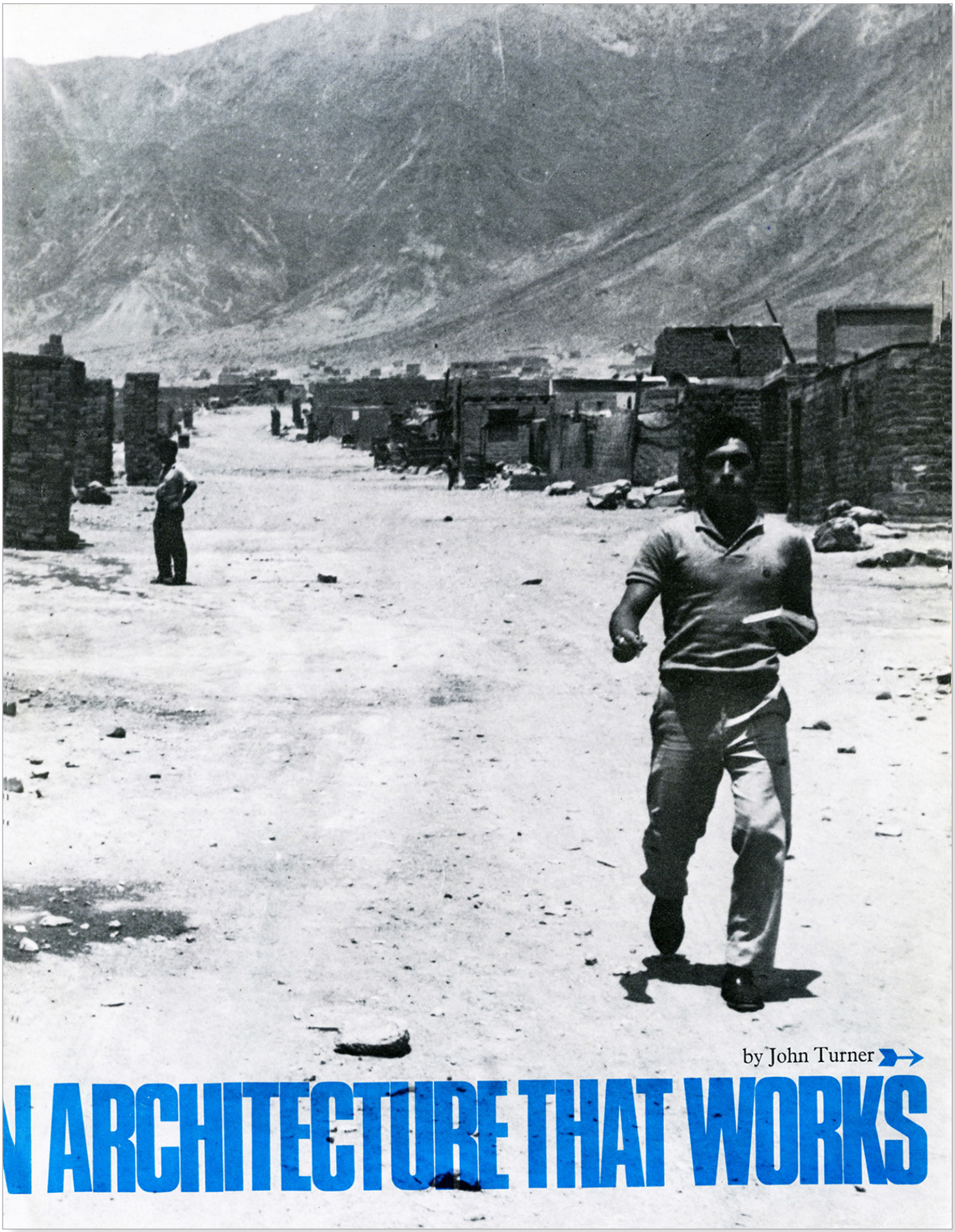
THE SQUATTER SETTLEMENT: A


by John Turner
N ARCHITECTURE THAT WORKS

The material for the following article by John Turner is from a work in progress funded by the Olivetti Foundation through the Joint Center for Urban Studies of M.I.T. and Harvard University, and to be published under their auspices.

