

ORDER IN DIVERSITY:
COMMUNITY WITHOUT
PROPINQUITY

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THE SPATIAL PATTERNS OF AMERICAN URBAN SETTLEMENTS are going to be considerably more dispersed, varied, and space-consuming than they ever were in the past—whatever metropolitan planners or anyone else may try to do about it. It is quite likely that most of the professional commentators will look upon this development with considerable disfavor, since these patterns will differ so markedly from our ideological precepts. But disparate spatial dispersion seems to be a built-in feature of the future—the complement of the increasing diversity that is coming to mark the processes of the nation's economy, its politics, and its social life. In addition, it seems to be the counterpart of a chain of technological developments that permit spatial separation of closely related people.

At this stage in the development of our thinking, students of the city are still unable to agree even on the nature of the phenomena they are dealing with. But it should surprise no one. For the plain fact of the matter is that, now, when the last rural threads of American society are being woven into the national urban fabric, the idea of city is becoming indistinguishable from the idea of society. If we lack consensus on an organizing conceptual structure of the city, it is mainly because we lack such a

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structure for society as a whole. The burden, then, rests upon all the arts, the humanities, and the sciences; and the task grows increasingly difficult as the complexity of contemporary society itself increases and as rapidly accumulating knowledge deprives us of what we had thought to be stable pillars of understanding.

In previous eras, when the goals, the beliefs, the behavior, and the roles of city folk were clearly distinguishable from those of their rural brethren, and when urban settlements were spatially discrete and physically bounded, schoolboy common sense was sufficient to identify the marks of "urbanness." Now all Americans are coming to share very similar cultural traits; the physical boundaries of settlements are disappearing; and the networks of interdependence among various groups are becoming functionally intricate and spatially widespread. With it all, the old symbols of order are giving way to the signs of newly emerging systems of organization that, in turn, are sapping the usefulness of our established concepts of order.

Especially during the last fifteen years, the rapid expansion of the large metropolitan settlements has been paralleled by a rising flood of commentary, reporting and evaluating this remarkable event; and we have developed a new language for dealing with it. Although the scholarly contributions to this new literature tend to be appropriately restrained and the journalistic and polemic contributions characteristically vituperative, the emerging patterns of settlement are typically greeted by both with disapproval if not frantic dismay. By now almost everyone knows that the low-density developments on the growing edge of the metropolis are a form of "cancerous growth," scornfully dubbed with the most denunciatory of our new lexicon's titles, "urban sprawl," "scatteration," "subtopia," and now "slurbs"—a pattern of development that "threatens our national heritage of open space" while "decaying blight rots out the city's heart" and a "demonic addiction to automobiles" threatens to "choke the life out of our cities." Clearly, "our most cherished values" are imperiled by what is synoptically termed "urban chaos." However, such analysis by cliché

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is likely to be helpful only as incitement to action; and action guided by obsolescent truths is likely to be effective only as reaffirmation of ideology.

We have often erred, I believe, in taking the visual symbols of urbanization to be marks of the important qualities of urban society; we have compared these symbols with our ideological precepts of order and found that they do not conform; and so we have mistaken for "urban chaos" what is more likely to be a newly emerging order whose signal qualities are complexity and diversity.

These changes now taking place in American society may well be compatible with—and perhaps call forth—metropolitan forms that are neither concentrated nor concentric nor contained. Sympathetic acceptance of this proposition might then lead us to new ways of seeing the metropolis, ways that are more sensitive to the environmental qualities that really matter. We might find new criteria for evaluating the changes in metropolitan spatial structure, suggesting that these changes are not as bad as we had thought. In turn, our approach to metropolitan spatial planning would be likely to shift from an ideological campaign to reconstruct the preconceived city forms that matched the social structures of past eras. Instead, we might see the emergence of a pragmatic, problem-solving approach in which the spatial aspects of the metropolis are viewed as continuous with and defined by the processes of urban society—in which space is distinguished from place, in which human interaction rather than land is seen as the fruitful focus of attention, and in which plans limited to the physical form of the urban settlement are no longer put forth as synoptic statements of our goals.

Metropolitan planning, then, would become the task of mutually accommodating changes in the spatial environment and changes in the social environment. And, because so much of the future is both unknowable and uncontrollable, the orientation of our efforts would shift from the inherently frustrating attempt to build the past in the future to the more realistic

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strategy of guiding change in desired directions—from a seeking after predesigned end-states to a continuing and much more complex struggle with processes of becoming.

So radical a revision of our thoughtways is not likely to come easily, for we are firmly devoted to the a priori values that we associate with land (especially with open land), with urban centers (especially with the more concentrated and culturally rich centers), and with certain visual attributes of the urban settlement (especially those features that result from the clean boundary line and the physical separation of different types of objects). And, above all, we are devoted to a unitary conception of order that finds expression in the separation of land uses, the classifiable hierarchy of centers, and the visual scene that conforms to classical canons.

So, let us briefly reconsider the idea of city and review some of the current and impending changes to see what their consequences are likely to be for future urbanization in the United States. We can then re-examine the idea of urban space to see how we might allocate it with some greater degree of rationality.

THE QUALITIES OF "CITYNESS"

In the literature and in the popular mind, the idea of city is imprecise: the terms "city," "urban," "metropolitan," and the various other synonyms are applied to a wide variety of phenomena. Sometimes we speak of the city as though it were simply an artifact—an agglomeration of buildings, roads, and interstitial spaces that marks the settlements of large numbers of people. On other occasions we refer not to physical buildings but to concentrations of physical bodies of humans, as they accumulate in nodal concentrations at higher densities than in "nonurban" places. At other times we refer to the spatial concentration of the places at which human activities are conducted. At still other times we mean a particular set of institutions that mark urban systems of human organization, where we mean to identify the organizational arrangements through which human

activities are related to each other—the formal and the informal role allocating systems and the authority systems controlling human behavior. In turn, we sometimes refer to patterns of behavior, and sometimes we mean to distinguish the social value systems of those people and groups that are “urban” from those that are “nonurban.”

