgroups to exist in modern society, just as they always have: and indeed, it is essential. The children's playgroup sets the whole style of life for later years. Children brought up in extensive playgroups will be emotionally prepared for intimate contacts in later life; children brought up without playgroups will be prone to individualism and withdrawal.

On the fact of it, the suburb ought to be a very good place for children's playgroups. People move to suburbs specifically for the sake of their children. It has open space, and safety, and good schools. Yet, paradoxically, this children's paradise is not a paradise at all for little children. Children begin to seek other children at about 10 months.⁴⁶ Remembering that Harlow's monkeys required play with other monkeys during the first six months of life in order to be normal, and that these first six months correspond to the first three years in the life of a human child, let us ask: "How well does a suburban subdivision cater for the playgroups of the one and two and three-year olds?"

If you drive through a subdivision, watching children play, you will see that children who are old enough to have school friends, do have local playgroups of a sort. (Even these groups are sparse; in summer many of the children have to be sent off to summer camp.) But what happens to the smallest children: if you look carefully, you see them squatting forlornly outside their houses--occasionally playing with an elder brother or sister: and occasionally in groups of two or three, but most often alone. Compare this with the situation in a primitive village, or with a crowded urban slum: there the little children are out on the street fending for themselves, as soon as they can walk: heaps of children are playing and falling and rolling over one another.

The need for preschool playgroups is so desperate and urgent, that many mothers try to get their children into nursery school.⁴⁷ But even nursery school lasts only 15 hours a week. For a child the week is 100 waking hours long. The 15 hours of nursery school do little to relieve the damage of the other 85 hours.

Why are suburban playgroups small? There are several different reasons. First of all, suburban density is low and little children can't walk very far. Even if every house has children in it, the number of two and three year-olds that a given two year-old can reach, is very small. Secondly, even though the suburb is safer than the central city, the streets still aren't entirely safe. Mothers keep their two and three year-olds off the street, inside the individual yards, where they can keep an eye on them. This cuts the children's freedom to meet other children. Further, many suburbs have no common land at all in them, not even sidewalks. There isn't any natural

place where children go to find each other: they have to go and look for each other in one another's houses. For a child this is a much more formidable enterprise than simply running out to see who's on the street. It also makes the children hard to find, and keeps the size of playgroups down, especially since many parents won't allow large groups of children in the house. And finally, when children play in one another's yards, parents can control the playmates they consider suitable: "Johnny isn't nice, you mustn't play with him." One young mother told me that her son, four years old, had to be driven to the nearest child he was allowed to play with, and had to come home by taxi.

It is small wonder that children who grow up in these conditions learn to be self-reliant in the pathological sense I have described. As they become adults they are even less able to live lives with intimate contacts, than their parents; they seek even more exaggerated forms of individualism and withdrawal. As adults who suffer from withdrawal they create a world which creates children who are even more prone to suffer from withdrawal, and more prone to create such worlds. This closes the cycle of the syndrome, and makes it self-perpetuating.

We may summarise the syndrome briefly. Stress forces people to withdraw into themselves; autonomy allows them to. Pushed by stress, pulled by autonomy, people have withdrawn into a private world where they believe that they are self-sufficient. They create a way of life, and an environment, which reflects this belief; and this way of life, and this environment, then propagate the same

illusion. It creates more people who believe in self-sufficiency as an ideal, it makes intimate contact seem less necessary, and it makes it more and more difficult to achieve in practice.

The autonomy-withdrawal syndrome is not a unique American phenomenon. It is true that it is, so far, more acute in the United States than in any other country; but this is merely because urbanisation is more advanced in the United States than anywhere else. As massive urbanisation spreads, the syndrome will spread with it. I believe this syndrome is the greatest threat to social human nature which we face in this century. We have already seen that it can create misery, and madness. But in the long run its effects are far more devastating. An individual human organism becomes a self only in the process of intimate contacts with other selves. Unless we overcome the syndrome, the loss of intimate contacts may break down human nature altogether.