The squatter *barriada*-builder[1] who chooses to invest his life's savings in an environment that he creates, forms himself in the process. The person, as the member of a family and of a local community, finds in the responsibilities and activities of home-building and local improvement the creative dialogue essential for self-discovery and growth. The *barriada* is ground for living that the housing units, marketed or allocated by mass-consumption society, do not provide.

The *barriada* in Lima (like the *geçekondu* of Istanbul or the *villes extra-coutoumiers* of Kinshasa) is one element of a typical, rapidly growing city in a transitional economy. It is a suburb and, like the suburbs of modern cities, the *barriada* represents a step *up* from the inner city—and the vast majority of squatter home-builders are ex-city slum dwellers. Contrary to common belief, the majority of suburban or peri-urban squatter settlements in large cities are not temporary encampments of miserably poor rural migrants unable to find a job and a home in the city proper. The suburban *barriada*-builder is busy consolidating an *improved* status and, by doing so, he is further improving it and himself. Typically, he and his very young family have escaped from the depredations of the inner-city slumlord (often a renter of clandestine shacks costing half a minimum wage) thanks to a steadier and better-paid job—enabling the wage-earner to commute, the family to buy their water from lorries until it is laid on and to start building a permanent house. At least one quarter of Lima's population now live in *barriadas* and the majority of these 500,000 people are of 'consolidating' blue-collar class families. They are the (very much poorer) Peruvian equivalents of the Building Society house-buyers of the suburbs of any city of the industrialized world.

The cities of the incipiently industrializing or transitional world, such as Lima, respond far more readily to the demands of the poor majority, than cities of the industrial or post-industrial world, like Chicago or New York, respond to their poor minorities. Because the poor are the majority in Lima and because the government controls neither the material nor the human resources necessary for the satisfaction of essential housing needs, the poor must act for themselves—and if the official rules and regulations get in their way these, along with any policemen who may be sent in to enforce them, are generally swept aside. Consequently, the very poor are able to find some corner for their private life, even if it's only a temporary shack in one of the interstices of the city—on an unguarded lot, in a ravine or even under a bridge. And the somewhat less poor are able to choose between renting one or two tenement rooms and squatting on the periphery. The urban poor in wealthy and highly institutionalized mass-consumption society do not have these freedoms. At best, like the Algerian and Portuguese immigrants

Invasion shack *Photo J. Turner*

to Paris, they are able to set up very poor *bidonvilles* on the edge of the city; more commonly, like the ghetto inhabitants of the United States cities, the poor can only rent tenements, from slumlords or from public housing authorities. There they must stay until they can make the far higher grade of suburbia in one leap—unless, of course, they are an ethnically discriminated minority in which case their environment will hold them down for ever, or until they burn *it* down.

The man who would be free must build his own life. The existenial value of the *barriada* is the product of three freedoms: the freedom of community self-selection; the freedom to budget one's own resources and the freedom to shape one's own environment.

The freedom of community self-selection

Barriada inhabitants, unlike institutionally or corporatively sponsored and controlled project 'beneficiaries', are self-selected. The *barriada* squatters have a homogeneity of purpose but maintain the heterogeneity of social characteristics vital for cultural stimulation and growth. The project beneficiaries, as one result of the perhaps inevitable political constraints, have a far greater homogeneity of social character but are rarely unified by common purpose—except in opposition to their 'benefactors'. Anyone, or any household is free to join a *barriada* association as long as there is enough land to go round and as long as dues are paid—the only common rule is that the member must live on his plot. As dues are low (and not always collected) and as a family with a very low income can afford to build a shack and live in the typical *barriada*, the lower socio-economic limit is very low indeed. On the other hand, the *barriada* offers many opportunities to the small businessman, the (lower-echelon or exceptionally unpretentious) professional or, even, to the aspiring political leader. It therefore attracts a wide range of individual interests and, naturally, the wider the range of its members the better served the community and the greater the opportunities of those who most need them.

