Preface

Paul Goldberger

Utopianism has gotten a bad name in the last generation, and for good reason: most utopian plans for cities are far-fetched and silly, not only impractical but dangerous. The idealized visions of the city put forth by most utopian planners of modern times, from Ebenezer Howard to Le Corbusier, from Frank Lloyd Wright to Paolo Soleri, have been Procrustean beds, forcing reality into preconceived forms that bear little relation to cities—or to human societies—as they truly are. It should come as no surprise, then, that the prevailing mood of the last twenty years has been to move in the opposite direction, away from utopianism, toward a more modest, pragmatic, and accepting view of how cities and communities should be formed. A generation shaken by the arrogance of most of the utopian urban planners of the 20th century—and brought up on the alternative intellectual diet of Jane Jacobs, Herbert Gans, Robert Venturi and Denise Scott Brown—is not inclined to think much of ideal solutions.

But if this more modest sensibility of our time contains wisdom, it is not without dangers of its own. It is easy today to be too accepting of what is, too willing to believe that the various forces acting upon the city will in and of themselves be able to reach a satisfactory kind of balance, and that he who plans least plans best. We have come all too often to assume that, like Adam Smith's invisible hand trusted to guide the workings of the free marketplace, there is an invisible force that will guarantee that the various interests at play in

the making of cities will somehow achieve an equitable detente. And while these interests *are* aligned in a different way than they were a generation ago—in nearly every community of any size there is surely more power on the local level to stop huge projects than there was twenty years ago, for example—the very strength of the political and economic forces acting upon cities today tells us that something other than laissez faire is at work. Cities do not occur purely by the happenstance of the political process, and to believe that they do is to risk complacency at best, and utter cynicism at worst.

Is it possible to be critical of today's complacency without being as naive as the utopians of an earlier generation—to believe that there is a value to ideal plans without being taken in by ideologies so rigid, by worldviews so narrow, as to ignore the complex and contradictory realities that cities inevitably possess? I think that it is, and that Paul and Percival Goodman did precisely that in *Communitas*. The first edition of this book was written more than 40 years ago, just before modernist utopianism began to fade, and it possesses a welcome dash of realism. Indeed, some of its best passages are the lengthy critiques of the utopian thinkers who preceded the Goodmans; these sections stand as proof that Paul and Percival Goodman were not taken in by any of the 20th century's great urban mythmakers, and in fact managed to produce some of the first cogent critical analyses of just why their plans made no real sense at all. These sections look better and better over time, for they remind us that at its best, this book not only extended and reiterated the modern age's commitment to utopian thinking, but it also prefigured the criticisms of utopia's most articulate critics. It was no small accomplishment to be able at once to underscore this century's tradition of utopianism and to set the agenda for utopianism's best critics.

The Goodmans' comments on garden cities, on Le Corbusier and on that tremendous force who ultimately influenced 20th-century cities more than any other, Robert Moses, are equally damning. They dismiss garden cities with a wave of

the hand: "Rather than live in a garden city, an intellectual would rather meet a bear in the woods." They correctly praise Le Corbusier's foresight in envisioning that the city of the future would be technocratic and service-oriented—an observation that the 80's often believe had never been made before—but they conclude by noting that "The great machine of the Ville Radieuse, for all its constructivist beauty, is not a city at all." Exactly right, of course: Le Corbusier's vision of a city of sleek slabs standing in open space was primarily an esthetic dream, for all it pretended to being a complete social and political system. The Ville Radieuse is, at bottom, cold, anti-urban, and viciously simplistic, and while it was never built in literal form, its esthetic vision formed the basis for most postwar urban renewal in this country and abroad. So we have come to pay dearly for Le Corbusier's excessively simple view of urban form, and the Goodmans realized it first.

It is easy now to see the vast damage that the automobile has wrought on the American landscape; it was not so easy to see that in 1947, when the Goodmans not only noted critically that both Le Corbusier and Frank Lloyd Wright, in their otherwise entirely different utopian cities, had planned primarily for easy accommodation to the automobile, but also that Robert Moses's impact on the city was mainly automobile-oriented. "He has done our city of New York a disastrous disservice, in the interests of a special class," they wrote of Moses's elaborate parkway system stretching out into the New York suburbs. "Imagine if this expenditure had been more equitably divided to improve the center and make livable neighborhoods. . . . The general outlook of these rich, parkway-served counties is that of ignorant, smug parasites."

Daring words indeed in 1947, and prescient. So, too, with the praise for Camillo Sitte, the urban theorist whose writings on the design of city squares they hail as representing the search for a true urban esthetic. They are right, though few others saw Sitte's mission as clearly as they did back then, and in this we see that the Goodmans' priorities really are those of cities. Unlike urbanists of today they believe that

there is a solution, that there is an ideal urban form—but unlike most of the previous utopians they want that form to be truly *urban*, to be full of density and energy and excitement, to be noble and civic and monumental and public in the greatest sense of all of these words.

It is difficult to be quite so enthusiastic about the actual plans the Goodmans propose—like all utopian city planners, they put great stock in the creation of a rational physical form, an overall pattern, for the city. What else, after all, is the utopian physical planner to do? But it is important to look beyond our age's prejudice against excessively formal and patterned physical plans and examine the value system beneath the Goodman plans. They turn out to be based not on the purist abstractions of most 20th-century utopian urban plans, but on a deeper, broader, more humanistic set of goals. The first scheme, "The Metropolis as a Department Store," by this phrase alone aligns itself with a different value system—one envisioning the city not as a place that closes off options, as most rigid physical plans do, but as a place that opens them up. It is a defense of the city as a marketplace, as a source of choice above all, and in this sense it seems far more topical.

The chapters outlining the ideal communities are rich in splendid observations, many of which foreshadow issues that have become all the more urgent today. The Goodmans are deeply concerned over the excessive separation between the home and the workplace, for example, which they see not only as a physical problem but also as a social and emotional one. The rise of mass communications, the age of computers and fax machines, has made the importance they give to this issue all the more contemporary. So, too, with their suggestion that great works of art be dispersed from museums and distributed to individual communities—it is not about to happen, obviously, but it brings to the fore a concern about the role that art in the public place should have that remains critical today. And their preoccupation with breaking down the vast city into livable neighborhood units reminds us that they

are not, in the end, as far away as they might seem from many of the last generation's post-utopian thinkers.

Ultimately, the great contribution this book made 42 years ago—and continues to make today—is not in the specifics of its plans at all, but in the eloquence and determination with which it testifies to the notion that the architect's mission is a broad one: that he or she is not merely a maker of shapes, but a force for social good. *Communitas* stands today as a rebuke to the indifference with which our current age views social responsibility, as a response to the tendency of our age to elevate the private realm above all. Paul and Percival Goodman believed with passion in the public realm, in the notion that there are public places, public ideas, public duties and responsibilities, that transcend the private and narrow concerns of individuals. *Communitas* is a testament to the idea that the city is a collective, shared place, a place that is in the most literal sense common ground. It emerges from the belief that the architect has an ability, not to mention a duty, to exercise vision, to dream of better ways of doing things and not merely to respond to the narrow demands of the moment. More than anything else, Paul and Percival Goodman in *Communitas* gave respectability to the business of being a visionary. The Goodmans' vision only begins with improving the city as a physical entity—its real goal is to elevate the very idea of the public realm, and make it noble once again.

central to keep one's eyes on the center of the target, the community and its way of life, not exaggerating production, the Standard of Living, or special interests out of all proportion.

