

# 11

## The need for concentration

CONDITION 4: *The district must have a sufficiently dense concentration of people, for whatever purpose they may be there. This includes people there because of residence.*

For centuries, probably everyone who has thought about cities at all has noticed that there seems to be some connection between the concentration of people and the specialties they can support. Samuel Johnson, for one, remarked on this relationship back in 1785. "Men, thinly scattered," he said to Boswell, "make a shift, but a bad shift, without many things . . . It is being concentrated which produces convenience."

Observers are forever rediscovering this relationship in new times and places. Thus in 1959, John H. Denton, a professor of business at the University of Arizona, after studying American suburbs and British "new towns" came to the conclusion that such places must rely on ready access to a city for protection of

their cultural opportunities. "He based his findings," reported the *New York Times*, "on the lack of a sufficient density of population to support cultural facilities. Mr. Denton . . . said that decentralization produced such a thin population spread that the only effective economic demand that could exist in suburbs was that of the majority. The only goods and cultural activities available will be those that the majority requires, he observed," and so on.

Both Johnson and Professor Denton were speaking about the economic effects of large numbers of people, but not numbers loosely added up indefinitely from thinly spread populations. They were making the point that it seems to matter greatly how thinly or how thickly people are concentrated. They were comparing the effects of what we call high and low densities.

This relationship of concentration—or high density—to conveniences and to other kinds of diversity is generally well understood as it applies to downtowns. Everyone is aware that tremendous numbers of people concentrate in city downtowns and that, if they did not, there would be no downtown to amount to anything—certainly not one with much downtown diversity.

But this relationship between concentration and diversity is very little considered when it comes to city districts where residence is a chief use. Yet dwellings form a large part of most city districts. The people who live in a district also form a large share, usually, of the people who use the streets, the parks and the enterprises of the place. Without help from the concentration of the people who live there, there can be little convenience or diversity where people live, and where they require it.

To be sure, the dwellings of a district (like any other use of the land) need to be supplemented by other primary uses so people on the streets will be well spread through the hours of the day, for the economic reasons explained in Chapter Eight. These other uses (work, entertainment, or whatever) must make intensive use of city land if they are to contribute effectively to concentration. If they simply take up physical room and involve few people, they will do little or nothing for diversity or liveliness. I think it is hardly necessary to belabor that point.

This same point is just as important, however, about dwellings.

City dwellings have to be intensive in their use of the land too, for reasons that go much deeper than cost of land. On the other hand, this does not mean that everyone can or should be put into elevator apartment houses to live—or into any other one or two types of dwellings. That kind of solution kills diversity by obstructing it from another direction.

Dwelling densities are so important for most city districts, and for their future development, and are so little considered as factors in vitality, that I shall devote this chapter to that aspect of city concentration.

High dwelling densities have a bad name in orthodox planning and housing theory. They are supposed to lead to every kind of difficulty and failure.

But in our cities, at least, this supposed correlation between high densities and trouble, or high densities and slums, is simply incorrect, as anyone who troubles to look at real cities can see. Here are a few illustrations:

In San Francisco, the district of highest dwelling densities—and highest coverage of residential land with buildings too—is North Beach-Telegraph Hill. This is a popular district that has spontaneously and steadily unslummed itself in the years following the Depression and the Second World War. San Francisco's chief slum problem, on the other hand, is a district called the Western Addition, a place that has steadily declined and is now being extensively cleared. The Western Addition (which at one time, when it was new, was a good address) has a dwelling-unit density considerably lower than North Beach-Telegraph Hill's, and, for that matter, lower than the still fashionable Russian Hill's and Nob Hill's.

In Philadelphia, Rittenhouse Square is the only district that has been spontaneously upgrading and extending its edges, and is the only inner city area that has not been designated for either renewal or clearance. It has the highest dwelling density in Philadelphia. The North Philadelphia slums currently display some of the city's most severe social problems. They have dwelling densities averaging at most half those of Rittenhouse Square. Vast territories of additional decay and social disorder in Philadelphia have dwelling densities less than half those of Rittenhouse Square.

In Brooklyn, New York, the most generally admired, popular and upgrading neighborhood is Brooklyn Heights; it has much the highest density of dwellings in Brooklyn. Tremendous expanses of failed or decaying Brooklyn gray area have densities half those of Brooklyn Heights or less.

In Manhattan, the most fashionable pocket of the midtown East Side, and the most fashionable pocket of Greenwich Village have dwelling densities in the same high range as the heart of Brooklyn Heights. But an interesting difference can be observed. In Manhattan, very popular areas, characterized by high degrees of vitality and diversity, surround these most fashionable pockets. In these surrounding popular areas, dwelling densities go still higher. In Brooklyn Heights, on the other hand, the fashionable pocket is surrounded by neighborhoods where dwelling unit densities drop off; vitality and popularity drop off too.