The freedom to budget one's own resources

The outstanding difference between the *barriada* and orthodox modern housing is between the ways in which they are built: the squatter—when his tenure is secure enough to risk investment in permanent structures—builds by stages, in accordance with his priorities and budget; the modern housing development is completed to 'minimum standards' at least, before it is occupied.

The traditional 'progressive development' procedure is essential for those with low and uncertain incomes who are using their property and environmental improvements as socio-economic boot-straps. Those who are constantly threatened with loss of income through unemployment or because they have no health insurance and little free medical care, must depend for their security on relatives or on home-ownership. A new, largely young immigrant population will have few relatives on whom to depend for food and shelter in time of need—both necessities are too scarce to share for more than very brief periods. The young low-income family obliged to spend one-third or more of their cash income on rent for a slum tenement in constantly increasing demand is extremely vulnerable: as the landlord can get a higher rent when his tenants change he will have little patience with those in arrears. Eviction in time of domestic crisis is a sure way of destroying a poor man's hope—without which he will never seek opportunities or progress. But if the family is the owner, or *de facto* possessor of their home, even if it is no more than a shack on a plot of undeveloped land, they have an excellent anchor for their hope. In time of need their cash expenditure can be reduced to a much lower minimum as they have no rent to pay; in addition to that vital advantage, the family (or the abandoned woman with children) can get income from their property by renting part (or attracting another man), by using it as a shop or workshop or, in the last resort, by selling it in order to move on to greener pastures. 'Property security' is a vital function of housing for the 'consolidating' masses in cities like Lima and it is eliminated by the 'instant development' procedure. The threat of foreclosure on the mortgage demanded by heavy, initial capital outlay can be an even greater one than that of eviction. The family can lose a good part of their savings as well as their home. The disadvantages so impressive from the point of view of the modern middle class—the necessity of living in provisional or incomplete structures and without all utilities for long periods—are small by comparison with the advantages. In addition to the incalculable value of securing their hope and sustaining their expectations through the steady improvement of their inalienable homes and local environment, the squatter families have far more space, light and fresh air than in the rented slum.

The freedom to shape one's own environment

Not only does the authoritarian 'instant development' procedure demand the mortgage of a life's savings but it also imposes a sudden and drastic change of space-use and of personal relationships, both within the family and with neighbours. Perhaps only a minority of such families can use a modern standard dwelling effectively, even when they are in great need of a home of their own. Their highest priority is for secure tenure, but it is

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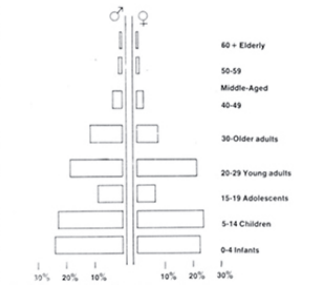
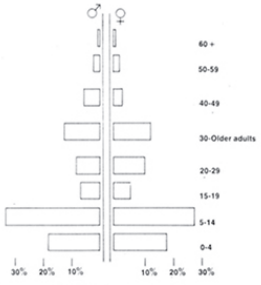
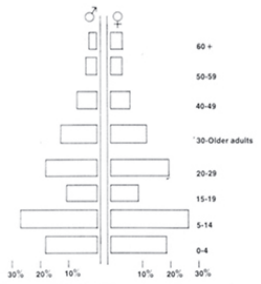
[1] A *barriada* is the Peruvian term for squatter settlement.



