

MAN AND THE SPACE AROUND HIM

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Modern technology has the power to bring men together—
but it can also separate them with unforeseen barriers.

By C. A. DOXIADIS

IN the past, man lived in several scales: in part, he lived in his personal scale, that is, by himself; in part, with his family; in part, with his immediate neighbors, with his distant neighbors, or with his fellow citizens in the city and in the city-state. His participation in the life of people beyond his city was very small, and his meetings with other nationals were very often limited to the battlefield.

Today the radio or television set occupies a considerable part of what used to be time for intra-family contacts, chats, and discussions, and people receive news from the other end of the world much more easily than they do from the other end of their small city. Because the commentators for world news have been selected much more carefully than the young reporters covering the local news, not only the quantity but also the quality of news coming from the small old scales is now of a lower order. If we subdivide the whole earth into a scale of units of several classes—man, room, family, city, the whole earth—we see that it is becoming easier for us to get news from big distances and more and more difficult from small ones.

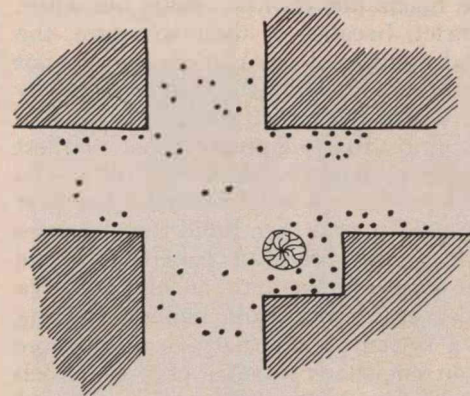
Meanwhile, man's physical contacts with his neighbors have become much more difficult. Who, in our days, can allow his child to run across the street and meet the neighbors and make friends? It is a well known fact that people living in blocks of apartments cannot be as friendly as next door neighbors. The head-to-feet contacts (of people at different floors) do not help people to become acquainted, as did the head-to-head, feet-to-feet relationship of the older days. The car has penetrated among people and broken

their direct physical relationship, while the elevator does not help people to meet residents of other floors.

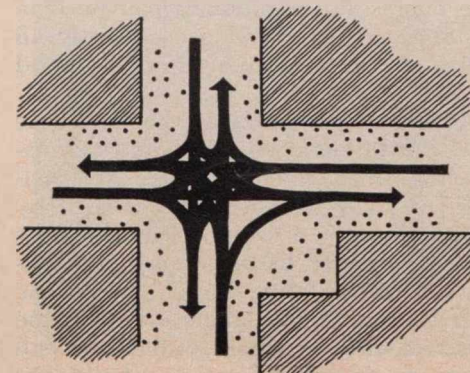
The number of potential human contacts has now increased enormously, and this means that man can have a much greater choice of contacts than before; but many of these contacts are of a different nature and depend on pre-selected choices—the ones made by the networks of telecommunications, for instance. The old balance between contacts at several scales has been replaced by new ones, and we do not know how these contacts are influencing man's nature.

The same forces that allowed man to

Automobile traffic has changed the pattern of contacts in public space—



easy and pleasant in the past—



very difficult and dangerous at present.

—Drawings by C. A. Doxiadis.

gain new levels of community life at new scales have deprived him of his old scales and his old communities. The expression that the "earth is shrinking" is not accurate; the truth is that major dimensions of the earth are shrinking while minor ones are expanding. The expression "man is expanding" is not accurate; it is true that new dimensions at a large scale are being created, but his choices over small distances are being reduced because they are becoming more difficult. The human scale of relationships is not shrinking, it is becoming larger and more inhuman.

Whereas the gain of new scales is beneficial for man, provided always that he uses them properly, the loss of the old scales is very much against nature, and therefore dangerous. Man's body does not shrink, nor his steps, pace, or senses. His apparent physical dimensions do not shrink. If the earth is shrinking we cannot allow man to shrink with it; if man is expanding we cannot allow him to expand in the minor scales since this would threaten his very existence. In both cases we have a lack of balance between man and the space around him, and man is in danger. It is therefore natural for man to try to develop the contacts with his surroundings he had in the past—but we are depriving him of this opportunity by leading him toward a human settlement which is losing its minor scales. The "shrinking earth" is cramping the nonshrinking man in a very dangerous way.