In Boston, as already mentioned in the introduction to this book, the North End has unslummed itself and is one of the city's healthiest areas. It has much the highest dwelling densities in Boston. The Roxbury district, which has been steadily declining for a generation, has a dwelling density about a ninth that of the North End's.\*

\*Here are the density figures for these examples. They are given in numbers of dwelling units per net acre of residential land. When two figures are given, they represent a range into which the average or averages for the place concerned fall (which is the way this data is often tabulated or mapped). In San Francisco: North Beach-Telegraph Hill, 80-140, about the same as Russian Hill and Nob Hill, but the buildings cover more of the residential ground in North Beach-Telegraph Hill; the Western Addition, 55-60. In Philadelphia: Rittenhouse Square, 80-100; North Philadelphia slums, about 40; row-house neighborhoods in trouble, typically 30-45. In Brooklyn: Brooklyn Heights, 125-174 at heart and 75-124 in most of the remainder; drop-offs to 45-74 beyond; as examples of Brooklyn areas in decline or trouble, Bedford-Stuyvesant, about half at 75-124 and half at 45-74; Red Hook, mostly 45-74; some Brooklyn spots in decay as low as 15-24. In Manhattan: most fashionable pocket of midtown East Side, 125-174, rising in Yorkville to 175-254; Greenwich Village, most fashionable pocket, 124-174, rising to 175-254 for most of remainder with pocket containing stable, old, unslummed Italian community rising above 255. In Boston, North End, 275; Roxbury, 21-40.

For Boston and New York, these figures are from planning commission

The overcrowded slums of planning literature are teeming areas with a high density of dwellings. The overcrowded slums of American real life are, more and more typically, dull areas with a low density of dwellings. In Oakland, California, the worst and most extensive slum problem is an area of some two hundred blocks of detached, one- and two-family houses which can hardly be called dense enough to qualify as real city densities at all. Cleveland's worst slum problem is a square mile of much the same thing. Detroit is largely composed, today, of seemingly endless square miles of low-density failure. The East Bronx of New York, which might almost stand as a symbol of the gray belts that have become the despair of cities, has low densities for New York; in most parts of the East Bronx, densities are well below the whole city averages. (New York's average dwelling density is 55 units per net residential acre.)

However, it will not do to jump to the conclusion that all areas of high dwelling density in cities do well. They do not, and to assume that this is "the" answer would be to oversimplify outrageously. For instance, Chelsea, much of the badly failed uptown West Side, and much of Harlem, all in Manhattan, have dwelling densities in the same high ranges as those of Greenwich Village, Yorkville and the midtown East Side. Once-ultrafashionable Riverside Drive, plagued by trouble today, has still higher dwelling densities.

measurements and tabulations; for San Francisco and Philadelphia they are estimates by planning or redevelopment staff members.

Although all cities make a fetish of minute density analysis in project planning, surprisingly few have much accurate data on nonproject densities. (One planning director told me he could see no reason for studying them except as light on how big the relocation problem would be if they were knocked down!) No city that I know of has studied just what localized, building-by-building variations in density go into the makeup of density averages in successful and popular neighborhoods. "It's too hard to generalize about districts like that," complained a planning director when I asked him about specific density variations, at small scale, in one of his city's most successful districts. It is hard, or impossible, to generalize about such districts precisely because they are, themselves, so little "generalized" or standardized in their groupings. This very capriciousness and diversity of the components is one of the most important, and most ignored, facts about density averages in successful districts.

We cannot understand the effects of high and low densities if we assume that the relationship between concentrations of people and production of diversity is a simple, straight mathematical affair. The results of this relationship (which Dr. Johnson and Professor Denton both spoke of in its simple, crude form), are drastically influenced by other factors too; three of these occupy the three preceding chapters.

No concentration of residents, however high it may be, is "sufficient" if diversity is suppressed or thwarted by other insufficiencies. As an extreme example, no concentration of residence, however high, is "sufficient" to generate diversity in regimented projects, because diversity has been regimented out in any case. And much the same effects, for different reasons, can occur in unplanned city neighborhoods, where the buildings are too standardized or the blocks are too long, or there is no mixture of other primary uses besides dwellings.

However, it still remains that dense concentrations of people are *one* of the necessary conditions for flourishing city diversity. And it still follows that in districts where people live, this means there must be a dense concentration of their dwellings on the land preempted for dwellings. The other factors that influence how much diversity is generated, and where, will have nothing much to influence if enough people are not there.