The values, the ways of life, the institutional arrangements, and the kinds of activities that characterize people living in high-density clusters amidst large concentrations of buildings have been traditionally quite different from those of people living on farms or in small settlements. The large American city has been distinguished by a particular set of these characteristics, and yet, depending upon the specific purposes of our examination, not all these characteristics are necessary conditions of urbanness.

Large numbers of the people concentrated at the centers of New York, Chicago, and most other large metropolitan areas are recent migrants from “rural” areas. Their values, their life styles, their occupational skills, and their social institutions are certainly undergoing rapid change, but, nonetheless, these people are still rural villagers and are likely to retain many of their ways through at least another generation. After an intensive study of the residents of Boston’s West End, Herbert Gans could best typify these second- and third-generation descendants of Italian immigrants as “urban villagers,” whose way of life in the geographic center of a large metropolitan settlement has retained strong similarities to the patterns inherited from the villages of Italy.¹ The cultural diversity typified by the West Enders living adjacent to Beacon Hill residents—rather than any particular social pattern—is one of the distinctive marks of the city.

The city also is frequently equated with the greatest variety of economic activities; modern urbanization is often conceived as the counterpart of industrialization. Industrialization carries with it an increasingly fine division of labor and, hence, an in-

¹ Herbert J. Gans, *The Urban Villagers* (New York: The Free Press of Glencoe, Inc., 1962).

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creasing interdependence among men having specialized skills, who exchange many types of goods and services with one another. As the industrial development process evolves, increasing varieties of goods and services are produced; purchasing power and hence consumer demands rise; and the economy moves ever further from the self-sufficiency of nonurban primitive societies.

Relatively few products and occupations are exclusively associated with urbanization. At an early date in history we might have been able to distinguish nonurban production from urban production by separating the extractive industries (agriculture, forestry, fishing, and mining) and their related occupations from all others. But this is no longer clear. When the skills of farmers and miners are so closely approximating those of men who work in factories and executive suites, the distinction is hard to retain. And when fishermen live on San Francisco's Telegraph Hill, when oilworkers are an industrial elite, and when farmers and foresters hold university degrees and maintain laboratories and research plots, it becomes very difficult indeed to avoid the conclusion that these men are more firmly integrated into the urban society than are Boston's West Enders.

To say this is not to extend the proposition that the amalgamation of the once-rural and once-urban societies is accompanying a movement to an "other-directed" "mass society." The opportunities for a diversity of choices are clearly much greater in the United States today than they were 150 years ago when industrialization and the opportunities for social mobility were just beginning to stir new ideas and new ways into a poorly educated and unskilled population. Despite some gloomy predictions of the impending impacts of the mass communications media and of the pressures for conformity, the American population is realizing expanding opportunities for learning new ways, participating in more diverse types of activities, cultivating a wider variety of interests and tastes, developing greater capacities for understanding, and savoring richer experiences.

In the next fifty years it is likely that the rate at which the opportunities for learning and for social mobility expand will be even greater than in the last sixty years, when millions of un-

educated immigrants from all over the world were integrated into every stratum of American society. Urban life, the communications media, and the public education systems are not likely to reduce all to a lowest common mediocrity. They are more likely to open doors to new ideas, to increased opportunities for being different from one's parents and others in the subculture in which one was reared—as those who have enjoyed these benefits already know and as the American Negroes are coming to know. Rather than a “mass culture” in a “mass society” the long-term prospect is for a maze of subcultures within an amazingly diverse society organized upon a broadly shared cultural base. This is the important meaning that the American brand of urbanization holds for human welfare.

During the past half-century the benefits of urbanization have been extended to an ever-growing proportion of the population: differentials in income distribution have narrowed; formal and informal educational opportunities have spread; Americans have flooded into the middle class. Access to information and ideas has thereby been extended to larger and larger percentages of the population, and this has been greatly abetted by the increasing ease of communication and transportation, *across* space, bringing books, periodicals, lectures, music, and personal observation to more and more people. As the individual's interests develop, he is better able to find others who share these interests and with whom he can associate. The communities with which he associates and to which he “belongs” are no longer only the communities of place to which his ancestors were restricted; Americans are becoming more closely tied to various interest communities than to place communities, whether the interest be based on occupational activities, leisure pastimes, social relationships, or intellectual pursuits. Members of interest communities within a freely communicating society need not be spatially concentrated (except, perhaps, during the formative stages of the interest community's development), for they are increasingly able to interact with each other wherever they may be located. This striking feature of contemporary urbanization is making it increasingly possible for men of all occupations

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to participate in the national urban life, and, thereby, it is destroying the once-valid dichotomies that distinguished the rural from the urban, the small town from the metropolis, the city from the suburb.

THE SPATIAL CITY

Nothing that I have just said depends upon any specific assumption about the spatial patterns in which urbanites distribute themselves. I am contending that the essential qualities of urbanness are cultural in character, not territorial, that these qualities are not necessarily tied to the conceptions that see the city as a spatial phenomenon. But throughout all of human history these nonspatial qualities have indeed been typically associated with populations concentrated in high-density urban settlements.

Although, as some have suggested, there may be certain psychological propensities that induce people to occupy the same place, there seems to be almost universal agreement among urban theorists that population agglomeration is a direct reflection of the specialization of occupations and interests that is at the crux of urbanism and that makes individuals so dependent upon others. Dependency gets expressed as human interaction—whether through direct tactile or visual contact, face-to-face conversation, the transmission of information and ideas via written or electrical means, the exchange of money, or through the exchange of goods or services. In the nature of things, all types of interaction must occur through space, the scale of which depends upon the locations of the parties to the transaction. It is also in the nature of things that there are energy and time costs in moving messages or physical objects through space; and people who interact frequently with certain others seek to reduce the costs of overcoming space by reducing the spatial distances separating them. Population clusterings are the direct expression of this drive to reduce the costs of interaction among

people who depend upon, and therefore communicate with, each other.

As the large metropolitan areas in the United States have grown ever larger, they have simultaneously become the places at which the widest varieties of specialists offer the widest varieties of specialized services, thus further increasing their attractiveness to other specialists in self-propelling waves. Here a person is best able to afford the costs of maintaining the web of communications that he relies upon and that, in turn, lies at the heart of complex social systems. Here the individual has an opportunity to engage in diverse kinds of activities, to enjoy the affluence that comes with diversity of specialized offerings; here cultural richness is not withheld simply because it is too costly to get to the place where it can be had.

