

Articles

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The Inhuman City

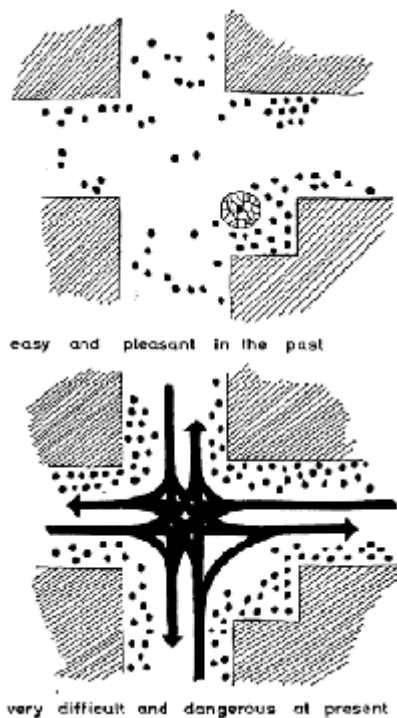


Fig. 1. Contacts between people in public space.

To deal with the city of man in a symposium dedicated to the health of mankind is very natural; it is in the city that one-third of mankind lives today and this proportion is increasing at such a rate that in the second half of the next century, three generations from now, more than 95 per cent of mankind will be living in cities.

It is for this reason that when I speak of the "city of man" I mean the large contemporary urban human settlements; it is to them that the additional millions will be added. Minor centres cannot grow easily unless they become parts of greater urban concentrations; and even so they present the same type of problems as the major areas—only the scale is different. Every era has one type of settlement which corresponds to its civilization; this type imposes its characteristics even on the pre-existing settlements.

I find it very difficult to make a direct relationship between the health of mankind and the city. I could certainly mention the fact that in the cities man is breathing contaminated air and consequently developing cancer of the lungs more easily than he would be in the open countryside, but I could also answer that the city provides him with pure water which is very rare in villages. I could certainly mention many diseases generated in the city, but I could also answer that the city developed medicine and only the big city can afford the great hospitals which support research and provide different specialized services for different kinds of diseases and people.

The definition of the relationship of the health of mankind and the city is even more difficult if we do not limit health to the body of man only, but consider the total man. What can we say in answer to the fact that while the city provides a better water supply and a sewerage system more of its inhabitants suffer from nervous complaints?

Many statistics which attempt to relate diseases to cities and villages are quite misleading because they do not succeed in defining two important aspects: the question of where a disease really belongs (in the city where it was diagnosed or the countryside where it was caused?), and that of the real nature of the area where it was diagnosed. Is, for example, a small suburb of a great metropolitan area a village or garden-city, or is it actually a part of the metropolis? On the one hand, it breathes the metropolitan area's fumes, and on the other its people are forced to commute over even longer distances than those of the metropolis.

I do not believe that I am entitled to relate the health of mankind to the city and express any opinion about

whether it leads to better or worse health conditions for man. In order to make any such attempt one must study this very serious subject much more carefully. I think however that I am entitled to speak about the inhuman city since it is apparent that conditions in the larger cities are becoming less and less suitable for man as we know him today.

This is the first point that I want to make : our diagnosis is that our present-day city is inhuman and that it is becoming more so with every day that passes. If it is inhuman, it cannot be better for the health of mankind; it creates grave problems for man.

We now have to conceive a therapy. If the city is inhuman and becoming increasingly so, should we not eliminate it, or turn it into a better city? Or perhaps we should devise new ways of living in new types of human settlements. It is necessary to tackle this problem afresh, which brings me to my second point : we must set new goals for the city and find new solutions for our problems. To achieve this we need the development of a systematic method of approach.

It is not reasonable to imagine that we can eliminate the present-day city or even limit its growth to any great extent its dimensions will necessarily remain inhuman. Our real challenge is to create human conditions within the inhuman frame of the city; and this is my third and last point: our task is the conception and creation of the human city within an inhuman frame.

THE CITY IS INHUMAN

Our present-day city is becoming more inhuman than the city of the past. We can understand this if we look at it in several ways. The very fact that although in the past man could walk from one end of his city to the other, he cannot do so today, shows the inhuman dimensions of the city. Of course he can use an automobile to achieve his end, but he must be able to pay for it and, if he cannot drive, pay someone to drive it; and the risks on the road are many.