One reason why low city densities conventionally have a good name, unjustified by the facts, and why high city densities have a bad name, equally unjustified, is that high densities of dwellings and overcrowding of dwellings are often confused. High densities mean large numbers of dwellings per acre of land. Overcrowding means too many people in a dwelling for the number of rooms it contains. The census definition of overcrowding is 1.5 persons per room or more. It has nothing to do with the number of dwellings on the land, just as in real life high densities have nothing to do with overcrowding.

This confusion between high densities and overcrowding, which I will go into briefly because it so much interferes with understanding the role of densities, is another of the obfuscations we have inherited from Garden City planning. The Garden City

planners and their disciples looked at slums which had both many dwelling units on the land (high densities) and too many people within individual dwellings (overcrowding), and failed to make any distinction between the fact of overcrowded rooms and the entirely different fact of densely built up land. They hated both equally, in any case, and coupled them like ham and eggs, so that to this day housers and planners pop out the phrase as if it were one word, "highdensityandovercrowding."

Adding further to the confusion came a statistical monstrosity much used by reformers to aid their housing-project crusades—a raw figure of numbers of persons per acre. These menacing figures never tell how many dwellings or how many rooms there are to the acre, and if the figure is given for a badly troubled area—as it almost invariably is—the implication is deafening that there is something dreadful, on the face of it, in such heavy concentrations of people. The fact that the people may be living four to a room, or may be a distillation of misery in every guise, becomes all but irrelevant. It happens that Boston's North End, with 963 persons per net residential acre, has a death rate (1956 figures) of 8.8 per thousand population and a TB death rate of 0.6 per ten thousand. Boston's South End, meantime, has 361 persons per residential acre, a death rate of 21.6 per thousand population, and a TB death rate of 12 per ten thousand. It would be ridiculous to say that these indications of something very wrong in the South End come of having 361 persons per residential acre instead of almost 1,000. The facts are more complicated. But it is equally ridiculous to take the case of a miserable population at 1,000 persons to the acre and imply that that figure is therefore villainous.

It is typical of this confusion between high densities and overcrowding that one of the great Garden City planners, Sir Raymond Unwin, titled a tract which had nothing to do with overcrowding, but instead with super-block arrangements of low-density dwellings, *Nothing Gained by Overcrowding*. By the 1930's, overcrowding of dwellings with people and supposed "overcrowding" of land with buildings (i.e., city dwelling densities and land coverage) were taken to be practically identical in

meaning and results, insofar as the distinction was thought about at all. When observers like Lewis Mumford and Catherine Bauer could not avoid noticing that some very successful areas of cities had high densities of dwellings and high ground coverages, but not too many persons in a dwelling or a room, they took the tack (Mumford still takes it) that the fortunate people living in comfort in these popular places are living in slums, but are too insensitive to know it or resent it.

Overcrowding of dwellings and high densities of dwellings are always being found one without the other. The North End and Greenwich Village and Rittenhouse Square and Brooklyn Heights have high densities for their cities, but with few exceptions their dwellings are not overcrowded. The South End and North Philadelphia and Bedford-Stuyvesant have much lower densities, but their dwellings frequently are overcrowded, with too many persons in a dwelling. Today we are much more apt to find overcrowding at low densities than at high densities.

Nor does slum clearance as practiced in our cities usually have anything to do with solving the problem of overcrowding. Instead, slum clearance and renewal typically add to that problem. When old buildings are replaced with new projects, the dwelling densities are often made lower than they were, so there are fewer dwellings in a district than before. Even if the same dwelling densities are repeated, or lifted a little, fewer people are accommodated than were put out, because the people who were displaced were often overcrowded. The result is that overcrowding increases somewhere else, especially if colored people, who can find few areas in which to live, have been displaced. All cities carry laws against overcrowding on their books, but these laws cannot be enforced when the city's own rebuilding plans force overcrowding in new places.

In theory, one might suppose that the dense concentrations of people necessary to help generate diversity in a city neighborhood can live in either a sufficiently high density of dwellings or in an overcrowded lower density of dwellings. The number of people in a given area could be the same under these two conditions. But in real life the results are different. In the case of

enough people in enough dwellings, the diversity can be generated and people can develop attachment and loyalty to their unique neighborhood mixture of things, without a built-in destructive force—overcrowding of dwellings with too many people per room—necessarily working at cross-purposes. Diversity and its attractions are combined with tolerable living conditions in the case of enough dwellings for enough people, and so more people who develop choice are apt to stay put.

