

Introduction

An examination of the available literature on streets confirms an observation of Auguste Comte: "We reserve till last research into subjects closest to our social selves." Abundant studies of the street made by traffic engineers attest to our interest in increasing the speed and flow of traffic; observations of human beings on the street and analyses of how, when, and why they use them are virtually nonexistent.

Observations about street life in industrialized nations usually appear as notes incidental to the study of slums — a reflection of the fact that some streets have retained some of their vitality and traditional social functions. Other information may be plucked from urban redevelopment studies and occasional analyses of pedestrian behavior in business districts.

While the studies of business districts make some attempt to link aspects of environment with behavior, the other research largely ignores the architectural aspect of what ought to be studies of social-environmental interaction; hence the architect or environmental researcher can learn little about man/environment relationships from these studies.

The paucity of information derives at least partly from the dominant view of the street only in its role as a passage. Difficulty in research, on the other hand, is a reflection of our still primitive understanding of man/environment relationships. How do people or groups interact with their street environments? What aspects of the street — spatial dimension, availability of amenities, ease of transportation — have the most significant effects on human-use patterns? Is there any linkage between street culture and a high degree of social cohesion and satisfaction? Do particular street layouts influence the patterns of human social interaction?

While such questions have rarely been raised about streets, similar questions have been posed by architects studying other environments. Even in more enclosed and tidy environments, where variables are more tightly controlled, results of research have been disappointing. No general rules about human spatial behavior have emerged to provide guidelines for design; this failure in turn stems from the lack of a concept that would order the data and facilitate useful generalizations.

Man/Environment Studies: The Anthropological Perspective

Any attempt to understand the meaning of streets as well as their role in the processes of human communication and interaction requires a conception of the nature of the relationship between man and his environment, as well as some comprehension of the specific role or

roles played by the street in this relationship. In the broadest sense, the problem of man/environment relationships and speculations on the effect of environment on behavior are as old as history. Early thinkers were much concerned with the effects of climate on race and thinking processes. The Roman architect Vitruvius contributed an exhaustive discussion of the problem in which he viewed people as passive recipients of climatic forces.

While most early thinkers did not concern themselves with the effects of the built environment on human beings, it is but a short step from Vitruvius's assignment of priority to nature to his Platonic faith that natural rules of symmetry and of dimension would ensure perfection and harmony. Vitruvius's Platonism became an article of faith for architects and designers. Eventually they did come to question how constructed environment affected human behavior; but even today, architects and planners tend to favor specific aesthetic ideals and to insist that these forms have a singular ability to make people happy, or to increase desirable social behaviors.

In a brief survey of the literature on man/environment relations, Amos Rapoport¹ concluded that designers' intuitions and rules of symmetry do not have the effects designers believe them to have. While cases did exist in which design appeared to have a potent effect on behavior and user satisfaction, such cases were rare, and most effects were far less significant than designers believed. Moreover, the effects that occurred appeared to involve social and psychological as well as physical determinants.

If this information comes as news to designers, it constitutes the very faith of most social scientists who have always maintained a profound skepticism regarding the ability of the physical environment to determine, or even significantly influence, human behavior. The social science position is best summed up by Herbert Gans, who assigns priority in the man/environment equation to human values, beliefs, and expectations, and who has continually asserted, along with most of his colleagues in the field, that "... the physical environment has much less effect than planners imagine. Often it is thought to impinge, but people evade this effect through ... 'non-conforming use,' that is, an evasion of the impingement in order to maintain or achieve behavior patterns that are in line with their predispositions. The social environment has considerably more effect."²

In recent years, a number of psychologists and social psychologists have attempted to learn how physical and psychological factors interact. Those who deal with disturbed or abnormal people are not quite so certain that determinism flows from the social to the physical. Persons with impaired cognitive or emotional functions seem to be less able to impose their own cultural or personal order on the environment; they are often extraordinarily sensitive to the effects of environmental stimuli,

and appear to be more easily coerced into useful or destructive behavior patterns by objects as well as spatial arrangements. Studies in mental hospitals indicate that such factors as room pattern and furniture arrangement not only affect, but often appear to determine, both the degree and patterns of socialization and withdrawal. Still other studies in ordinary hospital wards, school settings, and libraries³ indicate that humans unconsciously structure their personal space to protect their privacy and thus control the amount and intensity of their interaction with others. Some of the studies also suggest that where space is structured for them, people tend to accept rules of behavior embedded in the spatial structure and will adopt roles more congruent with their position in space than with their personalities.⁴ Because maneuvering is possible in most environments, people may unconsciously choose positions in the environment that reflect a particular view of self. Their relative dominance and their willingness to observe or participate is therefore often reinforced by their spatial positions.

These findings suggest, of course, that any simplistic view of man/environment relationships will not yield an adequate picture of reality. But the research is not yet sophisticated enough to tell us how the objects or arrangements transmit messages or rules of behavior to users, nor do we understand the mental processes by which people make decisions to sit in one place rather than another, or to interpret a setting as formal or informal, social or economic, personal or impersonal. Like the rules of grammar this process seems to be embedded in our mental structures without our conscious awareness.

The dangers of generalizing on notions derived from studies in mental hospitals to normal people is well recognized; hence such studies may be more useful in establishing limiting cases of behavior patterns than in guiding environmental design outside the mental hospital. With care these studies may suggest useful hypotheses about design or design research, and thus psychology surely has contributions to make in the field of design. However, dialogue between the two fields appears to founder where the planner's or architect's need to create for mass use comes into conflict with the psychologist's emphasis upon individual differences.

Although some architects have shown an interest in anthropological data, citations from anthropological literature are conspicuously lacking in most of the literature on environment and behavior. Moreover, while anthropologists have in recent years conducted studies of the behavior/environment interface, they have rarely communicated their findings to members of other professions. The failure of anthropologists to take the initiative probably reflects the fact that applied anthropology has had a very short history and that anthropologists, intent on the retrieval of data on rapidly disappearing non-Western and preliterate cultures, have paid little attention to complex Western societies.

What can anthropology offer architects and planners? For one thing, anthropologists have long been interested in learning how material cultures and spatial arrangements are related to social structure, to personality, and to human evolution. The interest derives from several sources: archeology has required information on the meaning of spatial organization in order to reconstruct the lifeways of people who left behind them only postholes, potsherds, and garbage heaps. Evolutionists, interested in understanding how man gradually differentiated himself from the ape, discovered that toolmaking preceded brain development and suggested that the process of toolmaking itself was necessary for human evolution. They envisioned man and his reactions in terms of a system that involved reciprocity and positive feedback.⁵ From linguistics and the Sapir-Whorf hypothesis, which suggested that the structure of language determined the nature of human perception, anthropologists were drawn to explore the relationship between the mind and its material products.⁶ This interest led to a search for innate structures of relationship that are believed to organize human perception of the environment.