IV. SOLUTION

How can cities help to overcome the syndrome? If the city is to be a mechanism for sustaining intimate human contact, what geometric pattern does the mechanism need?

Of course, no amount of geometric pattern in the environment can overcome the syndrome on its own. The syndrome is a social and psychological problem of massive dimensions: it will only be solved when people decide to change their way of life. But the physical environment needs changing too. People can only change their way of life, if the environment supports their efforts.

There are two fundamentally different approaches to the problem. On the one hand, we may decide that intimate contact can only be sustained properly by primary groups, as it always has been in the past: we shall then try to create new kinds of primary group which might work in our society. On the other hand, we may decide that adult primary groups are gone for ever, and that it is unrealistic to try to recreate them in any form whatever in modern society: in this case we must try a more radical approach, and create a social mechanism which is able to sustain informal, daily contact between people without the support of a primary group.

It may be that the first of these approaches is the more hopeful one. This is what T-groups try to do, it is the idea behind the groups of families which Aldous Huxley describes in Island, and above all, it is the idea behind group work. If work can be re-organised, so that people band together in small work groups of about a dozen, and each group is directed towards a single

concentrated socially valuable objective, then the dedication and effort which develops in the group is capable of creating great intimacy, which goes far beyond the working day.

However, so far none of these methods has met with any great success. So far the forces which are breaking primary groups apart, have been stronger than the efforts to build artificial primary groups. In this paper I shall therefore assume that more radical steps will have to be taken: that although children's playgroups can be saved, adult primary groups are doomed, and that adults will have to sustain their intimate contacts in a new way, by frequent casual visiting. I shall now describe the re-organization of the housing pattern which is required by this approach.

At present, people have two main kinds of housing open to them: either they live in apartments, or they live in single family houses. Neither helps them overcome the autonomy-withdrawal syndrome. I shall now try to show that, in order for them to overcome the syndrome, the houses in a city must have twelve specific geometric characteristics: and that these twelve characteristics, when taken together, define a housing pattern different from any of those which are available today. The detailed reasons for the twelve characteristics are described in the notes. The characteristics themselves are these:

1. Every dwelling must be immediately next to a vehicular through street. If there are any multi-storey buildings with dwellings in them--like apartments--then there must be vehicular through streets at every level where there are entrances to dwellings.

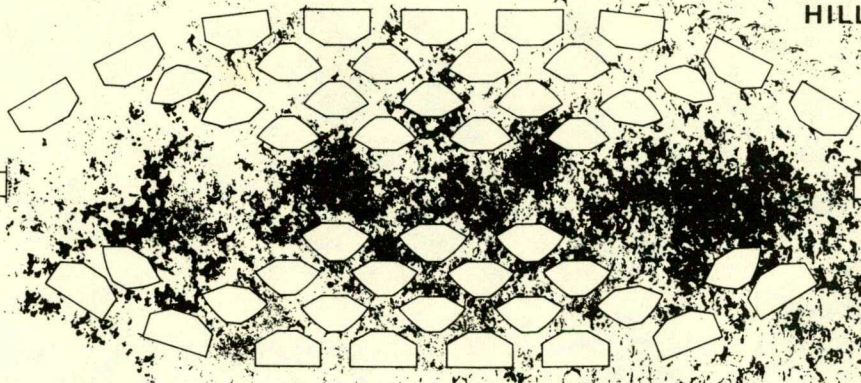
2. Each dwelling must contain a transparent communal room with the following properties: on one side the room is directly adjacent to the street, on the opposite side the room is directly adjacent to a private open air court or garden. Since the room is transparent its interior, seen against the garden, and the garden itself, are both visible from the street.⁴⁹
3. This transparent communal room is surrounded by free-standing, self-contained enclosed pavilions, each functioning as a bed-living unit, so arranged that each person in the family, or any number of people who wish to be undisturbed, can retire to one of these pavilions and be totally private.⁵⁰
4. The street immediately outside the dwelling must be no more than about 1000 feet long, and connected to a major traffic artery at each end.⁵¹
5. There must be a continuous piece of common land, accessible and visible from every dwelling.⁵²
6. This common land must be separated from the streets by houses, so that a child on the common land has to go through a house to get to the street.⁵³
7. The common land, though continuous, must be broken into many small "places", not much larger than outdoor "rooms", each surfaced with a wide variety of ground surfaces, especially "soft" surfaces like earth, mud, sand, grass, bushes.⁵⁴
8. Each house must be within 100 yards walk of 27 other houses.⁵⁶
9. Overall residential densities throughout the metropolitan area, must be as high as possible.⁵⁵