The value of these arguments is easily understood when we apply them to children, who open their eyes and their hands in order to develop contacts with the world around them. As things stand we tell them that this is possible only as far as the apartment door—beyond that is the unknown, unfriendly, hostile land into which they may walk only when an adult is holding their hand. How can they discover their world? And how can the grown-ups find their balance in their own world? Modern man is turning into a lonely troglodyte right in the middle of a dense crowd. What will be his benefit from the great shrinking world when his ties with his fellowmen are breaking?

SINCE the beginning of his history man has been striving to live in more than one scale; he formed families, tribes, villages, cities, nations, and leagues of all these, and he always tried to create larger social and physical scales within which he could develop even better. In this process he never eliminated the scales and levels of a lower order—he always enriched his space and never impoverished it. Our era is the first during which the opposite is happening.

It is time for us to understand that we need to live in all scales, the old

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ones which should not be destroyed, and the new ones to be added. Only in this way will our life gain from technological progress and not be endangered—and this should be our goal, until somebody can prove, if anyone can, that the elimination of minor levels of communities will be beneficial for man. Life in all scales and at all levels requires the definition of these scales and levels. There are fifteen levels on our earth today and one at least beyond it, a total of sixteen levels of community organizations for present-day man. These levels begin from the biological unit of the single man, proceed to the room, and then to the biological and social unit of the family, to the neighborhoods of several sizes, to the town of the past, to the large city, to the metropolis and beyond it, until they arrive at the whole earth and communities that may be beyond it.

MAN needs to be given the chance to isolate himself or come into contact with others, at all these levels. He needs the opportunity of isolation within his family house—therefore a single room for every member—but also of meeting with other family members, therefore a living room for the family. He must be given the chance of isolating himself from his neighbors within his house or his garden with high compound walls, but also of meeting with them in the small street, the square without cars but with works of art, the public hall, the pub, the corner store. He must also be given the chance to meet with larger and larger groups in corresponding places, from clubs to the theater and the opera.

To achieve this he must mold his way of living, as expressed in his city, by creating distinct communities of all sizes, at all levels, belonging to a total hierarchical system of communities. This is an organizational need. When I speak of hierarchical structure I do not mean an operation and function of society which would be exclusively hierarchical. The structure of the city should be hierarchical so that every community of a lower order belongs to the one of a higher order and through it to even higher ones. But the function of the city, the movement of people within it, was and is free, and everybody must be given the chance of moving in all directions. Unlike natural organisms, our cities tend to allow for the maximum of choices in movement. This alone justifies their existence.

We should not be afraid to organize our lives and our cities with communities at all levels; we do it for our rooms and our houses and we are not prisoners in them even when we lock the doors as long as we are the ones to keep the keys. We should do the same for our communities at all levels; we should

construct them properly in a way which will allow us to belong to them and be free to move out of them on a temporary or permanent basis. Sometimes I am asked why I insist on constructing and separating the communities in such a way. My answer is that this is the only natural way, since only this type of solution leaves people free to choose what they like; the opposite—the elimination of community boundaries and consequent condemnation of people to lives deprived of all minor levels of community organization—would mean imposing life at one scale only, would mean imposing society on man, and this would threaten our own freedom. It could possibly destroy the individual.

If we manage to structure our city hierarchically, we will not be confused any longer by the arguments of whether we must live in the neighborhood or the city, in the city or the metropolis, the metropolis or the megalopolis—since we will learn that this is not the way to face our problems. Similarly, the issue is not one of “national” versus “international,” but one of both blended in the proper way at every moment and for every case. We must learn to live in all sizes of communities—in a proper balance. We must all be able to live in all scales, and each one must do this in his own way by selecting his own balance of life in different scales.

IF we must all live in all scales, we must learn how to plan and build our cities in such a way as to give all of us the maximum choices. Since our cities restrict, because of their structure, the total number of our choices—we cannot for example walk through a highway or a wall—we must study the type of structure that eliminates the smallest possible number of alternatives. To achieve this we must conceive the best type of life and then build the structure that allows the best function in the sense of a maximum of choices. We must establish certain criteria leading to a system of alternatives, since there is an enormous number of them. Such criteria should be easily understood and judged by everybody concerned so that the expression of opinions can become an objective one, and consequently all opinions can be compared and assessed on the same basis.