Working within this linguistic tradition, Claude Lévi-Strauss sees culture as a reflection of a basic mental structure that, like a binary computer, appears to operate in terms of oppositions. Other structuralists, working within a parallel but less restrictive linguistic tradition, have applied the rules of linguistic analysis to other aspects of culture. Semiologists have recently begun research aimed at identifying the basic units of architectural meaning and the syntactic structures within which these units operate.⁷ Success in this effort could provide architects with badly needed information on the ways and the extent to which architecture transmits messages. Interest in kinesics (nonverbal communication) and proxemics (communication through the ordering of space), pioneered by Raymond Birdwhistell⁸ and Edward T. Hall⁹ respectively, have underscored the role played by subliminal environmental cues in transmitting information. Input from ethology — the studies of animals in their natural habitats — has encouraged a search for unconscious species-specific mechanisms that appear to determine spatial relationships and operate to maintain group cohesion and the social order.¹⁰

A study by Segall, Campbell, and Herskovits provided information on the effects of a noncarpentered world on the thought processes of non-Western people.¹¹ And in the mid-nineteenth century, in "Houses and House Life of the American Aborigine," Lewis Henry Morgan embarked on an ambitious — if inaccurate — reconstruction of American Indian culture. Mistaking burial mounds for village remains, Morgan's work provides a cautionary lesson: relationships between artifacts and behavior, or spatial organization and culture, cannot be removed from cultural context. Commenting on Morgan's error at a

research seminar on Archeology and Urbanization (London, December 1970), Mary Douglas demanded "an ecological approach in which the structure of ideas and of society, the mode of gaining a livelihood and the domestic architecture are interpreted as a single interacting whole in which no element can be said to determine the other."

Clearly, the most useful contribution made by the anthropologist to understanding the relationship between man and his natural and constructed environment stems from the anthropological perspective itself. Stressing participant observation, this approach has required the researcher to immerse himself in the culture he is studying in order to understand better the emotions and attitudes of his people. Furthermore, the anthropological perspective concerns itself with understanding cultures as coherent adaptive systems (including the interdependence of material and nonmaterial aspects of culture) — and to see these systems — as he sees the process of human evolution — as a continuous interactive process.

At the same time, the influence of structural relationship on behavior has served to replace the study of products with the study of processes. Following the program set out by Julian Steward, anthropologists have "... focused analysis on the structural similarities which resulted from the interaction of habitats and cultures whose specific content mask a fundamentally similar ecological adjustment."¹²

Anthropology and Design

While anthropologists have espoused holistic views and cautioned against application of ethnocentric theories, they have rarely been involved in planning: instead, they have been called upon after the fact to explain why a planning objective has not been realized. Those few who have conducted architecturally focused research have supplied a body of literature that provides support for recognition of the city as a multi-client organization and reflects growing concern with the number of different strategies with which people approach their environments in order to adapt to political and social as well as economic realities. These strategies may be very different from the conceptions of architects or planners. Cultural and subcultural rules, preferences, and values serve to alter the nature of the relationship between inhabitant and environment and the interpretations of a culturally naive planner may be at variance with the actual behavior of his subjects.

Evidence suggests that people will put up with all manner of discomfort to maintain the pattern of culture that gives meaning to their lives, even as it functions to adapt them to their habitat. By paying more attention to the organizational structures that underlie the culture and consequently influence housing patterns, the planner or change agent increases his chance of success. Unfortunately, we are often inclined to

regard other peoples' cultural patterns as capricious or meaningless. Mired in notions of our own cultural superiority, we tend to dismiss native practice as nonscientific and therefore nonvaluable. Anthropological research has indicated that even taboos and superstitions may play a crucial role in maintaining the health and welfare of a population. Where taboos and superstitions help define the rule system of a society, they must be accorded serious analysis.

The view of cultures as adaptive systems directs one's attention away from relatively trivial surface phenomena and toward the continuous interaction among technological, political, and other (for example, religious) structures in creating social and spatial forms. Moreover, by relieving researchers of the burden of specifying the direction of a determinate relationship, the approach encourages the focus upon processes of interaction.

How and where one imposes change should not depend upon some preconceived notion of the priority of the physical over the social, or of the social over the physical, but should rest on careful analysis of the process itself. Whether change is necessary at all depends upon our ability to judge whether or not the life of the people with whom we are involved is satisfactory to them and; at the same time, does not constitute an encroachment upon the rights and needs of others in the society. Where change is necessary, comprehension of the nature of social organization should aid us in deciding where to make the change, and how to accomplish it while monitoring other changes in the cultural fabric.

Although an argument persists in anthropology over whether changes in technological systems or ideational systems are more difficult to make, a consensus suggests that structural interventions altering the system of relationships that organizes a culture produce the most rapid change.¹³ Such interventions are tantamount to opening Pandora's box and clearly should not be encouraged merely to satisfy the whim of the planner for his own kind of order.

On the other hand, where change *is* necessary because peoples' lives are not satisfactory (a fact most readily discerned in our own society by such indexes of distress as low income, high infant mortality, prevalence of crime and violence, and emotional disorder — and by the complaints of people themselves regarding their lives) our abilities must be directed toward altering the systems of relationship which maintain antisocial and antihuman patterns of adaptation. Intervention in the way in which a society organizes its work force and allocates its jobs is one way of effecting change. But where technology is crosscut and supported by political arrangements, it is equally necessary to alter power relationships among groups in such a way as to provide work opportunities. Only by so doing can one effect significant changes in social as well as the psychological structures.

By changing systems of relationships one can change cultural configurations; hence, an architecture that would hope to replace anomic with social attitudes, or one that aspires toward increasing personal satisfaction, must use its tools to maintain, where they already exist, satisfactory personal and group networks. At the same time, through judicious site planning as well as careful study of the symbolic message of space, time, and objects in the built environment, the architect and planner can strive to introduce more sociopetal environments.

In our zeal to produce environments that are true as well as beautiful, however, we must recognize that one of our best tools is not simply what we do for people, but how we make them active participants in their own lives. Changing streets so that they allow or limit access; changing the numbers and types of amenities on a street; changing boundary configurations or proportions or color or scale or circulation patterns can be important. But we must recognize that much of the social malaise we are striving to eliminate is, in good part, a result of the development of political systems which have gradually eroded the more organic social ties of the town and village and replaced them with superordinate legal and political systems. The stratified state system has developed complex methods to ensure that the differentially ranked groups within our society willingly accept their positions and adapt, as best they can, often to degrading physical environments and destructive social arrangements.

While state systems have allowed and encouraged the development of more and more efficient energy systems, and while they have increased peaceful contact among an ever-expanding network of human groups, they have succeeded only by exacting a severe price from the human beings who constitute the bottom layers of the system. Government policy which encourages spatial mobility and family instability has eroded the props once supportive of social interdependency even as it has limited the ability of many members of the lower classes to participate in the wider society. Such Government decisions also appear to have had profound, and not necessarily salutary, effects on those who do participate: increasing the need for privacy, encouraging the compartmentalization of personality, and training men in the image of the machine — they would appear to be both dehumanizing and destructive of precisely the attribute that differentiates men from animals: the need to learn and the ability to learn only in a social context.

If we are to study and change streets, then our first priority requires that we involve residents themselves in a new set of relationships with the government and change agents. Anthropological respect for cultural values is a first step toward this goal.

The Street as a Cultural Artifact

One could list numerous reasons for the decline in the proportion of daily social life that occurs in public urban space: the automobile; television; economic imperatives which make small, personal businesses unprofitable, forcing them to give way to large, impersonal supermarkets; increased crime and violence on the street, and so on. The thesis of this presentation is that streets, like any other aspect of culture, reflect the process of adaptation of culture to environment. The decline of our streets is comprehensible only in terms of the changing technological and sociopolitical configurations of our society (for example, industrialization and increasing centralization). Examination of the appearance and role of the street throughout history suggests that the street has always been both a tangible expression of the structure of relationships of the culture in which it appears and a tool by which the evident relationships could be considered and challenged or maintained.

The paucity of studies of the form, meaning, and use of streets requires that any review be conducted on the basis of hypotheses such as the foregoing — and in the spirit of a heuristic search for better hypotheses.