10. The entire exterior surface of the residential area is an undulating hillside, covered with grass and flowers and trees: the houses are set immediately under the surface of this hillside.⁵⁷
11. Each house is on an individual load-bearing pad, which doesn't touch any other pad, and may be clearly visualised as a piece of private property. The pad has its own open space, and allows the owner to build and modify his house as he wishes.⁵⁸
12. The hills vary in height and slope according to their location in the urban region. They are highest and steepest near commercial centers, and low and flat near the periphery.⁵⁹

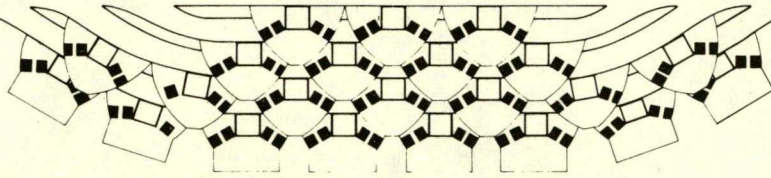
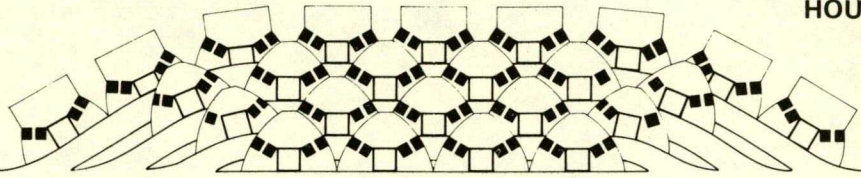
It now remains to find a single concrete configuration of dwellings, in which all of these twelve relations are simultaneously present. The drawings and photographs which follow, show such a configuration.

The residential area of the city is a continuous series of rolling linear hills. The hills are about 700 feet long, connected at each end to major traffic arteries. They change in height and slope according to their distance from the major urban centers. The outer surface of these hills is ~~publicly-owned common~~ land, covered by grass and trees and bushes and flowers. Each house is built on a pad, immediately under the surface of the hill. The outer half of this pad is a private, fenced garden, which connects directly with the outer surface of the hill. Daylight for the house comes from the

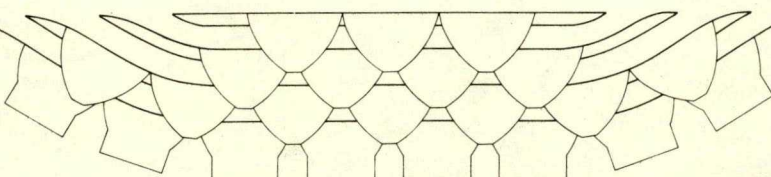
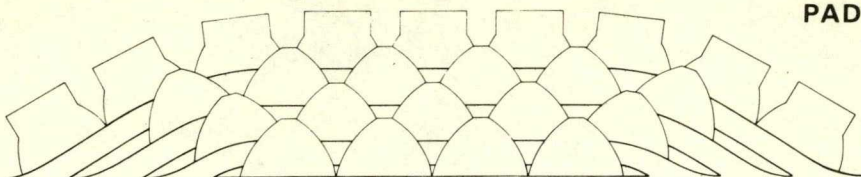
HILLSIDE 15