The air we breathe is not suitable for man, neither is the water we drink. We have to purify them both, but even so the danger will not be eliminated, since while we purify the air inside the buildings we throw the contaminated air outdoors and breathe it when we go out for some fresh air. In the same way we are spoiling many other natural resources-spoiling land and destroying beautiful landscapes, flowers and birds, which Aldous Huxley called "half the subject matter of English poetry".(Ref. 1)

In this city man is no longer free to move ; he may have gained large dimensions by high speeds but he has lost his freedom to move in the micro-space around him. Our children are not free to run across the street. We are not

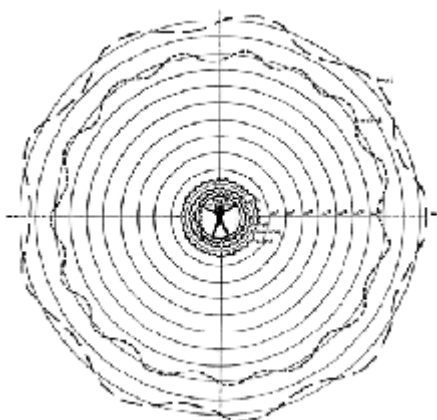


Fig. 2. Total man.

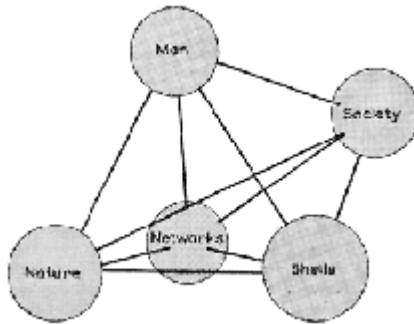


Fig. 3. The city consists of five interconnected elements.

yet in a position to know how many of our phobias and nervous diseases are caused by the fact that man is not free to move in his city—he has been gradually squeezed out of his squares and streets (Fig. 1).

Human society does not operate properly in our cities. In spite of the myth that we are now living at higher densities, the truth is that density is now two and a half times lower than at the beginning of our century, before the influx of the automobile; it has gone down from 80 persons per acre in 1900 to 30 persons per acre, or 2.5 times less, in the major cities of the world today. Such lower densities may mean larger building plots but they also mean larger distances between people, fewer services available to them and fewer contacts between them.

We try to ameliorate conditions in this inhuman city in several ways, but we do not manage to satisfy man. We build, for example, new housing schemes for the slum dwellers; they are not satisfied when they move into them and we wonder why, forgetting that we may have moved them into an area with purer air but we have deprived them of their friends and have increased their commuting time by two hours a day, that is by one-third of their free time during which they could see their children and wives, enjoy themselves, relax, read or think. By our action we concentrated on one aspect of man alone, and we have asked people to move to get better houses where there is pure air which can now be contaminated.

We fail to satisfy man and to turn our city into a more human one and this is true for the city in its details and in its total structure and function. We even still fail to see this failure of ours and therefore the situation gets worse—we are actually building the inhuman city—and we are getting more and more confused within it.

The basic reason behind our failure to understand and to build the human city is that we fail to understand two basic facts. First, man should not be seen as body only, but also as senses, mind and soul, which create different requirements for him. We are dealing with total man. His relationship to his environment, his habitat, his settlements is a very complex one which cannot be faced by an isolated action, such as the building of houses or the opening of highways (Fig. 2). As an example I mention that it is wrong to deal with "housing" as a separate problem. Nobody wants to be "housed" only, or in some way "shelved" somewhere. Everybody wants to live and we must find ways to satisfy the life of the total man. If we speak of the health of mankind we must think of the health of the total man.

Second, the city does not consist only of buildings, as it was fashionable to think two generations ago, or of traffic lines, as it became more fashionable to think after the war, or of social or racial problems, as is becoming

fashionable today. The city consists of five elements born in this order: Nature, Man, Society, Shells (buildings of all kinds) and Networks (roads and railroads, water and power, etc.) (Fig. 3).

Because we fail to understand these two facts we have upset the balance between man and his city, and, as a consequence, man is suffering in the city which has become inhuman.

It may be asked at this point why we are building an inhuman city, and the answer is that that is not our purpose, but the multitude of new functions, opportunities and choices add up to an inhuman whole. The purpose of the new city is to offer a wider range of choices to man; as a result of this man has more choices, but he is suffering within an inhuman structure which results in the inhuman functioning of the city.

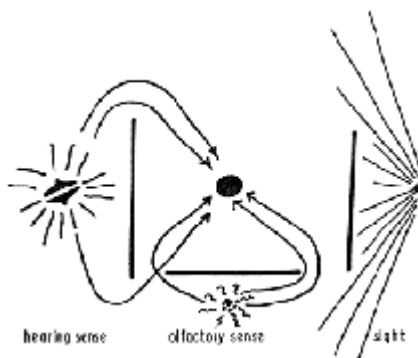


Fig. 4. Man is connected with space in several ways.

