

Converted flats? Converted houses?

A study on the transformation of Brazilian housing estates

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0 Abstract

This paper presents the preliminary results of an investigation conducted on public housing complexes on the outskirts of Recife's Metropolitan Region. The investigation draws attention to the nature of inhabitants' interventions in buildings and public spaces, beyond governmental control or professional assistance. These interventions have been dramatically changing these housing complexes, transforming classic architectural types (the house and the apartment) into unpredictable and indescribable objects and challenging the current professional taxonomy. This paper addresses these changes by describing, from a typological point of view, the housing units and the urban setting.

1 Explicit design norms and rules; implicit user's code and convention

There are two different processes governing the genesis of form in built environment. First, a set of normative rules, acting as design tools, expresses ideas of how form, space organisation and space use should be. Second, implicit users' codes and convention represent knowledge of how form, space organisation and space use has been constructed.

Congruence and confluence are to be found between these two poles. Congruence reveals the traditional view of harmony of one thing to its ends, expressing timeless qualities, which form the ways of doing, being and becoming. As stated by Johnson (1994: 25), 'it has to do with agreement, accord, conformity'. Confluence, on the other hand, translates the experimental view - unplanned qualities informing the moment. Domestic space organisation seems to be part of this bi-faceted form generation process, established between very precise and harmonic taxonomies, part of the professional knowledge, and inhabitants needs and expectations, constantly reified by day-to-day life.

Houses and flats are expressions of this professional taxonomy. As buildings for domestic use, they are differentiated for few, but fundamental properties. Houses, being detached, semi-detached or terraced, with one or many storeys, being large or small, present a unique property that unifies all houses' phenotypes: a direct access to the street. This property defines a clear boundary between public and private domains. A flat, or apartment house, however, is characterised by the aggregation of individual units forming a communal structure, which shares spaces for access and common facilities. Access to flats is mediated by a sequence of semi-public spaces that generates a subtle isolation between public and private domains.

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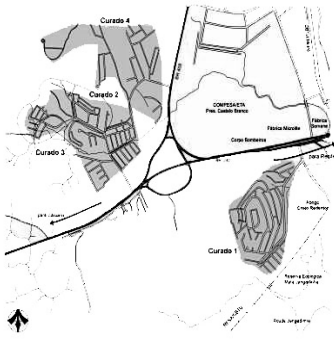


Figure 1. Curado housing complex

From the point of view of their spatial composition, houses and flats are also different. The need to aggregate a certain number of domestic units in a single building increases the level of geometric constraints. Consequently, the field of possible space aggregation in a block of flats is significantly reduced, when compared to a generic house form. As it is known that every spatial system carries both the principles of space aggregation and space transformation, it is supposed that a block of flats is less changeable than is an individual house. The transformation process imposed by inhabitants to the original housing structure, however, shows that this is not always true, mainly when some rules of communal living are not taken into account. It also challenges professional congruence in its roots, because it often takes an opposite direction of the explicit regulatory factors that influence both, the design and the use of the built environment. In fact, this transformation process reverses some priorities of professional design, emphasising individual desires, or a particular spatial culture.

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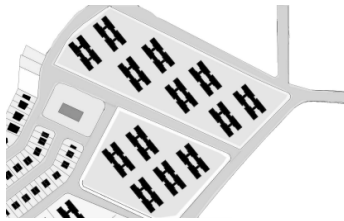