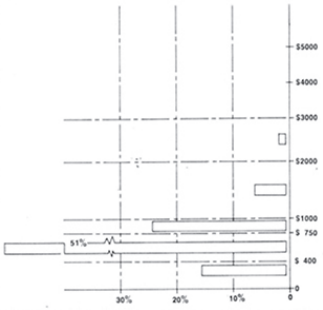
A1 Age-sex distribution: stage I
source: El Ermitaño, UNSM survey 1965



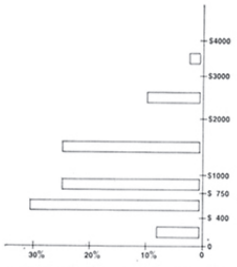
A2 Age-sex distribution: stage II
source: 'Manuel Prado' Arequipa J.N.V. 1963



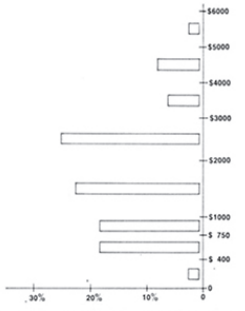
A3 Age-sex distribution: stage III
source: San Cosmé, Lima, J.N.V. 1964



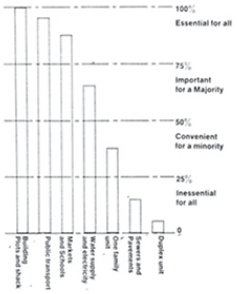
B1 Annual household income: stage I, average $680
source: El Ermitaño UNSM survey 1965



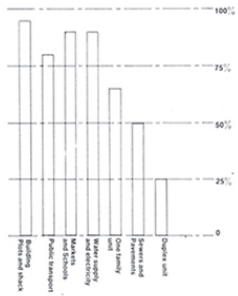
B2 Annual household income: stage II, average $1092
source: Pampa de Cueva survey, J.C.U.S. 1965



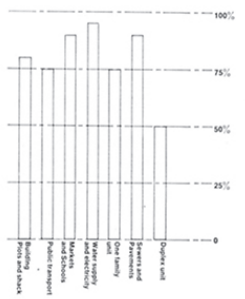
B3 Annual household income: stage III, average $1930
source: San Martin de Porres J.C.U.S. survey 1965



C1 Demand: stage I



C2 Demand: stage II



C3 Demand: stage III

D Schedule of barriada development at the three selected points in time (or stages)

	Stage I: at 1–2 years (incipient)	*Stage II:* at 4–5 years (developing)	*Stage III:* at 10–12 years (completing)
Land surface	20–30ft × 60–80ft *plots* allotted to each participant family on condition that it is permanently occupied by them *Sites* designated for anticipated community facilities; *public squares* serve as playfields, etc. *Streets* 30–60ft wide with rectangular grid varying between 150–250 × 250–300ft	No change	Some *subdivision of plots* in response to growing demand for rental accommodation and individual needs for capital and/or reduced space requirements as families shrink
Communications	Regular *omnibus services* are provided as soon as the land is occupied if, as is usual, the site is adjacent to an existing route; *communal taxis* (*colectivos*) often owned by residents provide additional service	No change	No change in transportation services (except for frequency with changing intensity of demand) *telephones* for public use are generally installed at this stage and, if the area is large enough, a *post office*
Community facilities	A local *market* and many small *stores* and *bars* are established at the time of occupation; *primary schools* are also organized and put into immediate operation (with volunteer or locally contracted teachers if necessary); a *chapel* or shrine is set up and neighbouring priests are invited to officiate	Commercial facilities are expanded and complemented by *artisan workshops* for domestic and building trades; TV sets with private generators provide local *cinema* services; a *parish centre* is often instituted providing many additional services: additional schooling, health, etc., as well as religious; locally instituted primary schools are adopted by the State and *additional schools* are provided; *medical treatment* will be provided by visiting doctors and dentists and a local *pharmacy* will be established	More specialized commercial facilities are established if the population is large enough—e.g. *commercial banks*, *specialized stores*, *cinemas*, *restaurants*, etc. Local workshops will develop into *small industries*, e.g. for the manufacture of furniture, delivery tricycles, etc. *Day nurseries* are often set up with outside agency help and *clinics* fully installed; all professional services will be available locally
Structures	Initially all structures are *provisional* but *starts* on permanent dwelling structures are made at the earliest possible moment in order to consolidate claims and invest savings before purchasing power diminishes	During the first years the *shell of a first floor* is generally completed enclosing an average of 1100sq. ft. of roofed space; permanent *school structures* are built during the first years	After about 10 years the ground floor *one-family unit is completed* and a (potentially independent) *second floor is started;* commercial and public buildings will be completed or built to modern standards
Public utilities	Initially *water* for domestic and construction use must be brought by lorry and sold by the 50-gallon drum (at about 1s. per drum); no other 'utility' is provided at this stage	Considerable and occasionally successful efforts are made at a relatively early stage to obtain *water mains* and *mains electricity;* more frequently water continues to be brought by lorry but local electric generators are set up to supply immediate neighbours	*Water mains*, *mains electricity*, *sewers* and the *surfacing of main roads* may be completed during this period