In this difficult art, the people are not philosophical, they do not know the concrete and central facts. Yet only the people *can* know them. The answer is in the remarkable and thought-provoking sentence of Michelet: "Initiation, education, and government—these are three synonomous words."

Afterword: Communitas revisited

Percival Goodman

My brother had said no when I outlined my version of a book I proposed to call *Communitas Revisited.* I had thought that, after so many years, we could collaborate again in second guessing the future. But he said that he had no time and that he no longer believed in schemes for improving the human condition.

It was true. In his last years, Paul had lost confidence in our species and he didn't, in fact, have time. He died two months later.

So I was faced with a task that I thought must be done in order to correct an important oversight in *Communitas.* The result was *The Double E,* linking Ecology and Economy. This afterword is taken from that part of the book which deals not with the problems of the present, but with a possible, brighter future. The paradigm is based on my belief that people are life-oriented, rather than death-oriented, and will not, except by mischance, destroy the earth and themselves.

Let me admit that, when I developed this fourth paradigm about a decade ago, my optimism, then as now, was based on shaky grounds. But, without hope, what do we have?

When Paul and I wrote *Communitas,* it was, we presumed, feasible to recommend many possibilities since "for the first time in history, spectacularly, we have in the United States, a surplus technology, a technology of free choice that allows for the most widely various community arrangements and ways of life."

The presumption was correct, but who could have guessed how quickly our appetites would grow, how quickly our surplus would diminish, and how badly we would choose?

Almost a half-century later what had seemed an everbrimming cornucopia threatens to run dry. Limits, not free choice, scarcity, not surplus, are now the facts that will condition our future. Depletion of the ozone layer above, industrial and atomic pollution on and under our earth, oil shortages in the U.S, are among the problems of which we are aware.

Times of change are hard for planners as well as for prophets. Prediction becomes guesswork, and the most solidly based research may lead to absurd conclusions. Nevertheless, the planner cannot be fainthearted. He must have the courage to interpret what he sees in the light of his own vision and have the daring to make assumptions even when they are contrary to the wisdom of his peers and of the past.

What has happened is not only technical, it is total; and so drastic as to suggest mutation rather than evolution. We live in a world of improbabilities come true—a world not so solid, earthy, and dependable as we thought, a world suddenly seen as a fragile network of interlocking, interdependent systems in imminent danger of overburden and disruption.

In such a time it would be expected that such words as "ecology" and "economy" would haunt all discussions of planning. Not so. Architects and planners, like businessmen and even statesmen, are fixated on a science and technology, an ideology and an economics closer to 1900 than 2000. With few exceptions, they seem incapable of realizing that there has been a change in quantity—like the ultimate straw breaking the camel's back—making the qualitative change to which we must address ourselves.

"Ecology" and "economy" are two powerful words linked by the Greek *oikos*, meaning house. The root meaning of *ecology* is a knowledge of the house; *economy* means management of the house. Modern usage doubles the impact: *ecology* being the study of mutual relations between organism and environment, *economy* the management of expenditures. Are

not these the operative concepts in planning for a world with diminishing resources and increasing populations?

The Built Environment

Like a poem, the built environment has always been more than the sum of its parts, but unlike a poem—which may be achieved by an individual out of his own psyche—it is a collective work calling for many skills, using solid chunks of the planet in its making and subtly or overtly conditioning our movements. Throughout history these sticks and stones have been a crystallization of the technical, social, and moral qualities of the society that did the building, a crystallization of its way of life showing how it spent its substance, what it revered, admired, loved, and cherished as well as to what it paid no heed.

The built environment of the late twentieth century differs from the past not merely because it uses greater chunks of material to make it, not merely because everything is more complicated and needs more fuel to keep it going, but because it no longer evolves from the climate, geography, or history of the place where it is, nor is it the collective work of the people who inhabit it; instead, the new environment is conceived at conference tables and pieced together on drawing boards, its design aspiring to be the result of computerized decision-making suitable to the printed circuits of a society transformed into technology.

During most of the twentieth century the future has been projected as just such an artificial, urbanized world in which human muscle long ago replaced by machine is now preparing the next stage—the human brain replaced by machine, the human brain redundant. The world is conceived as a colony of vast termitaries run by agencies, conglomerates, and cartels who are in turn directed by a queen computer buried in the air-conditioned depths.

How fortunate it is that such a simple fact as the need to live within our means precludes such a future and rids us of

all those boring discussions on the moral and social implications of life in such a world.

We know now at what a disquieting rate the machines have been using up mines, oil deposits, and forests; how much they pollute in the course of their producing and what they produce is also a pollutant. Quite suddenly we've come to realize what mismanagement and ignorance of nature's symbiotic ways have done or threatens to do to our planet.

Few nowadays think it cranky to say that there is an immediate cause for worry not only as to the quality of life on earth but even as to its continuance. Nevertheless, I realize that when I conclude there can be no acceptable future, perhaps no future at all, without the dismantling of the war machine, population control by humane means, and a curbing of appetites by democratic process, I go further than many.

A viable future assumes users inclined toward modesty and a certain frugality, who favor a physical environment designed for people, not things, and who will support plans based on the scale of humankind in its symbiotic relationship with nature.

Based on these values, I had tried to project a future society by answering the following questions: What are the ways of creating more feasible man-made environments? What are the form-making elements and how should we use them? In a general way, what would the routine of daily life be like in such a future habitat and what would it look like?

Assumptions and Predictions

Here is a fourth model based on the same aesthetic and ethical standards used in the three previous models, but with premises that reflect additional concerns. Here there are crude physical restraints; scarcity not surplus, not a cornucopia but a small planet with burgeoning populations and diminishing resources. Here I accept the need to control technology since we will soon be unable to cope with some of its by-products (unemployment, pollution) nor afford some of its products

(gadgetry, death-dealing machines). Here I assume that certain trends in our culture will become dominant modes—among them a more communal way of life, sexual equality, an altogether simpler standard of living, a decentralization of work and political processes. . . .

This fourth paradigm too is embodied in a physical model, for this form seems now (as it did then) the best way for an architect to present a proposal. However, a model of this sort is an abstraction from and a simplification of the real world. It is therefore *not* a model in the sense of an architectural model, as the focus is not on the concrete form but the form-making elements, be they ethical, social, technical, economic, or aesthetic. The purpose of the model is predictive: to sketch a probable future if certain alternatives are selected. I have tried to select alternatives that I assume may find acceptance because the others (in my estimation) range from the improbable to the disastrous.

The basic assumption of the fourth paradigm is that we all seek life, liberty, and the pursuit of happiness and it is a possible goal.

I also assume those demographers right who forecast that during the early decades of the twenty-first century the world's population will have at least doubled before a leveling off in growth occurs.

A third assumption is that we have reached a plateau in technological change in all branches except the life sciences.

Finally I predict that by the year 2020, the nations will meet, vote for life, not for death, and that universal disarmament will follow.

The Year 2020

Planning

During the last stages of Western industrial society, the exploitation of land, transportation modes, and engineering de-

sign dominated physical planning theory. Now, the aim of architects and physical planners is to relate spaces and structures so their arrangement facilitates a convivial rapport between domestic life and work, education and leisure, privacy and community, expressing through their forms an aesthetic vision which makes sense of it all.

