ECOLOGY OF THE WALKING CITY

The Urban Ecosystem

Introduction

A modern city has two diametrically opposed functions. It must provide services to the citizen, i.e., grocery and other stores, medical services, libraries, transportation and communication services, and entertainment, to name a few; and the city must serve as an import-export center for information, money, goods, and materials. The distribution of goods and services that are consumed by the residents of the city is necessary to support the life of the citizen, but these activities often conflict with the import-export function of the city. Moreover, these activities do not always relate to the life of the citizens directly and in most cases are segregated from them into business and industrial areas.

Among the problems of the city is the construction of viable human communities that satisfy the material and aesthetic requirements of man while maintaining compatibility with the technical, business, and industrial demands of the city.

Modern metropolitan areas are networks of communication and transportation—an interwoven network of the transportation of people and things and the communication of information and ideas. The water, sewer, electric, and telephone lines are obvious parts of this network, as are the streets, roads, and highways. At the intersections of the network, most cities have developed enclaves of specialized activities such as shopping districts, restaurants, theaters, parks, schools, libraries, business and manufacturing areas, and along the transportation corridors, particularly at crossroads, the city is in a continual state of change and growth.

Modern architectural concepts of the city as an assembly of plug-in modules derive from the notion of the city as a network. Units for the plug-in city are conceived as mass produced, easily assembled sections that can be adapted for occupation as business or industrial premises or as living quarters. Since all of the elements would be module in construction, all that is necessary is for the unit to be plugged into the facilities and energy sources appropriate to the function it is to perform. Although the plug-in city has not developed beyond the drawing board, its proponents claim that it would allow for great diversity in design by using marketing methods similar to those in the automobile and clothing industries where style and design, coupled with random geographical distribution, produces diversity without affecting basic function.

The various areas of today's cities, however, are not accessible without the aid of transportation; the distances are considerable and for most people the energy and time required to walk can be more profitably used in other pursuits. The mix of residential

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neighborhoods, business and industrial districts, and recreational areas that comprise a modern city must function as an integrated whole if the city is to prosper. The concept of the walking city relates to the scale-size of its components and the relationship of this scale-size to man, and its effects upon man the biological organism. If our future cities are to be livable, greater emphasis will have to be placed on establishing a viable biological community in those areas where people spend most of their time.

The size of the components of the walking city is determined to some extent by the physical capabilities of man, i.e., the velocity and ease of human locomotion and the energy required to perform certain essential tasks. In addition, each component of the city must enjoy a high degree of self-sufficiency. In the ideal walking city, the goods and services essential to everyday life will be conveniently located where people live and work, requiring only a modest investment in time and energy in order to procure them. Walking within the neighborhoods and districts of the city is a perfectly feasible undertaking for most people and, in an age when overweight is a major physiological problem, enormous health benefits would be derived from the development of walking cities. Dr. Jean Mayer, a world authority on obesity and energy metabolism, has said that inactivity is one of the most important causes of overweight because our bodies' regulation of food intake is not designed for the mechanized, sedentary conditions of modern life. Thus, the development of walking cities would not only re-establish man in harmony with his environment, but would contribute to his physical fitness.

The size of the walking city can vary widely, spreading over hundreds or thousands of acres, or it can be a megastructure or any combination of low density-high density areas. The essential feature of the walking city is that it be a complete human ecological community capable of providing the services necessary to sustain itself, as well as providing for the comfort, well-being, and security of those who live there.

A megastructure, that is to say a single structure occupying perhaps a square mile of territory and rising a mile into the air, is a mind-boggling concept. But ecologically the principles that apply are comparable to those for the city spread over thousands of acres and built according to conventional standards. A well-designed megastructure includes places where people live as well as where they work and play. These components, if they are to contribute to the integrated whole of the city, must be accessible to each other by transportation scale-sized to humans—for example, by

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escalator or elevator. The important consideration is that those portions of the community with which man has to interact must be size-related to him because he can only interact with his immediate surroundings, not with the total city. Therefore, although the city can have any number of components and attain enormous size, each component must be scaled to human size.

