

John F. C. Turner

Introduction: Systems and Forms

Excellence is embodied in many places that attract tourists, artists, architects and all who sense the harmony of built forms, people and their activities. Even though many visitors are saddened by the material or social decay of preindustrial towns, most go out of their way to see urban fabrics that are still intact, even if these boast more tourists than natives or have become slums. Virtually no one visits modern housing schemes; the few specialists who do are mainly interested in seeing their innovative shapes or technics or evidence of associated social problems.

This paper proceeds from the premise that things have gone profoundly wrong with the modern world, and that the contemporary procedures and forms of built environments are undeniable evidence of structural faults in the modern way of life. The views presented herein are tentative, but the assumption that the modern building industry has to be restructured is firm. This is not a contribution to the streamlining of modern corporate urban-industrial systems in order to increase their productivity; it is a contribution to the development of other ways and means capable of responding to the basic needs of people. While centrally administered corporate organizations and centralizing technologies have their place, it is not in the design, construction or management of housing. Large and heavy systems that cannot be managed by people from their own localities may be necessary for some infrastructures and supporting networks of services, but when they intrude upon the areas of local action they pollute in every sense of the word: they foul the environment with hideous buildings and dead space; they defile social relations by alienating work and people; they desecrate a place by the destruction of symbolic meaning.

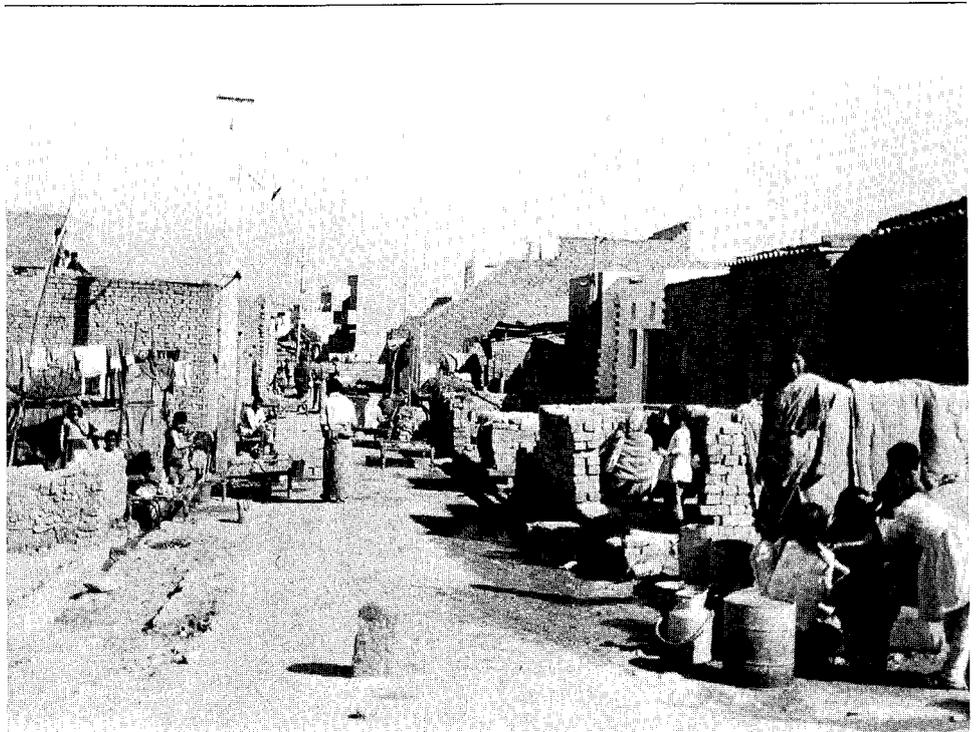
The natures of genuine and spurious culture are illustrated by contrasting the surviving madinas of many Islamic cities with the now conventional mass housing projects in which so many of the madina's original inhabitants are relocated. Hope for a renewal is given by those too poor to be rehoused and who cannot find room in the old cities: by those

who sow or resow the seeds of genuine culture by building *bidonvilles*, *gourbivilles*, *bustees*, kampongs, squatter, uncontrolled or autonomous settlements on the social, economic and physical margins of the formal sector.

The ancient Greek words autonomy, heteronomy and autarchy identify the three systems commonly observed in cities caught between a decaying preindustrial culture and an intrusive corporate-industrial system. New environments are typically heteronomous and autarchic. Contemporary Third World cities are characterized by the contrast between centrally administered housing schemes in the modern international style (or the closest approximations which their sponsors can manage) and locally self-governing settlements which are generally poor adaptations of traditional village and small town building. These "informal" settlements often outnumber those formally integrated into the state or industrial-corporate market system in terms

of population, and often outweigh them in terms of area.

Neither the heteronomy of the officially sponsored mass housing projects nor the autarchy of the officially illegal or extra-legal settlements of housing by the masses is complete. Both are built by the same workers and are employed by the construction companies (public or private) to build projects designed and administered by central agencies. With their small savings they build (and employ each other to build) their own homes as well as they can, with whatever materials they can get. But the great majority of cities are wholly designed (whether preplanned or developed by accretion), built and managed by the people themselves. Until so much time has passed and so much has been done by the people that their settlements demand some degree of integration with public utility and service systems, and therefore with the public administration, most interventions by supra-local authorities are negative.



Squatter community in Delhi, India

Photo: H-U Khan

In the most favourable circumstances, this integration of initially autarchic settlements can lead to a synthesis that deserves to be called autonomy. In Peru, for example, some new municipalities have been created on the basis of the locally self-generated organizations of the erstwhile squatters whose tenure was authorized. There have been significant cases where government and people have worked together, instead of against each other, each contributing resources instead of competing. When government, corporate industry and supra-local markets limit their interventions to the goods and services that cannot be provided or assembled locally, when local enterprise is free to do what it is able and willing to do, and has access to and freedom to use the necessary resources, remarkable things can happen very quickly. Basic housing needs can only be satisfied if and when the capacities of people in their local communities are matched and complemented by the capacities of the market and the state.