If we conceive of a street both as a locus of social interaction and a linear passageway linking destinations, then the street does not appear to exist at the simplest levels of human society. We can identify paths leading out of a village into the surrounding countryside; and we can find ritual ways, lanes reserved for menstruating women, and even tracks connecting settlements. But the street with boundaries that separate interior from exterior, private from public space does not exist in hunting and gathering societies. The compound or encampment or village itself, which seems to function as "a field of interaction,"¹⁴ is not defined as a series of destinations in a linear system. This lack of street seems to correlate well with a similar nonlinear interpretation of time.

Nomadic or seminomadic tribes often inhabit circular villages. Their settlements tend to be temporary, made of natural materials, portable, and, while clearly distinguishable, an integral part of the surroundings. The absence of the street in circular villages appears to reflect no strongly felt need for boundaries between public and private behavior. Unity, interdependence, and cooperation are the rule; and the unit of cooperation is the coresident band — not the nuclear family.¹⁵

In such a society, even architecture is a mechanism of communication and can be utilized to inform the entire group of the state of interpersonal relationships and to set into motion the system of sanctions by which order is maintained. Among the Mbuti pygmies, for example, a woman may orient her hut door to express liking, indifference, or dislike for a neighbor; this positioning of the entranceway acts as any

other communication device to arouse an appropriate response within the group.¹⁶

Even more permanent circular village compounds appear to exhibit a similar pattern. Though these are commonly found in horticultural societies, cultures that use them exhibit organizational systems remarkably similar to those found among hunters and gatherers. Here again, the basic unit of adaptation appears to be the compound itself, and linear streets do not exist. Generally, husbands and wives live in separate huts which are ranged in a rough circle within which most of the work of the compound is conducted. Depending upon the specific elements of the social structure, a man and his wives' huts may be clustered separately from those of his brothers, and occasionally the houses of husbands and wives may be connected by a covered passageway. Among the Massa, all the men's huts may be on one side of the circle while all the wives' huts may be on the other side.¹⁷ A large compound may take in several families, a lineage, segment of a lineage, moiety, or even a clan. But what is most striking about these settlements is the public nature of life within them. Although smaller units of cooperation exist, and the household may function as a unit of production, the critical need for a larger cooperative group demands public food storage shared by all occupants of a compound. While the circular village may have a headman or men's club house, even the granaries of the headman or his senior wife are not private. For "in severe shortage, what food is held openly must be shared equally by all within a compound."¹⁸ As long as a village remains circular in form one can generally infer that it is egalitarian both politically and economically, and that privacy — like private property — will be little in evidence. The beginnings of a concept of private family life may be seen in the use of a covered passageway (a private street) linking a man and his wives, but by and large the concept of family boundaries is little developed.

The village of rectangular houses presents a very different picture. In the Middle East where this form first appears, the houses seem to be designed to accommodate families rather than individuals. Although there may be a headman's granary or a village granary, each household has its own concealed, interior storage facilities, and the implication of these findings is that the individual household, rather than the compound or village, has now become the basic unit of production. Furthermore, it appears that since the household storage units are hidden from public view, the cultural imperative for sharing beyond the household itself either has been considerably weakened or no longer exists.¹⁹ While disparities of wealth among members of a circular compound are virtually nonexistent, the opportunities for accumulation of resources within the family seem to be present in the rectangular house. Streets are very much in evidence in the rectangular village and function as the link between discrete, bounded units. But much of the activity that took

place in circular villages in the public communal center now takes place within the privacy of the household court.

A similar pattern — instructive because of its differences, however — is found among many horticulturalists who supplement their diets through fishing. Among these, each household is a unit of production, and village unity is required only intermittently — reflecting the need for occasional large-scale intensive cooperation during those periods of the year when fish spawn, when boats must be built, or forests cleared to replace exhausted soils. During the remainder of the time, the household is self-sufficient and the village expresses this self-sufficiency in its linear arrangement of individual homesteads, held together not simply by the need for intermittent cooperation but by what Emile Durkheim labeled "mechanical solidarity."²⁰ Since the inhabitants produce the same crops with the same cycles, fish the same grounds, and hunt the same animals, their daily, weekly, monthly, and yearly rounds tend to be identical. This identity is further consolidated through the development of shared religious systems which recognize the dual needs of the family or homestead and village by providing expression for both in the form of household as well as corporate deities. The presence of a corporate deity is signaled architecturally by the appearance of a village shrine.

Anthropologists have puzzled over the problems of cultural evolution for more than a century, and they have by and large sought the answers to their puzzle in the Middle East, where civilization appears to have emerged rather rapidly. While most theories involve some notion of the availability of a surplus with which the villagers were capable of supporting specialists, just how this surplus came into existence, and how it was translated into the development of complex urban political systems, remains somewhat of a mystery. Beyond such fundamental considerations as an assured water supply, it seems possible that the rectangular house-form and court of the Middle Eastern village allowed significantly more opportunity for privacy — thus permitting more enterprising families to accumulate wealth. At the same time, growth of religious and political leadership allowed an organizing body, through taxation and control of the populace, to tap this surplus for its own uses. The architecture of the village and its layout may be important clues to understanding the speed with which the Middle Eastern villages evolved into town, city, and state and the relatively slower pace of development in other parts of the world.

In both the rectangular house village of the Middle East and the linear maritime village we see the emergence of a change in the nature of human relationships which in turn depends upon technological ability and habitat. Both villages emphasize the family as the basic unit of production, and both have begun to grant privacy to the family.

Anthropologists have speculated that the linear village, often found

strung out alongside roads and river banks, emerged because access to road or water coerces the form. While some linear villages clearly owe their origins to this need for shore access, many maritime villages consist of two facing rows of houses with the street between; and more often than not, the street is perpendicular, rather than parallel, to the water's edge. In a circle, all positions have equal access to the center, and information appears to be relatively equally distributed among all members. In studies of communication, social psychologists have learned that circular forms are egalitarian, that they seem to provide a sense of satisfaction for all their participants, and that they generally are not very efficient in performing tasks.²¹ The linear arrangement may not only tend to limit the field of observation and increase the privacy of the household in its relationships to other households; it may also increase the ability of a spatially central chief, whose access to information is greater than that of the rest of the population, to substitute personal power for the organic system of the circular village.

While village plans and streets look very similar from one site to another, the kind and number of activities that take place on the street may be very different even for similar looking settlements, and the difference depends largely on particular social structures which, in turn, appear to reflect specific adaptational needs. Where a moiety system dominates, for example, members of each half may be ranged on opposite sides of the street. In this case, the street is not a focus for casual interaction but a spatial symbol of the separation of the moieties. It is, however, at the same time a symbol of the unity of the whole and frequently indicates this function by its inclusion at the center or toward one end of the street of those buildings that both symbolize village unity and operate to produce it — the chief's hut, village shrine or temple, communal granary, or men's club.

Other linear streets may express organization of subclans or lineage segments: in this case members of each subclan may be housed opposite as well as next to each other. Here the street may become the locus of daily, highly personal interactions, though these may be confined to particular segments of the street. In more complex organizations, subclan groups may be dispersed both laterally and lineally so that the whole street becomes the setting for interpersonal relationships for the whole village. Such a complex arrangement suggests the emergence of other social institutions which serve to form yet another means by which households may be held together beyond the bounds of kinship. Called sodalities, these organizations, which generally function as cooperative work groups and ceremonial organizations, cut across nuclear families and lineages to provide yet another source of cooperative village activity. Their presence has been confirmed for rectangular villages both in Mexico and the Near East.