Overcrowding within dwellings or rooms, in our country, is almost always a symptom of poverty or of being discriminated against, and it is one (but only one) of many infuriating and discouraging liabilities of being very poor or of being victimized by residential discrimination, or both. Indeed, overcrowding at low densities may be even more depressing and destructive than overcrowding at high densities, because at low densities there is less public life as a diversion and escape, and as a means, too, for fighting back politically at injustices and neglect.

Everybody hates overcrowding and those who must endure it hate it worst. Almost nobody overcrowds by choice. But people often do live in high-density neighborhoods by choice. Overcrowded neighborhoods, low-density or high-density, are usually neighborhoods that did not work out when they were inhabited in uncrowded fashion by people who had choice. The people with choice left. Neighborhoods that have uncrowded themselves with time, or have maintained uncrowding over several generations, are apt to be neighborhoods that have been working out and that both hold and attract the loyalty of people who do have choice. The tremendous gray belts of relatively low density that ring our cities, decaying and being deserted, or decaying and being overcrowded, are significant signals of the typical failure of *low* densities in big cities.

What are proper densities for city dwellings?

The answer to this is something like the answer Lincoln gave to the question, "How long should a man's legs be?" Long enough to reach the ground, Lincoln said.

Just so, proper city dwelling densities are a matter of performance. They cannot be based on abstractions about the quantities

of land that ideally should be allotted for so-and-so many people (living in some docile, imaginary society).

Densities are too low, or too high, when they frustrate city diversity instead of abetting it. This flaw in performance is *why* they are too low or too high. We ought to look at densities in much the same way as we look at calories and vitamins. Right amounts are right amounts because of how they perform. And what is right differs in specific instances.

Let us begin at the low end of the density scale to understand, broadly, why a density that may perform well in one place is poor in another.

Very low densities, six dwellings or fewer to the net acre, can make out well in suburbs. Lots at such densities average, say, 70 by 100 feet or more. Some suburban densities go higher, of course; lots at ten dwellings to the acre average just under, say, 50 by 90 feet, which is a squeeze for suburban living but, with clever site planning, good design and genuine suburban location, can yield a suburb or a reasonable facsimile.

Between ten and twenty dwellings to the acre yields a kind of semisuburb,\* consisting either of detached or two-family houses on handkerchief plots, or else of generously sized row houses with relatively generous yards or greens. These arrangements, although they are apt to be dull, can be viable and safe if they are secluded from city life; for example if they lie toward the outer edges of a big city. They will not generate city liveliness or public life—their populations are too thin—nor will they help maintain city sidewalk safety. But there may be no need for them to do so.

However, densities of this kind ringing a city are a bad long-term bet, destined to become gray area. As the city continues to grow, the character that makes these semisuburbs reasonably attractive and functional is lost. As they are engulfed and embedded deep in a city, they lose, of course, their former geographical closeness to true suburbs or countryside. But more than that, they lose their protection from people who do not "fit in" to each other's private lives economically or socially, and they lose their

\* The classic ideal of strict Garden City planning has been in this range: twelve dwellings to the acre.

aloofness from the peculiar problems of city life. Swallowed into a city and its ordinary problems, they possess no city vitality to contend with these problems.

In short, there is a justification for densities averaging twenty dwellings or less to the acre, and there may be good reasons for these densities, so long as their dwellings and neighborhoods are not everyday part and parcel of a big city.

Above these semisuburban densities, the realities of city life can seldom be evaded, even for a short time.

In cities (which you will recall have not the local self-containment of towns), densities at twenty dwellings to the acre and above mean that many people who live near each other geographically are strangers to one another and always will be strangers. Not only that, but strangers from elsewhere find it easy to be present because other neighborhoods of this same density or higher are close by.

Rather abruptly, once a semisuburban density is exceeded, or a suburban location engulfed, an entirely different kind of city settlement exists—a settlement which now has different kinds of everyday jobs to handle and a need for different ways of handling them, a settlement which lacks assets of one kind but potentially has assets of another kind. From this point on, a city settlement needs city vitality and city diversity.

Unfortunately, however, densities high enough to bring with them innate city problems are not by any means necessarily high enough to do their share in producing city liveliness, safety, convenience and interest. And so, between the point where semisuburban character and function are lost, and the point at which lively diversity and public life can arise, lies a range of big-city densities that I shall call “in-between” densities. They are fit neither for suburban life nor for city life. They are fit, generally, for nothing but trouble.