In addition, there is another: the requirement to accommodate the needs of the world-wide organization that came to be called the Basic Economy predicated on the relationship between ecology and economy, and the need for recognizing both concepts.

The Fourth Paradigm

As the nations began to disarm, it was agreed that the vast stores of skills and resources now free would be used to implement the basic requirement for world peace: *All people must have elementary subsistence as a right.*

The first step was to agree that the right to participate in the society and earn freedom from want is the birthright of all. The Basic Economy was organized to implement this right.

The principles of the Basic Economy are few: A fraction of the world's production is taken out of the economy of all nations in proportion to their wealth. This fraction consists of the goods required for a minimum but healthful subsistence for all. There is no variation in quality or quantity because of higher or lower standards of living as the goods are *not* for comfort or luxury, but *subsistence.*

The rest was logistics. How can the deprived of all nations be fed, clothed, and housed in the most efficient way? How can all people be insured against want? How can these things be done with minimum damage to global resources, minimum infringement on human freedom? The answers were set forth in a law called *World Conservation of Natural (including Human) Resources.* The premises on which the law is based are simple to the point of banality: "Planetary resources are finite and must be conserved; planetary life depends on maintaining

a balance between organism and environment; earth is an oasis of life in space, the human race is probably unique, a species worth preserving."

It was recommended that the rich nations provide the poor with the means to mass-produce subsistence goods and teach them how to use and maintain the machinery and technology. With survival assured, with the energy given by an adequate diet, suitable shelter, and proper medical care, with the learning of modern skills and work habits, the people would soon be able to decide on life styles compatible with both their ways and the new technology.

Organization of the Basic Economy

An international committee monitors the Basic Economy organization set up by each nation. Each nation provides the co-operating force through a universal draft.

Although the function of the Basic Economy is to provide subsistence goods in the most efficient way, the well-being of the producers takes precedence. The schedule of work is designed to avoid long periods of routine and mechanical work with opportunity provided and time allowed for other activities; the cooperators urged to do their service in foreign parts learn new languages, develop new skills and new interests, all with the aim of making the work period a broadening, stimulating, and democratizing experience.

The disbanded military plant, its lands and equipment, are converted to create the initial production centers of the Basic Economy. Thus the ancient prophecy is fulfilled: The swords are beaten into plowshares and the spears into pruning hooks.

Style

Broadly speaking, the goods now produced fall into three categories:

First, *the machine style,* symbolized by the ball bearing whose function requires that each be exactly like the next in

its series—of equal sphericity, density, polish, etc.—and there be many of them. Machine-style goods, impersonal, standardized, mass-produced, are shaped for absolute efficiency and minimum use of materials compatible with performance.

This is the style of pure utility, the style of the Basic Economy, of bridges and dams, of airplanes, computers, saws, hammers, and all other tools.

Second, the symbol for *hand-style goods* could be a sculpture or a painting. The object is personal, the whim of the maker may be a sufficient excuse for its being, and it need not appeal to everyone; it may, in fact, only appeal to the maker and need have no function except to be itself.

The mode of production of the third style is *intermediate*, for it combines many of the tools and techniques of the machine style with much of the personal quality of the hand style. There is no search for maximum efficiency and utility as no large numbers of like objects are to be made, complete accuracy and uniformity are not desiderata. As an example of this mode consider the making of chairs: Chairs for an auditorium seating a thousand should be made by machine, but chairs in one's living room? A man with leisure and a knack for this kind of thing feels it is worthwhile to make a chair as a singular and expressive act.

These styles are not mutually exclusive; to the contrary, it is just in their interaction that the form-making potential is best expressed. So with other things: clothes, housewares, and all personal objects. Here, then, we have the handicraft movement dreamed of by Ruskin and Morris, but no longer a dream since it is based on the freed time given by our advanced technology.

Centralization, Decentralization

As a principle in twenty-first-century organization, decentralization is the preferred way, as its opposite tends to go out of scale, is always politically risky, often technologically unnecessary, and generally economically inefficient. However,

the several styles of production have helped to focus on the vexing question of what should be centralized, dispersed, or decentralized. Surely there would be great difficulty in attempting to centrally plan or produce hand- or intermediate-style goods. Machine-style goods, on the other hand, being designed for simple utility, mass-produced, and having a high degree of efficiency as the major criterion, may require concentrating authority, large-scale planning, tight scheduling.

Similarly, in locating and designing routes, whether for trains or planes, water or electrical power, in controlling pollution or preventing epidemics, allocating or replenishing natural resources and the like, centralization of authority and comprehensive planning are essential.

Reform of Work

By the middle of the twentieth century the scientific and technical management teams in the industrially advanced countries had developed systems capable of producing all needed goods and services, but ultimately two facts became clear: Fully automated processes were theoretically possible but not as practical as people plus machines, since automated machines could make goods but not buy them, a bad thing for the economy; and they deprived people of a major psychological need—useful work, a bad thing for the society.

By the end of the twentieth century, three general principles emerged as basic to postindustrial production:

First, a program of work designed on psychological and social as well as technological considerations. The program provides for diversified employment designed to aid in the development of sane and healthy people, as well as to produce goods.

Second, consultation with all experienced workers in the design of the products, the machines that make them, and the plants in which they are housed.

And third, participation by all workers in management. (The most important question is still unresolved: *Who shall decide*

on what is to be made? Workers, management, the market, or some social, ethical, or political principle?)

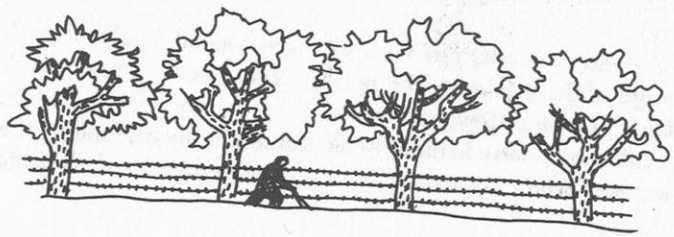
A major change in production techniques is seen in the increase in small-sized shops making intermediate-style goods as well as parts for machine-style goods. This plus the reforms in the work process based on worker participation and more flexible scheduling, has again made it possible to relate the means of livelihood to the way of life. Home and workshop, often combined in the same building or neighborhood, are now a lively force in educating the young, forming communal ties, fostering creative work, and developing pride of place.

Economy of Services

By the last third of the twentieth century a person in the technologically advanced West consumed ten times more energy and polluted his environment many times more heavily than his counterpart in the Third World, a result in no small part of the fabrication and use of harebrained elaborations which had become the major product of the perverse technology.

A whole branch of twenty-first-century technology is devoted to rediscovering or inventing simple ways to use natural forces in a nonpolluting way—capturing solar heat or wind force, using the rise and fall of tides, the evaporation of water, the harnessing of volcanoes, as well as the more mundane conversion of waste materials.

"Why plant dead posts in the ground and wait for them to rot? Why not plant live trees instead and let them bear fruits and nuts?" (Philadelphia Agricultural Society, 1819).



Living Arrangements

Compartmentalization, specialization, and mechanical scheduling were characteristic of the twentieth-century living: Work was quarantined from other affairs, domestic life had its compartment, as did play; the young were kept separate from the old, family from family, sex from sex, means from ends. Theory and practice rarely mixed. Though there was much talk of democracy, segregation of people by color and/or income was common. Maps by planners looked like kindergarten coloring exercises: *commerce* in one color here, *manufacture* there in another. In the residential districts were zones for separate houses on one-acre plots, while in others there might be attached dwellings twelve to the acre, or apartments housing two hundred or even four hundred families on a similar acre.