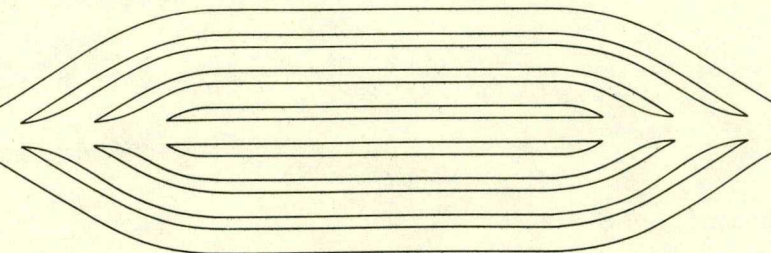
HOUSES



PADS



ROADS



garden. The common part of the hill, which surrounds the private gardens, is broken down to form a series of small places, connected by slopes and stairs. Each house is served by a street inside the hill, at its own level. The house is immediately next to its street. Each house has two basic components: a communal room, and a number of private pavilions. The communal room which is next to the street, between the street and the garden, is open to the street, and transparent, so that the garden is visible through it, and so that people inside this room are visible against the light. The private pavilions are arranged around this communal room, under the roof provided by the hillside above.

This configuration contains all twelve relations specified. Although it can be varied in many details without damaging any of the twelve relations, I do not believe that it is possible to find a configuration which differs fundamentally from the one I have described, and still contains all of the twelve. However, I should not like this configuration to be thought of as a building. Many problems still need to be worked out, before it can be built. The configuration must be thought of simply as a partial specification of what a city has to be, to function as a mechanism for sustaining human contact.

Let me once more repeat the central argument. It is inevitable that urban concentrations create stress. People in cities are exposed to stress more than people in small towns and villages. Our first reaction to this urban stress is to move away from it; to turn our backs on it; to try and escape it. This is very natural. Yet the remedy is worse than the disease. The ills of urban life which are commonly attributed to density and stress, are in fact not produced

by the original stress itself, but by our own actions in turning away from that stress. The stress is making us turn inward. If urban society is to survive, we must overcome this over-reaction. There is only one way to overcome it. We must take our lives in our hands, we must overcome the temptation to turn away; we must make ourselves vulnerable. Each individual in society must once more expose himself to those dangers, which, in his eagerness to escape from stress, he has shut out altogether. If people do not expose themselves, if they do not dare to make themselves vulnerable, life will become more and more intolerable, and we shall see more and more of the signs of dissociation which are already far too evident. The pattern of twelve relations which I have presented has only this one objective. It brings people out of hiding, and lets them expose themselves to the larger fabric of the city and to society, and to their friends. In such a city there is some chance of breaking down the autonomy-withdrawal syndrome. In our own cities there is no chance at all.

FOOTNOTES

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7. Ralph Linton, The Study of Man (New York: 1936), p. 230.
8. For instance, Clarence Stein, Towards New Towns for America (Chicago: 1951).
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48. In the modern city, many houses, and almost all apartments, are some distance off the street. Yet people live so far apart that they have to move around by car or motor-bike. Informal dropping-in will only work properly if all dwellings are directly on the street, so that people in the dwelling can be seen directly from a passing car.

It may be said that this is unnecessary since people who want to visit one another informally can telephone ahead, and ring the doorbell when they get there. This argument is superficial. People will only make a regular habit of informal visiting if they can be certain that they are really wanted when they get there. A phone call in advance, though useful for less subtle kinds of communication, does not convey enough information to make this possible. If you call someone, you cannot be sure from what he says on the phone, whether it is really a good time to go around or not. This will be true even with TV-telephones. To be sure, you need to see him: you need to know who else is there, what they are doing, what kind of mood everyone is in, what the children have been doing, whether they are tired or not, whether the whole family would rather be alone. You can only find these things out by seeing for yourself.

But if you go and knock on someone's door, and it turns out to be a bad moment, your visit is already too far advanced for you to withdraw, gracefully. Once you are on the doorstep, the hosts feel obliged to invite you in.