The essential lesson that I learned through long association with *barriada*-builders was how to distinguish between the architecture of *moulds* and the architecture of *systems*. Because the architecture of the *barriada* is based on a system it can respond to changing demands and it places itself in the hands of the user—it is a vehicle that he can drive in many alternative and unforeseeable directions. This cannot be said for the superficially sophisticated project which governments sponsor with vain intent of eradicating *barriadas*.

Charts A1, A2 and A3 show one aspect of the social change that takes place: the *barriada* is established by young families with a high proportion of very young children; after passing through an intermediate stage when the ratio of infants has dropped and the average age of the adults has risen, the local population structure is similar to that of the city as a whole. After 10 or 15 years, the *barriada* population is spread across the generations and is balanced between the sexes in the pattern typical of cities in rapidly urbanizing countries. These demographic changes, together with the changes of household structure, translate into changing demands for schools, health services, transportation and so on, as well as for the volume and organization of domestic living space.

Charts B1, B2 and B3 show the changes of income and income distribution that commonly occurs during the *barriada* development period. Very young families who establish the *barriada* have low or very low incomes; they are upwardly mobile, however, and their incomes increase substantially over time—if the three different cases of the same type of settlement (at three stages of development) are as representative as I believe, the average household income trebles during the most rapid development period. As the majority of the permanently resident families enjoy rising incomes, the socio-economic spread or heterogeneity of the population increases, along with the density, intensity and diversity of activities.

Charts C1, C2 and C3 show the changing demand and, by inference, the changing priorities for the basic components of the physical environment. Each column on the charts represents the percentage of the population, at each stage, that both demands and has the material means to obtain or to use the component. A study of the incomes and family structure of the incipient *barriada* in the context of Lima (which, for instance, has a very mild climate and virtually no rainfall) soon leads to the conclusion that the highest priorities are for building land, transportation and local community facilities—all of which are cheap and all of which are essential for the low-income family moving from an inner-city, rented slum to a peripheral *barriada*. With these components, the family can live, and generally much better than in the worst kind of slum, erecting a provisional shack and buying water delivered by lorry. A decade later, however, the vast majority can afford the full complement of modern utilities; the increased density also makes their installation necessary, just as increased income levels and status heighten the demand. It takes the average family at least 10 years to complete the ground-floor, first stage of their house and it is only when the structure is well advanced that the full complement of installations is required. The demand for rental accommodation grows, at the expense of owner-occupier properties, as the area diversifies and as land values increase. Opportunities for local employment will also increase, especially for those with very low incomes who cannot afford to build or own a property at the level achieved and who, therefore, demand rental accommodation. This demand is met by original settlers seeking secondary sources of income who sub-divide and sub-let their property in part. Although this process often results in slums that really are a health menace, there is no intrinsic reason why this should be so; sensibly regulated, it provides an economic and socially viable answer to an acute problem.