The emergence of the street, then, seems to symbolize or express a

gradual awareness of the separation of private and public, family and larger community. Competition and intensification of production rather than cooperation and stability of production emerge with the street. The state of disequilibrium prerequisite to change is thus apparent in spatial organization.

When we move from an examination of village to city streets, we find — within a field of far greater complexity — evidence of a similar linkage between street and social structure.

Cities exhibit a bewildering diversity of form. Some seem to be little more than superimpositions of a grid or other rationalized system on a village plan. Since presence of rationalized systems appears to correlate with the emergence of centralized power, it is not unlikely that such ordered plans are a response to administrative needs for order, predictability, and defense. Ordered forms include the orthogonally gridded city, which tends to break down into wards, and the radial city whose focus or center may well be correlated with increasing centralization of power.

Although we have only the most superficial notions of what life is like in such cities and how the form serves to organize or express social relationships, we do know that ward cities generally reflect political divisions based on religious, ethnic, or occupational differences. On the other hand, examination of caste-ridden Indian cities does not show congruence between caste and dwelling place — just as southern towns in the United States often mingle black and white dwellings. It seems possible that where social boundaries are clear and well supported by other institutions in the system, the need for physical boundaries may diminish. On the other hand, where the possibility of social interchange among two boundary systems is increased by development of crosscutting organizations or by the presence of superordinate authority, a system of physical boundaries may emerge to affirm and emphasize separation. Without careful examination, this notion must remain a hypothesis, but it would appear to be worth testing.

If the emergence of the street stands as a symbol of the separation of private from public domains, it nevertheless must also be the locus of the active definition of public and private. Furthermore, changes in economic and political organization can easily be observed in the changes in the street. Initially, presence of the city wall symbolized and supported the presence of a cooperative unit, operating principally through a system of interwoven kin, work, and religious networks. Within this walled city, activity was both public and social and economic activities were still embedded in the households; trade and social life were conducted together. In the medieval city, developing specialization in craft was marked as much by the appearance of specialized streets as by the presence of the guild hall. Church and state grappled for control over the emerging cities and indicated this tension in the spatial

position of churches relative to major secular buildings within the town. The unity of life was expressed in the minimal separation that existed not only between workplace and home, but in the continuity of workplace and street. On pleasant days, work could be done in the street; in inclement weather, it was done inside. The barrier between interior and exterior was extremely penetrable, just as the barriers between age groups were virtually nonexistent; children as well as adults played street games, went to market, viewed the same entertainments, and dressed in identical clothing. The marketplace of the medieval town also reflected this unity: it provided an area for social interchange which included not only the exchange of goods for money but entertainment and the exchange of services as well. Physicians, barbers, scribes, and food vendors hawked their wares in the street and in the marketplace much as they do today in oriental cities.

Since the streets were open to all, and since no formal schools existed to remove children or adolescents from the streets, learning took place there and access to all the information of the society — except those skills guarded by the guild — was at least potentially available for the walking. Meanwhile, as long as the citizenry defined the market as essentially social, many of the phenomena that order today's street behavior were not present. As in the souks or the oriental markets of today, close physical contact, highly personal interchange, and crowding provided a festive environment which may have functioned to provide then, as it does now, a sense of excitement and adventure. The typical streaming behavior of modern pedestrian traffic on crowded streets, derived from the need for increased speed and efficiency, is conspicuously lacking — even today — in streets where economic and social functions are mixed.

As the growth of state systems and the concomitant development of new types of warfare and increasing trade destroyed the value as well as the need for city walls, the city itself and the streets within it took on new functions: again, both street and city reflect the role of the city in the new organizational framework. While the broad street, the perspective view, and the outlook over a wide area are often considered to be responses to military inventions, it is equally likely that they arose as tangible symbols of national power which turned the city outward toward the country as a whole and which used the capital city as a visible symbol of the state's power.²² Changes in technology are reflected in increasing specialization of street function. The great streets, planned by military engineers or central planning agencies, became more than the locus of ordinary activity: settings for the symbols of national power (army and parade) and class distinctions (the horse and carriage). With the growth of nationalism, technology, capitalism, and state power, the guild hall and church lost their centrality; religious, kinship, and other spheres — once interwoven in a complex network of

mutual obligations — became separate and distinct. Differentiation in the use of the street by lower, middle, and upper classes reflected even as it helped to maintain the stratification of society. The upper classes used the great streets as a stage upon which to display their wealth and power. The lower classes used their streets (now, by comparison with new streets, mean, narrow, back streets) to escape the controls of constabulary or, in continuation of older practice, to extend their cramped living space. For the middle class, the street was increasingly *terra incognita* — a passageway utilized to get from home to work and otherwise avoided because of the potential violence that threatened there. The difference among the classes is obvious not only in their attitudes toward streets but their use of the streets, which were left at night to the upper and lower classes. The middle classes, in seventeenth-century Paris and in London until the eighteenth century, hesitated to venture forth at night except in dire emergency, a situation that was not unprecedented.²³

It was only through the development of city constabulary that the dangers of the street were eventually countered. Emergence of city police accompanied increasing cohesion of the state and, as if reflecting the growing importance of international trade and alliances, the streets became more cosmopolitan in character. The *boulevardier*, equally at home in London, Paris, or Vienna, held court in the outdoor café and utilized the street for his amorous adventures. Entertainments of all kinds — including pleasure parks designed to simulate exotic places, dance halls, shopping arcades, and theatres brought nightly excitement — and, for the upper and now wealthy middle classes, the opportunity to participate in a wider world. Increasingly economically confined to their own neighborhoods, the poor exhibited in the novels of Dickens behaviors that suggest processes similar to those we observe today in our own slums: development of internal and highly personal communication systems on the street and the emergence of an expressive, rather than instrumental, personality. These processes appear to have adaptive value within the slum but severely limit the slum resident's ability to function within the larger social structure.

It seems apparent that the definitions and differentiations of systems of streets have grown increasingly complex as society itself has increased in complexity. Today, the role of the street and the nature and content of social interaction vary with class, ethnic group, age structures, and type of specialization of the neighborhood. It is clear, however, that increasing specialization and compartmentalization of society have removed indoors many of the socially cohesive activities once found in the street. Entertainment, marketing, information, and personal services, once available on the street, are now rarely there. With suburbanization, streets have disappeared; the physical sidewalk is often narrowed to a foot path, and in some developments there is no sidewalk.

In central areas of the city, the situation is much the same; in high-rise apartments, firm boundaries between building and street serve to maintain separation. Only in the slum and in the dwindling ethnic enclaves and blue-collar areas does the street still seem to function partially as a locus for public life. In the ethnic enclaves it often exhibits processes reminiscent of the village in which a moral order and its attendant values are enforced through gossip passed along in street networks.

The evolution of technology with its attendant economic pressures and proliferation of formal institutions, and the encroachment on the street of municipal and state functions, suggests that the role of the street is now rarely visualized in terms of an immediate neighborhood: acting as a link rather than a locus, the street now serves to maintain the order of larger political entities. Increasingly, the street is recognized for its transit capabilities rather than for its ability to provide a setting for a range of rich and diversified human behaviors. Social controls, sanctions, rules, and laws reflect national rather than local norms; only those segments of our society denied access to the general culture or those with currently atypical devotion to community identity can maintain a system of norms specific to the neighborhood.

This brief and schematic view of the evolution of the street suggests that:

1. The street and settlement pattern of which the street is an integral part reflect and help to maintain particular forms of social organization necessary for adaptation. Streets maintain a particular way of life or structure or relationships by providing barriers and linkages that help regulate the amount of social interaction among groups. Streets and settlement patterns also appear to have some effect on limiting social interaction among groups. The importance of the street as a center of information wanes with the increase in literacy and the development of communication devices.