The spatial city, with its high-density concentrations of people and buildings and its clustering of activity places, appears, then, as the derivative of the communications patterns of the individuals and groups that inhabit it. They have come here to gain accessibility to others and at a cost that they are willing and can afford to pay. The larger the number of people who are accessible to each other, the larger is the likely number of contacts among pairs, and the greater is the opportunity for the individual to accumulate the economic and cultural wealth that he seeks.

Having come to the urban settlement in an effort to lower its costs of communication, the household or the business establishment must then find that location within the settlement which is suitable to it. The competition for space within the settlement results in high land rents near the center, where communication costs are low, and low land rents near the edge of the settlement, where communication costs are high. The individual locator must therefore allocate some portion of his location budget to communication costs and some portion to rents. By choosing an outlying location with its typically larger space he substitutes communication costs (expended in out-of-pocket transportation payments, time, inconvenience, and lost oppor-

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tunities for communication with others) for rents. And, since rent levels decline slowly as one leaves the built up portions of the urban settlement and enters the agricultural areas, while communication costs continue to rise as an almost direct function of distance, very few have been wont to move very far out from the center of the urban settlement. The effect has traditionally been a compact settlement pattern, having very high population and employment densities at the center where rents are also highest, and having a fairly sharp boundary at the settlement's margin.

It is this distinctive form of urban settlements throughout history that has led us to equate urbanness with agglomerations of population. Some architects, some city planners, and some geographers would carry it still further, insisting that the essential qualities of the city are population agglomerations and the accompanying building agglomerations themselves; and they argue that the configurations and qualities of spatial forms are themselves objects of value. The city, as artifact or as locational pattern of activity places, has thus become the city planner's specific object of professional attention throughout the world; and certain canons have evolved that are held as guides for designers of spatial cities.

Sensitive to the cultural and economic productivity of populations residing in large and highly centralized urban settlements, some city planners have deduced that the productivity is caused by the spatial form; and plans for future growth of the settlement have therefore been geared to perpetuating or accentuating large, high-density concentrations. Other city planners, alert to a different body of evidence, have viewed the large, high-density city as the locus of filth, depravity, and the range of social pathologies that many of its residents are heir to. With a similar hypothesis of spatial environmental determinism and looking back with envy upon an idealization of the small-town life that predominated in the eighteenth and early nineteenth centuries, this group of planners has proposed that the large settlements be dismantled, that their populations and industries

be redistributed to new small towns, and that all future settlements be prevented from growing beyond some predetermined, limited size.

Others have offered still other ideal forms. The metropolitan plan for the San Francisco Bay Area and Washington's Year 2000 plan propose star-like configurations surrounding a dominant center, with major subcenters along each of the radials.² The Greater London Plan calls for a somewhat similar pattern of subcenters surrounding central London, but these are to be spatially free-standing towns at the outer edge of a permanent greenbelt. Alert to the external economies that accompany large agglomerations, while sensitive to the problems that accompany high density and large size, Catherine Bauer Wurster has eschewed both the British New Towns doctrine and the American metropolitan growth patterns. She urges instead that major new settlements be separated from one another and limited to some half-million inhabitants each.³ Others have proposed slightly different modifications of the Bay Area-Washington, the Greater London, and the Wurster schemes in the official plans prepared for Detroit, Atlanta, and Denver.

Despite some important differences among these proposals, however, they all conform to two underlying conceptions from which they stem:

1. The settlement is conceived as a spatial *unit*, almost as though it were an independent artifact—an independent object separable from others of its kind. The unit is spatially delineated by a surrounding band of land which, in contrast to the unit, has foliage but few people or buildings. In some of the schemes subunits are similarly delineated by green-

² Parsons, Brinckerhoff, Hall, and Macdonald, *Regional Rapid Transit: Report to the San Francisco Bay Area Rapid Transit Commission* (San Francisco and New York: Parsons, Brinckerhoff, Hall, and Macdonald, 1956). National Capital Planning Commission and the National Capital Regional Planning Council, *Policies Plan for the Year 2000* (Washington: U.S. Government Printing Office, 1961).

³ Catherine Bauer Wurster, "Framework for an Urban Society," in *Goals for Americans: The Report of the President's Commission on National Goals* (New York: Prentice-Hall, 1960).

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belts; in others they are defined as subcenters, as subsidiary density peaks of resident and/or employed populations; but the unitary conception holds for all.

2. Whether the desired population size within the unit is to be large or small, whether subunits are to be fostered either as subsettlements within greenbelts or as subcenters within continuously built-up areas, the territorial extent of the "urbanized area" is to be deliberately contained, and a surrounding permanent greenbelt is to be maintained. The doctrine calls for distinct separation of land that is "urbanized" and land that is not. The editors of *Architectural Review* stated the contention with effective force, in "Outrage" and "Counter Attack," when they pleaded for sharply bounded separation of city, suburb, and country:

The crime of subtopia is that it blurs the distinction between places. It does so by smoothing down the differences between types of environment—town and country, country and suburb, suburb and wild—rather than directly between one town and another. It doesn't deliberately set out to make Glen Shiel look like Helvellyn; it does so in fact by introducing the same overpowering alien elements—in this case blanket afforestation and the wire that surrounds it—into both. The job of this issue [of the magazine] is to get straight the basic divisions between types of environment, and to suggest a framework for keeping each true to itself and distinct from its neighbors.⁴

Behind both ideas are the more fundamental beliefs that urban and rural comprise a dualism that should be clearly expressed in the physical and spatial form of the city, that orderliness depends upon boundedness, and that boundaries are in some way barriers. I have already indicated that the social and economic distinctions between urban and rural are weakening, and it is now appropriate that we examine the spatial counterparts of this blurring nonspatial boundary. I believe that the unitary conceptions of urban places are also fast becoming anachronistic, for the physical boundaries are rapidly collapsing;

⁴ "Counter Attack," *Architectural Review*, 1955, pp. 355-56.

and, even where they are imposed by legal restraints, social intercourse, which has never respected physical boundaries anyway, is increasingly able to ignore them.