The schedule of actual development (Chart D) is self-explanatory and confirms the environmental 'fit' or 'response' of the progressively developing *barriada*. It is not a perfect fit, of course, either socially or economically and however enthusiastic one may be over the qualities emphasized in this article, the architectural form of the planned *barriadas* leaves much to be desired.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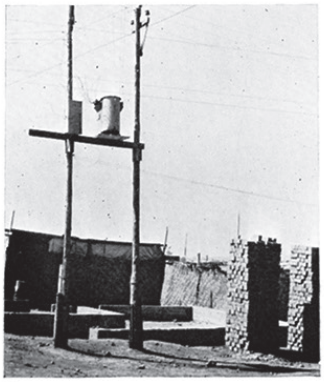
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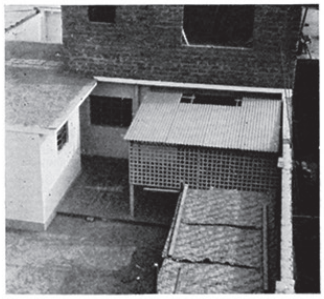
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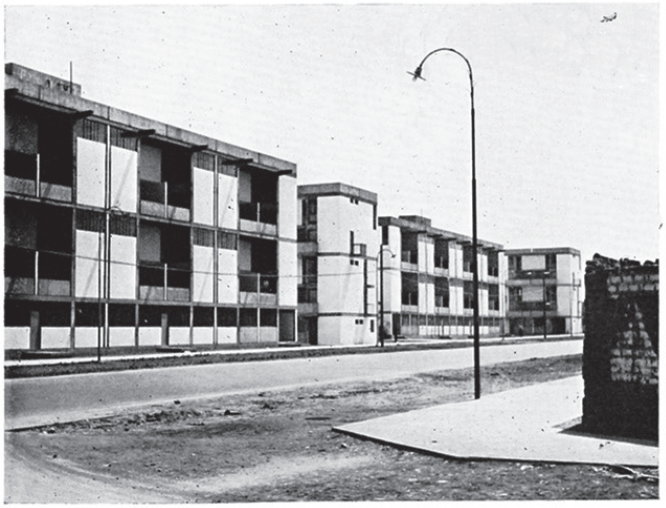
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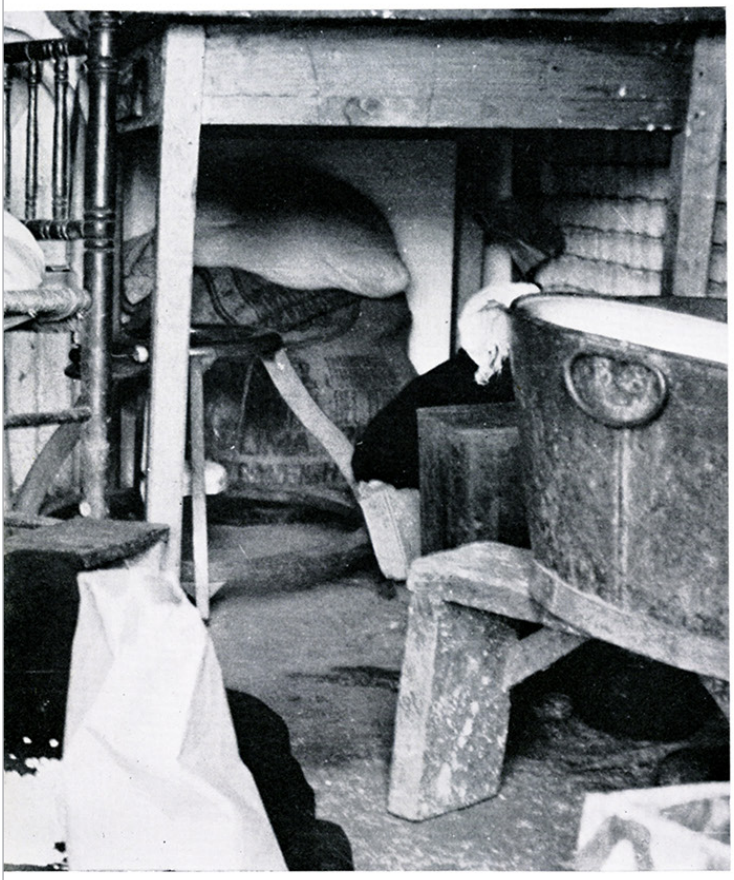