2. The emergence of the street marks the emergence of a concept of privacy, private property, and seems inseparable from the intensification of production necessary to create a surplus. The emergence of the street is vital to the emergence of the city and of civilization.

3. As we move along the scale of social organization and technology, specialization in other areas of life is reflected in growing specialization of the street. An increase in the number of institutions creates a cross cutting web of social relationships that helps knit society together; at the same time proliferation of organizations and sodalities creates more and more private or exclusive institutions. This development too is reflected in the street with the emergence first of guild streets and later of specialized work areas, separate residential zones, and streets used only for commercial or entertainment purposes.

4. Development of stratified class systems further specializes the streets, creating separate neighborhoods for different classes within the

city. Streets that serve different classes reflect the classes they serve by the nature of their amenities and by differences in their daily, weekly, monthly, and yearly rhythms.

5. Increasing centralization of power asserts itself in rearrangement of the city form. Initially, the emergence of a separate political sphere correlates with the presence of grid systems or radial or ward plans. Later, streets are widened and perspective view and outlook favored. The city is no longer a self-contained entity but a node in a national network. The capital city, commonly radial in plan, symbolizes central power and control.

6. Just as old forms of adaptation and social organization are reflected in particular street forms and village and town layouts, so we might expect that new levels of technological adaptation and increasing centralized control will demand — and are demanding — adjustment throughout all our urban institutions. Gradual encroachment of central government functions into state and city affairs is apparent even now, and the effects of these shifts, as well as the effects of an automated technology, will be evidenced in the street. The success of automation raises the specter of the devolution of culture which may have emerged out of the need of human groups to allocate specific roles to males and females as a result of human development of the hunting way of life. Divested of work as a basis for mutual interaction and cooperation, man seems to face both a dangerous and promising void which demands that he find a new basis for social organization. Societies can be held together by increasingly centralized and powerful state systems and the dangers of such a development are only too obvious. Alienated from government, cut away from any system of mutual social obligations, and divested even of the labor that has given his life meaning, man appears to be cast adrift on an anomic sea. The influence of this centralization of power on the streets is only too obvious in the emphasis placed on the street as linkage rather than locus. Such an emphasis destroys smaller group boundaries and with them the organic relationships characteristic of these groups.

While it is possible that man is a plastic enough organism to survive even this turn of events, the prospects, based on extrapolation of evolutionary information, do not appear reassuring. Man, who evolved within small groups and who has few instincts to guide him, requires a close attachment to other men and to a primary reference group — at least during childhood — if he is to mature properly.²⁴ His ties to place, the frequently noted need for roots, seem to stem from his need for a relatively stable and predictable environmental setting in which he can learn both his limits and his powers, his boundaries and his possibilities. While it is possible to assure such environmental stability by creating a uniform worldwide environment and culture, such a device is extraordinarily dangerous. Adaptation to a single environment tends to eliminate

genetic and cultural diversity. It is this ability to maintain diversity that has allowed man — unlike other animals — to remain a relatively generalized creature. Unprogrammed by rigid instinctive rules, he has been free to take advantage of his environment as has no other animal. Maintaining a degree of human diversity demands maintenance of a degree of environmental diversity; and both appear to be highly desirable. In nature, simple ecosystems are easily destroyed.

Moreover, maintenance of social interaction must now proceed without the familiar props of environmental necessity. If our technology does succeed in creating an automated society, man will no longer need to enmesh himself in a system of mutual social dependencies in order to get the work of his society done. He is thus potentially freed by technology to choose both the degree and nature of his social contacts. He is not yet free, however, of the processes of political authority which, as they have gradually absorbed the functions of his primary groups, have also encouraged development of smaller units of privacy and led to increasing isolation of human beings from one another. Man appears to be a social animal, requiring both physical contact and opportunity to learn from others; hence, increasing isolation appears to run counter to his nature. Indeed, psychological literature supports anthropology in attesting to the correlation between limited social networks and emotional instability. Man's sense of purpose and meaning derives from his relationships with others; if we remove the necessity of such relationships by providing a technology that supplies his wants, and a political system that imposes order upon him, we transform man from an active, inquisitive creature who makes himself into a passive victim of a self-created but all-powerful technocratic system. Our best attempts must be devoted to increasing social interaction. This can best be done not only by creating a physical environment that permits and encourages contact but by some attempts to restore the social and economic functions of primary groups by investing some of the power of the state in local organizations. Only in this way can we hope to maintain an organic basis for human cooperation. Without such a base, social interaction may become, as it often is now, a series of ritual gestures that operate to maintain spatial separation but fail to provide adequate satisfaction or meaning for their users.

Projects and Slums: Streets for People

Most studies of slum streets, whether they are studies of slums as a whole or of juvenile gangs in particular, suggest that streets play a vital role in the slum by providing a locus for primary reference groups that give their members — otherwise unable to find meaningful attachments — a sense of belonging and cohesion.²⁵ Slum streets also seem to

function as a safety valve and provide the setting in which residents can achieve a certain amount of freedom from the pressures of domestic life. In *The Social Order of the Slum*, Gerald Suttles has suggested, in addition, that the street plays "an interstitial role that bridges the privacy of the areas family life and the seclusiveness of its internal segments. On the streets, age, sex, and territorial groups share boundaries that open them to mutual inspection, thus giving the occasion for transient interaction between groups, for gossip, and for interpretive observation. Street life, then, is a vital link in the communications network of the Addams area and, as a result, governs much of what the residents know of one another beyond the range of personal acquaintance."²⁶

While street life functions as a communication network to link a variety of groups together, it also appears to help protect family privacy. As one woman explained: "I like to be able to talk to lots of people on the street, but not in the house. I don't want to get that involved."²⁷ Residents of the slum appear to have few devices for defending the privacy of the home; they have, moreover, little opportunity for privacy in the home — since crowded quarters, large families, and poor construction operate constantly to create intrusions. Social life, moreover, is so informal that, once started, "Domestic exchanges subject the residents either to unpredictable exposures or to additional confrontations from which they cannot easily retreat."²⁸

Suttles's findings suggest that the street is also attractive because it offers the slum dweller an escape from the domestic world, provides a sense of color, freedom, and excitement, and an opportunity for a serendipitous and unscheduled experience.

Similar observations are offered by Elliot Liebow, Ulf Hannerz, Herbert Gans, William F. Whyte, and Lee Rainwater.²⁹ Whyte emphasized the supportive role played by the "Street Corner Society," while at the same time he perceived it as providing training in a relatively rigid and inflexible system of relationships that provided few techniques for operating in the larger society. Hannerz indicated that the informal gossip network did provide information about the outside world.

Suttles's most interesting finding about the urban slum is that there seems to be no general standard of morality, no general norm against which the individual may be evaluated. If Suttles is correct, the system of overlapping relationships, which appear to be necessary to create a moral order, does not exist in the slums. Instead, groups are separate, segregated by background and behavior. The tenuous connections they maintain with each other appear to derive from acquaintance on the street. The information circulated on the street is not utilized to maintain the community as a whole (except against external threat) but to maintain personal relationships. Ethnic group cohesion, therefore, is not

achieved through the workings of social sanctions but through a negative pact. Since everyone is jointly compromised by common disclosures, everyone is obligated to protect the information. The group thus shares knowledge of its own membership but keeps the information from escaping the group.