It is therefore essential to see the people you intend to visit inside their house, from your car. You wave to them; you sound the horn; you shout a few words. By then you have had a chance to assess the situation, and they have had a chance to react. If it is the right moment for a visit, they will invite you in. If it is not, you talk for a few moments, without leaving your car--and you can then drive on, without embarrassment to either side. It is therefore essential that the house be directly on a through street, and that some part of the house is transparent and directly visible from passing cars.

49. The part of the house which is visible must be indoors--so that it can be used year round: and since it is indoors it must have windows both on the street side, and on the far side, so that people inside can be seen from the street. It must therefore be a transparent room. The room must be designed in such a way that people will go there whenever

they are feeling sociable, and likely to welcome a casual visitor. But if the room is merely facing the street, people won't want to sit there: the street is far less pleasant than it used to be. That is why the porch is obsolete. Nowadays people tend to build their living rooms facing away from the street, towards some kind of view or garden. The transparent room, though visible from the street, must therefore be oriented towards a private court or garden, with a view beyond. Under these circumstances it will be a natural place for people to go for family meals, when they want to read the paper, have a drink, or gossip. In warm seasons they may also sit in the court beyond, where they will still be visible from the street.

50. If the communal room of the house is visible from the street, and open to passing friends, then the private rooms of the house must be far more private than they are today, so that their privacy is not infected by the openness of the communal room. Each of these private rooms must be a more or less self-contained pavilion, where people can be entirely undisturbed--either alone, or two, or as a group. People who live in such a house must learn to distinguish deliberately, between being accessible and being inaccessible. When they want to be accessible, they go to the communal room; when they want to be inaccessible, they go to one of the private pavilions.

51. The house must be so placed, that people can drive past it easily, without having to go too far out of their way. This means that the house must be on a street which is reasonably short, and connected at each end to a traffic artery that plays a major part in the overall traffic system.

52. Suburban yards are far too private. They only allow small groups to form, they make it hard for children to find each other, and they allow parents to regulate the other yards their own children may visit. In order to overcome these difficulties, and to give children the chance to meet freely in groups, there must be common land where they can always go to find each other.

In some of the older and denser suburbs, the wide sidewalks provide such common land. However, most suburban tract developments have very narrow sidewalks, or no sidewalks at all: and anyway most middle-class parents consider even the sidewalk dangerous, or rule it out on the grounds that "well brought up children don't play in the street." Most important of all, even in the suburbs, parents still feel very protective about the smallest children. They will only allow these children to play freely on common land, if they are convinced that the children will be completely safe while they are playing there.

This means, first of all, that the access to the common land must be direct from every house: it must not be necessary to cross streets or other public thoroughfares to get there. Secondly, the common land must be visible from the house itself: so that the parents can, if they

want to, watch their children playing there. Third, the common land must be so placed that a child cannot get to any vehicular street without going through a house. Finally, the common land must be disassociated from the street, and clearly meant for play, so that it has no connotation of "playing in the street." If all of these conditions are met, parents will allow the little children--even toddlers--to roam freely on and off the common land: and the playgroups have a good chance of forming.

53. See previous note.

54. One condition must be met, to make sure that the children really like the common land, and don't end up preferring their own yards, or other places. Little children do not enjoy playing in great big open areas. They seek small corners, and opportunities for secrecy; and they seek plastic materials--water, earth, and mud. [L. E. White, "The Outdoor Play of Children Living in Flats," Living in Towns, ed. Leo Kuper (London: 1953), pp. 235-264.] The common land then, must be broken up into many tiny places, which have natural earth and mud and plants in them.

55. Let us assume that there are two children per household in the areas where children live (the modal figure for suburban households), and that these children are evenly distributed, in age, from 0 to 18. Roughly speaking, a given pre-school child who is x years old, will play with children who are $x-1$ or x or $x+1$ years old. In order to have a reasonable amount of contact, and in order for playgroups to form, each child must be able to reach at least five children in this age range. Statistical analysis shows that in order for each child to have a 95% chance of reaching five such potential playmates, each child must be in reach of 27 households.