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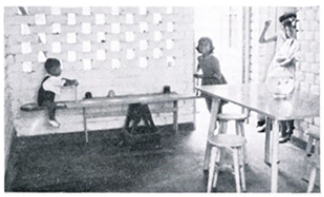

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1 Initial *barriada*, Señor de los Milagros, 1959

2 Initial development, permanent construction has started and electric light and power has been installed (an enterprise that failed here), Pampa de Cueva, 1963

3 Secondary and tertiary development, San Martin de Porres, 1963

4, 5 Housing, San Martin de Porres, 1963

6 Government subsidized housing for skilled workers and low-income white-collar employees, Lima, 1965

7 A new arrival prepares food in her rented, all-purpose room, 1961

8 An acculturated migrant in her kitchen, 1961

9 A newly established *barriada* with a primary school in the foreground, Pampa El Angel, 1963

10 A multi-storey *callejón*, an alternative for those who can afford it. Many flats have windows only onto the well. 1963

11 A children's playspace in a finished house, 1961

12 Families and friends building with the help of specialized labour for skilled operations, Arequipa, 1958

13 *Callejones*, rented tenements where the majority of the population live if they cannot move to a *barriada*, 1963

Photos: J. Turner 2–6, 9, 10, 12, 13; *Raul Becerra* 7, 8, 11

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unlikely to be for plastered masonry walls and ceilings, let alone for modern kitchenettes and w.c.s. These are extremely costly items and, unless furnished properly, their naked dinginess is often alien and unattractive while the honestly poor shack is often personal and warm. The most important architectural advantage of the squatters' procedure is the consequent adaptability of space and structures to the changing needs and behaviour patterns of the family. Over one generation of a family the changes can be immense: a young couple can have had a dozen children and the household can have expanded into an extended family with 15 or 20 members (with the arrival of grandparents and sundry relatives) and it can have shrunk again to an ageing couple living alone or with an unmarried child or two. In the same period the family's life-style can have changed from that of the semi-peasant to that of the modern urban middle or lower-middle class. The typical *barriada* house starts as a shack or as a group of shacks and ends up as a two- or even three-storey house—often subdivided into several separate dwellings occupied by the original squatters' children or rented in order to provide the owners with an income in their old age. The ground floor is often used as a shop or workshop (7 per cent of the houses in Pampa de Cueva were used in these ways five years after its establishment). This freedom to manipulate one's own living space is extended to the community as a whole: it is the local association that generally decides on the number of schools, open spaces, markets and so on. Local community associations work hard to establish all kinds of facilities and services, from primary schools to sewer systems, but they often fail, mainly through lack of the administrative know-how and credit assistance which their governments should be providing them with instead of uneconomic and inflexible housing projects.

That the mass of the urban poor in cities like Lima are able to seek and find improvement through home-ownership (or *de facto* possession) when they are still very poor by modern standards is certainly the main reason for their optimism. If they were trapped in the inner cities, like so many of the North American poor, they too would be burning instead of building. The mass-designed, mass-produced environments for an increasingly homogenized market of mass-consumers are no more than assemblies of material goods devoid of existential meaning. They are not the product of dialogue. Decisions are made for a producer's market by those themselves bound by highly institutionalized norms and procedures. The occupant buys or rents a ready-made unit in much the same way as he gets his motor car or TV set—and if it is a flat or in a tightly controlled subdivision, he can do little more with his house than he can with the other manufactured 'goods' essential for his way of life. The intense dialogue that takes place between squatters planning an invasion, and the continuing dialogue of its development and administration are, with rare exceptions, totally lacking in the modern housing process. □