The “in-between” densities extend upward to the point, by definition, at which genuine city life can start flourishing and its constructive forces go to work. This point varies. It varies in different cities, and it varies within the same city depending on how much help the dwellings are getting from other primary

uses, and from users attracted to liveliness or uniqueness from outside the district.

Districts like Rittenhouse Square in Philadelphia and North Beach-Telegraph Hill in San Francisco, both of which enjoy great good fortune in mixtures of uses and attractions to outside users, can demonstrably maintain vitality at densities of approximately 100 dwelling units to the net acre. On the other hand, in Brooklyn Heights this is evidently not enough. Where the average there falls off to 100 dwellings to the net acre, vitality falls off.\*

I can find only one city district with vitality that has well under 100 dwellings per acre, and this is the Back-of-the-Yards in Chicago. It is able to be an exception because politically this district gets the benefits that ordinarily come only with dense concentration. At “in-between” densities it nevertheless has enough people to swing weight in a big city because its functioning district territory extends much farther geographically than other districts manage except in name, and it uses this full political weight with extraordinary skill and steel to get what it needs. But even the Back-of-the-Yards shares some of the liabilities of visual monotony, small, everyday inconvenience, and fear of strangers who look too alien, that go virtually always with “in-between” densities. The Back-of-the-Yards is gradually raising its densities, to take care of the district population’s natural increase. To increase

\*Some planning theorists call for urban variety and liveliness, and simultaneously prescribe “in-between” densities. For example, in the Winter 1960-61 issue of *Landscape* magazine, Lewis Mumford writes, “Now the great function of the city is . . . to permit, indeed to encourage and incite, the greatest potential number of meetings, encounters, challenges, between all persons, classes and groups, providing, as it were, a stage upon which the drama of social life may be enacted, with the actors taking their turn as spectators and the spectators as actors.” In the next paragraph, however, he castigates city areas occupied at densities of 200 to 500 *persons* (italics mine) per acre, and recommends “housing that will permit parks and gardens as an integral part of the design, at densities not higher than a hundred, or at most, in quarters for childless people, of 125 *persons* per acre.” Densities of 100 *persons* per acre mean dwelling-unit densities in the range of 25-50 per acre. Urbanity and “in-between” densities like this can be combined only theoretically; they are incompatible because of the economics of generating city diversity.

densities gradually, as is being done here, is by no means undercutting this district's social and economic assets. On the contrary, it is strengthening them.

To fix upon a functional answer as to where the "in-between" densities end, we can say that a district escapes from them when its land devoted to dwellings is dense enough to do a good primary-diversity job of helping to generate flourishing secondary city diversity and liveliness. A density figure that accomplishes this in one place may be much too low in another.

A numerical answer means less than a functional answer (and unfortunately can even deafen the dogmatic to the truer and more subtle reports that come in from life). But I should judge that numerically the escape from "in-between" densities probably lies somewhere around the figure of 100 dwellings to an acre, under circumstances *most congenial in all other respects* to producing diversity. As a general rule, I think 100 dwellings per acre will be found to be too low.

Assuming that an escape has been made from the trouble-creating "in-between" densities, let us return to consideration of viable city densities. How high "should" city dwelling densities go? How high can they go?

Obviously, if the object is vital city life, the dwelling densities should go as high as they need to go to stimulate the maximum potential diversity in a district. Why waste a city district's and a city population's potential for creating interesting and vigorous city life?

It follows, however, that densities can get too high if they reach a point at which, for any reason, they begin to repress diversity instead of to stimulate it. Precisely this can happen, and it is the main point in considering how high is too high.

The reason dwelling densities can begin repressing diversity if they get too high is this: At some point, to accommodate so many dwellings on the land, standardization of the buildings must set in. This is fatal, because great diversity in age and types of buildings has a direct, explicit connection with diversity of population, diversity of enterprises and diversity of scenes.

Among all the various kinds of buildings (old or new) in a city

some kinds are always less efficient than others in adding dwellings to the land. A three-story building will get fewer dwellings onto a given number of square feet of land than a five-story building; a five-story building, fewer than a ten-story building. If you want to go up far enough, the number of dwellings that can go onto a given plot of land is stupendous—as Le Corbusier demonstrated with his schemes for a city of repetitive skyscrapers in a park.

But in this process of packing dwellings on given acreages of land, it does not do to get too efficient, and it never did. There must be leeway for variety among buildings. All those variations that are of less than maximum efficiency get crowded out. Maximum efficiency, or anything approaching it, means standardization.