Housing is a sphere of action in which everyone takes part. Homes and neighbourhoods either sustain and support people in a society, or they burden and oppress them; buildings and services either improve or deteriorate. What happens depends on what all sectors and people—households in their own communities, market producers and distributors, state agencies and all intermediaries—do or fail to do. Except for transportation in high income countries where housing and work are widely separated, housing demands more capital investment and running costs than anything else in urban societies. Since it also involves everyone, and constantly, it is the most generally available sphere for direct action in the modern world, and a major front in any strategy for social change. Whatever the possibilities for immediate tactical actions, effective strategies for another development through which basic needs can be met depend on two things: the reassertion of people's rights to determine their priorities and to make demands within the limits of their personal and local affairs; and the provision of supports for local action by the market and the state, instead of monopolies substituting imposed goods and services over which people have no effective control.

This summary identifies some basic principles for housing action and outlines the general practices which they demand. Practices must be variable in order to be successfully repeated in other places and at other times. Without a clear identification of the basic principles, it is difficult to avoid the generally useless attempts to standardize procedures and products. Once principles and practices are separated, however, it is relatively easy to work out specific adaptations of general rules to particular circumstances. This paper does not offer recipes; it only tries to clarify ingredients in order to see what can be done and how, whatever the local conditions, in the realm of housing.

Housing is an Activity

Housing is not just a commodity. It is a complex process of many people and organizations doing many things in order to get many kinds of real or expected results.

When the word "housing" is used to denote merely a stock of houses, what is seen is extremely limited; actions are likely to be ineffective or even counterproductive. The blinkered and narrow-minded views of public or private producers concerned only with immediate end products have never led to economical or socially viable housing policies; they pay little or no attention to the ways and means by which housing goods and services are produced and maintained. No actual or prospective householder concerns himself solely with the quantity or material quality of the dwelling. He is often more concerned about its location, tenure and the direct and indirect costs of living in it.

Housing problems are commonly seen by most experts as matters of numerical deficits and physical standards; location is only now being recognized as an important matter. The most common solutions to such problems have been to pour more money into the production machine, or get more out of it for the same budget by streamlining it (employing technical innovations such as



Cairo: owner additions to "planned" housing

Photo: J. Turner

industrialized systems, common until recently in wealthy countries, or managerial innovations, like recruiting low income families to build their own houses). When housing is misunderstood and misrepresented as a mere product and commodity, the ways and means by which it is maintained and produced are taken for granted and tend to be ignored.

The immediate ends of housing action are improved homes and neighbourhoods, defined as assemblies of private dwelling space, semi-private, semi-public and public space, utilities and community facilities of commercial, governmental and non-commercial, non-government kinds. All housing components—all structures and spaces, all infrastructures and all public services and community facilities—demand land, work and technics (essentially building materials and tools, water and power). These elements are the means by which housing is both obtained and maintained. Access to these elements or basic resources depends on three basic institutions: on the ways in which decisions and controls are made and exercised (i.e., on who decides and who does what), on the ways in which formal and informal rules governing decisions and actions are made and carried out, and on the ways in which exchanges are effected, whether goods or services and resources are given, bartered, sold for cash or credit, subsidized or rationed.

Material quantities or qualities of housing goods and services depend on the availability and use of resources, and social institutions govern both the accessibility and use of those resources. Consequently, the priorities for housing action are *institutional* changes, or changing the ways of housing; changes in the selection and use of *resources*, or the means of housing; and changes in the *forms* generated, the immediate ends of the housing process. However, the ease with which these changes can be made are in the reverse order. The relatively easy changes that can be made to the design of housing, their grouping, landscaping and related services are the least influential. Nonetheless, some forms are more easily adapted to resource and institutional changes than others, so design can

facilitate change even if it rarely (if ever) initiates it.

Changes in land use, in the organization and administration of work, and in the kinds and uses of building materials and equipment all have a greater potential impact on society than changes in physical forms alone, but they are generally more difficult to make; they usually affect more organized and influential interest groups. Changes in the power structure itself, made directly or by changing the rules of the game or the scoring system, are clearly the most difficult of all. This is especially true when the functions of the market are incorporated by the state or when the state is dominated by private capitalist monopolies. Although the priorities are unequivocal, action in any area can be used tactically to open up possibilities for change, which can in turn be part of a longer-term strategy.

Housing Matters for What it Does

The importance of housing—ways and means as well as end products—lies in what it does for everyone concerned, and above all for the users. It is impossible to say whether any particular house type or locality is supportive and positive or oppressive and negative for people. Millions of people have suffered acutely from slum clearance and redevelopment schemes even though many have obtained “better” dwellings as a result. The breakup of families and established communities, the loss of local jobs and frequent imposition of long and expensive journeys to work, the often much higher costs of housing and subsistence, the loss of residential mobility or loss of secure tenure and, of course, the disorientation and insecurity that many people suffer after the loss of familiar surroundings are all common consequences of modern housing policies.