(The problem may be stated as follows: In an infinite population of children, one-sixth are the right age and five-sixths are the wrong age. A group of r children is chosen at random. The probability, $P_{r,k}$, that these r children contain exactly k right age children is given by the hypergeometric distribution. The probability that r has 5 or more right age children in it is $1 - \sum_{k=0}^4 P_{r,k}$. If we now ask what is the least r which makes $1 - \sum_{k=0}^4 P_{r,k} \geq .95$, r turns out to be 54, requiring 27 households.)

If we assume that preschool children are not able, or allowed, to go more than about 100 yards in search of playmates, this means that each house must be within 100 yards of 27 other houses. To achieve this density in a conventional suburban layout, house lots would have to be less than 40 feet wide, about half the width and twice the density, they are today.

56. There is a second reason why residential densities must be higher than today. Informal daily dropping-in will not take place between two households that are more than about 10 minutes apart. Since average door-to-door speeds in urban areas are about 15 mph, 10 minutes is about $2\frac{1}{2}$ miles, thus putting each person in reach of about 20 square miles, or about 100,000 people at current metropolitan densities. This is a tiny fraction of the population of a metropolitan area--a twentieth of a small one, a hundredth of a large one. Since we have started out with the axiom that a person's best friends may live anywhere in the metropolitan area, this means that people are within dropping-in distance of no more than a twentieth of their potentially closest friends.

Obviously vehicle speeds and streets can be improved. But it seems unlikely that average door-to-door speeds will more than double in this century. This means that people in the largest metropolitan areas, will still be within informal distance of less than one-twentieth of the population. While transportation must clearly be improved, it is clear that overall mean densities must also be raised as far as they can be.

Many planners believe that high density is bad for man. This is based on the fact that high density is often correlated with the incidence of crime, delinquency, ill health and insanity. If this belief were justified, any attempt to increase the density of population would obviously be ill-advised. However, though the belief has a long history, the evidence available today does not support it.

Let us try to disentangle the evidence. First of all, there seems little doubt that overcrowding--too little living space per person--does cause damage. Calhoun has shown this dramatically for rats. [J. B. Calhoun, "Population Density and Social Pathology," Scientific American, 206 (February, 1962), pp. 139-146.] Loring, Chombard de Lauwe, Lander, have shown that it is true for humans. [William C. Loring, "Housing Characteristics and Social Disorganization," Social Problems, (January, 1956): Chombard de Lauwe, Famille et Habitation (Paris: Editions du Centre National de la Recherche Scientifique, 1959): B. Lander, Towards an Understanding of Juvenile Delinquency (New York: Columbia UP, 1954).] This finding makes it clear that people who are now forced to live in crowded conditions either need more income, or need ways of reducing the square foot costs of living space. But it does not imply that the density of population per square mile should be reduced. Even dwellings which are individually very large, can still be arranged at very high population densities without overcrowding.

What evidence is there that high population density itself causes ill effects. It is true that there is often a positive correlation between high population density, and various indices of social disorder, like crime, delinquency, ill-health and insanity rates. [Robert C. Schmitt, "Delinquency and Crime in Honolulu," Sociology and Social Research, 41 (March-April, 1957), pp. 274-276, and "Population Densities and Mental Disorders in Honolulu," Hawaii Medical Journal, 16

(March-April, 1957), pp. 396-397.] However, it seems almost certain that these effects are caused by intervening variables, and are not directly caused by density. There are places--Boston's North-end and Hong Kong, for instance--which have exceptionally high densities, and exceptionally low indices of social disorder. [Jane Jacobs, The Death and Life of Great American Cities (New York: 1961), pp. 10 and 206; Robert C. Schmitt, "Implications of Density in Hong Kong," AIP Journal, 29 (1963), pp. 210-217.] Unless we assume that Italian-Americans and Chinese are organically different from other people, this means that density, as such, cannot be the source of trouble in the cases where a correlation does exist.