But change was in the air. Led by the young without an ideology, without organization, a shift toward other living arrangements became apparent during the early 1960s. Camaraderie between the sexes and the discarding of prudery achieved an openness especially marked in the upbringing of children. For the young, it was a rough period, the action sometimes excessive but generally toward simpler and more direct living arrangements, which as time passed became the accepted style for all ages.

By 2020, many schools had become "popular academies in which there is neither pupil nor master, where the people come freely to get free instruction if they need it, and in which they, rich in their own expertise, will teach many things to the professors who in their turn shall bring them the knowledge they lack" (Bakunin). Soon such "popular academies" had become an integral part of all community activity; libraries, restaurants, shops, were all considered environments for learning, as were the ateliers and work places within the town, the factories and farms on the outskirts or in the countryside. It was not as chaotic as it sounds, for then, as now, electronic linkages and the memory banks of computers provided the basis for an orderly curriculum.

Domestic arrangements: The typical institution around which daily activity was organized, the twentieth-century nuclear family, is pretty much a thing of the past, since it was wasteful of resources, vulnerable in time of trouble, and the least friendly form of domestic life conceivable. Households now vary in size and organization. The loner and single-generation blood kin family are found, but the majority of people have opted for family groupings composed of those related by affinity and interest more often than by blood.

The twenty-first-century house plan is in many ways closer to chateaux and manor houses than to those of the last century. A more communal style of living is reflected in the large public rooms and general spaciousness, since living and working accommodations are often needed for households numbering twenty or more people. Some are even larger, such as those organized by the followers of Charles Fourier, who have formed households where a hundred or more families live and work together. This housing designed to accommodate the changing social groupings is gradually replacing these twentieth-century storage units called apartment houses, as well as the detached cottages of suburbia.

The emerging street pattern is also reminiscent of an older time: The town plan is compact as if contained within walls (beyond is the countryside). The streets are narrow by the old motorcar standard, and although there are no uniform replacements and few legal restrictions, the individual houses, as in the streetscapes of medieval towns, relate to each other in a strikingly easy way. This, of course, is not chance but the result of an evolving architectural aesthetic based on a close analysis of function, a straightforward use of appropriate materials, and a respect for the Geddesian triad of "Place, Work, and Folk."

Transportation

Among the generations of man there were centuries of pyramid building, centuries of cathedral building, and a century

of automobile building. It is understandable that people would spend their treasure to celebrate kings or gods, but for a people to spend their treasure in celebrating mobility. . . In retrospect it seems unbelievable that both the young and the mature of the twentieth century were seized by this madness which, I have had to conclude, killed more people, wasted more resources, was more polluting, and led to greater migrations of people than the combined wars of that bellicose century. During the height of the automania, a zoologist observed that in animal herds excessive mobility was a sure sign of distress and asked whether this might not be true of his fellow human beings. Perhaps it was distress . . . but what historian can list all the causes that led twentieth-century man to race from highway to byway, tunnel to bridge? Suffice to say that he seemed to be constantly going from where he didn't want to be to where he didn't want to stay.

The folly of automobility is now over. As the new attitude priced unnecessary transportation out of daily life, people discovered the deplorable conditions in which they lived and began to improve them. Now the place where one is tends to be the place where one wants to be; as a consequence almost three quarters of the rubber-tired vehicles have disappeared. The savings in petroleum alone were immense. More important was the effect on health. Eliminating the pollution caused by these vehicles, and the generally slower pace (once people got accustomed to it), are credited with a marked reduction in the incidence of respiratory and stress diseases. And of course there are few traffic accidents.

The twenty-first century has the problem of dismantling over half of the most elaborate, extensive, and costly structures ever built by man, the infrastructure on which the automobile depended: garages and service stations, roads and highways, tunnels, bridges, and viaducts. Those routes that remain in use have had their magnificent engineering finally tested—they are reserved for high-speed traffic only.

Although there is a great deal less movement of people and goods than was common during the latter part of the twen-

tieth century, traffic still is substantial. Bus, truck, rail, and waterway systems have been reorganized and operate as integrated and flexible networks.

A major shift has occurred in overland air transport. Most standard fixed-wing planes of the twentieth century have been rejected in spite of their superb design, since the noise pollution along the rising and descending flight paths was unacceptable, as was the inordinate amount of land required for airport runways. The obvious solution was to improve the helicopter and the vertical take-off and landing (VTOL) planes.

For short daily trips, skates, bicycles, and a variety of tricycles are common, along with the small slow-speed buses which crisscross the towns, and though railroad trackage is much used for long-haul transportation, high-speed buses and trucks run between towns and serve less densely settled areas.

Land Use

Twentieth-century economics held that insofar as each unit of land is different from another and the differences have economic significance, unequal demand is created so land costs will differ. Such considerations led to intense use of land having the highest cost often regardless of the consequences. The current restraints imposed now prevent such abuses. As an instance, undesirably high densities are made unpractical, since in present practice the conservation laws restrict the use of elevators and moving stairways to buildings of special purpose, thus the height of buildings is restricted to the stair-climbing ability of the inhabitants. It is not zoning laws that restrict a building's location of ground coverage but the requirement that it be made comfortable by maximum dependence on the ancient means—sun and shade, exposure to breeze, protection against the gale.

Like the elevator, mechanical ventilation and air conditioning are reserved for special situations—operating rooms, laboratories, concert halls, tunnels, and submarines. A building technology dependent on gadgetry belongs to the past since

it was wasteful, catered to the architects' laziness, and threatened to fill the world with identically shaped boxes or, worse, buildings shaped by ego.

With most travel by foot, bike, or short-haul bus, common sense dictates a close relationship between work and living places, and since all is designed for the convenience of people moving under their own steam, recreation space and the countryside are near. The planner, instead of basing his layouts on the circulation of bulky vehicles and their storage, bases himself on the movement of people passing through pleasant places. That romantic Viennese Camille Sitte is in style, and John Ruskin is quoted: "The first school of beauty must be the streets of your city. . . ."

As in all good plans, convenience and delight merge. Nature's variety and man's skill are seen at the eye level and pace of the pedestrian, not through the windshield at sixty miles an hour as in automania days. A sudden rise, a river's edge, the prevailing breeze, the arc of the sun, all enter into the calculations of the urban designer establishing street directions, landmarks, and boundaries, the juxtaposition of built and open spaces, the siting of buildings. . . .

Metamorphosis of Metropolis

Huge cities had become progressively less habitable and lost the larger part of their population. Unsafe to live in, uneconomic to manage, they had become, through the inept decisions of central governments, the last resort of the poorest and least urbanized people.

As the physical pattern changed, so did the pattern of government. The municipal agencies, overstaffed, overpaid, and underproductive, which had monopolized all city services and brought the city to bankruptcy were disbanded, and in their place were developed neighborhood-government units which had the authority to purchase services from other units, from private concerns, or from their own personnel. The world-famous fantasy known as Manhattan Skyline no longer sym-

bolizes a citadel of business but a museum city, a tourist attraction like Venice or Paris Centre.