The technology of megastructures is not a future dream but already exists; for example, the World Trade Center in New York City. The flaw in the World Trade Center is that it is a concentration of business activities without the concomitant residential communities. As a result, there is an influx and outflow of people, with an enormous number of people using the building during the daylight hours and at night its use falls to a low level. The entire Wall Street area of New York City and comparable business districts in most modern cities experience a similar fate. These areas are viable human communities only between 8:00 a.m. and 5:00 p.m., when the Nation's business is conducted and local retail business flourishes. For the rest of the time the streets of these areas are deserted and dangerous.

The shift from the single-purpose function of suburbia or a World Trade Center or a city of thousands of acres to communities of business, industry, and residences will require reintroducing into the city some of the elements that existed in most of the world's cities before the advent of the automobile. Since the advent of the automobile, the city has been slowly transformed to accommodate it, and because of its energy, speed, and distance capabilities, the car has distorted the man-city relationship. Suburban expansion preceded the automobile and was made possible largely through the development of mass transit trains, but the areas around the transit terminals usually remained scale-size. The areas around the city's mass transit terminals accommodated and still accommodate persons on foot or with yet other public transportation. The areas around mass transit terminals in the pre-automatic crush were also served by local public transportation and usually serviced towns and villages that were quite compact by today's standards.

The automobile provided man with an overwhelming sense of power and independence and accelerated the development of dormitory suburbs. As the latter grew, so did man's dependence upon the automobile, for suburbia provided little in the way of work or recreational and cultural diversions, thus making mobility essential in order to participate in these activities.

In his study of the city of Detroit, C.A. Doxiadis concluded that every resident of Detroit needs a car because a person with a car has 20 times as many social contacts and opportunities to make a living or to exercise free choice in purchasing or entertainment as a person without a car. The only solution to man's dependence on the automobile lies in an adequate public transportation system, but even then the one man-one car regimen will be hard to break.

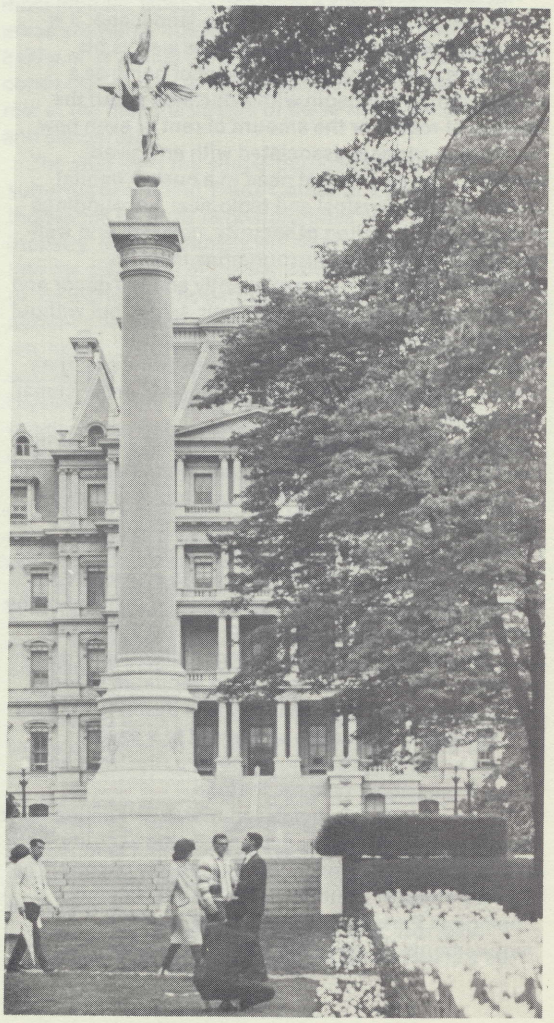
Frank Lloyd Wright's approach to establishing man in harmony with his environment was to construct houses that were as much a part of the landscape as possible. His ideal city was a rural setting of open spaces and widely separated dwellings. Business and industry were located at a distance. *Broadacres*, as his plan was called, more aptly describes the ultimate suburbia, with individual dwellings isolated on substantial plots making it impossible for the whole to form a viable human community.