Street gossip thus allows the slum dwellers to gain exact knowledge of one another's personal character but limits the extent of the social order, since there is a limit to the number of persons one may get to know through private sources. Human ability to absorb information is also limited: without a general system of moral categories, each personality must be memorized for itself; hence no person can get to know more than a few others.³⁰

It is likely that this concentration on discrete bits of internal information further inhibits the slum dweller's already diminished opportunity to absorb additional information from outside. The result may be the creation of a series of rigid categories or stereotypes about the larger society that prevents the slum dweller from dealing with it realistically. Nevertheless the studies suggest that even in the slum there must be some degree of adaptation to a larger unit — a neighborhood made up of a variety of ethnic and racial groups — and that the street is a vital link in this adaptation.

While it is easy to denigrate the relatively rigid and tenuously connected segments of the lower- or working-class slum, comparison of its structure with that of the Pruitt-Igoe housing in St. Louis (an initially highly regarded but particularly unsuccessful urban-renewal project) places into sharp relief the strengths of the slum and the role played by the street in maintaining them. Divested of the organic structures that accompany the growth of an ethnic neighborhood, deprived of the rich street life of the working class slum, and blocked even from the development of segmented groups, the project dweller is subject to control by authorities above and beyond his own group. The project is not held together by a system of social or group relationships but by a superordinate authority that wields its power by virtue of its ability to reward and punish project dwellers.

According to Lee Rainwater,³¹ the project dweller develops social and personal responses that tend to generate aggression toward self and others. These responses are an understandable adaptation to the situation; clearly, they are neither socially nor personally desirable.

Within its limited street culture, the low-income project failed to develop even the system of gossip that had acted as a negative focus for community cohesion in the slum. Relationships in Pruitt-Igoe were so agonistic and privacy so desperately defended that even the weeds of gossip withered. Here, as in other projects whose residents are drawn together by bureaucratic rather than human convenience, the basis for community cohesion was extraordinarily weak. Strangers to begin with,

project residents were subject to administrative rules that increased the atmosphere of distrust and suspicion in which they lived. Afraid that a neighbor might report that her husband was visiting, that her morals were questionable, or that she was earning money despite her welfare status, the project woman attempted to avoid contact with her neighbors. Similar fears motivated the behavior of the men who lacked, in addition, any kind of organization that might provide training for leadership, feelings of self-esteem, or opportunities to participate.

Conspicuously missing from the project were institutions that might serve as a focal point for community cohesion. Street life in the project was minimal and its principal function seemed to be provision of an escape valve by which residents temporarily transcended their limited self-definitions by developing a distinctive life style. This style, labeled "expressive" in the literature, allowed project residents to assert some control over their immediate environment but was not suitable for extending the social network and inhibited the development of an instrumental personality with which one might operate successfully in the world outside the project.

The architecture of much low-income housing encourages anomie. Separation from street is maximized in high-rise construction; in Pruitt-Igoe, lack of physical streets with the usual groceries, candy stores, repair shops, or other generators of social activity seemed to add to the residents' woes. Though provision of amenities alone is not sufficient to create social interaction, the bleak, streetless environment of the project further eliminated possibilities of human encounter and thus helped to maintain the hierarchical system of imposed power that might otherwise be undermined — or at least questioned — by the development of cooperative groups or strong local boundary systems.

Suttles's slum included a housing project and he noted that administrative rules forbade the moving of furniture onto the street; in the slum, people often structured their own interaction by bringing chairs, tables, and TV sets into the street. Prohibitions against such practices — coupled with failure to provide equivalent facilities and the elimination of stoops and steps used by slum residents — served to further diminish opportunities in the project for social interaction. A system of interior streets within the corridors, designed to facilitate childcare, worked instead to scatter rather than condense people — again increasing anomie and decreasing contact.

Analysis of the neighborhoods commonly labeled slums yields similarities among them, and similarities between slums and lower-income housing projects are evident where the projects collected their residents from working-class or blue-collar populations. But even the term *slum* conceals at least two clearly different sets of social organization — and it is obvious that these two do not exhaust the possibilities.

Both the lower-class slum described by Suttles and a variety of

working-class or ethnic slums analyzed by Fried and Gleicher and by Herbert Gans³² utilized the streets as part of a complex communication network. Both utilized the streets — and amenities along the streets — to develop and maintain valued and often valuable social contacts. The streets also functioned both to maintain communication within an area and to extend lines of communication among the various segments that appear to make up the slum.

Although at times the residents of Suttles's slum appeared to perceive the street simply as an extension of domestic space, more often they appeared to use it in a different way: as an arena in which to experiment with alternate life-styles and in which they might escape from a constricting domestic scene. Men seemed particularly in need of a place they could call their own, since the home was conceptualized and furnished as a woman's world. The more homogeneous ethnic slum, particularly if it had sufficient time dimension, used the streets in a less segregated manner. Here the street functioned as a setting for a web of overlapping behaviors; the segmentation and age, sex, and role separation were crosscut by ties of kinship, work, religious association, and neighboring, in a pattern that inspired Herbert Gans to call them "The Urban Villagers." Urban enclaves that are simultaneously street oriented, villagelike, and not markedly constrained economically or socially are also known.³³ Thus while the street may appear to play an ambiguous role for ethnic communities such as those described by Suttles, it can also demonstrably play an unambiguously positive role. The street is only one element of a larger slum structure that socializes the resident into an expressive rather than instrumental role and educates him into a rigid set of rule systems, while providing him with a security that limits both flexibility and the extent of his social network.

The Uses of Diversity

In *The Death and Life of Great American Cities*,³⁴ Jane Jacobs proposed that cities would be safer, more livable, and more attractive if their streets were zoned for an intricate mingling of different uses. Aside from aesthetic considerations, Mrs. Jacobs suggested that diversity of use aided in: (1) maintaining activity in an area during greater portions of day and night; (2) increasing safety by ensuring the presence of people on the street; (3) decreasing monotony; (4) and increasing public contact and cross use.

While most of Mrs. Jacobs's comments were based on her observation of her own and other neighborhoods, and while she is a careful and responsible observer, the mixed reception of her ideas indicates that some examination of her assertions — is both desirable and necessary. Very few such studies currently exist; therefore, support for the notion

that diversity may be desirable must come from other quarters.

Prominent among those currently engaged in studying man/environment interactions are the ecological psychologists. Ecological psychology has suggested one solution of the man/environment dilemma by asserting, and attempting to describe, the presence of environmental units as bounded, internally differentiated, self-balancing organizations that operate according to rules specific for each setting and significantly shape the behavior of individuals inhabiting or using them. While ecological psychology has concentrated on behavior in school settings, some of its findings suggest that availability of a large number of behavioral settings has significant positive effects on satisfaction, morale, and participation.

Examining school settings,³⁵ the researchers began by contrasting behavior settings in small and large schools. While large schools seemed to exert particular pressures on students, the crucial factor did not appear to be size but rather different numbers of behavior settings available in each type of school. Undermanned settings — generally found in small schools — were associated with more satisfaction, more participation, and more self-confidence; they served a very important social function and, in allowing for much greater involvement of marginal students, provided higher levels of participation, satisfaction, and morale in this group. Large schools with relatively fewer behavior settings produced more vicarious watching behavior and a tendency for students to affiliate within a larger entity. Many participants who seemed content with their own passive behavior found the large schools satisfactory, but these schools were significantly less satisfactory to the marginal students.