New Town Theory

The Industrial Revolution created and developed the metropolis, its aftermath destroyed it. During this latter period, then called the "crisis of our cities," innumerable theories were propounded and plans drawn, ranging from the plodding efforts of bureaucratic Gradgrinds to the fantasies of genius, all showing ways of altering the old to fit the changing conditions or proving that the sole solution is to start afresh with startling ideas.

Looking back it is a surprise to find that it was not a Le Corbusier, a Kenzo Tange, nor even a Frank Lloyd Wright who forecast the principles of postindustrial town planning, but a Victorian, John Ruskin writing in *Sesame and Lilies* in the lush prose for which he and his period were known:

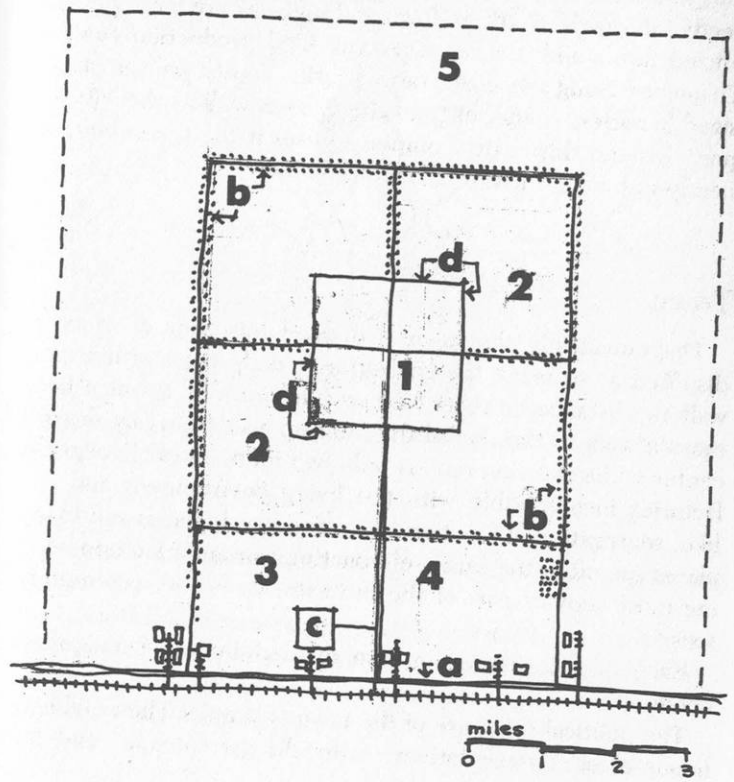
> Through sanitary and remedial action in the houses that we have; and then the building of more, strongly, beautifully, and in groups of limited extent, kept in proportion to their streams and walled around, so that there be no festering and wretched suburb anywhere, but clean and busy streets within and open country without, with a belt of beautiful garden and orchard around the walls, so that from any part of the city perfectly fresh air and grass and sight of far horizon might be reachable in a few minutes walk. This is the final aim.

Was the aim a pre-Raphaelite vision of a medieval town Ebenezer Howard's Garden City, or the Goodmans' New Commune moved into a new century? Surely none of these, yet in every period there are works that forecast what is to come.

A Populated Area

In this paradigm our first diagram called "The Zones" shows the development of a town and its environs. It consists of a compactly built up center, a ring of gardens, another of larger farms, and, beyond, open country.

The zones: (1) town, (2) kitchen gardens, (3) large-sized farms, (4) Basic Economy food production center, (5) grazing, open country, (a) highway and railroad, (b) along ring road: farms, power plants, food processing, Basic Economy camps, (c) airport, (d) outdoor sports areas at corners of town.



The built-up part of the town, four square miles in area, houses the activities of 128,000 people at an average density of 50 to the acre. So disposed as to be less than a mile away from anyone in the town are the sport fields and courts, swimming places and picnic grounds. An acre of garden space is allotted to every 10 inhabitants. These allotments are a mile in width surrounding the town and bordered by a ring road. Along the road are centers (to be described shortly) that service farms and gardens; factories; the borders of large farms; and the Basic Economy settlements.

Some five miles from the town center is the main highway and railroad, reached by the ring road and a road leading directly into town. Between town and highway are large, mechanized farms and a Basic Economy food production center. Dispersed along the main transportation routes are the large-sized factories, refineries, and the like, as well as the VTOL-port. Around this entire complex of uses is the green belt, as nearly untouched nature as man can abide.

Town

Diagramatically the town is divided into four districts so disposed as to bring the goal of most daily trips within easy walking distance or short bike or bus rides. It is but a five-minute walk to the end of the built-up area from any district center while the ring road is only two miles away. Except for factories incompatible with the living environment and the like, segregation of function is avoided: work places and living places are often the same, eliminating commutation and making most activity part of the intimate, domestic, community scene.

Each of the districts is also divided into four neighborhoods.

The political structure of the town is simple: The neighborhoods elect representatives to the district councils, and the

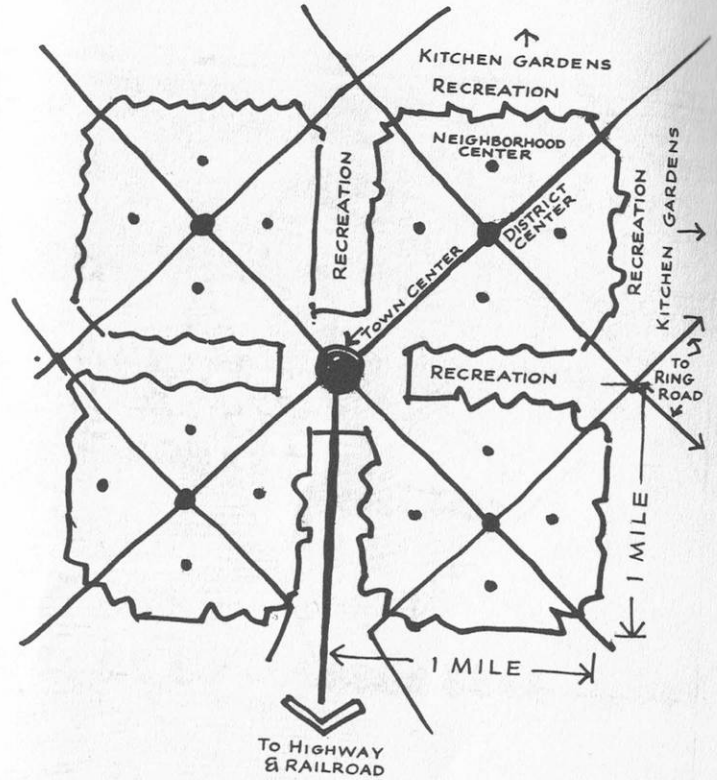
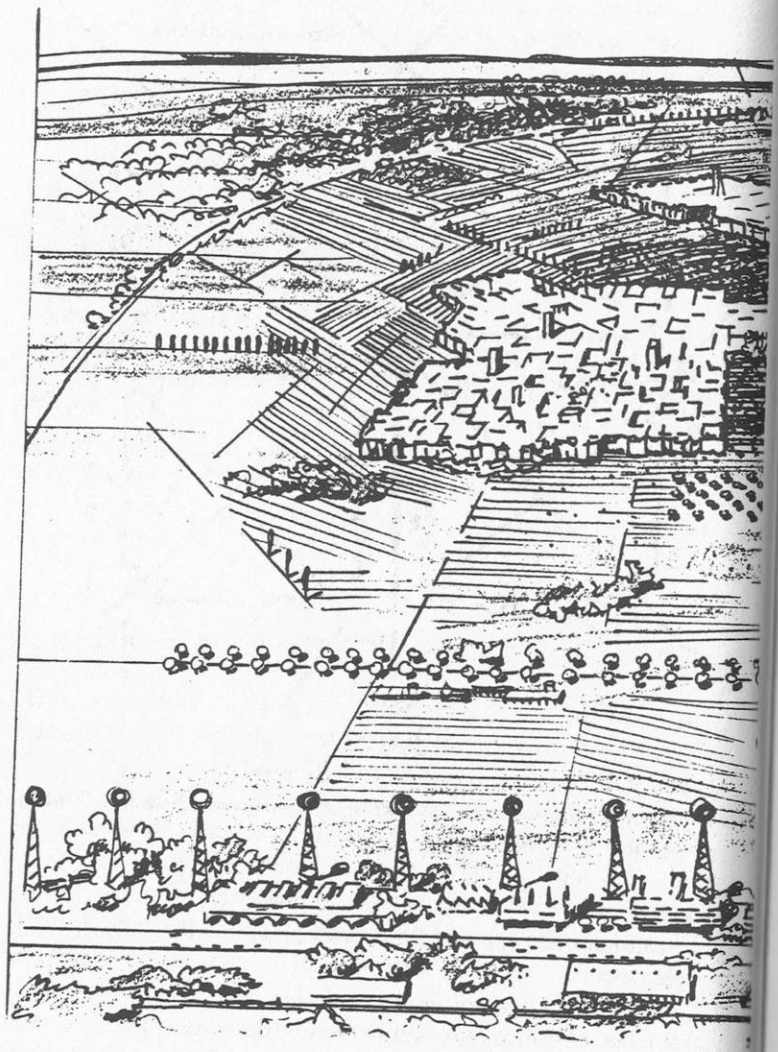