The ideal habitat for man is not necessarily that which blends aesthetically with the landscape; it is that which satisfies man's organic as well as his psychic requirements. The concept of home as a habitat should not begin with a decision about the number of rooms or the amount of rent or even how much open space is associated with any given dwelling. The paramount need in a human habitat centers on the physical and biological surroundings that generate a feeling of security, comfort, and well-being. Obviously, our surroundings must be conducive to functioning efficiently and the decor and furnishings must please our artistic sense, but without the basic survival requirements built in from the beginning, no collection of buildings, whatever their artistic merit, by themselves constitute a viable human community.

The single most essential element that a community must provide for its members is security. People living in tribal societies often live in dwellings that provide little other than privacy, yet they are secure if the community is secure. The wall paintings in the caves of the Dordogne region of France and elsewhere were created after the fact of the security and comfort of the cave. A cave was not only a place to find protection from the elements; the physical construction of a cave permitted it to be defended with a minimum of force, and this alone justified its utility as a dwelling for man. The analogy of a modern apartment to a cave is complete down to the single opening (the front door) being its strongest defense feature.

If a dwelling is to provide security to its occupants, it must be in a community that engenders security, both within the domain and in the community beyond. The Treetop Hotel of South Africa's Kruger National Zoological Park probably meets most of the requirements for good housing and provides security

for the residents as long as they stay within the habitat, but the surrounding community remains hostile. If each man's home must meet the physical requirements of a fortress, no community is possible; for only in the collective ecological properties of communities is security attainable, and only after the requirement of security is satisfied can comfort and well-being be attained. Schools, libraries, art galleries, symphony halls, universities, amusement parks, baseball and football stadiums, and all the other paraphernalia of modern life are irrelevant in environments not habitable by man, and it is security that makes habitation possible. Comfort and well-being make a secure environment livable and provide the millieu for the amenities.



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In common with many other higher animals, man has certain biological and environmental needs that must be met if his well-being is to be maintained, and these needs go far beyond the obvious necessities of adequate food and fresh water, essential as they may be.

We do not like to think of ourselves as animals for, somehow, this lowers us in our own eyes. Man has not assigned to himself the role of "King of the beasts" for he has chosen not to think of himself as a beast. Through the centuries, man has paid a great price for his pride and in the end, if he fails to use effectively those special gifts which set him apart from other animals, he may lose the opportunity to exercise dominion over anything.

Man's physiological requirements are not unlike those of swine: his diet has many similarities; his nervous system is about the same bulk as that of a Mexican burro; and he knows fear, hunger, passion, and other emotions which, as any ethologist will tell you, are common to all higher animals. Highly developed language and technology are what set man apart.

If we accept man as an animal, albeit a rather special one, we know that his reactions to his environment will be exactly those of other higher animals. Much of man's internal conditioning is predictable on the basis of known biochemistry, and his response to his environment is effected by the same biochemistry. The expressed feelings of hate, love, passion, humility, fear, and other emotions have physiological counterparts in biochemical metabolism, and it is well known that prolonged emotional disturbance or stress may bring about physiological disorder, disease, or even death.

Much that is good about American society is good because it satisfies man's organic and biological needs by providing an abundance of food, water, and ease. But man's metabolism is capable of generating enormous energy and his body is mostly muscle—thus, man has energy and muscle for which modern life has little use. The activities of man the thinker may burn up a lot of the energy, but this in no way compensates for the inactivity of the mass of his muscle or helps keep his body in proper physical condition.

Some of man's past achievements with hand labor stand today as lasting monuments to his physical ability. The pyramids were built by hand, canals were dug by hand, and cathedrals immortalized not only man the artist but man the builder. Laboring from dawn to dusk, man built these monuments using physical labor and that most ingenious combination of tools, a pair of hands and strong back coupled to a human brain. This extensive use of man as an instrument of labor is in sharp contrast to the 8-hour

working day of the present, most of which requies little physical effort and almost no manual work. Computers and automated machinery have relieved modern American man of the necessity to use physical labor. Today's major forms of transportation in the United States even substitute mechanical and chemical power for muscle. We have allowed technology to dictate our mode of living and this mode of living is often in conflict with the requirements of man.