One such criterion is the economic one, but to begin with it would be misleading since economics defines feasibility, and if we start with it we may restrict our choices in an unnecessary way. It is much better to start with criteria of desirability, build our system, and then eliminate alternatives on the basis of the economic criterion. With such considerations we can build our system—first expressed as function and then as structure on the basis of the

criterion of time. Since we always speak of our *life*, or of type of *life*, we cannot measure it in any better way than by its length and by the way in which we spend each part of it.

TODAY the average person of all ages and both sexes spends 75 per cent or three-quarters of his lifetime at home. The figure is 76 per cent for the U.S. citizen, and almost the same for the citizens of many other countries—for Athens, Greece, for example, it is 73.3 per cent. Under these conditions we can consider how much attention and how many resources we spend for “home,” which does not consist of the house only, but also of its surroundings, in which the child gradually grows and where the housewife has most of her daily contacts. We will discover that we spend too little for this “home.”

In the same way we will consider whether it is reasonable for the average American male between the ages of twenty and fifty-nine to spend 6 per cent of his time or one-third of his total free time commuting, and whether it is reasonable to allow this percentage to increase dangerously. Is it not preferable to invest more in a better system of transportation which will free him for 5 per cent of his lifetime, adding 3.5 years to his life expectancy, or more than five years when we consider the addition on the basis of his non-sleeping hours?

But if we are to build the structure which will be best for everybody, we must ask two questions. First, who must make the decisions which will commit the community but give everybody a maximum of choices? Secondly, we must ask how can each one be given a maximum of choices for the use of the common structure of society and city. The answer to both questions is based on a belief in the very primary values of personal freedom. Nobody but the person or persons concerned can make the decision about whether they like family or community life more, and which kind of community, at which level. Everyone must be given the maximum number of choices in order to create his own way of living in all scales, at all community levels. This is society's greatest responsibility toward the individual—not to decrease his choices by arbitrary judgments and decisions on the “shrinking earth,” but to increase all his chances to choose among all scales, at all levels, for all qualities and ages.

The answer to the first question requires an exact definition of the type of problem we are talking about and the size of community affected. If, for example, we want to know whether motor traffic should be allowed through a community, we must determine whether we are speaking of the smallest possible unit, that is the family and its home, or

of a unit such as the large city. The question requires a different answer at each level, and this answer is related to conditions, such as numbers and speed of automobiles, and leads to different conclusions and solutions.

THE answer to the second question is in several ways easier if we want to behave wisely and not in an authoritarian way in the name of a sometimes questionable expertise. In principle, following the previous thoughts, we can say that decisions will be made by everybody, if they do not influence the community in any negative way. In cases where it is a matter of function, such as the movement of people, we should try to give everybody the greatest freedom. There is no reason, for example, to break the path of the pedestrian by automobile traffic. If somebody insists that he likes mixing with traffic, he can always walk across driveways.

The question is more complex when we are speaking not of function but of structure—if people have to build in addition to what the city builds for them, their houses, shops, etc. In such cases any doubts can be settled by the people concerned if we give them the right chance. I will mention one recent case to prove my point. In a housing development in a large American city, I was told “the American citizen does not like fences around his property.” Since my experience in this city, in which I had walked for two weeks, had been different, I presented my case in favor of fences. The argument could not be solved, and finally my proposal of compromise was accepted—that fences should not be built, and the residents be free to build them themselves if they wanted. Two years after they moved in, more than half of them did erect fences and more are following their example.

We need to live in all scales—this is an imperative necessity for all of us if we are to preserve our human qualities and take advantage of the new possibilities offered by expanding technology. In order to achieve this we must create a way of life and build the city of man in such a way as will give to each one of us the maximum number of choices in every possible combination of life at all levels. Society has the obligation to create such a way of life and such a city. Each one of us can then find his own way of life. Until then we are not allowed to overlook any value created in the past, any value promised by the future. If we do not know how to face special situations, if we cannot learn from the great human laboratory around us—which we very often can—let us learn by allowing people to decide by themselves. There is the life and the city.

“We must build the city of man in such a way as will give to each one of us the maximum number of choices. . . .”



—City of New York Department of Traffic.

“We should try to give everybody the greatest freedom. There is no reason, for example, to break the path of the pedestrian by automobile traffic. If somebody insists that he likes mixing with traffic, he can always walk across driveways”—
New York’s 42nd Street (above): The “Barnes Dance,” with all automobiles stopped, permits pedestrians to cross a chaotic intersection. Fifth Avenue (below) shows typically crowded pattern of pedestrian traffic in midtown Manhattan.