The researchers suggested that an increase in the number of behavior settings within a large setting might be useful — but they warned that the large setting might be so overwhelming that participants would tend, despite opportunities available to them, to see the rules of the system as a whole as more coercive than the rules of any specific setting. Since streets are not schools — or total institutions — some of the problems raised by the school setting may be less important on the street. The proposed utilization of an increased number of behavior settings might be contributive in the freewheeling arena of the street.

The value of diversity of settings and of unprogrammed settings in general seems to lie in the ability of such settings to give people experience in a variety of roles and to provide many more opportunities for self-redefinition. They also create numerous opportunities for people to interact with a variety of other people — raising the possibility of conflict but also allowing for an increase in empathy and understanding. Since man is less a creature of instinct than of habit or culture, what he is and how he develops depends largely on the opportunities for interaction that are present in his environment.

Our ability to provide a diversity of behavior settings along a street has been seriously eroded by the demands of the marketplace. As many architects have pointed out, it is not sufficient to line a roadside strip or a street with a dozen different kinds of shops; indeed, such an interpretation of diversity leads to difference for difference's sake, masking an underlying monotony. Of course, a variety of small shops has its uses — but the focus on consumption activities in the street tends to restrict the definition of the participants either to salespersons or consumers.

Establishment of a variety of off-street behavior settings should stress construction not only of shops and restaurants but lecture halls, exhibit areas, clearly defined play areas, observation points, strolling lanes, and sitting zones that could accommodate both intimate pairs and more impersonal groups. Larger open areas might be suitable for serendipitous happenings, displays, and entertainments or opportunities to observe people at work. Lounges and cafés should accommodate teenagers as well as adults in their search for settings in which they can experiment with new definitions of self.

The ecological psychologists offer another proposition that deserves consideration — although, since it appears to have derived from the achievement-oriented school settings in which the ecological psychologists have done most of their research, it may bear reference primarily to highly structured environments. The proposition is simply that designers should plan settings not only to change people but simply to provide existential satisfaction. However, the implied criticism cuts deeper: as Barker and Gump point out, life is a process, and immediate actions and reactions are also important in assessing the worth of a setting. A behavior setting that provides immediate satisfaction improves the quality of life. As Gump asserts, planning should not aim primarily at improving the intellect or developing an idea of beauty but should increase the number and intensity of "smiles, involved postures, chats, exploration, and the assumption of responsibility."

Another study that seems to support a belief that diversity is valuable is John Gulick's "Images of an Arab City."³⁶ Utilizing some of Kevin Lynch's theories and techniques, the author set out to discover the "imageability" of the Lebanese city of Tripoli. According to Lynch, imageability is a significant factor in creating a sense of city coherency; hence increased imageability would appear to provide an increased sense of place and order. Gulick had thirty-five college students draw a map of the city. The maps indicated that while individual buildings were unimportant, various sections of the city were vital to imageability. These sections were distinguishable because they had very distinctive visual and kinesthetic qualities. High on the list was the Tell — scene of intense, varied activities, an area containing a park surrounded by shops and coffee houses and filled with cars and pedestrians. Other important areas were different in elevation; in others, one was subject to changes

of light or spatial dimensions as one passed through them. While Gulick's sample of thirty-five college students is small, the findings corroborated those of other studies, which suggested that imageability requires distinctive sections with connecting paths, involves kinesthetic as well as visual factors, and emphasizes the presence of thronged sidewalks. The evidence is all the more persuasive because it was gathered in an Arab urban culture that has characteristically deemphasized community life while stressing an intense family life. Despite such cultural restrictions, the Lebanese students were most aware of and attracted by the dense, crowded Tell and by environments that offered changes in kinesthetic experience.

At the scale of individual streets, support for the notion that increased diversity of settings and activities offers positive human values comes from numerous psychological studies of stress, aging, and learning. Stress studies deal with extremes, of course — subjecting participants to total sensory deprivation or overstimulation. Under such extreme conditions human beings tend to break down, proving that there are limits to human ability to deal with the environment; these limits involve, at one end of the scale, the ability to process information and, at the other, to exist with minimal or no information.³⁷ While John Calhoun's studies of crowded rats have been widely applied by analogy to situations of human crowding, it seems clear that we do not have as yet any clear guidelines for analyzing an optimal environment or even for determining what degree of density is plausible or desirable or what dimensions of crowding create pathology in humans. While it is fashionable to believe that continued exposure to situations of high density leads to emotional problems, the data proving such a proposition are so confused and contradictory as to provide us with scanty information. On the one hand, we have numerous studies of the emotional and social pathology of the ghettos, the high incidence of disturbance in central-city areas, and the anomie that is assumed to be endemic in urban settings. Many of these settings, however, are not uniformly dense: in fact, they include bombed-out areas of relatively low density. Cultural patterns that militate against use of the street by women and children (in Spanish neighborhoods, for example) may serve to reduce street congestion while the dwellings are of statistically high density. Cultures differ enormously in the degree to which they perceive crowding and in the use of personal space.

To add to the problem we have numerous studies of Hong Kong, Tokyo, and India, which indicate that density by itself is not a sufficient explanation of social pathology. In Hong Kong, for example, Robert Schmitt found high density associated with low disease rates, relatively low infant mortality, and less mental disease and juvenile delinquency and crime than in far less crowded areas of the United States.³⁸

Cultural expectations, rules, and adaptive techniques clearly play a

major role in diminishing or exaggerating the effects of high density and consequent crowding. But most important perhaps is the nature of the boundary system. The gang boy may be delighted with close, intense, and crowded relationships within his territory, but he will feel — as the frequently uttered colloquialism “don’t crowd me” suggests — crowded if his gang’s territory is threatened by another group. Stanley Milgram has suggested the presence of psychological mechanisms that provide some protection against overstimulation or the reception of too much information from the environment.³⁹ Such mechanisms include the by now familiar “supermarket syndrome” or semihypnotic blinkless trance that symptomizes the presence of abundance and confusion in the supermarket. Others are the physical withdrawal and alterations in body position and tension that make it possible for people to crowd together in subways; another is avoidance of mutual eye contact. More profound, perhaps, is the phenomenon described by Georg Simmel as objectivity or intellectuality. Simmel laid out the paradox of urban mental life that demands the development of reserve, a blasé attitude, as the price of unprecedented personal freedom:

The most profound reason, however, why the metropolis conduces to the urge for the most individual personal existence . . . appears to me to be the following: the development of modern culture is characterized by the preponderance of what one may call the “objective spirit” over the “subjective spirit.” . . . Indeed, at some points we notice a retrogression in the culture of the individual with reference to spirituality, delicacy and idealism. This discrepancy results essentially from a growing division of labor. For the division of labor demands from the individual an ever more one-sided accomplishment and the greatest advance in a one-sided pursuit all too frequently means death to the personality of the individual. In any case, he can cope less and less with the overgrowth of objective culture. The individual is reduced to a negligible quantity, perhaps less in his consciousness than in his practice, and in the totality of his obscure emotional states that are derived from this practice. . . . Here in buildings and educational institutions, in the wonders and comforts of space conquering technology, in the formations of community life and in the visible institutions of the state is offered such an overwhelming fullness of crystallized and impersonalized spirit that the personality, so to speak, cannot maintain itself under its impact. *On the one hand life is made infinitely easy for the personality in that stimulations, interests, uses of time and consciousness are offered to it from all sides . . . On the other hand, however, life is composed more and more of these impersonal contents and offerings which tend to displace the genuine personal colorations and incomparabilities.* This results in the individual’s summoning the utmost in uniqueness and particularization in order to preserve his most personal core.⁴⁰

As Simmel points out, we do not know whether such mechanisms are good or bad in themselves; however, if a good part of one’s energy must be expended either in defense against contact or in the development of an inauthentic uniqueness, and if, moreover, personal relationships are less important than economic activity, then it seems likely that one is coerced into a role or, at any rate, has less control over his own role than he imagines. Freedom — on the ghetto street, for example — frequently involves the development of what Simmel called the blasé personality, what we know as “cool.” To “keep his cool,” to remain indifferent, allows the ghetto youngster — as it once allowed the boulevardier — to replace authentic personal colorations and incomparabilities with a superficial style.