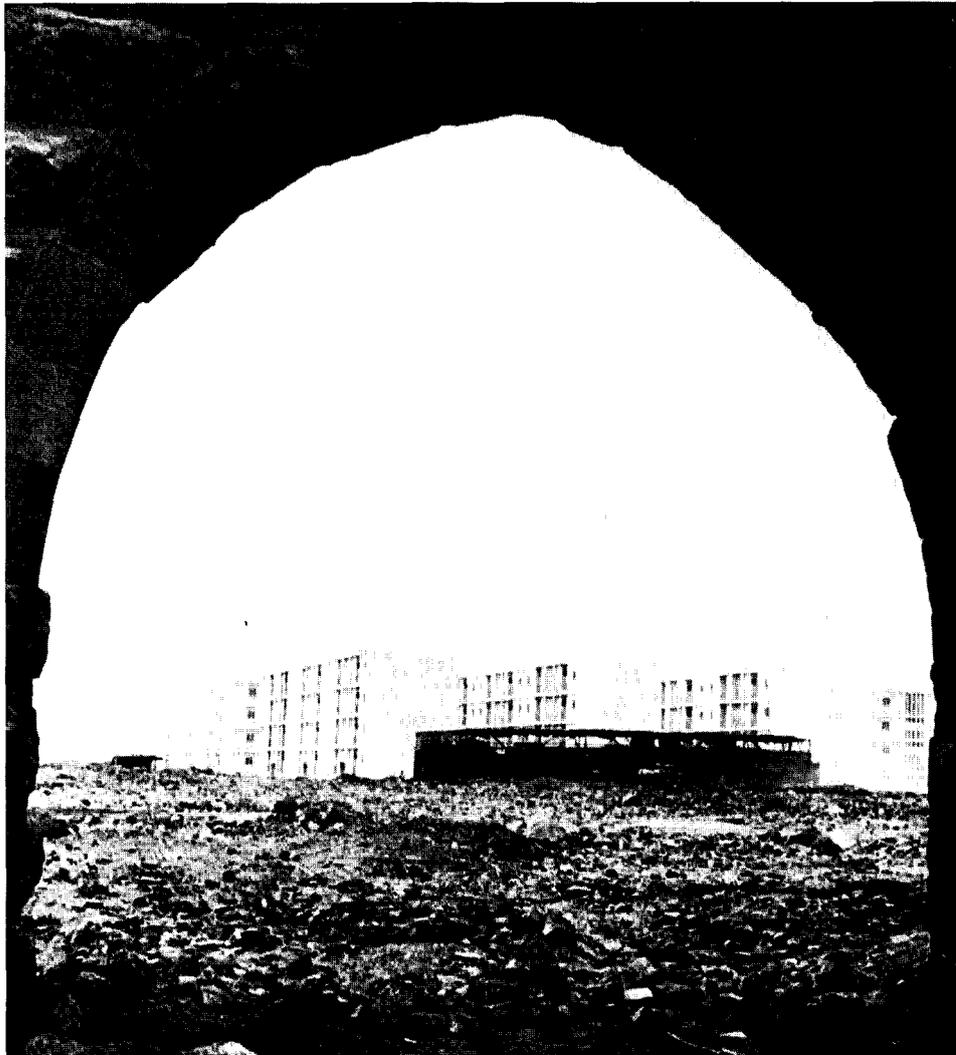
Housing does not matter for what it is, materially speaking, but only for its relation to people. As everyone’s situation is different and changes with time, to use only physical aspects as a measure of “housing problems” only makes matters worse. The

personal and social stresses that we experience as a result of mismatched housing are often the immediate consequences of shortages of dwelling space or services and the consequent reduction in or complete lack of choice. The leap to the conclusion that relief will be provided by an increase in the numerical supply of houses or utilities, or both, has evidently created as many if not more problems as have been solved, and at enormous material and human costs. Now that this is being officially recognized, the “housing numbers game” is increasingly discredited. Policy makers and governments still do not see what needs to be done in the same way as those in need see it.

People suffer as a direct result of housing ways, means, or ends that do not match their situations for three reasons: because they are threatened with eviction and would be worse off in the alternatives open to them, in which case their housing programme is to *establish* tenancy; because their homes and neighbourhoods are materially inadequate, whether their tenure is secure or not, in which case their programme is to *improve* what they have; or because their present housing is unsuitable or even nonexistent, and lacking accessible and acceptable options they need new homes in a new neighbourhood. In this case, the objective is to *develop* new homes and neighbourhoods. Any housing situation can be described as one or a mix of these three “basic housing programmes.” Current trends in housing policy are in this direction. One hears and reads less about housing deficits, and more about the conservation and improvement of neighbourhoods together with the social and economic support of their communities. In countries with relatively stable or slow-growing urban populations, emphasis is increasingly being given to conserving and making better use of the existing stock.

Housing is Too Complex for Central Administration

Any programme of housing action is far too complex for any large organization to decide



Public housing project near Cairo, Egypt

Photo H-U Khan/Aga Khan Awards

and control. The larger the organization or the heavier the technology which demands a large organization, the further the goods and services it produces are from the user, and the greater the standardization of those goods and services. Centralized administration—commercial corporations, state agencies or hybrids of the two—are becoming the normal suppliers of modern housing. The increasing monotony of modern housing, with its architecture often

indistinguishable from one side of the world to the other, is symptomatic of this trend. Centralization has forced an infinite variety of individuals, households and communities into the same moulds, grossly distorting their natures and contributing to the inhibition and frustration of their personal and cultural fulfillment.

Before the relatively recent demands for autonomy at all levels of society, and when enthusiasm for corporate-urban industrial-

ism was at its peak, the supposed necessity for mass-production in all spheres, including housing, was generally accepted. Such was the faith in industrial science and technology that the "housing problem" was attributed to the "backwardness" of the housing construction industry; once the assumed economies of scale had been achieved through factory production, central planning and distribution, it was assumed that everyone could be decently housed. But it is now becoming obvious that technically simple and geographically fixed assemblies (like houses and streets) with highly complex uses and economies cannot be dealt with in the same way as technically complex movable machines with simple purposes (like automobiles). It is increasingly evident that housing by the masses is far more economically and socially viable than mass housing, and that the economic scale for the design, construction and management of housing should be small and local.

It is also becoming obvious that the most important resources behind housing—land, work and readily available materials—are both local and extremely variable; they can only be properly used by individuals and small local organizations which know them well and can match them to personal and local needs. Centrally administered housing tends to be wasteful of both material and human resources, and therefore extremely expensive and economically inflationary. Large organizations use few local resources and force standard procedures and specifications upon these; they must therefore substitute imported for local materials, and often irregularly employed, unskilled wage-earning labour for self-employed craftsmen and small family firms. The need for capital-intensive machinery compounds the losses of local resources, thereby inflating housing costs and prices even more rapidly than for other goods and services. Clearly, the modern experiment with mass housing has failed; it should be promptly abandoned. Housing must again become the locally controlled and self-governing system it always was and still is (despite distortions imposed by dominant market and government systems) in most parts of the world.