At any particular place and time, under the given circumstances of regulations, technology and financing, some particular way of packing dwellings onto the land is apt to be the most efficient way. At some places and times, for example, narrow three-story row houses were apparently the answer for maximum efficiency at getting city dwellings on the land. Where these crowded out all other dwelling types they brought a pall of monotony. At another period, wider five- or six-story walk-up tenements were the most efficient. When Riverside Drive in Manhattan was built up, twelve- and fourteen-story elevator apartments were apparently the answer for maximum packing efficiency, and with this particular standardization as a base, the highest dwelling density belt in Manhattan has been produced.

Elevator apartments are today the most efficient way of packing dwellings on a given amount of building land. And within this type are certain most efficient subtypes such as those of maximum height for low-speed elevators, usually considered today as twelve stories, and those of maximum economic height for pouring reinforced concrete. (Such height in turn depends on the technological improvement of cranes, so this figure increases every few years. As this is written, it is twenty-two stories.) Elevator apartments are not only the most efficient way of packing people on a given amount of land. They can, under unfavorable circumstances, also be probably the most dangerous way of doing it, as

experience in many a low-income housing project shows. In some circumstances, they are excellent.

Elevator apartments do not produce standardization by virtue of being elevator apartments, any more than three-story houses produce standardization by virtue of being three-story houses. But elevator apartments do produce standardization when they are almost the only way a neighborhood is housed—just as three-story houses produce monotonous standardization when they are almost the only way in which a neighborhood is housed.

No one way is a good way to house a city neighborhood; no mere two or three ways are good. The more variations there can be, the better. As soon as the range and number of variations in buildings decline, the diversity of population and enterprises is too apt to stay static or decline, instead of increasing.

It is not easy to reconcile high densities with great variety in buildings, yet it must be attempted. Anti-city planning and zoning virtually prevent it, as we shall see.

Popular high-density city areas have considerable variation among their buildings—sometimes immense variation. Greenwich Village is such a place. It manages to house people at densities ranging from 125 to above 200 dwelling units per acre, without standardization of buildings. These averages are obtained from mixtures of everything from single-family houses, houses with flats, tenements and all kinds of small apartment houses and flats, on up to elevator apartments of many different ages and sizes.

The reason Greenwich Village can reconcile such high densities with such great variety is that a high proportion of the land which is devoted to residences (called net residential acres) is covered with buildings. Relatively little is left open and unbuilt upon. In most parts, the buildings cover the residential land at averages estimated as ranging from 60 percent to 80 percent of the land, leaving the other 40 percent to 20 percent of the land unbuilt on as yards, courts and the like. This is a high ratio of ground coverage. It is so efficient a use of the *land* itself, that it permits a good deal of “inefficiency” in buildings. Most of them need not be highly efficient at packing, but even so, high average densities are reached.

Now, suppose that only 15 percent to 25 percent of the resi-

dential land is built upon, and the other 75 percent to 85 percent is left open and unbuilt on. These are common figures for housing projects, with their expanses of open land which are so hard to control in city life and produce so much vacuity and trouble. More open land means remarkably less building space. If open land is doubled from 40 percent and becomes 80 percent, the amount of land that can be built upon is cut by two thirds! Instead of having 60 percent of the land to build on, you have only 20 percent to build on.

When so much land is left open, the land itself is being used “inefficiently” so far as packing dwellings on it is concerned. The strait jacket is very tight when only 20 percent or 25 percent can be built upon. The density of dwellings must be very low, or, alternatively, dwellings must be packed with great efficiency onto the fraction of the ground that can take the buildings. Under these circumstances, it is impossible to reconcile high densities with variety. Elevator apartments, and often very high ones, are unavoidable.

The Stuyvesant Town project in Manhattan has a density of 125 dwellings per net acre, a density that would be on the low side for Greenwich Village. Yet to accommodate so many dwellings as this in Stuyvesant Town, where the ground coverage is only 25 percent (75 percent left open), the dwellings must be most rigidly standardized in rank upon rank of virtually identical, massive elevator apartment houses. More imaginative architects and site planners might have arranged the buildings differently, but no possible difference could be more than superficial. Mathematical impossibility would defy genius itself to introduce genuine substantial variety at these low ground coverages with these densities.

Henry Whitney, an architect and project housing expert, has worked out many theoretically possible combinations of elevator buildings with lower buildings, using the low ground coverages required for public housing and for nearly all federally subsidized renewal. Mr. Whitney found that no matter how you slice it, it is physically impossible to get above low city densities (40 to an acre or thereabouts) without standardizing all but a minute token of the dwellings—*unless ground coverages are increased*, which

is to say unless open space is decreased. One hundred dwellings to the acre at low ground coverages yield not even token variety—and yet this density is a probable minimum if the unfit “in-between” densities are to be avoided.