The consequences to American society have been serious. Man the thinker, the technologist, built the megalopolis with its resultant urban sprawl. Man the thinker and technologist built superhighways and metropolitan beltways which compounded the confusion, congestion, and pollution in our urban areas. We have arrived at the Dinosaur age of technology, where no machine is too big, no amount of earth too great to move, no building too tall, no road too long, and where hydrogen detonations can accomplish major excavations in an afternoon.

In all of this frantic activity, we have forgotten that man's organic being is conditioned in part by his environment, and it is from this environment that man derives a feeling of tranquility, anxiety, anger, comfort, security, well-being, ecstasy, fear, or passion. Moreover, man's physical and mental health will be enhanced if his environment provides an opportunity for reflection and introspection.

At the end of the working day, man the technologist drives home and, if he is concerned about his physical well-being, changes clothes and goes jogging. Physical activity needed to sustain the health of man becomes recreational activity relegated to weekends and holidays. This indicates the absolute necessity of parks and recreational facilities in modern society, but it also emphasizes the equally important principle of incorporating parks into cities and particularly into neighborhoods where people live and work. Urban recreation in the city must be an integral part of the network of urban ecosystems.

In most major cities of the United States it is dangerous to venture out at night. Our city streets are the scenes of muggings, holdups, rapes, and assaults of every kind, and the problem of vandalism is severe, not only in the ghetto but in the residential neighborhoods and the suburbs beyond. We have built great cities and marvelous engineering projects but we have not succeeded in coupling the concept of the ecologically mature community with the progressive aspects of our technology. We are left with a glittering technology and sterile or vicious human environments on the one hand and, on the other, we maintain human environments within the mainstream of technical progress but outside the community requisites for the welfare of man.

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A successful neighborhood, whether in city or suburb, is well mixed socially and economically and can accommodate all age groups. One of the greatest deficiencies in automobile-dominated suburbia is that there is little to do and no variety of surroundings available to the non-driver—usually the very old and the very young. As a result, these two groups are cut off from most sports, recreational and cultural activities, as well as from social contacts with their peers. In wealthy suburbs young people own and drive automobiles as soon as they reach the legal age limit, and a car is not an unsual 16th birthday gift.

Neighborhoods that comprise a city vary greatly in size and develop individual characteristics. But whatever their characteristics, the upper limit for the size of a neighborhood must be scaled to the perambulatory capacity of most individuals, and fast, efficient, and inexpensive public transportation is essential for traveling between the neighborhoods of the city and beyond. Although automobiles need not necessarily be excluded from neighborhoods, the neighborhood that optimizes the use of the automobile must sacrifice human values in the process.

No neighborhood should be expected to be complete in every detail, for auxiliary services are easily obtained through such devices as mail-order houses, crosstown bus service to shopping centers, and telephone delivery service. But a neighborhood, to be worthy of the name, should provide those services necessary for the day-to-day living of the inhabitants. Such neighborhoods were common in the cities of the 1920s and 1930s and remnants still remain in the ethnic areas such as Chinatown in San Francisco. In most city neighborhoods, the arrival of the supermarket signaled the demise of neighborhood stores, and before long the supermarket shifted to the shopping centers that developed on tracts of farmland, along with single family, 2-3 garage dwellings. Suburbia, as we know it today, had arrived.

In effect, when these shopping centers were established, retail businessmen passed the cost of final distribution of goods along to the consumer. Goods and services, once brought into the neighborhoods and readily accessible to the buyer, were shifted to supermarkets and shopping centers generally located at a distant point. The prices of goods and services are cheaper in these shopping centers, but the purchaser must now pay the cost of transportation for their final distribution. An automobile, once a weekend and vacation luxury for most Americans, became an essential transportation vehicle for people and goods.

It is conjectural whether the cost of owning and operating an automobile is compensated for by the reduced cost of goods and services at the shopping centers, and whether the automobile really promotes independence of movement through the city. This is not to argue against the centralized distribution of many goods and services but, in the final analysis, has society as a whole benefited when a simple act such as the purchase of a loaf of bread or a quart of milk is moved out of the neighborhood? Has society as a whole benefited when a meal in a restaurant or a visit to a movie is impossible without the use of individualized transportation?