The first condition for the restructuring of housing is the people's reassertion of their



Ismailia, Egypt Raba'as and 'imaras in the foreground, direct products of local demand for incremental growth, contrast with the inflexible housing project in the distance

Photo: T. Sudra

rights to determine and act upon their own needs and priorities. It is impossible for distant administrators and professional specialists to be experts on people's needs and priorities, and impossible for them to know how that immense variety of priorities and effective demands can best be met with locally available resources. People must assert their *rights to resources* and their *freedom to use them in their own ways*, or housing will remain a burden for households and for society as a whole. Community action, increasingly common in wealthy industrialized countries as well as in rapidly urbanizing countries with low income populations, must extend its demands for access to resources. When local initiatives are perverted into demands for increased centralization and provision of ready-made, prepackaged housing "goods," this is tragically self-defeating.

Housing is Normally and Necessarily a Local Activity

The design, construction, improvement and management of homes and neighbourhoods are the responsibilities of local communities, not of the state or the market. The "community" sector differs from the public or private sectors into which society is usually divided; it is neither predominantly commercial nor formally governmental. As a number of factors now indicate, society and its economy cannot be properly understood in terms of profit-motivated commercial and power-motivated governmental activities alone. Especially in the Third World, most activities undertaken by the people are done to satisfy their own and their dependents' basic needs for food, clothing, shelter and love. While elements of

commerce and politics figure in most organized housing activities involving production and distribution of goods or administration of services, activities carried out on small, local and personal scales are generally non-capitalist and non-governmental.

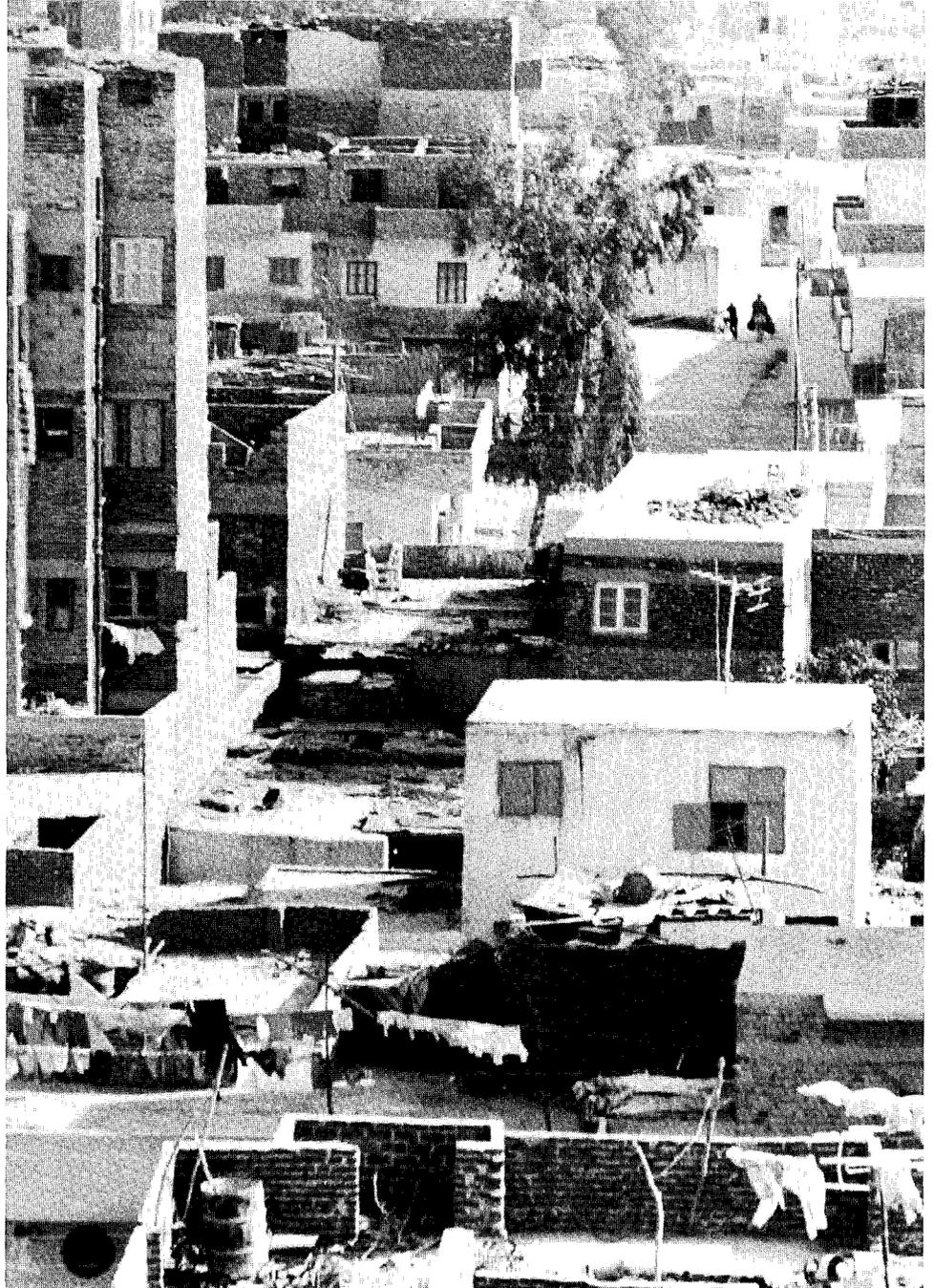
The crude but still useful distinctions between community, market and state sectors discourage the sterile polemic of "public" or state versus "private" or market housing supply. The third, community sector, must be fully and distinctly recognized before the otherwise inevitable conflict between market and state protagonists can be resolved. When the community is recognized as the dominant sector in housing, a much richer and more accommodating variety of alternatives can match a wide variety of political, economic and cultural contexts. Whether the prevailing social objective is to limit and control capitalist exploitation or bureaucratic centralism, rectifying the balance in housing can—and perhaps must—be a major part of any strategy for such change. Clearly, the issue is not whether housing should be the product of any one sector alone; all experience confirms that in the long run this cannot be. The real issue is concerned with the boundaries between the various levels of action and authority in the housing process as a whole.