Diagram for a town with 128,000 people per 4 square miles. Density: 50 persons to the acre.

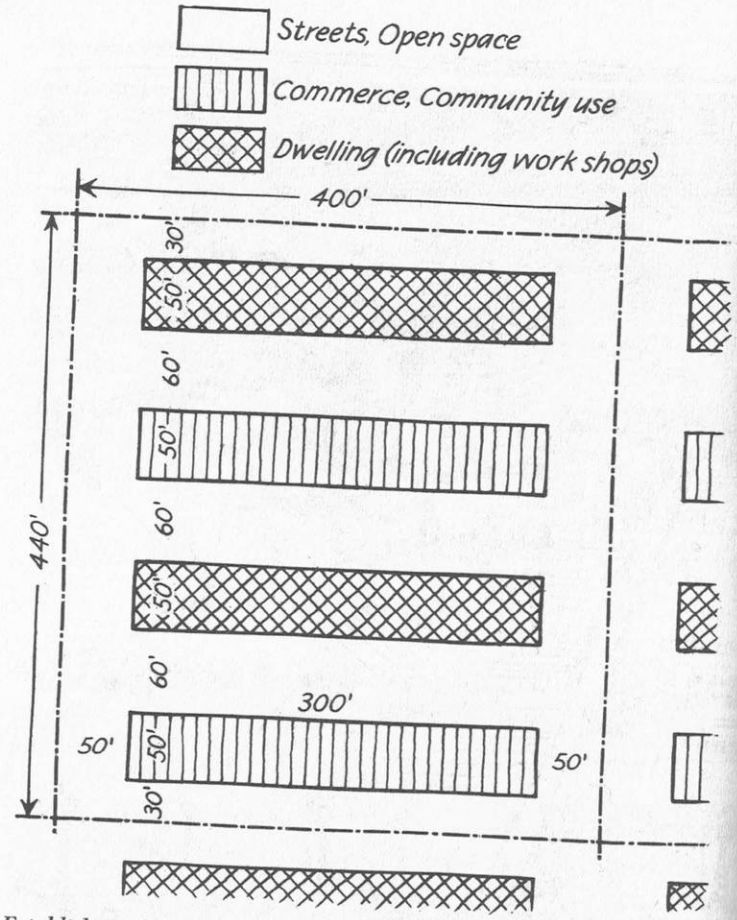
district councils appoint the town's officers, who in turn select a chairman.

Out of this diagram emerges a plan sketched to suggest an ambiance of informality, unpretentiousness, and friendly scale where one would hope to find, unexpectedly, some little masterpiece of civic art.

There are a variety of squares and plazas. Here in the



A town plan based on the diagram. The principles are: "(1) to have most functions within walking or bicycling distance, and (2) to have nothing zoned in isolation except nuisance industries." (A) Recreation areas, (B) kitchen gardens, (C) the ring road, (D) farms.



Establishing density in the town. Dwellings: average height 3½ stories.

neighborhoods are found small shops and perhaps some special activity that attracts visitors from other parts; in the districts, seats of local administration, clinics, cafés.

The Town Center is the site of the major shops, the City Hall, perhaps a museum, a television studio and concert hall, a factory producing some object for which the town is famous. . . .

In general the street pattern is based on a regular module, though varied to take advantage of the topographical conditions as well as provide a variety of streetscapes. The houses front on two streets, one for play and pedestrians, the other for the limited vehicular traffic.

There are four major athletic areas, each with its swimming pools, ponds, playfields, and courts, each convenient to the district it serves.

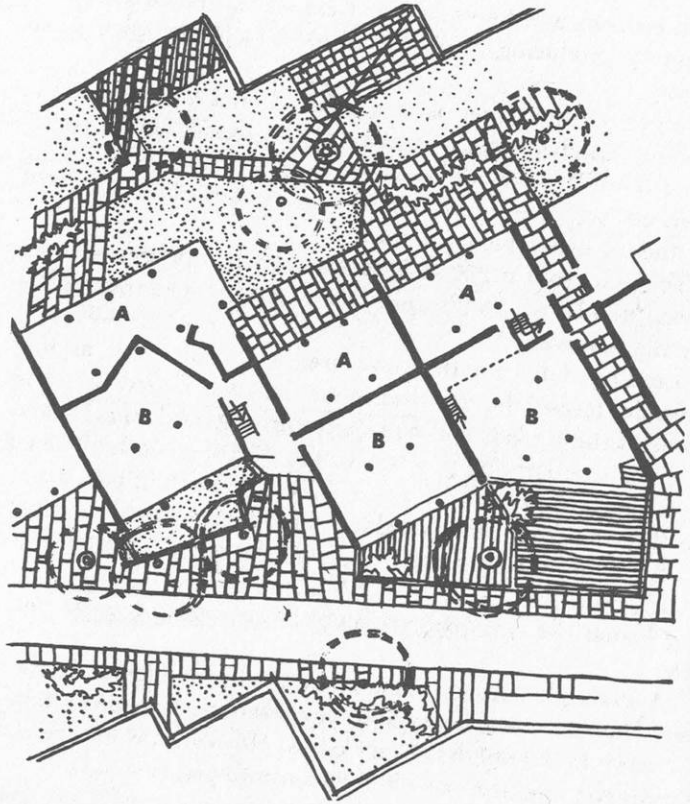
Leading out from the built area are roads that, as they meander toward the ring road, serve the kitchen gardens. Along some of these roads and paths enterprising gardeners, following Chinese farming practice in the 1970s, have built lineal greenhouses. Others are more direct, connecting city streets to the ring road, since trucking through the town is prohibited. Lining the ring road are small farms and related light industries.