In the walking city the activities of the individual would be placed in a matrix of goods and services that are conveniently located within walking distance. Such distribution of goods and services would lead to the development of a more recognizable, and therefore more satisfying, human community, one based on the needs of people rather than on the dictates of technology. Schools should be within walking distance of the students' homes, and the ratio of people to service areas, including parks and open spaces, should be adjusted so that urban service and recreational carrying capacity of the community is optimized.

The notion of decentralized services into the neighborhoods can easily be accomplished by the same firms that now run large enterprises such as supermarkets and department stores. As a matter of fact, the prototype already exists in the chains of small groceries, dairies, and specialty restaurants that dot many of our cities, towns, and highways. These existing examples of a central organization with small retail outlets, however, are primarily designed to serve the evening and Sunday trade, but little adjustment would be needed to adapt this concept to provide virtually any type of service to neighborhoods. All of the conveniences of centralized inventories, electronic bookkeeping, and centralized management are compatible with decentralized services to neighborhoods.

With electronic inventories and adequate supply networks, the neighborhood store or the neighborhood service as a consolidated management operation is quite feasible. Neighborhood employment opportunities would be increased, local entrepreneurs would be attracted to neighborhood enterprises, and large corporations and their customers would once again deal on a more personal basis through locally franchised operations. Such a system of locally franchised business should also open up the neighborhoods to competitive single owner businesses, providing for local entrepreneurial activity and opportunity.

As we have noted, our modern cities are plagued with crime. The comfort, well-being, and security of a well-regulated ecological community is denied to many people living in American cities. In part, this is

due to the way in which cities are used, particularly the public areas of cities. With very large commuter populations, business and industrial areas of our modern cities are abandoned at night. Residential areas, with few lights, with few businesses, with few people on the streets become individual retreats, and the interaction of the inhabitants with the city is, at best, strained.

The reorganization of cities to the scale-size of humans would enable the residents to walk between destinations, to shop in the neighborhood for most of their needs, and would encourage the use of the streets by the people.

In a well-constructed walking city there must be clear delineation between the private and public areas. The private areas must remain sacrosanct and unobserved by any but the residents of each domain. Public areas, on the other hand, are everybody's business. Antisocial behavior is less likely to occur when the culprit knows that he is being observed. Shoppers, strollers, and park-bench loungers can be as great a deterrent to crime as the policeman on the beat, providing that they are abroad in sufficient numbers. In the public areas of buildings these observers can be augmented by modern technology. Potential criminals seeking a victim to rob or molest probably would be deterred if every resident of an apartment house could observe the halls and elevators through closed-circuit television. Moreover, residents of the building would have a greater sense of security, both in their own premises and in entering and leaving the building, if they knew that their friends and neighbors could observe the activities in the public areas of the building.

There is nothing of 1984 in this concept. People have always enjoyed watching each other. Not long ago, almost every block in a city community had at least one person, perhaps elderly or invalided, who spent long hours observing the neighborhood from a window at the front of the house. Whether or not the residents were aware of it, these individuals policed the neighborhood and could summon help in the event of suspicious activity. The television camera in the bank sees no more than any person in the bank can see—though the television camera generally records what it sees more accurately—and the curved mirror in the store enables anyone, including the management, to observe the activities of the persons in the store. These various devices are as effective as people on the streets, but they are not an invasion of privacy because only public areas are being watched. Furthermore, the electronic observation of public places is not conducted in secrecy, for to do so would destroy much of its effectiveness which lies in the fact that its presence is known to everybody who uses the premises.

Photo by U. S. Department of the Interior

The modern city is scale-sized to the automobile. This is paradoxical because the high speed, high power features of today's automobile are largely wasted in the city where short distances can be easily covered on foot and longer ones, by mass transit. Individual vehicular traffic means that the city must be designed to accommodate the automobile.

Cars require a great deal of attention; they are potentially lethal weapons; they are involved in a great deal of property damage; and they are expensive to own and operate. Even small models that are made for city traffic are expensive to operate, contribute to the pollution of the city environment, and pose similar problems in terms of parking, traffic congestion, and storage as do other cars.

No matter how miniaturized cars become or even if they become pollution-free, the capacity of even our largest cities to accommodate ever-increasing numbers is fast approaching the saturation point if, indeed, it has not already arrived there.