In order to perceive this issue clearly, it is essential to distinguish at least three basic "levels of action" and three basic "levels of authority" in the housing sphere. The three levels of activity can be described as the *assembly* of all the components of a dwelling environment, the supply of the *components* that are assembled, and the provision of access to the *elements* from which components and therefore assemblies are made. This last comprises the basic resources and institutions upon which production depends. Generally speaking, assembly is the design, construction and maintenance of houses and their immediate surroundings. By definition this is local, except when dwelling units are prefabricated; in that case they become components and are delivered to the site like any others. The assembly of housing

schemes or improvements to existing neighbourhoods can be carried out by any level of authority: by the people themselves, by commercial organizations from regional to international scale, or by government agencies at any level.

The present paper calls for local community responsibility at this level of action, and the phasing out of centrally administered housing projects and programmes. But this does not mean that components can or should be supplied by the community sector. Many, obviously, cannot be: most water supply and drainage systems are municipal or metropolitan in scale and demand equivalent levels of authority for planning, installation and administration. These and many other components are better supplied by central government or even by international agencies and multinational corporations. Infrastructures and other components that cannot be supplied locally are generally produced by organizations of intermediate scale or by municipal governments. The provision of the basic elements or resources and the use of the institutions determining access to them are largely dependent on central government and state authority. Resources that are scarce at either local or global scale can only be properly controlled and justly allocated by central authorities. Similarly, the rules governing uses that affect their availability or neighbours in other ways, and the pricing of scarce resources, can only be justly and effectively controlled by a central government

Centrally administered housing is materially or humanly costly in all cases; where scarce resources are locally or privately monopolized, maldistribution and misuse almost inevitably follow. The essential complementarity of market, state and community can only be realized when the boundaries between levels of action and authority are appropriately drawn. The community sector must be predominantly responsible for the design, construction and maintenance of homes and neighbourhoods, and the central government, the state sector, must be responsible for the "law of the land" and the distribution of locally or regionally



El Hekı district, Ismailia, Egypt. With single family houses being developed into raba'as and 'imaras, the locality can flexibly adjust to changing rental demands

Photo: T Sudra

scarce resources. The roles and responsibilities of intermediate governmental and commercial organizations are widely variable and depend upon local circumstances.

Especially in high income urban-industrial countries and those with highly centralized bureaucratic governments, the community sector is notably weak. The task of reasserting personal and local rights and freedoms, in housing or in any other sphere of activity, is probably impossible without local grass roots organization. As the considerable achievements of many low income household associations in Third World cities demonstrate, ordinary people can gain a considerable degree of control over their own lives through locally organized collective action, especially when these local associations are federated. These often massive actions of squatters have contributed to significant policy changes in the interests of the majority. In an increasing number of wealthier and more highly institutionalized countries, community action is also contributing to major policy shifts, away from centrally planned redevelopment toward participatory conservation and development of existing neighbourhoods and communities.

Housing Must be Centrally Supported, Not Centrally Supplied

Housing systems which support people and act as vehicles for local and societal development are organized as networks of autonomous agents, free to negotiate for the acquisition of housing elements, components and assemblies. Each decision maker—the household, builder, materials supplier, land or property holder, various government agents or mediating specialists—has distinct but complementary responsibilities and roles. In an autonomous system, end results are the products of negotiations between all who control some decisions or operations. In hierarchic systems, on the other hand, one agent or a small clique dominates and has the power to make all important decisions; the other participants are thereby reduced to the status of clients, employees or passive consumers of the goods and services

that have been decided upon and distributed. Heteronomy, the system in which all but those at the peak of the pyramid depend on decisions made by those set above them, is the opposite of autonomy.

Autonomy implies interdependency. The agents who are the nodes of the autonomous network depend not only on each other, but also on access to the resources they need and the freedom to use them in appropriate ways. Local and regional networks are dependent on those of the centre to the extent that the central authorities control access to locally scarce resources and protect the personal and local freedom to use them. The dependency of the local or community sector or corporate markets, central government and the state cannot be total; if it is, autonomy is unlikely to be maintained even if achieved. When local networks are territorially wide enough to gain and maintain access to enough basic resources for survival, then local communities can become self-sufficient. This is the only way they can effectively counter and therefore control oppressive market or state systems. In the absence of adequate local organization, the hegemony of market or state and the suppression of community seems inevitable.

Both the state and the market are necessary in modern society, so alternative responses to community action must be clearly formulated. Heteronomous and monopolistic systems depend on centralization for accumulation of wealth and exercise of power. They therefore treat housing as a commodity which can be controlled and used as an instrument to further their interests. Autarchy may facilitate this process of concentration by reducing the pressures of popular demand; it is more likely, however, that misdirected demands for citizens' rights in the form of centrally supplied goods and services do even more to boost these capitalist and statist tendencies. The threshold between autarchy and autonomy is broad and deep, and ordinary people's demands for components and elements that they lack and cannot provide for themselves have been generating positive responses in some countries for several decades. Demands for water supply, im-

proved public transportation, electric power and schools, for example, have been met in a number of countries with large low income populations by government agencies which realize that those services cost little per capita.