Beyond the ring road are large farms, and the open country.

A street . . . As in preindustrial towns the blocks are short and the street width tends to vary, though few are as broad as those in twentieth-century cities. However, as in medieval towns the intersections often widen into plazas.

. . . and the houses on it. A street will usually be lined with three- or four-storied buildings, more often than not containing home and workshop. These houses vary in size but none are as large as those in last century's cities, nor as small as those in the old suburbs. The "grain" of the street (as urban designers used to call it) is closer to Paris before rather than after Haussmann.

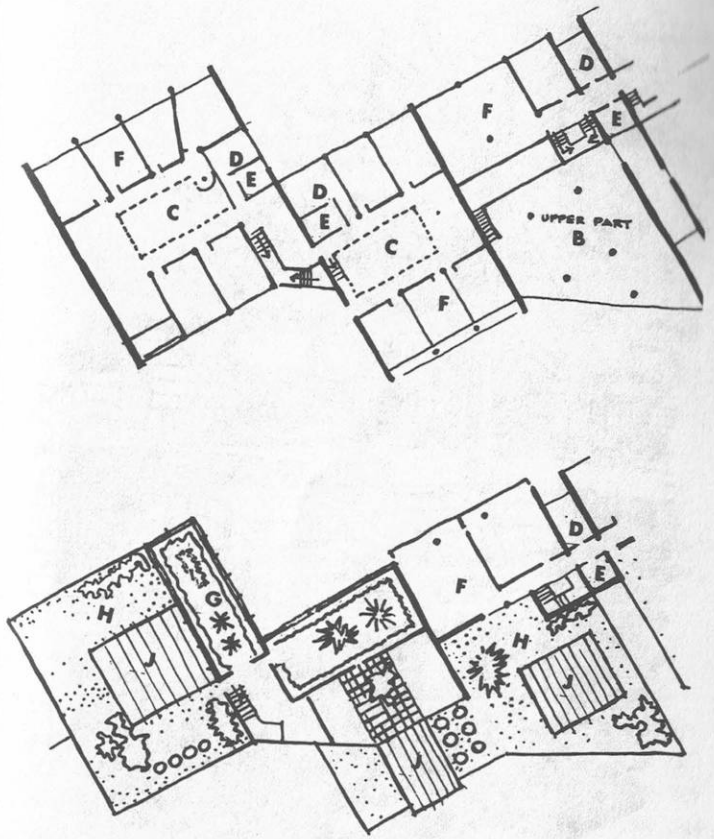
Not untypical are the house plans illustrated. *The paired house* (next page, left) is shared by some thirty adults and children in two households. One produces a variety of small parts for an electronics firm while the other designs and makes rather modish women's clothes. The street floor of the house is di-



A variety of households. Main floor: (A) kitchen-commons, (B) workroom.

vided between the workshop and the farm-style kitchen-living rooms, a busy and sometimes noisy place whose activities often spill out onto the paved terraces. Above is a double-storied quiet living-library space surrounded by the household's private rooms. The toilet and bath are communal. The roof is a garden on which are often set greenhouses or sheltered areas for sun bathing.

The house on the right is shared by a sculptor and painter,

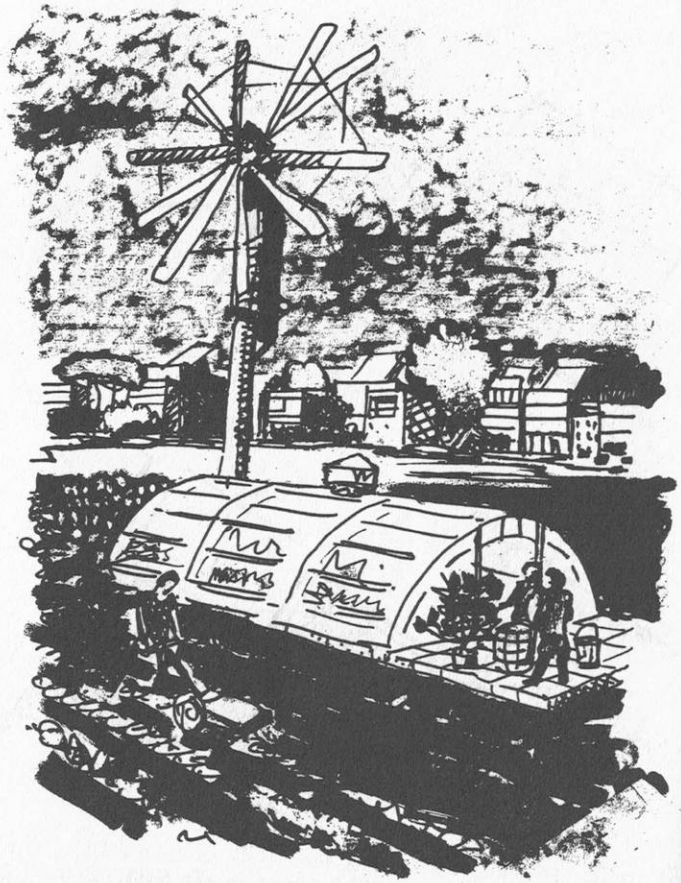


Upper floors: (B) workroom, (C) living room, (D) bath, (E) toilet, (F) private room, (G) greenhouse, (H) terrace, (J) solar collectors.

a graphics artist and printer, each with their apprentices and households (plan shown in part above).

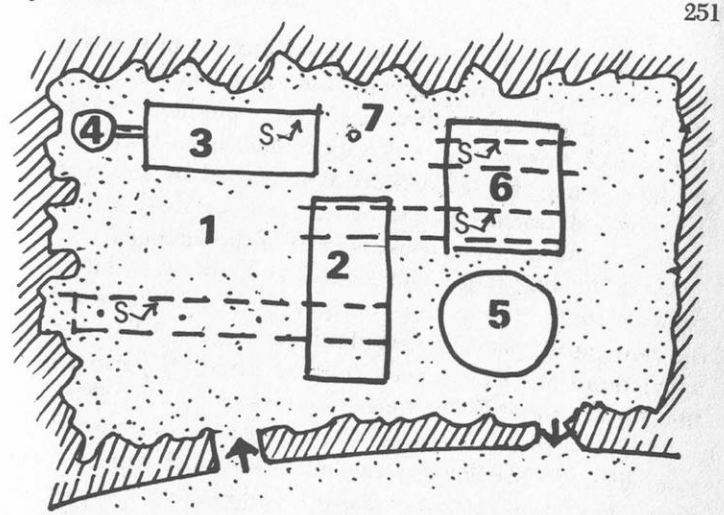
Green Belt

Prior to the twentieth century most productive United States crop land was located at the outskirts of our cities, and even



The kitchen gardens.

as late as 1950 half such land was still to be found in and around the metropolitan areas. By 1975 farm land near cities became a rarity, agribusiness having driven out the small farmers and developers having bulldozed the farms into housing or industrial sites.



A service station on the ring road: (1) parking area, (2) agricultural implement storage, (3) kitchen for canning, dehydrating, storage, (4) smokehouse, (5) composting tanks, (6) power generator house, (7) windmill, (S) solar collectors.