This inhuman city is by necessity one in which the health of man, regardless of the additional amenities available, is being threatened more and more. We know that modern man has greater longevity than at any time before, and the fact that longevity increases with urbanization would contradict any opposite statement. But we cannot claim that man is happier in this city-this longevity may show its cost in the quality of his life- and quality is an ultimate goal.

I do not know whether a recent statement by Dr. Rene Dubos that if these conditions continue "...eventually half the population would have to be doctors, nurses, or psychiatrists tending to the physical ailments and neuroses of the other half" (Ref. 2) is true, but I do not see any trend which might prove the opposite. There is a great danger that the inhuman city might be leading man to disaster.

NEW GOALS FOR THE CITY

Since the city of man is becoming inhuman and this is caused by the absence of balance between man and his city we must try and create a new balance. Some people have come up with an easy but also, in many respects, naive answer : to eliminate the city. These are Utopian thoughts. Others are proud of man's ability to adapt himself and foresee his complete adaptation -but I ask, what will be the goal of this adaptation?



It is not wise to think of changing man. Together with Nature, Man is the oldest element of the city. Society is younger but still much older than Shells, while Networks are the youngest element of all. It is only reasonable to start changing the system by changing the one product which did not have the time to develop enough by trial and error, that is the Networks. We can then try to change the next element in age, the Shells.

Fig. 5. Total man consists of several spheres of which his body is the centre.

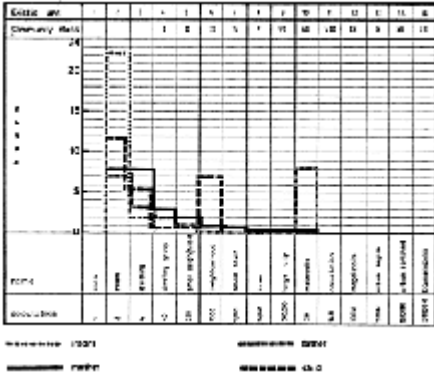


Fig. 6. Time spent daily in different units of space.

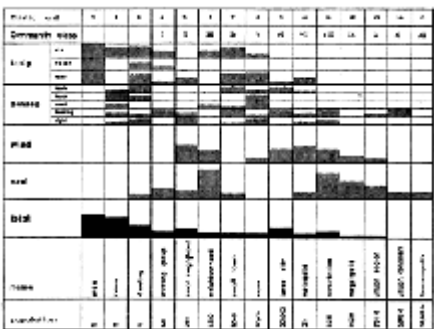


Fig. 7. Satisfaction of several needs of man (illustrative case).

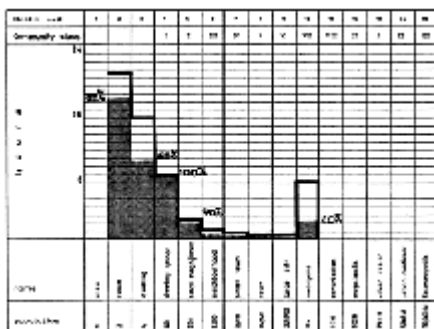


Fig. 8. Total satisfaction expressed as a percentage of time of exposure.

In order to achieve any change, however, we must understand the situation as clearly as possible and develop a systematic method of approach. We must understand man and set goals for him, we must understand the city and set goals for it; we must achieve this both for the system as a whole and for all its parts. We must then try and organize all relationships into a system which minimizes the inhuman conditions and maximizes the services provided by it.

In order to be able to proceed in this way we must first manage to understand man and his relationship to his environment; and to do so we must develop an ability to measure the phenomena of interrelationships. Man is the recipient of many influences from his surroundings. These influences can be positive or negative, they can have beneficial or destructive effects on him. In a very simplified way we can understand that while his body is physically defined and limited, his senses, his "hidden dimensions" as Edward Hall aptly named them (Ref. 3), allow him to reach far beyond his body, and this in different ways. His taste is very limited in space; his touch does not go beyond the body; his olfactory sense does not reach far, but goes around objects; his hearing operates in a similar way; and his sight, which reaches far out, is limited by any non-diaphanous obstruction (Fig. 4).

Mind and psyche reach far beyond the spheres of body and senses and open new horizons which later are, or may be, conquered by man physically. Total man has therefore to be considered as consisting of one area which he occupies physically, and of much greater areas with which he is connected in several ways (Fig. 5).