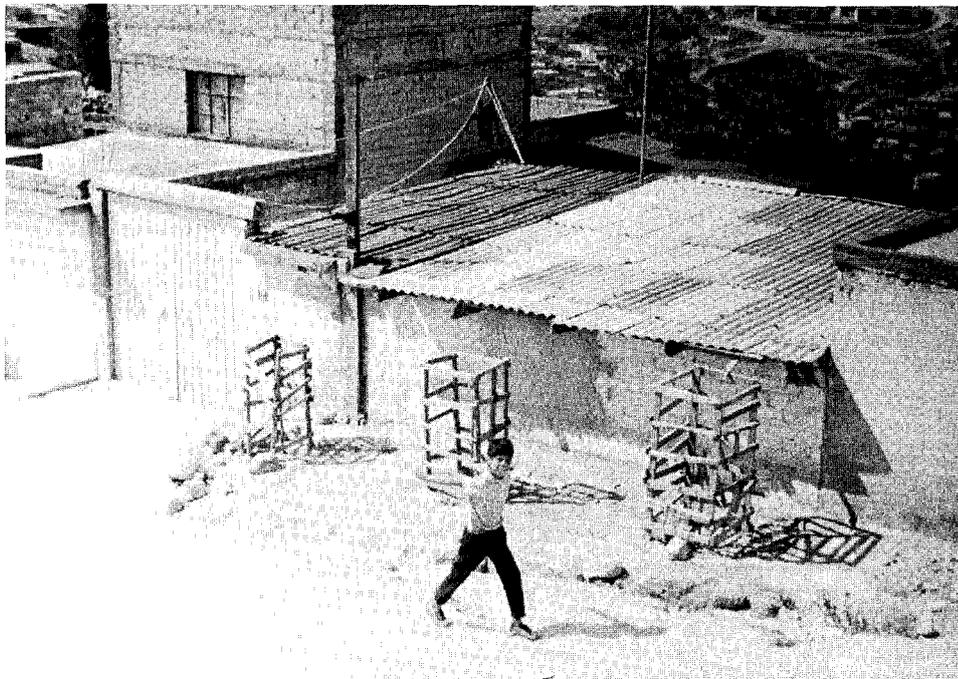
Necessary government provisions must be made in the form of loose parts, not tight packages. The most effective and productive demands are those for complements that release or correct the use of unused, underused or misused resources. When people have the land they need in addition to materials, tools and skills, but lack water and have no way of getting it economically by themselves, the provision of a piped water supply can generate a massive amount of building in a short time—housing by the masses. The conventional mass housing approach has the opposite effect. The official response to housing needs takes the form of minimum standard houses, and works on the assumption that only the market and the state have the resources and capacity for providing these. Preparations are likely to require several years. So-called minimum standards set by middle class officials tend to be very high, and together with the overheads of centrally administered and commercially contracted building, housing prices are far higher than the great majority of intended beneficiaries can afford or are willing to pay. Therefore, when governments of low income countries with very small budgets offer housing subsidies, the number of dwellings built is drastically reduced. The few that are provided are almost always formally or informally reallocated to the better-off, the resources of the original community are largely wasted, and the government is left with heavy recurring costs and a debt they are unlikely to recover. These and other costs can be avoided if needed components are provided in ways that allow the users to adapt them to their own resources, by separating components to the greatest practical extent and thereby maximizing local freedom of assembly. Clearly, conventional housing schemes or projects and categorical programmes must be phased out and replaced with open service systems.

Aspects of Housing Action: Forms, Resources and Institutions

Any long-term strategy for change is a composite of short-term tactical actions. This concluding section identifies a range of discrete fields of action, any one of which can be a starting point for change. There are a huge number of different combinations and permutations, and few if any situations where nothing can be done, or at least started. We have already detailed the essential differences and more or less independent variability of the three aspects of action: the forms which housing goods and services take, the means or resources and instruments with which they are produced, and the ways or institutions which manage these means. Each of these general aspects must be subdivided into more specific fields of action in order to plan and implement a programme.

The design of dwellings and neighbourhoods is the least influential aspect of action, as forms are largely consequences and reflections of the ways and means that generate them. Although design changes can alter technics and even management, they are usually limited to particular projects or programmes. Changes of style and form in the deeper sense can and sometimes certainly do have wider consequences, but these are indirect. Direct actions on resource allocation or institutions are often politically impractical; as design is generally seen to be politically neutral, this is often the only field of action in which market or state forces can suppress attempts at structural change.

The key issue in the architecture of housing is the relationship between *boundaries*, *networks* and *volumes*, the three basic elements of built environments. Boundaries are the institutional limits between uses, tenures and responsibilities for management or maintenance, generally marked by and coincident with physical barriers like walls or material surface changes (as between a street and a park). Despite the fact that boundaries are not in themselves physical, they are often the most difficult element of form to change and they have the longest potential life.



Ismailia, Egypt View before and after local improvement of street, footpath, façades

Photos: T. Sudra

Networks are the infrastructures connecting and servicing areas and volumes defined by the boundaries and buildings. The network of public paths and passages, roads and streets necessarily coincides with certain boundaries. Semi-private access and utility networks do not necessarily coincide with boundaries, since different utilities and services may have overlapping but different distribution networks.

Volumes are the three-dimensional spaces provided by structures, landscaping, planting and occasionally by boundaries that cut across open spaces and may even be unmarked. The issue of architectural form is concerned with the degree to which these three elements are separable and independently variable. They can be largely independent, as in the case of low density developments composed of separate buildings within plots, or they can be inseparable, as in high-rise monolithic megastructures.

The higher the degree of independent variability and therefore separateness of boundaries, networks and volumes, the more responsive the physical environment is to change. But excessive dispersal, like excessive concentration, weakens or perverts relationships between neighbours. The worst conditions appear to be those of monolithic structures which subsume boundaries and networks; since the greater part of these are inseparable from the buildings themselves, changes to any one are generally impossible without changing the rest. The most preferred form of settlement throughout history has been what is commonly called "low-rise/high-density." The immense variety of particular forms which concentrated developments may take, and their often great antiquity, show how adaptable they are. Both the modern monolithic forms and the dispersed suburban forms which they have inspired are replacing traditional forms, although the trend is already being reversed in some countries. Modern forms are extraordinarily similar all over the world, despite climatic and cultural differences. They are remarkably insensitive and unresponsive to local differences, and the monolithic form in particular is extremely inflexible and unadaptable. They are already proving to be short-lived and very expensive to build and maintain.

Recent analyses and evaluations show that properly designed concentrated forms are by far the most economical choice, especially since they allow for and even stimulate responsible and cooperative management and maintenance by residents, by providing a potentially convivial environment.

As noted above, the basic resources are land, work and technics. Land is now a universally recognized issue, even if few governments are yet taking active steps to implement generally agreed-upon principles. It is no longer necessary to point out the obvious: that land cannot be marketed as a commodity without severe diseconomies and injustices, if only because it is immovable and the supply does not increase with the demand. The dominant issue is still that of public versus private ownership. Although twentieth century experience confirms the great advantages of public ownership, state or even municipal monopolization can make land as inaccessible to citizens and local enterprises as inflated free market prices. However, the issue that most urgently needs exploration is the question of local community ownership (trusteeship), cooperative land banks and public and private (or semi-private) alternatives.