Low ground coverages—no matter by what means they are imposed, from local zoning to federal fiat—and diversity of buildings, and viable city densities are thus conditions that are incompatible with one another. At low coverages, if the densities are high enough to help engender city diversity, they are automatically too high to *permit* diversity. The thing is a built-in contradiction.

Assuming that ground coverages are high, however, just how high can a neighborhood's densities go without sacrificing the neighborhood to standardization? This depends a good deal on how many variations, and what variations, already exist in a neighborhood from the past. Variations from the past are a foundation to which new variations of the present (and eventually the future) are added. A neighborhood already standardized, from the past, at three-story houses or five-story tenements is not going to get a full, good range of variation by adding one more type in the present, thereby creating a higher density and letting it go at that. The worst case possible is no foundation from the past at all: empty land.

It is hardly possible to expect that many really different types of dwellings or their buildings can be added *at any one time*. To think they can be is wishful thinking. There are fashions in building. Behind the fashions lie economic and technological reasons, and these fashions exclude all but a few genuinely different possibilities in city dwelling construction *at any one time*.

In districts where densities are too low, they can be raised and variation increased by adding new buildings simultaneously in different, separated spots only. In short, densities should be raised—and new buildings introduced for this purpose—gradually rather than in some sudden, cataclysmic upheaval to be followed by nothing more for decades. The very process of increasing densities gradually but continually can result in increasing variety too, and thus can permit high ultimate densities without standardization.

How high ultimate densities can go without standardization is limited finally, of course, by the land, even when the coverage of the ground is very high. In the North End of Boston, the high densities, averaging 275 dwellings per acre, include considerable variation; but this good combination has been partly obtained at the expense of ground coverages which reach too high a proportion of the land behind some buildings. Too much building has occurred, in the past, as a second layer in the back yards and courts within the little blocks. Actually, these interior buildings add a relatively small share to the density, for they are small and usually low. And they are not a fault in every case either; as occasional oddities they are charming. The trouble comes from too many. With the addition to the district of a few elevator apartments houses—a variety of accommodation the North End lacks—open spaces inside blocks could be somewhat increased without lowering district densities. At the same time the district's variety of accommodations would be increased, rather than lessened. But this could not be done if pseudo-city low ground coverages had to accompany the elevator buildings.

I doubt that it is possible, without drastic standardization, to go higher than the North End's density of 275 dwellings per net acre. For most districts—lacking the North End's peculiar and long heritage of different building types—the ultimate danger mark imposing standardization must be considerably lower; I should guess, roughly, that it is apt to hover at about 200 dwellings to the net acre.

Now we must bring the streets into this.

High ground coverages, necessary as they are for variety at high densities, can become intolerable, particularly as they approach 70 percent. They become intolerable if the land is not interlaced with frequent streets. Long blocks with high ground coverages are oppressive. Frequent streets, because they are openings between buildings, compensate for high coverage of ground off the streets.

Frequent streets are necessary to city districts in any case, if diversity is to be generated. So their importance as an accompaniment to high ground coverage merely reinforces the need.

However, it is obvious that if streets are numerous, instead of scarce, open land in the form of streets has been added. If we add public parks in lively places, we are also adding another kind of open land. And if nonresidential buildings are well mingled into dwelling areas (as they must be if primary uses are well mixed), a similar effect is achieved, in that dwellings and residents of the district as a sum total are thinned to that extent.

The combination of these devices—more numerous streets, lively parks in lively places, and various nonresidential uses mingled in, together with great variations among the dwellings themselves—creates totally different effects from grimly unrelieved high densities and high ground coverages. But this combination also creates a number of effects totally different from high densities “relieved” by quantities of open residential grounds. The results are so different because each of these other devices I have mentioned provides far more than “relief” from high ground coverages. Each contributes, in its own distinctive and indispensable way, to the diversity and vitality of an area, so that something constructive, instead of merely inert, can result from the high densities.

To say that cities need high dwelling densities and high net ground coverages, as I am saying they do, is conventionally regarded as lower than taking sides with the man-eating shark.

But things have changed since the days when Ebenezer Howard looked at the slums of London and concluded that to save the people, city life must be abandoned. Advances in fields less moribund than city planning and housing reform, fields such as medicine, sanitation and epidemiology, nutrition and labor legislation, have profoundly revolutionized dangerous and degrading conditions that were once inseparable from high-density city life.

Meantime, populations in metropolitan areas (central cities, together with their suburbs and dependent towns) have continued to grow, to the point where they now absorb 97 percent of our total population increases.