On the basis of such methods we can then proceed and measure the inter-relationship between man and his environment, thinking in terms of time and influences. We have first to measure the time of man's exposure to different conditions. This can be done on an Ekistic Logarithmic Scale, showing all types of space units to which man belongs, as in Fig. 6, which presents the amount of time spent by one male and one female in a big city.

For every such position in space, or for every set of conditions in every such position, we can measure the satisfaction derived because of the environment. This satisfaction can be represented separately for body (S_b), senses (S_s), mind (S_m) and psyche (S_p) (Fig. 7), and then these divisions can be added to find the total satisfaction for a given condition at a given space ($S_t = S_b + S_s + S_m + S_p$).

We can then proceed to compare the actual satisfaction with the expected normal one (so much clean air versus so much expected, so much temperature, aesthetic

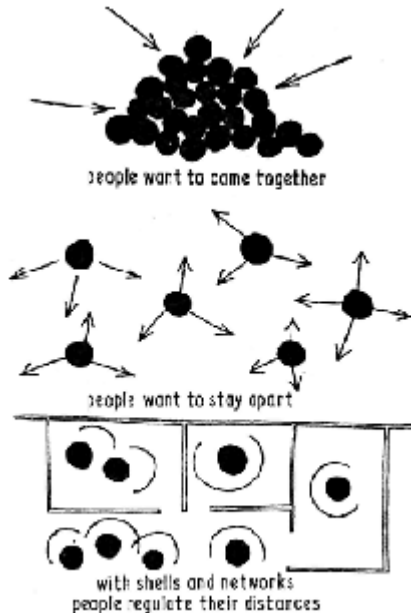


Fig. 9. People alone and with shells and networks.

unit of space and condition in relation to time spent (Fig. 8). Such a presentation alone can lead to conclusions about the importance of each unit of the total settlement, for each individual or family or group, and conclusions about the changes which are necessary.

I am not saying that we can achieve this easily or immediately, but unless we do it we cannot hope for rational decisions on the interrelationships of man and his city; if we cannot do so by measurements then at least we must try to do so by feeling the situation, even by using our intuition, just as the first doctors had to do before they measured any of the conditions of the human body or psyche.

Such considerations lead to the conception of normal conditions as a basis for comparisons, and to the criteria to be used and the goals to be attained. What kind of conditions do we consider normal for which kind of man? Speaking to doctors, I do not need to say that there are no diseases, only patients-but now we are dealing with diseases and we need to define the average normal conditions.

At this point we must admit that today we lack the courage to act in a normative way and arrive at solutions. Do we want people, for example, to live in a city with contaminated air and be protected in their rooms by the purification of the air? Do we prefer them to live part of their time in air-conditioned rooms, or also in houses or streets? And how about the noise, and all the other external influences? We must acquire the knowledge and courage to define human goals, and to do this we need a new field of knowledge and action, which I tentatively name Anthropics, concerned with man in terrestrial space, and the existing and desirable conditions for him. Unless we start in this way our efforts for our cities will be in vain.

If we achieve this, we can turn our attention to the city. Its goal is to make man happy and safe. This has to be achieved by bringing people as close together as possible in order to serve each other, and by keeping them apart so that they cannot hurt each other. The one condition contradicts the other; we have, therefore, to find the solution which maximizes the services and minimizes the inconveniences. This can be achieved by the proper creation of Shells and Networks (Fig. 9) which is the role of Ekistics, the science of human settlements.

In the past, we could do without Anthropics and Ekistics because all dimensions were human, or because man uses animals-nearly human. Man learned by trial and error to deal with small-size problems. Now the forces are great and inhuman and the danger, because of the cohabitation of man with them, in the same space, is great. Our action has to be based on scientific knowledge; and towards this end we must mobilize all our resources.

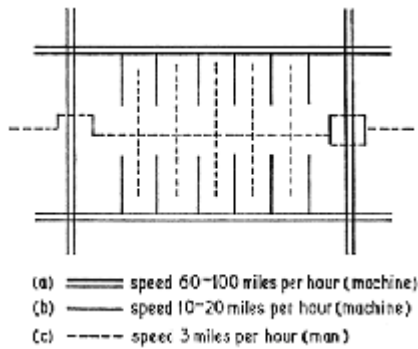


Fig. 10. Human community, separating the paths of man and machine.

We have now to turn our attention to the city which serves human goals, happiness and safety, and try to conceive and build it. Unlike the inhuman city of the present in which we deal with what we have-and fail, we must now start from our goals and try to create the human city.