The first consideration in the field of work and its organization is usefulness or the production of use-values, not earnings or profits or production of commodities independent of usefulness. Therefore, both organizational and technological changes are indicated by experience. The most useful, creative and enjoyable kinds of work are those in which the worker has high levels of responsibility and scope for the exercise of his skill. These are also the common conditions for economy when this is understood as resourcefulness, or getting more from less. The larger the organization or the heavier the tools, the more difficult it is to maintain high levels of responsibility or skill in the field or at the workbench, drawing board or desk. As large corporations have discovered, even conventional efficiency and productivity demand decentralization and an increase in personal and small team autonomy. Immense investment in the automation of production lines and the anticipation of a "micro-chip revolution" in the highly industrialized and in-

stitutionalized countries reflect the growing revolt against mechanically repetitive and personally meaningless work. The relevance of these highly sophisticated technologies for low income and incipiently industrializing countries depends partly on the extent to which they are ways and means of overcoming problems which the majority of Third World countries have not yet generated, and which they may be able to avoid.

Work must be organized managerially in ways that maximize personal responsibility and the opportunity to develop and exercise skills. Technologically, then, work must be a function of materials, tools and forms of energy that can be handled by individuals or small teams. These demand an increase of network structures and intermediate technics, of manufacturers and suppliers of building materials and tools that can be used with small quantities and low levels of harnessed energy. They also demand institutions which maximize personal and local access to land, and the freedom to use it in ways which are socially viable and which minimize dependence on centralized banking and finance.

In order to counteract the inflationary, centralizing and dependency-creating effects of an increasing proportion of building technics now in use, it is essential to increase the use of materials which are: plentiful or easily renewable; have low energy (or heat) content and are non-polluting; are durable, require little or no maintenance and can be recycled; are local and therefore reduce demands on transportation, increase local, regional or national autonomy and increase cultural identity and diversity; and finally, those requiring only simple or light tools and equipment which can be handled by skilled workers and managed by small organizations. The highest priority in most contexts is to rapidly increase small-scale local production that reduces demands on fossil fuel. Reducing transportation not only reduces demands on fuels, but also reduces losses resulting from loading and off-loading, pilferage, warehousing and over or under-ordering. Both cement and burnt clay products, for example, can be produced much more economically in small local plants than in the huge centralized ones

imposed by the market system and bureaucratic centralism. Small local plants may produce lower grades of materials, particularly cement and steel, but these are still of qualities entirely satisfactory for small and medium-sized structures.

All activities, like games, depend on three basic institutions: the sides that people take and the decision-making powers they have, the rules within which they act, and the scores they give to various actions. The first institution, the power structure, has already been outlined above in terms of community, market and state sectors. The central issue is: who decides? It is the people in their own communities who must have the power to decide if housing is to be a satisfying and effective vehicle for personal and social development. As already argued, this requires both auto-generation and government support of mediating structures. This, in turn, demands the provision of those goods and services that must be supplied by large centrally administered organizations in the form of loose parts, which small local organizations can use and assemble in their own ways.

The "rules of the game" set the limits to what the various sectors and levels of authority *may* do: they cannot lay down lines that *must* be followed by people and local organizations. *Proscriptive* law is liberating, *prescriptive* law oppressive. Most modern housing, building and planning rules and regulations amount to specifications; indeed, many laws are detailed descriptions of categorical programmes in which it is stated who shall get what packages of goods and services, and even when, where and how. Law and planning and design have become increasingly conflated and confused; only those with vested interests in centralized production, distribution and government have gained. An essential aspect of another development, and one especially clear in housing, is this change of legal principle and practice.

Some progress has been made in the field of construction standards. Performance standards which dictate the functional limits of building elements and the physical quality of enclosed spaces have begun to replace specification standards which predetermine



El Hekr district, Ismailia, Egypt. This carpenter's workshop opened after the installation of electricity
Photo: T. Sudra

forms. The phrase "progressive development" is now in common usage, indicating acceptance of the fact that buildings and dwelling environments must develop over time if they are to be economical and responsive to growing and changing communities. Little work has been done so far on the relationships between tenure and investment, and levels of investment with time and tenure (regulating the uses of temporary, incomplete or naturally decaying structures, for instance). Evaluations and experiments on these topics are urgently needed.

As already noted, neither money nor finance nor other forms of exchange are resources in the proper sense of the word. Exchange is the scoring system, decided upon or generated wholly by society and therefore an

institution. The habit of calling money a resource is dangerous; it can further the interests of those who have it by implanting or reinforcing the notion that those who do not are powerless. This mind set is complemented by the too-common assumption that maximum monetization is both necessary and desirable, increasing the confusion of market and use values as well as reinforcing divisions between age and sex groups and between socioeconomic classes. The recent growing interest in the "gift economy," "informal sector," household economy and the roles of the sexes revolves around the issue of monetization as well as institutionalization, professionalization and industrialization.

Increased access to money and credit is essential for those with insufficient means.

Alternatives to centralized banking and credit systems are both necessary and closely related to the issue of land. The use of local savings can be maximized when land is in community hands and usable as collective collateral. Increases in the supply of money in market economies tend to increase prices. In centrally planned economies, the issue is not so much the distribution of money as the ways in which it can be used. There is evidently a growing demand in the so-called "socialist" countries for increased personal and local access to resources monopolized by the state, and this presumably means an increase in the use of credit.

The achievement of a proper balance or equilibrium between monetary and non-monetary exchange systems, between the market economy and the gift economy, or between the formal and informal sectors depends on government policies of taxation, price and income controls and subsidies. Too often, if not generally, these combine to penalize personal and local initiative, to discourage real economy and to reward extravagance. These characteristics are common in housing. Both relative and absolute costs per unit of housing are inversely proportional to income, in most if not in all contexts. Direct action on these inequities can only be made through taxation, subsidies and price controls where practical, and these must all be used in ways that also increase the scope of non-monetary exchange.