—Wide World.

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24540 ABM and National Priorities

THE development of an anti-ballistic missile in a world of flying atomic bombs seems logical enough. After all, there are anti-aircraft weapons to defend us against attack from planes. These weapons are inadequate against missiles, some of which may be equipped with thermonuclear warheads. Isn't it all the more important, therefore, to develop what is known as the ABM, that is, a system of defensive missiles designed to intercept and blow up incoming nuclear-tipped missiles?

The question seems reasonable enough—but it misses the main point about human life in an atomic age. The point is that there is no defense against nuclear warfare except peace. The corollary is that security depends not on the accumulation of force or the use of force, but on the control of force.

Nothing in the modern arsenal of nations is more illustrative of this basic point than the nuclear-tipped missile. Its predecessor in the Second World War was the long-range strategic air bomber, which attacked cities day after day. Both London and Berlin were subjected to numberless raids by clouds of such planes. The cities were shattered but not crushed. Today, it takes only one missile with a thermonuclear warhead to destroy a major city.

There is nothing complicated about this fact. It is now possible to produce a single bomb with more destructive power than all the bombs dropped in the Second World War put together. An even more dramatic comparison: Imagine the destructive force of the atomic bomb that leveled Hiroshima and took

230,000 lives. Now imagine the same atomic bomb being dropped every night on a different city for thirteen consecutive years. The sum total of all that pulverizing power is now contained in a single bomb that can be carried by a single missile.

It is a serious error to argue that the holocaust-making power of a nuclear-tipped missile makes it all the more important to develop a defense against it. Not even the most expert proponent of the ABM contends that the system can be counted upon to knock down every attacking missile. Even with the stoutest ABM defense, some missiles will get through. And it takes only one missile per city to do the job.

Meanwhile, there is a price to be paid even as the ABMs are installed. The most obvious price can be calculated in dollars. Some estimates have put the cost of a full and comprehensive ABM system for the entire United States in excess of \$50 billion. This poses a different sort of security problem for the United States from the purely military one. No ABM system in the world can guard against internal explosions. For the combustibles of a terrifying upheaval are building up inside the United States. The cities, as Jeanne Lowe has said in the title of her book, are in a race against time. The deep underlying problems of the American people can no longer be deferred. We can best defend our cities, not by ringing them with anti-ballistic missile installations, but by making them responsive to the needs of the American people. If we fail to do this, all the nation's defenses are down.

The cost of an ABM system, however, cannot be reckoned solely in its own terms. For the logic of the process leads inevitably to whole new probes and developments beyond the ABM. One thing is certain: the moment the nation proceeds full-tilt on an ABM system, the cry will go up that we must devise a way of anticipating Russian moves to counteract it. It will be said that Russian scientists have conceived of a supermissile that can steer around its ABM attacker or that can render the defending missile harmless or that can impair the electronic functioning of the ground station that controls the missile, etc., etc.

In any case, the ABM proposal must be considered for what it is—an intermediate step in a virtually infinite series of infinitely costly measures that can push the world arms race past the point of no return.

It will be argued that the Russians already are installing ABM stations near Moscow. The only rational response to this statement is to explore to the fullest the professed willingness of the Soviet Government to talk to us seriously about effective agreements that would block off this whole new area of escalation in the arms race. No one can say that such explorations would lead to a substantive and workable pact. But a treaty against nuclear testing did come into effect—despite all predictions to the contrary.

Here we come to the core issue. Some proponents, in government and out, of the ABM system have candidly said it makes no difference whether the Soviet Union would be willing to forgo ABM development on a reciprocal basis. They want an ABM system regardless. It is not necessary to speculate on the reasons. It is necessary only to anticipate the consequences. These consequences cannot be confined to the dislocations and upheavals that could come about inside the United States. They extend to the increased danger of a world holocaust. Men who cannot be trusted to understand what they are making cannot be trusted to see the ultimate connection between cause and effect. The cause is an uncontrolled emphasis on the means of destruction. The effect is the use of those means. This is the way civilization dies.

Whether or not we can put the priorities where they have to be—on the control of force rather than the pursuit of force, and on the persistent and painstaking development of the orderly institutions to deal with world tensions and world lawlessness—depends primarily on our convictions. Convictions create a sense of direction. They impart energy. They give focus to life. A full-scale national debate on the true sources of American security may or may not result in these convictions. But it is a chance worth taking. —N.C.