With this we have to pose the question of how it is possible to create a human city out of an inhuman one. The dimensions of the city of the present and future are inhuman and we have already admitted that to think of eliminating the city of these dimensions is Utopian. It is at this point, however, that mankind has made a grave mistake; we have assumed that because the dimensions and forces are inhuman, we must either change them, or become resigned to an inhuman city. This is wrong! The dimensions and forces within the city are going to become even more inhuman, but the city can become human.

We can see how this is possible from the example of a modern jet-plane; its speed is inhuman, so is its frame, but inside it man lives in a human scale, he can walk, sit and sleep. It is interesting that at low marginal speeds, when the wind is moving the airplane, this becomes more difficult. Man had to run beside the first airplanes until they could develop their take-off speed, and he was uncomfortable inside them; now their frame is completely incompatible with man, but their interior preserves his scale.

If this has been proved in one case, there is no reason why it should not be successful in the case of the city. The question is how we can translate the goals which we set for man-happiness and safety and his satisfaction-into a city structure and function. I can neither enter into the details of this problem, nor build the overall system of the city of the future; the subject is too big and I would have to become too technical. I could, however, mention some principles which are indispensable to the solution of our problem and give some idea of the road we should follow.

Since we want to create a human city we must define the limits of the natural human scale and build a unit of the city corresponding to this scale. We must then build the city of inhuman dimensions by the repetition of the human unit, in the same way in which nature builds living organisms by a repetition of cells. This unit then becomes the cell of the human city and corresponds to the human community in the human scale. Since a major city will grow and expand over increasingly larger areas, we have to devise networks that will keep the cells as well interconnected within a system as possible.

In this way we define the future human city as consisting of cells of human communities and networks, operating in such a way as will guarantee to man the maximum of amenities under human conditions.

The key to the solution of the problem is the structure and function of the cell. Experience has shown that its dimensions should not be larger than 2,000 by 2,000 yards so that man can easily walk in it-ten minutes for the average maximum distance. Depending on the density which we accept, this cell can contain an average of 40,000 people and be built in such a way as will separate the movement of machines from that of man. Working on the basis of considerations related to man and his satisfaction, as already explained, we can define all characteristics of this cell for every special occasion.

It is in this cell that we can help the infant and the child to grow, and prepare it for life, in the same way in which the babies mature in the protection of the womb and later in their bed or room (Fig. 10).

To conceive and create this cell is not difficult if we consider the great experience transmitted to modern man by the cities of the past, whether in ruins or still alive. What we have learned from them confirms our experience from contemporary man completely: there is a natural human scale which has conditioned cities in the past, and which is still valid because man has remained basically the same.

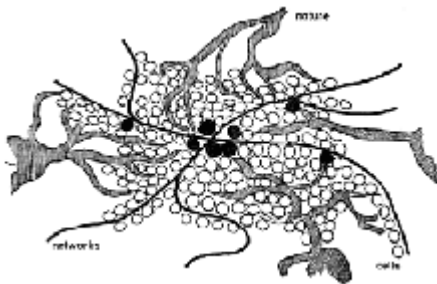


Fig. 11. Total settlement.

When he moves beyond the cells, man does not need to move in the human scale, because he would not wish to walk 20 or 50 miles a day. Beyond the cell we need much higher speeds and vehicles inside which there will be a human scale again. Travel in space, and the corresponding research, is going to help us understand to what extent this is possible and how. The very fact that inside the space capsule man's input and output of materials and information is controlled will help us to develop proper attitudes towards movements beyond the human cell of cities.

We can already foresee that modern technology can help us to build all networks of transportation and communications underground-the most important ones and those with high-speed traffic will be built deeper than the others, exactly as nature has done for the circulatory systems of the more developed organisms, such as the mammals (Fig. 11).

Moving in this direction, we can foresee that contaminated air will never be released into the open atmosphere, in the same way in which we do not throw the sewage into the streets any more. In the future, releasing the smoke of our fireplaces will seem just as unreasonable as letting the drain pipes empty into the streets.

In this way we can foresee that in the human city, the surface of the earth is going to be properly used, the landscapes will not be destroyed, and air and water will be as clean as before the unwise action of man started.

This is not easy and it is not going to happen tomorrow. If

we can, however, care for the skin of our earth, which is our cosmos-the Anthropocosmos-as we do for the human body; if we will learn from medicine that our problems are not solved by surgery or curative methods alone, but only by the proper preventive methods and only where necessary by curative and surgical interventions; if we will love the system in which we live as we love ourselves, we can build the human city-and we shall.

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