Without the exchange of experience and the discussion of ideas, writing is a waste of time and paper. An immense quantity of published matter exists on almost every topic, but one is either overwhelmed by the mass of communications at the central crossroads, or starved at the periphery. The recent multiplication of newsletters circulating among overlapping networks of people and small organizations is becoming a major source of useful information. Networks, used mainly by those concerned with sharing information and committed to another kind of development, increase personal and local control; centralized information systems, using sophisticated and inaccessible equipment, reinforce the powers of "expert" minorities and their corporate employers, and increase personal and local dependency.

One essential task is to overcome the two-sided barrier to exchange and learning. On one side, there are people who have little or no access to what they need; on the other, they are overwhelmed with mostly useless information and time-wasting demands of disoriented or ill-intentioned individuals. Only through networks and activities like the seminar to which this paper is intended as a contribution can we share knowledge widely and rapidly enough to carry out Another Development.

Conclusions

This paper is written on the assumption that there are no contradictions between the economics, ethics and aesthetics of housing or of any other essential activity. The analysis and interpretation on which the preceding discussion is based shows that the economy of housing production and maintenance depends primarily on the resourcefulness of the people directly concerned, and of the users above all. Even when housing goods and services are not initially built and installed under local control, it is evident that their maintenance depends more on the care of the residents than on anyone else. The economical production, maintenance or upgrading of improvements all depend on the intelligent adaptation and use of highly variable local material and human resources, in order to match the equally variable and changing needs and priorities of users who usually have to pay for the goods and services obtained. Hence the proposition that:

When dwellers control the major decisions and are free to make their own contribution to the design, construction or management of their housing, both the process and the environment produced stimulate individual and social well-being. When people have no control over, nor responsibility for key decisions in the housing process, on the other hand, dwelling environments may instead become a barrier to personal fulfillment and a burden on the economy. (Turner & Fichter, *Freedom to Build*, 1972)

Because this statement is so often misread as meaning that everyone should build his own house, it must be pointed out that the key word is *control*, not self-help, just as the discussion is about *autonomy* or self-reliance and interdependent self-determination—which is not at all the same as *autarchy* or independent self-sufficiency.

It is assumed that ethics demand personal and local responsibility for personal and local affairs, as without it those affairs will go awry, waste will ensue and poverty and suffering will therefore increase. It is also assumed that a person cannot mature or become fulfilled without making decisions and taking responsibility. Personal control is as basic a need as any, both for its own sake and because without it other basic needs will be dissatisfied. Finally, it is also assumed that this vital personal and local control is the source of culture in any real or genuine sense. The rightness and harmony of things created in some relationship to people and nature depend on people's unalienated possession of tools and their freedom to use them. The hideousness of urban-industrial environments and their multiple polluting effects are the direct and inevitable consequences of alienated ways and means, or modes and instruments of production.

In contrast, the excellent forms of traditional housing and local building—the much admired "architecture with architects"—together with much building by specialized master builders, or architects in the original sense, are more often than not products of decisions made by local people and carried out by local enterprises. Traditional building has been the product of disciplines which modern production systems have obviated, at least for those who can afford them: the harmony of the most admired built places is due largely to the strict limitations of locally available materials and customs developed over long periods.

While it is true that low income owner-builders in rapidly urbanizing areas copy features of the commercialized society to which they aspire or actually belong, it can also be argued that this is the beginning of a new vernacular which, however crude, contains the seeds of a genuine culture. It is true that some of the most admired housing

schemes are the products of corporate organizations indulging in large-scale speculative ventures, as in the cases of Bath, New Town in Edinburgh and the Bedford Estate in London. However, all of these and probably most if not all similar cases have been built for the high-income sectors of their respective societies. It can also be argued that such cases are merely refinements of traditional patterns or types. The overall view of cultural development reflected in this paper is that the normal and essential process is one of refinement from the bottom up, not one of copying and filtering from the top down. The implication is that it is the seeds that must be most carefully protected and tended; the plant is capable of looking after itself as it matures.

"Participation in Housing: Cooptation or Liberation? Luxury or Necessity?" to be published in *Participation in Housing* (provisional title), Nabeel Hamdi, editor (London, Architectural Press, 1980)

An abridged version of "Housing: Its Part in Another Development" has been published in Dossier #15 (Jan -Feb 1980) of the International Foundation for Development Alternatives (IFDA)

References

The following publications of the author's work further develop the themes summarized in this paper

Freedom to Build, Dweller Control of the Housing Process, co-edited with Robert Fichter (New York, 1972) See especially Chapter 7, "Housing as a Verb," and Part Two, "Increasing Autonomy in Housing: A Review and Conclusions," with Robert Fichter and Peter Grenell Translated by Félix Blanco as *Libertad Para Construir* (Mexico, Madrid & Buenos Aires, 1976); by Giulano Abbiati and Letizia Magini as *Libertà di Costruire*, published in the "Structure & Urban Form Series" directed by Giancarlo De Carlo (Milan, 1979)

Housing By People, Towards Autonomy in Building Environments (London, 1976 and New York, 1977) Translated by José Corral as *Vivienda: todo poder a los usuarios*, (Madrid, 1977); by Hubert Deymann as *Der Verelendung durch Arkitektur* (Hamburg, 1978); by Priscilla van Leeuwen as *Menselijk wonen—Anders wonen* (Netherlands, 1978); by Massimo Giacometti as *L'Abitare Autogestito* (Milan, 1978); and by Maud Sissung as *Le Logement est Votre Affaire* (Paris, 1979)

"Otro Concepto del Auto-alojamiento," in *CAU* 51 (Barcelona, September-October 1978) Published in English as "Mass Housing and User Participation," *Open House* 33, No 3 (Eindhoven, Netherlands, 1978); also published in *Built Environment* 5, No 2 (London, Autumn 1979)

"Housing in Three Dimensions: Terms of Reference for the Housing Question Redefined," in *World Development* (Oxford, 1979) and in *The Urban Informal Sector*, edited by R Bromley (Oxford, 1979)

"Technology and Autonomy," published in a special issue titled *Adequate Housing of Quarterly Reports—Problems in Developing Countries*, Friedrich Ebert Foundation, West Germany, February 1980

"Issues in Self-Help and Self-Managed Housing," to be published in *Self-Help Housing: A Critique*, Peter Ward, editor (Oxford, Alexandrine Press, forthcoming)