Figure 2. Curado 3 - original urban plan

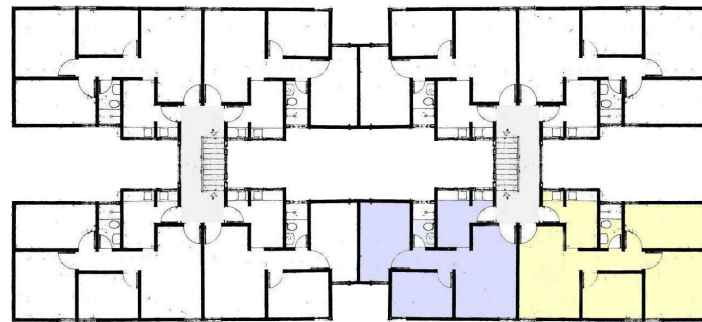


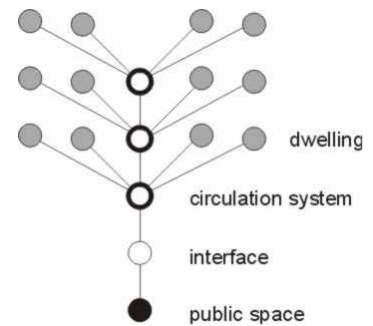
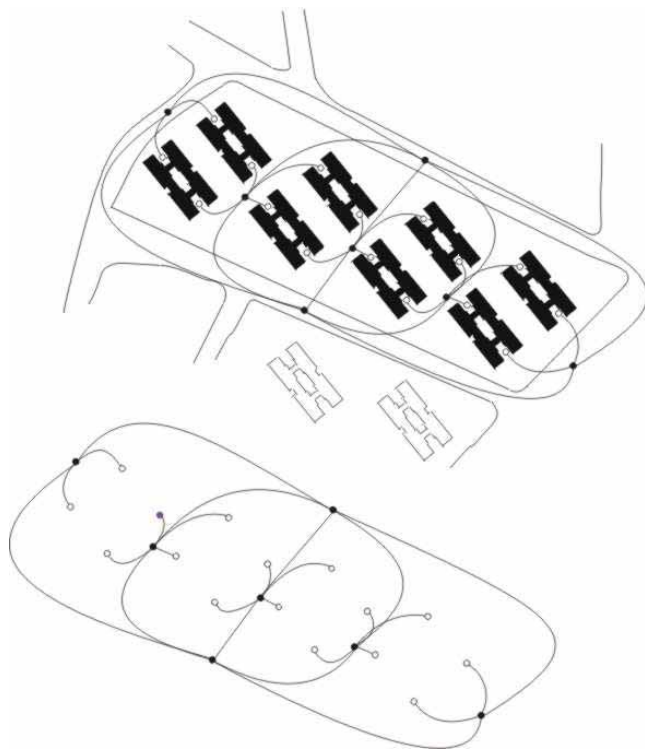
Figure3 (right). Apartment block - original plan

2 Professional versus inhabitants' design – reversed priorities

The design of social housing complex in Brazil was strongly influenced by modernist ideas until the late 80's. They are synthesised by free-standing apartment buildings displayed in continuous open spaces, without delimitation, being it physical or legal, or even symbolic, between traditional urban polarities, such as that are private and public, front and back.

Curado housing complex (figures 1 and 2), built on the outskirts of Recife in the 70's, is a typical exemplar of the Brazilian housing program (Amorim & Loureiro, 2000). The apartment buildings are 3 or 4 storey high, arranged in an H-shape, apparently designed to maximise wind incidence and sun protection. Each block is symmetrically composed of four housing units with two and three bedrooms. Apart from the number of bedrooms, they share the same number of rooms (living/dining, BWC, kitchen and service) and the same spaces for access and circulation - a system that includes entrance halls, staircases and landings (figure 3).

The designed proposal has two main features. At the urban level, this building arrangement does not generate a pattern of hierarchical movement and access. Few thresholds build the interface between public and private domains, as housing access is always placed one step inside the continuous open block. Consequently, the streets, which lead to each housing quarter, are either poorly constituted or even unconstituted. The disjunction between public and private domains is illustrated in figure 4, which shows a typical interface map of one of Curado's blocks, where dark dots represent the constituted public spaces and white ones, the threshold between public and private domains.



**Figure 4 (left). Inter-
face map - original plan**

**Figure 5 (above). Sim-
plified model of the
designed building**

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At the buildings' level, access from the street is mediated by a set of communal spaces, generating a hierarchical movement pattern, encompassing various control levels. The graph in figure 5 shows a simplified model of the space organisation of the designed building. Clear boundaries are expressed by the sequence of steps necessary to reach the flats.

The designed proposal soon showed its failures. Urban openness has created conflicts. The ideal modernist continuous urban space, locus of sociability and integration with nature, turned into a no-man's land, as inhabitants' control over it is none. The residential unit, apparently, did not fulfil the inhabitants' needs for privacy, control and identity. Conflicts between neighbours were frequent. In a certain way, the communal access and circulation areas also became a no-man's territory. The absence of a clear policy of urban control, even though these housing estates are regulated by specific legislation, allowed inhabitants to subvert the original urban and building form and space configuration. Nonetheless, the inhabitants' intervention reveals another manner of ordering space use.

Lawrence (1997) suggests that binary oppositions, which are simultaneously spatial, functional, social and psychological, govern domestic activities and space use. The interventions observed in these estates reveal profound changes in fundamental polar oppositions, mainly front-back and public-private, expressed at both urban and housing levels.

At the urban level, public space is systematically privatised with the introduction of physical boundaries, which redefine public and private domains by creating direct access from the street to some flats. The local effect of these changes is the increase in the number of constitutions per street or alley. Globally, the former non-hierarchical urban space acquires hierarchy and a strong level of definition. The modernist model is transformed into a more structured system of passages, alleys and courts. Figure 6 illustrates an on-going transformation process, as observed in one of Curado's blocks.