The following hypothesis fully explains all the observed correlations: Those social disorders apparently caused by density, are in fact caused by low income - education, and by social isolation. It is known that people who are poor, and badly educated, tend to live in high density areas. It is also known that people who are socially isolated tend to live in high density areas. Both variables are associated with high indices of social disorder. Although some published studies of density have controlled for one or the other of these variables, no study has controlled them both. Lander has shown that the correlation between overcrowding and delinquency, when controlled for these two variables, vanishes altogether. (Op. cit., p. 46.) Schmitt has published a table showing that the correlations persist, when income - education is controlled; but also showing a strong negative correlation between household size and social disorder (large households are less prone to social disorders), which suggests strongly that social isolation may be responsible for the persistent correlation. [Robert C. Schmitt, "Density, Health and Social Disorganization," AIP Journal, 32 (January, 1966), pp. 38-40.] The fact that there are very few social disorders in Boston's North End, and in Hong Kong, is clearly due to the existence of close knit extended families: the lack of social isolation. I predict that the partial correlation between density and social disorder, when controlled for income-education and for social isolation, will disappear altogether.

This hypothesis explains all the available data. Although it is untested, there is no published evidence which contradicts it. As far as we can tell, the high density characteristics called for by the need for contact, are perfectly safe.

57. We cannot expect people to live at high density, just because it has certain social benefits. The low density of suburban tracts is not due to chance: it has been created by a number of insatiable demands, far more important to consumers than the point of view I have presented. These demands are so basic, and play such a basic role in the operation of the urban land market, that low residential density is a universal feature of emerging metropolitan areas throughout the world. Unless these demands can be satisfied equally well at higher densities, there is not the slightest hope that overall densities will ever be increased.

There are five main demands:

1. People seek more open space for their children than they can find in central urban areas.
2. People want to live in a house which is their very own property.
3. People seek more space per person than they can afford in central areas.
4. People want a house which is different from the next man's-- not simply one of hundreds of identical apartments.
5. People seek grass and trees as symbols of stability and peace.

All of these demands lead to the same basic tendency: the desire for land. The pattern of density in an urban region is created by the conflict between this one basic tendency, and another equally basic tendency: the desire for easy access to central areas. For a given income, each person can choose less land at the center, or more land further from the center. When a population of individuals try to resolve this conflict for themselves, a characteristic pattern of density comes into being: density declines exponentially with distance from

the center according to the equation: $d_r = d_c e^{-br}$. [Brian J. L. Berry, James W. Simmons, and Robert J. Tennant, "Urban Population Densities: Structure and Change," Geographical Review, 53 (1963), pp. 389-405; John Q. Stewart and William Warntz, "Physics of Population Distribution," Journal of Regional Science, Vol. I (1958), pp. 99-123.] This relation holds for cities all over the world. [Colin Clark, "Urban Population Densities," Journal of the Royal Statistical Society, Series A, 114 (1951), Part 4, pp. 490-496; Berry, op. cit.] What is even more surprising, the relation is almost entirely fixed by absolute population, and by the age of the city. This means that in a free market, neither the overall mean density of a city, nor the densities at different distances from the center, can be controlled by planning action.

They can, however, be controlled indirectly. The density pattern comes into being as a result of millions of peoples' efforts to resolve the conflict between their desire for access, and their desire for land. If we can make land more useful, so that a person can get a given level of satisfaction from a smaller piece of land than he needs to get that satisfaction now, then the desire for access will balance differently against the desire for land, and densities will increase.

Land is valuable for two basic reasons. First of all, it is the prime building surface. Secondly, it provides open space. The first is replaceable. The second is not. It is easy to create artificial building surfaces at many levels. But the area of open space cannot be increased beyond the area of the land. This is a basic natural resource. Yet this resource is almost entirely wasted and destroyed in urban areas today. Fifty percent is wasted on roads and parking lots, which really don't require it: twenty-five percent is wasted on roofs, which get no benefit from it at all. The twenty-five percent of open space left over are chopped up and useless.