EMERGING SETTLEMENT PATTERNS

It is a striking feature of current, physical urbanization patterns that rapid growth is still occurring at the sites of the largest settlements and that these large settlements are to be found at widely scattered places on the continent. The westward population movement from the Atlantic Seaboard has not been a spatially homogeneous spread, but has leapfrogged over vast spaces to coagulate at such separated spots as the sites of Denver, Houston, Omaha, Los Angeles, San Francisco, and Seattle.

This is a very remarkable event. Los Angeles, San Francisco, San Diego, and Seattle, as examples, have been able to grow to their present proportions very largely as the result of a rapid expansion of industries that are located far from both their raw materials and their customers. The most obvious of these, of course, are the producers of aircraft, missiles, and electronic equipment which use materials manufactured in the East, in Canada, and throughout the world, and then sell most of their product to firms and governments that are also spatially dispersed. They seem to have been attracted to the West by its climate, its natural amenities, and by a regional style of life that their employees seem to find attractive. Once there, they are highly dependent upon good long-distance transportation. And, since successful management of these industries depends upon good access to information about technical processes, about markets, and about finance, they are equally dependent upon good long-distance communication.

It seems clear that the scale of growth there would not have been possible without first the railroad, ocean freighters, and the telegraph and then the telephone, the highways, and the airlines. All of these changes, we must remember, are very recent occurrences in the history of urban man. (The centennial of the

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Pony Express was celebrated in 1961, and the Panama Canal is scarcely two generations old.) These technological changes have made it possible for individual establishments to operate efficiently thousands of miles away from the national business center at New York, the government center at Washington, and the industrial belt between Boston and Chicago, to which they are very intimately linked. At least at this territorial scale, it is apparent that economic and social propinquity is not dependent upon spatial propinquity.

These distant metropolitan areas continue to attract a wide variety of specialized firms and individuals, and most of them still prefer to locate *inside* these metropolitan settlements. It is impressive that the television industry, which requires such intricate co-ordination and split-second timing, has chosen to operate primarily out of two metropolitan areas at opposite ends of a continent, yet its establishments are located within the midst of each. Similarly, the financial institutions and administrative offices of corporations which also rely upon quick access to accurate information are attracted to locations within the midst of these settlements. The reasons are apparent.

Just as certain businesses must maintain rapid communications with linked establishments in other metropolitan areas throughout the nation and throughout the world, so too must they maintain easy communication with the vast numbers of local establishments that serve them and that in turn are served by them. The web of communication lines among interdependent establishments within the large urban settlements is extremely strong. Today it is possible to break off large chunks of urban America and place them at considerable distances from the national urban center in the East, but it does not yet seem possible for these chunks to be broken into smaller pieces and distributed over the countryside.

Nevertheless, the events that have marked the growth of widely separated metropolitan settlements force us to ask whether the same kinds of processes that induced their spatial dispersion might not also come to influence the spatial patterns of individual metropolitan settlements as well. A business firm

can now move from Philadelphia to Los Angeles and retain close contact with the business world in the East while enjoying the natural amenities of the West; yet it has little choice but to locate within the Los Angeles Basin where it would be readily accessible to a large labor force, to suppliers, and to service establishments. It is attracted to the metropolitan settlement rather than the more pleasant Sierra Nevada foothills because here the costs of overcoming distance to linked establishments are lower. *The unique commodity that the metropolitan settlement has to offer is lower communication costs.* This is the paramount attraction for establishments and, hence, the dominant reason for high-density agglomeration.

The validity of this proposition would be apparent if we were to imagine a mythical world in which people or goods or messages could almost instantaneously be transported between any two establishments—say, in one minute of time and without other costs of any sort. One could then place his home on whichever mountaintop or lakeside he preferred and get to work, school, or shops anywhere in the world. Goods could be distributed to factories or homes without concern for their distances from the point of shipment. Decision-makers in industry and government could have immediate access to any available information and could come into almost immediate face-to-face contact with each other irrespective of where their offices were located, just as friends and relatives could visit in each other's livingrooms, wherever each might live. With transport costs between establishments reduced to nearly zero, few would be willing to suffer the costs of high density and high rent that are associated with high accessibility to the center of the metropolitan settlements. And yet, accessibility to all other establishments would be almost maximized, subject only to the one-minute travel time and to restraints of social distance. Under these assumptions, urban agglomerations would nearly disappear. Were it not that the immobility of certain landscape and climatic features would induce many household and business establishments to seek locations at places of high natural amenity, that some people may have attitudinal preferences for spa-

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tial propinquity to others, and that some industrial processes cannot tolerate even one-minute travel times between industrial establishments, we would expect a virtually homogeneous dispersion across the face of the globe.

Of course, zero communication costs are an impossibility, but the history of civilization has been marked by a continuous decline in the effective costs of communication. Time costs and the costs of inconvenience between any given pair of geographic points have declined consistently; and the financial capacity to bear high dollar-costs has tended to counterbalance the high expenses attached to high speed and high comfort. The concomitant effect of very high speeds between distant points and slower speeds between nearby points has been nearly to equate the travel times between pairs of points on the surface of the earth. Certain improvements in transportation equipment that are now becoming possible could gradually reduce differential time costs of travel to nearly zero. The effects of this potential change on the spatial patterns of settlements would be dramatic.

SOME POTENTIAL CHANGES IN TRANSPORTATION AND COMMUNICATION TECHNOLOGY

We are all aware of the fact that, within metropolitan areas in the United States, the widespread use of the automobile has freed the family's residence from the fixed transit lines that had induced the familiar star-like form of settlement. The pattern of residential scatteration at the growing edges of most metropolitan areas would clearly not have happened without the private car; indeed, this pattern was not apparent until the auto induced the suburban developments of the twenties. The telephone, the motor truck, and transportable water, fuels, and electricity have further abetted this lacy settlement boundary. And, of course, all these trends have been further nurtured by a rising level of average family income and by credit arrangements that have made it possible for the average family to choose—and get—one or more autos, telephones, and houses.

Similarly the new communication devices, higher corporate incomes, and federal financial encouragement have made it possible for some foot-loose manufacturers and certain types of commercial establishments to locate in relatively outlying portions of metropolitan settlements.