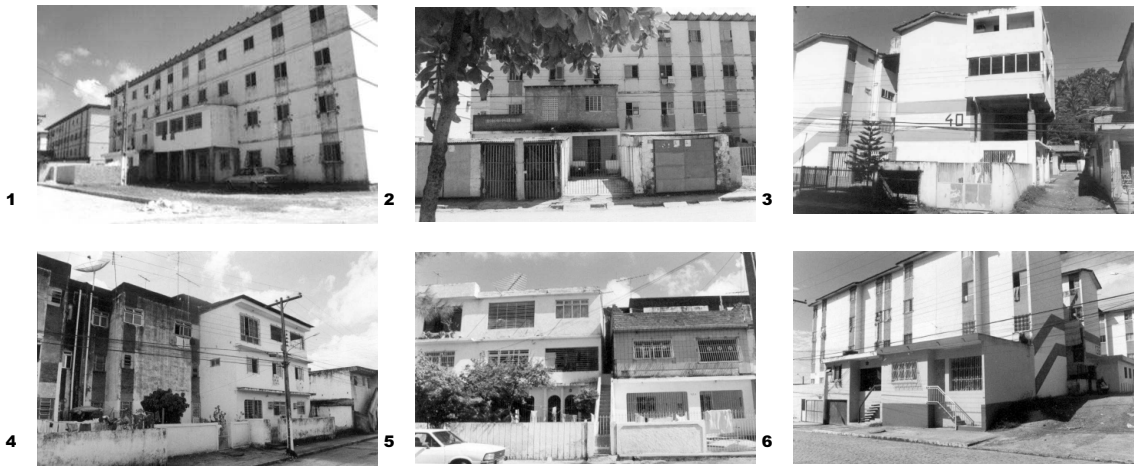
At the housing unit level, the transformation is even more radical, as seen in the illustrative example in figure 7. The first, and perhaps, the most striking of these changes concerns the internal surface of the residential unit - it may double the original area. This enlargement



**Figure 6 (above).
Curado 3 - converted
blocks**

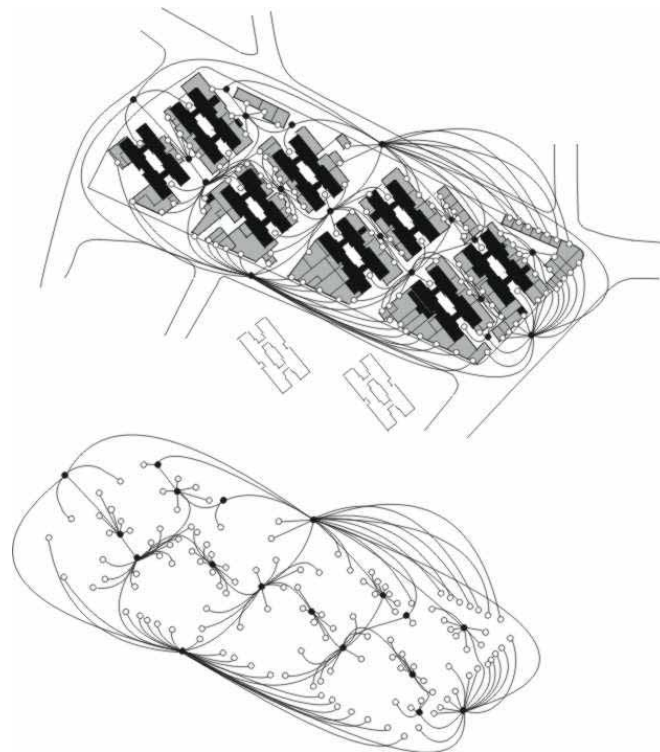
**Figure 7. Converted
apartment block**

**Pictures 1 to 6.
Recife's housing
estates - converted
apartment blocks**



of the flat's surface is achieved by extending the floor slab beyond the original shape (limit/edges?), irrespective of storey, and by knocking down the interior partitions and exterior walls (see pictures 1 to 6). As a consequence of this process, unplanned spaces, as terrace, porch and service areas, are introduced (on the ground floor), as well as some original rooms are enlarged.

The second type of intervention concerns the access from the street. New individual accesses are created, again, irrespective of the storey where the units are located, frequently disregarding the common entrance of the original building. Front setbacks and private dwelling entrances establish a direct relation residence-street, through exterior flight of stairs (picture 5), on top floors, and front yards, on ground floor units (picture 2). Parallel to these two scales of intervention, it is not surprising that diverse architectural elements such as win-



**Figure 8. Interface
map - converted
blocks**

dows, doors and railings are introduced, giving a lively, but sometimes disordered, appearance to these buildings. Different shapes, colours, materials, and finishing give individuality to each residential unit.