From yet another vantage point, an amalgam of notions derived from theories about play and creativity, Amos Rapoport attempts to deal with the problems posed by perceptual overload in the environment.⁴¹ Rapoport looks on both overload and understimulation as equally bad: both result in fatigue and shutdown, frequently in accidents. Rapoport believes that complexity is desirable and is a function of “violated expectations.” Such a conceptualization assumes the presence of expectation, an ordered rule system in the environment. Increased complexity aids in reducing monotony; it does not increase information if the elements themselves are unambiguous. Thus Rapoport states that the roadside strip, despite its superficial variety, is the visual equivalent of “white noise” (a concept that is embodied in the work of William Ewald on graphic design⁴²).

At the moment we do not know the optimum amount of significant information necessary for human functioning. We know that people at different stages in their life cycles require different inputs: children whose perceptions of the world are not yet fully organized and whose attention mechanisms are not mature require environments somewhat different from those that might be suitable for an adult. At the same time, some research suggests that old people — whose perceptual apparatus is somewhat impaired — may need not only more environmental stimulus but stimulus that is more redundant and differently organized. Our information about age differences is far more detailed than that available about cultural difference in perception. While we know that every culture organizes the world differently, we know very little about the different rule systems of different groups, the spatial parameters of cultures, and how these affect both perception and classification of perception into meaningful units.

Generally, comparison of human and animal behavior under stress suggests that the development of the human brain, with its ability to organize perceptions into larger units, allows man more leeway in a crowded situation. Man’s ability to symbolize and classify events is an effective method by which he reduces information and the stress in-

volved in overload. At the same time, his brain seems to demand greater stimulation: when he is deprived of sufficient input, he hallucinates.

Variety and richness in his interior environment thus substitute for variety and richness in his exterior world. But concentration on interior stimulation tends to make the individual a closed system capable of generating only information he already possesses. His behavior loses its adaptive flexibility and is ruled instead by a series of repetitive compulsions that may maintain life at a minimal level but allow for nothing more. Just as the isolated individual has no way of defining himself, or even of conceiving himself as a person apart from his environment, so the isolated group or the group under stress (such as those in multiethnic neighborhoods) tends to specialize in the development of rigid boundary systems and compulsive social arrangements that limit both flexibility and adaptation. Such findings provide support for Rapoport's belief that optimum conditions are achieved when the environment can build up expectations (that is, develop a relatively stable rule system) and then depart from them. A variety of other evidence supports this hypothesis, just as it tends to support Jane Jacobs's formulations. These include time/motion studies of factory workers, analysis of the behavior of men in prison camps by Bruno Bettelheim,⁴³ the stress studies themselves,⁴⁴ research into the nature of play conducted by psychoanalysts, educational psychologists, and ethologists,⁴⁵ and learning theory which suggests that increase in learning takes place only after one is unsettled, forced to break set, and thus enabled to gain a new perspective on a problem. Ambiguity and violated expectations are not necessarily comfortable. However, it seems likely that man, whose evolution is not conceivable without his large brain and his symbol-making capacities, cannot exist without uncertainty. When it is lacking, he generates it psychically. At the same time, the uncertainty must be tied to a stable set of expectations: when a rule system and boundaries are lacking, he often falls back on ritual, magic, or a compulsive formula by which he attempts to create a predictable order within his environment.

Amassing arguments in favor of diversity that rest upon a human need for rules and surprise or attesting to demands created by the evolution of the human body does not, of course, demand that we create this diversity upon the street. A counterargument would be Melvin Webber's belief that a nonspatially oriented society can satisfy human needs through technology.⁴⁶ Webber's projections derive largely from the network analysis of today's upper middle class. This group spends little time in immediate surroundings, does not equate proximity with neighboring, and makes its friends among a far-flung society generally related by profession or business interests. Communication among them depends on media: they are the large consumers of the conference telephone and airline tickets. Fully stimulated by the amount of information they must process for their professions and to maintain their life-style, these men

and women would appear to require very few of the amenities that have been suggested as appropriate to diversity on the street. Furthermore, it has been suggested that they represent the vanguard of the future, we must consider the possibility that scarce resources might be better spent on technological equipment than on streets and local developments.

While the argument is attractive and the number of people adopting this life-style is bound to grow, one must question the potentially damaging impact of such a technology on children, old people, the handicapped — as well as the large number of people who, in the foreseeable future, will neither be able to afford nor adjust to such a technology. The energy crisis foreseen by prominent scientists (became common property since this article was written) is another important factor: sufficient resources may not be available for this technological development. Committing all resources to more efficient distance communication or new forms of interior communication is not only psychologically and economically questionable; its political dangers are evident. Control by media is more easily effected over the individual isolated in his home than over the crowd in the street; and decisions as to what information is to be transmitted over the media are more likely to be controlled by the few than by the many.

But perhaps the most cogent argument against the universalization of this life-style derives from human biology and the examination of man as a species. Curious, specializing in generalization, and requiring both the presence of others to define himself and real physical contact from those others in order to maintain his sanity, man has developed as the creature who learns to learn. And he appears to learn best — or to function best — within a social context. Experiments with computer learning and television courses indicated that students absorbed significant amounts of information from media. In fact, it seemed that they actually accumulated more information in this way. However, despite their greater factual knowledge the students were less able to function within their learned disciplines.⁴⁷ For students to succeed, they had to absorb attitudes, facial expressions, body positions, behaviors, and numerous subtle clues about interpersonal relationships. Without this kind of personal social information, which required the physical presence of a teacher, they could not do as well as students with less information but greater opportunity for socialization into a discipline. Much that we have learned about education suggests that enormous energy is expended in this socialization process; it is, in fact, the development of this ability that both created and secured culture.

The possibility that culture may be transmitted solely through media, that learning information rather than socialization will become the aim of education, is, of course, quite real. Commentators, from Claude Lévi-Strauss⁴⁸ to George Steiner,⁴⁹ have recently predicted the end of culture. Nevertheless it seems unlikely that the lessons learned in two

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million years of evolution can be discarded without some major biological change in the organism. As a social animal, a "medium-contact" species, and an organism exquisitely sensitive to a variety of stimuli, man appears to require a broader social context for his activities than those admitted by the technological wizards.

Without dealing in questionable predictions of the shape of future evolution, one can firmly assert that the technological revolution, even if it should come about relatively rapidly, will not wipe out our ancient patterns overnight. These must be maintained for large groups in our society who lack either the physical, emotional, or financial wherewithal for immediate participation in the revolution. At worst, construction of a new order of streets will allow for a multidimensional perception of the social and physical reality and will be necessary for some time to come. At best, just as we use the radio as well as television, streets will remain with us because we need the variety of social as well as intellectual experiences they can uniquely offer.

1. Amos Rapoport, *House Form and Culture* (Englewood Cliffs, N.J.: Prentice-Hall, 1969).
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30. Cf. Suttles, *Social Order*, pp. 6-9; also Gans on "person-oriented" modes of behavior, in *Urban Villagers*, pp. 89-103, 164-166, and 234-235.
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