To date, however, very few of these families and business establishments have chosen to locate very far from the metropolitan center, because the costs of maintaining the web of communications that are essential to their cultural and their economic well-being would simply be too high. Even though they might like to locate in a mountain setting, the benefits that would accrue from so pleasant a habitat seem to be far outweighed by the difficulties of maintaining contact with the various specialists they rely upon.

But today a great many of them are much farther away from the metropolitan center, in mileage distance, than they were even fifteen years ago, not to mention the differences that have occurred since the beginning of the century. Even so, a great many have chosen outlying locations without increasing their time distances to the center. Increased mileage distance carries a necessary increase in dollar costs, but the more sensitive component of communications costs in the locator's calculus seems to be the time costs, as the recent traffic studies and the phenomenal rise in long-distance telephone usage indicate.

Increases in travel speeds within most of the metropolitan settlements have been relatively modest as compared to the changing speeds of intermetropolitan travel that the airlines have brought. In part because the potentials of the new freeway systems have been so severely restrained by the countereffects of congestion and in part because the improvements in transit systems have been rare indeed, peak-hour travel speeds have not increased appreciably. But off-peak increases have been great in some places, and some changes are imminent that are likely to cause an emphatic change.

Where the urban freeway systems are uncongested, they have induced at least a doubling in speed and in some places a quadrupling—and the freeways do run freely in off-peak hours

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As the urban freeway systems that are now under construction are extended farther out and connected to one another, an unprecedented degree of freedom and flexibility will be open to the traveler for moving among widely separated establishments in conducting his affairs. A network of freeways, such as that planned for the Los Angeles area, will make many points highly accessible, in direct contrast to the single high-access point that resulted from the traditional radial transit net. Even if new or improved high-speed fixed-route transit systems were to be superimposed on freeway networks, the freeway's leveling effect on accessibility would still be felt. And the positive advantages of automobiles over transit systems—affording, at their best, door-to-door, no-wait, no-transfer, private, and flexible-route service—make it inconceivable that they will be abandoned for a great part of intrametropolitan travel or that the expansion of the freeway systems on which they depend will taper off. We would do well, then, to accept the private vehicle as an indispensable medium of metropolitan interaction—more, as an important instrument of personal freedom.

There has been a great deal of speculation about characteristics of the evolutionary successor to the automobile, but it is probably too early to predict the exact form it will take. I would hazard some confident guesses, though, that it will not be a free-flight personal vehicle because the air-traffic control problems appear to be insoluble, that it will be automatically guided when on freeways and hence capable of traveling safely at much higher speeds, but that it will continue to be adaptable to use on local streets. If bumper-to-bumper movement at speeds of 150 miles per hour or more were to be attained, as current research-and-development work suggest is possible, greater per lane capacities and greater speeds would be realized than any rapid transit proposals now foresee for traditional train systems. When these on-route operating characteristics are coupled with the door-to-door, no-wait, no-transfer, privacy, and flexible route-end service of the personal vehicle, such a system would appear to be more than competitive with any type of rapid transit service now planned—with two important qualifications.

The costs would have to be reasonable, and the land use patterns would have to be compatible with the operating characteristics of the transportation system.

A system that would be capable of moving large numbers of cars into a small area within a short period of time would face the parking dilemma in compounded form. Although unpublished reports of the engineers at The RAND Corporation suggest that it would be mechanically possible and perhaps even economically feasible to build sufficient underground parking facilities on Manhattan to store private cars for all employees and shoppers who arrive there daily, the problem of moving large numbers of cars into and out of the garages during brief periods would call for so elaborate and costly a maze of access ramps as to discourage any serious effort to satisfy a parking demand of such magnitude. Before such an all-out effort is made to accommodate the traditional central business district to the private motor car, the summary effect of thousands of locational decisions by individual entrepreneurs would probably have been to evolve a land use pattern that more readily conforms to the auto's operating characteristics. With further increases in mass auto usage—especially if it could attain bumper-to-bumper, 150 mph movement—we are bound to experience a dispersion of many traditionally central activities to outlying but highly accessible locations. The dispersed developments accompanying the current freeways suggest the type of pattern that seems probable. Here, again, Los Angeles offers the best prototype available.

IN WHAT SENSE IS URBAN SPACE A RESOURCE?

I have been suggesting that the quintessence of urbanization is not population density or agglomeration but specialization, the concomitant interdependence, and the human interactions by which interdependencies are satisfied. Viewed from this orientation, the urban settlement is the spatial adaptation to demands of dependent activities and specialists for low com-

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munication costs. It is helpful, therefore, to view the spatial city as a communications system, as a vastly complex switchboard through which messages and goods of various sorts are routed.

Information, ideas, and goods are the very stuff of civilization. The degree to which they are distributed to all individuals within a population stands as an important indicator of human welfare levels—as a measure of cultural and economic income. Of course, the distribution of this income is determined predominantly by institutional rather than spatial factors—only the rare Utopian has even suggested that the way to “the good society” is through the redesign of the spatial city. And yet, space intervenes as a friction against all types of communication. Surely, salvation does not lie in the remodeled spatial city; but, just as surely, levels of cultural and economic wealth could be increased if the spatial frictions that now limit the freedom to interact were reduced. This is the important justification for city planning’s traditional concern with space.

In the very nature of Euclidean geometry, the space immediately surrounding an urban settlement is limited. Given a transportation-communication technology and its accompanying cost structure, close-in space has greater value than distant space, since nearby inhabitants have greater opportunities to interact with others in the settlement.

But as the transportation-communication technologies change to permit interaction over greater distances at constant or even at falling costs, more and more outlying space is thereby brought into the market, and the relative value of space adjacent to large settlements falls. Urban space, as it has been associated with the economies of localization and agglomeration, is thus a peculiar resource, characterized by increasing supply and by ever-declining value.

These cost-reducing and space-expanding effects of transportation-communication changes are being reinforced by most of the technological and social changes we have recently seen. The patterns of social stratification and of occupations, the organizational structures of businesses and of governments, the goods and the ideas that are being produced, and the average indi-

vidual's ranges of interests and opportunities are steadily becoming more varied and less tradition-bound. In a similar way, the repercussions of these social changes and the direct impacts of some major technological changes have made for increasing diversity in the spatial structures of urban settlements.