In any sane view the twentieth-century despoliation of the landscape was perverse, as was the kind of planning that fostered it. To the conserving society of the twenty-first century such patterns of development appear not merely perverse but almost criminal, since they had no merit except quick money for a few at unacceptable economic and ecologic costs for the many. It was not as if no alternative scheme existed, just the opposite. As far back as the sixteenth century Elizabeth I had banned new building within three miles of London's limits, and since her time the *green belt*, as it got to be called, has been a recurrent theme in town planning.

Whether an old place is reconstructed or a new one projected, the green belt is now essential, since every town grows at least some of its food, open space for sport and recreation must be near at hand.

Although the intensively cultivated gardens of the twenty-first century with their greenhouses and fish ponds, berry patches and orchards of dwarf fruit trees, produce a good portion of each town's food, cultivating them is no backbreaking drudgery since the heavy work is lightened by the communally owned tractors and tools needed for field work, the scrubbers and pressure cookers used in the kitchens.

Along the ring road. This secondary highway is the town's trucking route. The stations are powered by waste heat from the generating plant, by windmills and solar collectors. Finally, there are landscaped areas set aside for parks and as sites for the Basic Economy settlements.

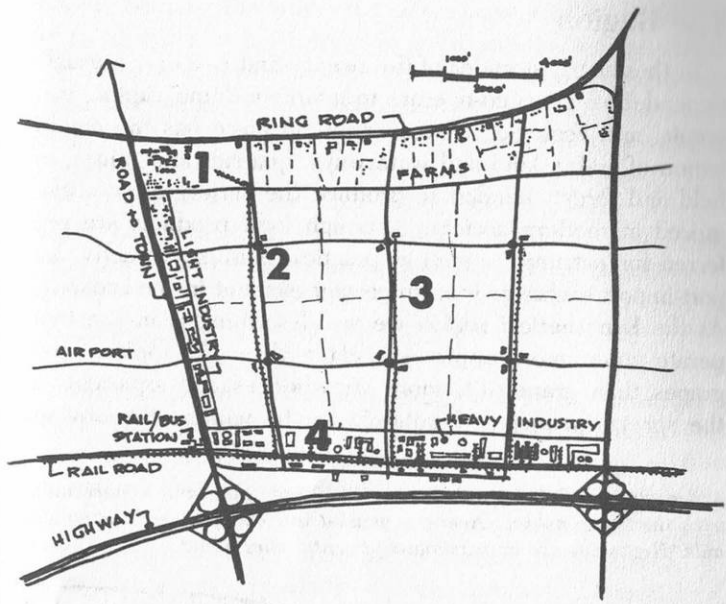
Along the through routes. Convenient to the railroad and main highway are located the extensive, mechanized farms growing grain and pulse crops, the buildings of heavy industry, a production center for Basic Economy goods, the VTOL airport. . . .

Countryside. About four miles away is the ring road of the next town. Between are meadows and woodland, streams and ponds.

Organization of a Basic Economy Production Center

The aim of the centers is to produce the required quotas of subsistence goods and maintain high quality while expending the minimum of material, energy, and time.

The goal is simple but the planning is not, for although standardization and uniformity is stressed and the goods limited to objects of basic utility, many different kinds of materials and skills enter into the making. Ore and oil must be extracted, crops grown, machines fabricated, cloth woven, food processed. . . . Each production center is designed for its use. Some are large, some small, some are in cities, some at quarries or mines, sometimes a center located in an isolated area may be the nucleus of a new town.



A Basic Economy production center: (1) agrobiology college and housing, (2) service centers, (3) the farm, (4) processing, storage, and shipping.

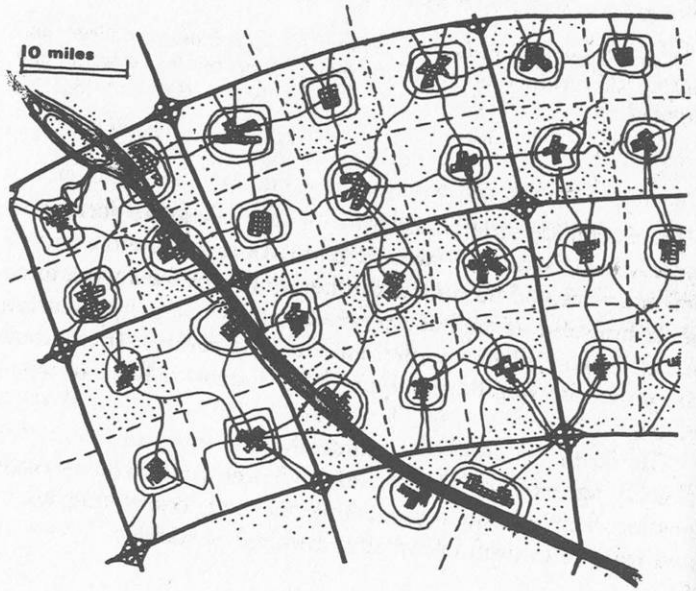
In this model the production center takes the form of a mechanized farm. The area is about three thousand acres in which are located housing and other amenities for a work force of six hundred as well as the greenhouses, shops, processing and packaging plants needed for this type of farm. In addition there are the buildings required for a small college of agrobiology.

The farming methods combine the efficiency of twentieth-century agronomy with the old (and renewed) virtues—composting, resting and replenishing the soil, converting waste and residue to useful products, avoiding pesticides.

The Region

In these early decades of the twenty-first century, mutually dependent regions co-operate to maintain demographic, economic, and ecologic balances since no place has the combination of arable land and waterways, quarries and mines, oil field and forest, needed to produce the variety of goods required in modern society. Although local products are preferred for patriotic as well as practical reasons, an active export-import exchange is an important element in the economy. As the hypothetical region we are describing is in the temperate zone, more apples are eaten than pineapples, more grapes than grapefruit, more strawberries and asparagus in the spring, prunes and potatoes in the winter, the obvious

A densely populated part of a region. Three thousand square miles with thirty townships. Average density is 1,400 persons per square mile. Highways are approximately twenty miles apart.



way of reducing the wasteful intermediary services of former times. But it is not merely a practical matter: An awareness of climate and season is fostered, a pride in a place and its distinctive foods and industries, its ways of doing things, and its special style in clothes and slang. This is the patriotism of the region.

World-wide, what saves modern regionalism from the curse of provincialism is good transportation routes and electronic community as well as the interpenetration of local cultures.

The Present Recalls the Past

Since nations have thrown down their arms, nationalism seems to have lost its meaning. Local flags are sprouting everywhere, all different with one exception: They all bear in no matter what language the words *co-operation, participation, responsibility*. Political boundaries having no correspondence to natural boundaries are beginning to be erased, allowing large-scale planning without artificial restraints or controls from distant capitals. In addition, some national governments have already been replaced by independent regional federations bound together by similar traditions, language, and interests. Some ask whether we are on the way to the old city-states but without walls, animosities, or class distinctions. It is possible, it could happen.

However, for me the most hopeful note is a saying recently inscribed on a new town hall. It is not from the mouth of a god or guru but from that of a modest nineteenth-century English electrician, Michael Faraday, who once said, "All this is a dream. Still, examine it by a few experiments. Nothing is too wonderful if it is consistent with the laws of nature, and in cases such as these, experiment is the best test of such consistency."