“The trend may be expected to continue,” says Dr. Philip M. Hauser, director of the University of Chicago’s population research center, “. . . because such agglomerations of population

represent the most efficient producer and consumer units that our society has yet devised. The very size, density and congestion of our Standard Metropolitan Areas, to which some city planners object, are among our most precious economic assets.”

Between 1958 and 1980, Dr. Hauser points out, the U.S. population is going to increase by an amount somewhere between 57 million (assuming a decline to the low 1942-44 birth rate) and 99 million (assuming an increase in birth rate 10 percent above the 1958 level). If the birth rate continues at the 1958 level, the increase will be 86 million.

Virtually all this growth will go into metropolitan areas. Much of the increase, of course, will come directly from big cities themselves, because big cities are no longer eaters of people as they were not so long ago. They have become suppliers of people.

The increase can be dribbled out in suburbs, semisuburbs and dull new “in-between” belts—spreading from dull, inner cities of predominately low-vitality, “in-between” densities.

Or we can take advantage of this metropolitan area growth and, with at least part of it, we can begin building up currently unfit city districts, limping along at “in-between” densities—build them up to the point where (in conjunction with other conditions for generating diversity) these concentrations of population can support city life possessing character and liveliness.

Our difficulty is no longer how to contain people densely in metropolitan areas and avoid the ravages of disease, bad sanitation and child labor. To go on thinking in these terms is anachronistic. Our difficulty today is rather how to contain people in metropolitan areas and avoid the ravages of apathetic and helpless neighborhoods.

The solution cannot lie in vain attempts to plan new, self-sufficient towns or little cities throughout metropolitan regions. Our metropolitan areas are already dotted with amorphous, disintegrated places that *once* were relatively self-sufficient and integrated towns or little cities. The day they are pulled into the intricate economy of a metropolitan area, with its multiplicity of choices in places of work, recreation and shopping, they begin to lose their integrity, their relative completeness, socially, economically and culturally. We cannot have it both ways: our twentieth-

century metropolitan economy combined with nineteenth-century, isolated town or little-city life.

Because we are faced with the fact of big-city and metropolitan populations, big ones that will get bigger, we are faced with the job of intelligently developing genuine city life and increasing city economic strength. It is silly to try to deny the fact that we Americans are a city people, living in a city economy—and in the process of denying this lose all the true countryside of metropolitan areas too, as we have been steadily losing it at about 3,000 acres a day for the past ten years.

However, reason does not rule this world, and it will not necessarily rule here. The unreasoning dogma that healthy areas like the high-density North End of Boston *must* be slums, or *must* be bad, because they are high-density, would not have been accepted by modern planners as it has if there were not two fundamentally different ways of looking at the question of people in dense concentrations—and if those two ways were not, at bottom, emotional.

People gathered in concentrations of big-city size and density can be felt to be an automatic—if necessary—evil. This is a common assumption: that human beings are charming in small numbers and noxious in large numbers. Given this point of view, it follows that concentrations of people should be physically minimized in every way: by thinning down the numbers themselves insofar as this is possible, and beyond that by aiming at illusions of suburban lawns and small-town placidity. It follows that the exuberant variety inherent in great numbers of people, tightly concentrated, should be played down, hidden, hammered into a semblance of the thinner, more tractable variety or the outright homogeneity often represented in thinner populations. It follows that these confusing creatures—so many people gathered together—should be sorted out and stashed away as decently and quietly as possible, like chickens on a modern egg-factory farm.

On the other hand, people gathered in concentrations of city size and density can be considered a positive good, in the faith that they are desirable because they are the source of immense vitality, and because they do represent, in small geographic compass, a great and exuberant richness of differences and possibilities,

many of these differences unique and unpredictable and all the more valuable because they are. Given this point of view, it follows that the presence of great numbers of people gathered together in cities should not only be frankly accepted as a physical fact. It follows that they should also be enjoyed as an asset and their presence celebrated: by raising their concentrations where it is needful for flourishing city life, and beyond that by aiming for a visibly lively public street life and for accommodating and encouraging, economically and visually, as much variety as possible.

Systems of thought, no matter how objective they may purport to be, have underlying emotional bases and values. The development of modern city planning and housing reform has been emotionally based on a glum reluctance to accept city concentrations of people as desirable, and this negative emotion about city concentrations of people has helped deaden planning intellectually.

No good for cities or for their design, planning, economics or people, can come of the emotional assumption that dense city populations are, per se, undesirable. In my view, they are an asset. The task is to promote the city life of city people, housed, let us hope, in concentrations both dense enough *and* diverse enough to offer them a decent chance at developing city life.