In addition to providing more horsepower and higher speeds than can be used to advantage in city traffic, individual vehicular transportation requires a great deal of very expensive space. Real estate values in metropolitan areas of the United States vary widely and range anywhere form $100 per square foot to $1,000 per square foot, the latter a recently quoted price for property in Manhattan. A family-size automobile requires about 200-square-feet of parking space which, if purchased as real estate, would cost between $20,000 and $200,000. Property of this value used for city parking with city-owned parking meters gives a very poor return on investment.

Walking in cities, particularly in business and industrial districts of cities, could be aided by moving sidewalks. In areas where some distance is to be traveled, parallel moving sidewalks, operating at slightly different speeds, would allow pedestrians to slow down for window shopping or to accelerate in order to reach a destination. A few airports, Disneyland, and other places are experimenting with, and in some instances routinely using, moving sidewalks. There is no reason why this technology cannot be applied to the business and industrial districts of our large metropolitan areas.

The vehicular traffic required in cities in order to travel from one neighborhood to another could be by public transportation consisting of jitneys, buses, subways, and taxis operated under group riding regulations. These alternatives could be competitive with automobiles if the city were not specifically designed and tax supported to favor the automobile over other forms of transportation. In addition, the walking city could easily be designed to accommodate human-powered transportation such as bicycles, and

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even motorbikes and motorscooters, while they would destroy the peace and tranquility of the walking city, from the viewpoint of space would be preferable to endless lines of family cars. In any event, motorbikes and motorscooters, like automobiles, are more appropriate for distance driving and the open road than for city streets.

Confining individual vehicular traffic to the main thoroughfares that are the nucleus of the city network would make more space available in the neighborhoods for playgrounds, parks, and squares where people could meet and socialize. Neighborhoods without the danger and congestion of high speed motor traffic offer exciting possibilities for the development of a park-like settings for cities. Even the streets would be more pleasant for strolling if the cacophony generated by an endless stream of automobiles was eliminated, or at least reduced.

An experimental community being developed on an island in New York harbor and designed specifically as a walking city is served by a ferryboat which brings automobiles and their drivers to the island. Once there, the automobiles are driven off the ferry into a parking lot where they remain until the owner is ready to return to the mainland. Residents and visitors move around the island on foot.

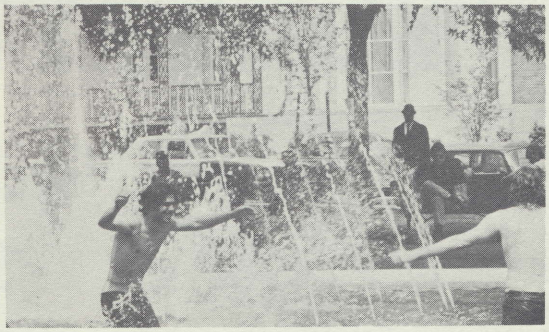
Operating an automobile in heavy traffic is not conducive to socializing with other persons in the car. The driver acts primarily as a guidance system, steering the machine through whatever space is available, and while engrossed in stopping and starting, in changing lanes, and in performing other maneuvers, he cannot interact easily with other persons. Bus drivers are forbidden to talk to passengers while the bus is in motion, presumably because most of us instinctively look at a person to whom we are speaking and, thus, the driver's attention would be diverted from the road.

If one observes the streams of commuter traffic approaching or departing any of our large cities during rush hours, one finds that a very high percentage of the cars carry only one person who, if he is interacting at all, is doing so with the advertisements on his radio. Large numbers of people on foot, on the other hand, interact with each other and have a feeling of well-being and companionship. As they walk, they can talk and laugh and observe each other and their surroundings, without fear of harm to themselves or to property. A person driving an automobile through the same area must simply watch where he is going and, instead of participating in a "happening," as his ambulatory fellow citizens are doing, all of his attention must be focused upon avoiding a collision.

Fast, efficient, inexpensive mass transportation is the key to the human community aspects of the walking city and, as we have seen, individual vehicular traffic, while not incompatible with it, must be regulated in a way that will not detract from the city as a place to live. A city designed around neighborhoods that will bring a sense of community to urban life would do much to establish our cities as exciting, humane, and safe places in which to live, work, and play. Such neighborhoods would be oases of tranquility in the bustling metropolis, linked together by efficient transportation corridors.