Projections of future change, and especially changes in the technologies of transportation and communication, suggest that much greater variation will be possible in the next few decades. It is becoming difficult to avoid the parallel prediction that totally new spatial forms are in the offing.

To date, very few observers have gone so far as to predict that the nodally concentric form, that has marked every spatial city throughout history, could give way to nearly homogeneous dispersion of the nation's population across the continent; but the hesitancy may stem mainly from the fact that a non-nodal city of this sort would represent such a huge break with the past. Yet, never before in human history has it been so easy to communicate across long distances. Never before have men been able to maintain intimate and continuing contact with others across thousands of miles; never has intimacy been so independent of spatial propinquity. Never before has it seemed possible to build an array of specialized transportation equipment that would permit speed of travel to increase directly with mileage length of trip, thus having the capability of uniting all places within a continent with almost-equal time distance. And never before has it seemed economically feasible for the nodally cohesive spatial form that marks the contemporary large settlement to be replaced by drastically different forms, while the pattern of internal centering itself changes or, perhaps, dissolves.

A number of informed students have read the same evidence and have drawn different conclusions. Observing that the consequences of ongoing technological changes are spatially neutral, they suggest that increased ease of intercourse makes it all the more possible for households and business establishments to locate in the midst of high-density settlements. This was essentially the conclusion that Haig drew when he wrote, ". . . Instead of explaining why so large a portion of the popu-

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lation is found in urban areas, one must give reasons why that portion is not even greater. The question is changed from 'Why live in the city?' to 'Why not live in the city?' " ⁵

I am quick to agree that many of the recent and the imminent developments are ambiguous with respect to space. They could push urban spatial structure toward greater concentricity, toward greater dispersion, or, what I believe to be most likely, toward a very heterogeneous pattern. Since administrative and executive activities are so sensitive to the availability and immediacy of accurate information—and hence of good communications—they may be the bellwether of future spatial adjustments of other activities as well, and they therefore warrant our special attention.

The new electronic data-processing equipment and the accompanying procedures permit much more intensive use of downtown space than was ever possible with nonautomated office processes; but they can operate quite as effectively from an outlying location, far removed from the executive offices they serve. The sites adjacent to the central telephone exchange may offer competitive advantages over all others, and establishments relying upon computers, that in turn are tied to the long-distance telephone lines, seem to be clustering about the hub of those radial lines in much the manner that they once clustered about the hub of the radial trolley lines. At the same time we can already observe that outlying computer centers are attracting establishments that use their services.

The recent history of office construction in midtown New York, northwest Washington, and in the centers of most large metropolitan areas is frequently cited as clear evidence of the role that face-to-face contacts play in decision-making and of the importance of spatial propinquity in facilitating face-to-face contact. And yet, simultaneously, large numbers of executive offices have followed their production units to suburban locations, and some have established themselves in outlying spots,

⁵ Robert M. Haig, "Toward an Understanding of the Metropolis," *New York Regional Survey, Regional Survey of New York and Its Environs*, Vol. 1 (New York: Regional Plan Association, Inc., 1927).

spatially separated from their production units and from all other establishments. The predominant movement in the New York area has been to the business center, but the fact that many have been able to move outside the built-up area suggests that a new degree of locational freedom is being added.

The patterns in Washington, Detroit, and Los Angeles clearly suggest that the walking-precinct type of central business district (CBD), with its restricted radius, compactness, and fixed-route transit service, is not the only effective spatial pattern for face-to-face communication. Washington's governmental and private offices are dispersed over so wide an area that few are within easy walking distance of each other. Meetings typically call for a short auto trip, either by taxi or private car. In Detroit and especially in Los Angeles, establishment types that have traditionally been CBD-oriented are much more dispersed throughout the settled area. Relying heavily upon the automobile, Los Angelenos seem to be able to conduct their business face-to-face, perhaps as frequently as do New Yorkers. Highly specialized firms employing highly specialized personnel are located in all parts of the Los Angeles Basin—in some places within fairly compact subcenters, in other places in quite scattered patterns. But the significant feature is this: few linked establishments are within walking distances of each other, and an auto trip is thus an adjunct to a face-to-face meeting.

Even with a moderate speed of automotive travel, considerable mileage can be covered within a short time. At door-to-door average speeds of only 15 mph, it takes but four minutes to get to another's office a mile away; and, especially for long-distance trips, average travel speeds are considerably higher, probably exceeding 50 mph door-to-door off-peak in Los Angeles. Although I know of no measurements of this sort having been made, I would guess that (after adjusting for the total number of establishments within the metropolitan area) an establishment on Wilshire Boulevard in Los Angeles has as many linked establishments within a given time-distance as does a similar establishment at Rockefeller Center.

Comparable studies of traffic patterns in New York and Los

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Angeles will be completed within a few years, and it will then be possible to compare travel-time costs to commuters and shoppers, as well as to men who need to transact business face-to-face. I think it is safe to predict, however, that large differences will not be found, that Los Angelenos are just about as accessible to their work places and to the various urban service establishments as are New Yorkers, and perhaps even more accessible. Moreover, I would expect to find that Los Angeles residents maintain as diverse a range of contacts, that they interact with others as frequently and as intensively, that they are participants in as broad and as rich a range of communications as the resident of any other metropolitan area. I believe the popular notion among outsiders that Los Angeles is a cultural desert, is a myth whose basis lies in the ideology of metropolitan form. We have equated cultural wealth and urbanity with high-density cities; since Los Angeles is not spatially structured in the image of the culturally rich cities we have known, some have therefore inferred that life there must be empty and deprived of opportunity. It is strikingly apparent, however, that nearly seven million people and their employers seem to find this an amiable habitat and that Easterners continue to arrive at a rapid rate. It is also apparent that a considerable part of its attractiveness has been the natural setting and the opportunities to engage in activities outside the urban settlement itself.

If most of the social and technological changes I have mentioned were in fact neutral in their spatial impacts, this itself would represent a powerful new factor at work on the spatial organization of cities. Prior dominant modes of transportation and communication, traditional forms of organization of business and government, the older and more rigid patterns of economic and social stratification, and prior educational and occupational levels and opportunities all exerted positive pressures to population agglomeration around dominant high-density business-industrial-residential centers. If these pressures for concentration and concentricity are ebbing, the effects of counter processes will be increasingly manifest.

*THE ASCENT OF AMENITY
AS LOCATIONAL DETERMINANT*

Throughout our history, the locations and the internal arrangements of our cities have been predominantly shaped by the efforts of individual establishments to lower the costs of transporting goods, information, and people. If our speculations concerning the secular declines in these costs should prove to be valid, we can expect that the nontransportable on-site amenities will come to predominate as locational determinants.

Population growth in California, Arizona, Florida, and other naturally favored places can be largely attributed to the favorable climate and landscape. At smaller scale, in turn, new residential accommodations and new industrial establishments are being developed at those sites whose natural conditions are most favored by groups of various types. This is a very remarkable development; the luxury of locational choice is now being extended to ever-increasing numbers within an increasingly diverse population.

During the past sixty years the work week of American manufacturing workers has fallen from about 59 hours to something under 40, while wages have risen from an average of about \$450 per year to about \$4,700 (in constant 1947-49 dollars from about \$1,250 to about \$4,000 per year). The prospects are for a continuing reduction in working hours and for a continuing rise in disposable income, perhaps accompanied by a narrowing of the extremes in income distribution. When compounded by the availability of credit, higher levels of education, lowering ages of retirement, and a further dispersion of middle-class ways to larger proportions of the population, the range of choice open to most people—including the range of locational choice—is certain to increase greatly.

Although it is undoubtedly true that the success of recent suburban developments to some extent reflects rather limited

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choices available within the contemporary metropolitan housing markets, it is also apparent that for most of their inhabitants these developments represent marked improvements in living standards. Most suburbanites in the upper-income brackets have made free locational choices, since they could afford more central sites. Even a recent disenchantment with suburban life has not refuted the compatibility of low-density housing developments with middle-class preferences for spaciousness, with middle-class attitudes about distance, with current status criteria, and with child-oriented family life.

Among certain professional groups that have recently been in high demand (most notably those specialists associated with research and development in the electronics, missiles, and petrochemical industries) the preferences for suburban-type residential environments within pleasant natural settings seem to have been so strong as to have affected the locations of these industries in California, Long Island, and the suburbs of Boston. To attract these skilled persons, whole industries have moved. Very few have chosen locations very far removed from the universities and the business complexes to which they are closely linked, but it is significant that they have tended to select outlying spots. With increasing leisure time, increasing mobility via automobiles, and increased spending power, we can expect the average family to take much greater advantage of outdoor recreational activities available in the countryside accessible to his home. As transportation facilities are improved and week-ends lengthen, families will be able to travel longer distances than before. Some will prefer to locate their homes near recreational facilities, and the recreation place might even replace the work place as the major determinant of residential locations.

The range of locational choice is broadening at the same time that changing characteristics of the national population are breeding increasing diversity in people's locational preferences. Simultaneously, all segments of the national population are being woven into an increasingly complex social, political, and economic web, such that no person and no group is entirely independent of all other persons and all other groups.

The growing pluralism in American society is more than a growing multiplicity of types of people and institutions. Each person, each group bound by a community of interests, is integrally related to each other person and group, such that each is defined by its relations to all others and that a change in one induces a change in all others.

The kinds of information that can be read from maps showing urbanized areas or land use patterns are therefore likely to be misleading. Suggesting that settlements of one size or another are in some way independent units, in some way separated from each other and from the spatial field in which they lie, maps of this sort miss the essential meaning of urbanization. Whether the maps represent existing patterns or plans for future patterns, they present static snapshots of locational patterns of people or buildings or activity places and say nothing (except as the reader may interpolate) about the human interaction patterns that are at the heart of complex social processes. When people can interact with others across great distances and when they can readily move themselves into face-to-face positions as the need to do so arises, it scarcely matters whether a greenbelt intervenes or whether the space between them and their associates is used for houses and factories. Surely Los Angeles is an integral part of the national urban system, despite the 2,500-mile-wide greenbelt that separates it from New York. Surely Bakersfield is as integral a part of the southern California urban system as is Pasadena, despite the intervention of the Tehachapi Mountains and some 90 miles. Surely the researchers in Los Alamos are as much a part of the world-wide community of atomic physicists, as if they happened to be at Brookhaven or Berkeley or Argonne.

Spatial separation or propinquity is no longer an accurate indicator of functional relations; and, hence, mere locational pattern is no longer an adequate symbol of order. The task of the spatial planner is therefore considerably more difficult than we have traditionally thought. The normative guides that we have used have been oriented primarily to the form aspects that can be represented on maps and have applied static and simplistic

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concepts of order that are not consonant with the processes of growing and complex urban systems.

It is a fairly simple matter to prepare a land use plan for a territory, if its spatial organization is to follow any one of the simple universal models that city planners have promulgated. Sites for "self-contained and balanced" new towns are readily found, and site plans are readily made. It is quite another matter to get the townspeople to behave as though they comprised a "self-contained and balanced community"—nor would many of us really want them to be deprived of the enriched lives that come with free communication with the "outside world." Plans for increased centrality and higher density can also be portrayed readily within the traditional idiom of land use planning; but, again, it is hard to believe that the advocates would be willing to deprive the residents of the opportunities to choose outlying locations. Nevertheless, whether small town or large concentration, the rules are clear and simple; the variables to be accounted are limited in number and in complexity; and the solution is determined before the problem is attacked.

It is considerably more difficult, however, to plan for diversity in settlement and land use patterns, for here the formal rules of urban form are not very helpful. No single scheme can be taken as a rule to be applied to all establishments and to all places. Rather, the locational requirements of the many diverse groups of establishments must establish the rules, and the optimum pattern would then resemble none of the doctrinal models.