In addition, many non-residents of the city must have easy access to it in order to work, to shop, or to attend theaters, museums, and other entertainment and cultural activities traditionally found in metropolitan areas. For them, the time spent in the walking city could be enjoyable and rewarding rather than the ordeal-by-fire that it so often is today. Adequate off-the-street parking centers will be necessary to accommodate their automobiles, and these centers can be located adjacent to the interstate highway system or at intersections of the city transportation corridors. The design and location should be such that access to these storage centers and the avenues of ingress and egress through the city do not significantly alter its human scale-size properties. This could be accomplished by surface or subsurface transportation routes that end at intra-city transportation terminals. Access to the neighborhoods and districts of the city would have to be restricted to public transportation, and within the neighborhoods walking would be augmented by jitneys and other small, publicly operated vehicles, moving sidewalks, escalators, and elevators.

In order for the walking city to function effectively, it also would be desirable for residents to leave their automobiles at off-the-street parking centers where, it should be noted, they could be more easily safeguarded than on the city street. For residents of the city not choosing to own an automobile, car rental is a simple way to secure independent movement for travel beyond the city, and trains, planes, and long-distance buses provide a great variety of additional service.



Summary

By combining automobile transportation with urban sprawl, we have created in the United States vast assemblages of dwellings that rarely meet the standards of sound ecological communities. The central cities of most American metropolises are crime-ridden and most suburbs are terribly inconvenient. The mass confusion of commuter traffic simply emphasizes the lack of relevance of suburbs to central cities. The 8:00 a.m. to 5:00 p.m. city becomes the 5:00 p.m. to 8:00 a.m. jungle.

The answer to many of these problems lies in the biological structure of man himself. Our cities, if they are to be meaningful to man, must be physically scaled to him. This does not mean that the size of a walking city cannot be extremely variable since two or more residential neighborhoods can mesh with non-residential districts. Even a megastructure city of a million people can be planned so that it meets the environmental requirements of each individual.

The central problem that we must deal with in future city planning is to develop a viable human community that satisfies the ecological requirements of man and that is at the same time compatible with the technical, business, and industrial components of the city. But in creating modern cities, we must consider more than the juxtaposition of the various components. We must also deal with the problem of moving people back and forth between the various parts of the city, and between the city and the surrounding suburbs.

The present solution is to accept individual vehicles as the standard means of transportation, yet in most of our cities this is being done at great expense both to individuals and to the community. As a consequence of our dependence upon individual vehicles for city transportation, mass transit in most American cities is in a decline with poor service, inadequate schedules, and rising costs.

The development of high speed mass transportation and the reorganization of residential neighborhoods and business and industrial districts so that they are convenient for people would go a long way toward alleviating traffic and pollution problems of the cities. Our future cities will have to include well-designed transportation corridors that will link the neighborhoods to each other and the city to the suburbs, and do so in a way that will not force urban dwellers to live in a nightmare of noise, filth, and fumes.

If they are to function in harmony with man, every human community must provide individual privacy and public security; the community must have observers and the means to observe; the community must accommodate all social, economic, and age groups; and above all, the community must provide

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everything required for day-to-day maintenance. These goods and services must be easily accessible to resident and visitor alike.

With cities arranged for walking convenience, man should live a healthier, more satisfying life with more time for leisure activities. The proper physical arrangements of the city would tend to discourage street crimes, and with the public areas of the community under public scrutiny, collective security would be enhanced.

The creative spirit of all men will have ample opportunity for development, for variety of interests, design, and activities should be part of the ideal walking city. Before the paintings were added to the Luscaux cave it was just that—a cave. After the walls were decorated, it became one of man's enobling achievements.

There is no reason why the future development of American cities cannot combine modern technology with an environment fit for man. To develop such cities sound ecological principles must be applied.

Delay will not bring the total collapse of the city—ecological systems are self-correcting. But the vast energy and resources can be oriented now for the development of ecologically sound communities for man in our cities. The processes of change are resolute and irresistible. Without changing very much of what goes on in the city these energies and processes can be harnessed for the commonweal and the commonwealth.

—Theodore W. Sudia

Urban Ecology Series, No. 3

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