The optimum land use pattern of the future metropolis is likely to be highly diversified. Since transportation costs will never fall to zero, the external economies associated with clusterings of similar and dissimilar establishments will continue to induce certain types of establishments to seek centers and subcenters of many types. Some of these will be of the familiar employment and shopping-center types, whether in the CBD or in the unitary "regional center" molds. Other establishments, mutually linked to a third type of establishment, will undoubtedly continue to cluster about it wherever it may be, whether

it be a stock exchange, a major university, an airport, or a large manufacturer or retailer. Other establishments will form subcenters, largely as a result of their mutual desire to occupy a particularly pleasant site, although such growth inducements are self-limiting, of course. Those establishments that depend upon good access to information will undoubtedly continue to seek locations that best facilitate easy communication. For some, formal meeting places that accommodate scheduled encounters will suffice, and for many of these the airports and the convention halls are already serving a large part of their requirements. Others, such as the ladies' garment industry and the securities exchanges, may be so sensitive to changes in styles and/or market conditions as to induce even more intensive business concentrations of the sort that Manhattan typifies.

Simultaneously, the optimum patterns would include scattered developments for a great variety of establishments in a great variety of land use mixes and density patterns. For those manufacturers who prefer to locate factories and workers' housing near mountain skiing and hiking areas, for those lone wolves who prefer solitude and possibly a part-time farm, and for all those for whom a high-speed auto drive is no commuting deterrent, we can expect (and should encourage) scattered developments of the type now becoming common east of Boston and north of New York.

The future land use pattern will certainly not be one of homogeneous dispersion. Transportation and communication costs will never permit that, and the very uneven distribution of favored climates and landscapes would strongly discourage it. But a much greater degree of dispersion is both likely and desirable, while centers and subcenters of various compositions and densities persist and grow in a range of sizes spanning the whole spectrum from "center" to "sprawl."

If we are willing to accept the idea that the optimum urban settlement and land use patterns are likely to be as pluralistic as society itself, then the conceptions of spatial order will follow from our conceptions of social order. Our spatial plans, then, will be plans for diversity, designed to accommodate the dis-

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parate demands upon land and space made by disparate individuals and groups that are bound up in the organized complexity of urban society.

PLANNED ALLOCATION OF URBAN SPACE

One of the planner's major tasks is to delineate the probable range of real future choice—the envelope within which goal-directed actions are likely to pay off. I read the evidence concerning the qualities and magnitudes of some uncontrollable aspects of future change to say that many of the spatial forms to which we have aspired are no longer within that envelope.

Moreover, I contend that we have been searching for the wrong grail, that the values associated with the desired urban structure do not reside in the spatial structure per se. One pattern of settlement and its internal land use form is superior to another only as it better serves to accommodate ongoing social processes and to further the nonspatial ends of the political community. I am flatly rejecting the contention that there is an overriding universal spatial or physical aesthetic of urban form.

Throughout this essay I have laid heavy emphasis upon the communication patterns that bring people into contact with others and that have created our traditional settlement patterns. I have done so because communication is a very powerful influence that has scarcely been studied. But it is not my view that this is the only important factor affecting urban spatial structure, or that the criteria for planning the spatial structure for complex urban communities stem from this relationship alone. No simple cause-and-effect relationships are likely to be uncovered in this field, for the maze of relationships within such complex open systems as urban societies are such that a change in one part of the web will reverberate to induce changes throughout all parts of the web. The problem of planning for the optimum utilization of urban space is far more complex than our present understanding permits us to even realize.

No attempt will be made here to catalogue the kinds of criteria that a rigorously conducted planning effort would need to weigh. I leave this omission not from modesty—only ignorance. But a few considerations can be mentioned, if only to suggest that my ignorance may not be complete.

I have chosen to deal with space, not with land, because, for the paramount purposes of men who engage in nonextractive industries, the surface of the earth has meaning as representation of communication distance rather than as inherent characteristics of the soil. I have contended that all space is urban space, since interaction among urbanites takes place through, or is inhibited by, all space. Space has significance for the urban planner primarily because of the implications that locational patterns have for fruitful interaction, hence for social welfare.

For some purposes, however, the surface of the earth does have meaning as soil or as minerals or as water storage; and in this context planners are indeed concerned with allocating *land* judiciously. With the prospect of increasing space utilization by urban activities, a growing conflict is inevitable between land users and space users. Fortunately the rate of increase in agricultural productivity continues to outpace the rate of population increase in the United States; and, in the face of embarrassing agricultural surpluses, the conflict is likely to thrive only in ideological disputes rather than in market competition.

Largely, I suspect, as vestige of our agrarian ancestry, many city planners and others hold to a rather fundamentalist belief in land. Land is seen as a scarce and sacred resource to be saved against those who would “encroach” upon and “desecrate” its natural features. To use good soils for housing is frequently decried as wasteful of a valuable natural resource, all the more objectionable because these changes are effectively irreversible. But the answer is surely not that simple. There may indeed be areas that would most profitably be retained in crops rather than in houses and factories, but in the places where the question arises the balance is probably more often in favor of the houses and factories. The values inherent in accessibility, that make those places attractive to the house buyer, are quite likely

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to weigh more heavily than the values to be derived from crops. But no answers can be found a priori. Each site must be evaluated for the relative costs and benefits implicit in the alternative purposes for which it might be used.

Similarly, lands that might provide the recreational opportunities that are increasingly in demand might also be used for other purposes. But, again, no doctrinaire answers are likely to be found supportable. Again, each site must be subjected to an analysis of the welfare implications implicit in the substitutable uses. The benefits from recreational use are quite as real as those deriving from farms and houses. Within the total spatial field, places for recreational activity need to be developed. But no ready solutions are in hand; certainly the greenbelt doctrine in itself is insufficient basis for the investments that are required.

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Within any given territory at any given time, space is finite. Present and future demands for it are highly diverse in their requirements, but we can surely learn enough about the characteristics of each type of user to equip ourselves to make more rational allocations than would occur under unguided market conditions. The task is not to "protect our natural heritage of open space" just because it is natural, or a heritage, or open, or because we see ourselves as Galahads defending the good form against the evils of urban sprawl. This is a mission of evangelists, not planners.

Rather, and as the barest minimum, the task is to seek that spatial distribution of urban populations and urban activities that will permit greater freedom for human interaction while, simultaneously, providing freer access to natural amenities and effective management of the landscape and of mineral resources.

This is no mean task. And probably the meanest part of the task will be to disabuse ourselves of some deep-seated doctrine that seeks order in simple mappable patterns, when it is really hiding in extremely complex social organization, instead.