3 Understanding conversions

The inhabitants' design has some effects that are worth discussing. The first concerns the interface between public and private domains. Figure 8 shows the interface map of the converted area. As it can be seen, the number of thresholds and constituted spaces increases dramatically, generating a complex network of global and local relations, similar to those found in traditional urban settlements.

The profound effect of these changes can be demonstrated by comparing the properties of accessibility of an isolated block, before and after conversion (figure 9). The design proposal shows a certain number of shallow lines intensively crossing the interior of the urban block, illustrating how exposed to a global movement pattern it is (Hillier, 1996). This clearly states the lack of hierarchy between street pattern and residential area.

The modified situation reveals a diverse spatial pattern - shallow lines are at the periphery of the block, suggesting that an intense pedestrian movement occur outside the residential area. Through movement is, therefore, substituted by peripheral movement. With this fundamental change, a gradient of privacy and hierarchy is created, defining a global-to-local movement pattern: the peripheral movement incorporates estate's inhabitants and visitors, whereas the in-movement conveys the inhabitants of the block. The space for each one of these actors is now well defined, and reminds us of the underlying polarities found in traditional urban structure, which is expressed by the binary opposition enclosed-open, front-back and public-private.

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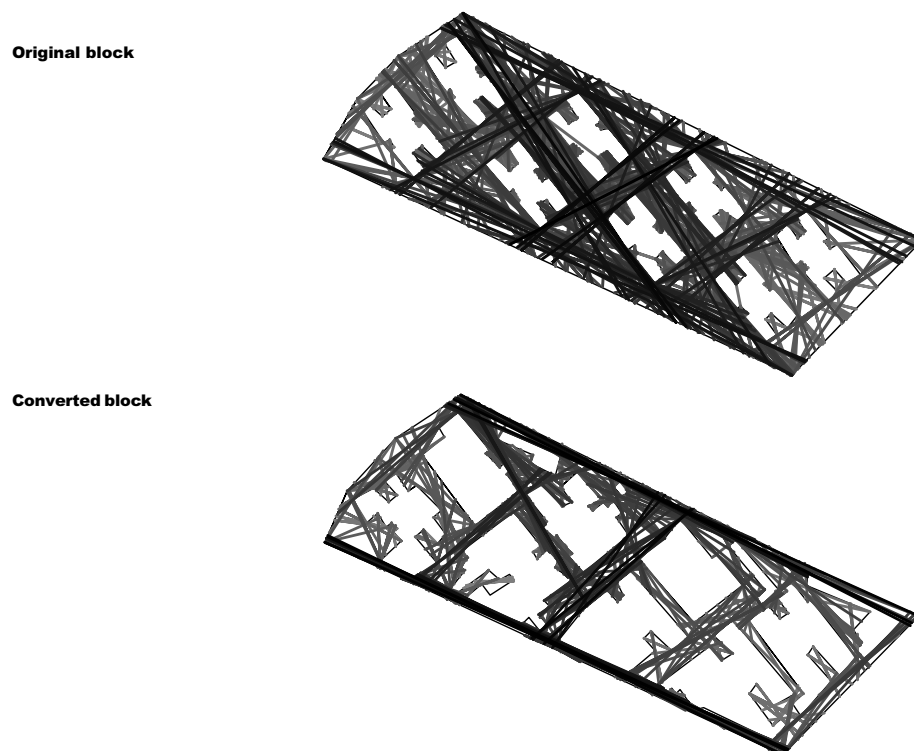


Figure 9. All axial map of one of Curado's blocks

The theoretical model in figure 10 can morphologically describe the conversion process established by residents. The illustration suggests how the multiple aggregation process occurs, from the periphery of each H-shape building, towards the open public space, and its effect on transferring main lines of movement from the interior of the block to its periphery.

The transformation of residential units can also be theoretically described (figure 11). The original deep and segregated model (see figure 5) is restructured to assume a shallower form, with a significant increase of 'interface space' connectivity to the public realm. The first follows Hillier and Hanson's no-neighbours model (Hillier&Hanson, 1984), whereas the second maximises neighbours' interface.

4 Conclusion

The changes described here are recurrent all over Recife's Metropolitan Region and, indeed, in most of Brazilian public housing estates. They reveal clear differences between professional expertise and dwellers knowledge on ordering domestic activities in space. Underlying these approaches are two different manners of understanding the relationship between spatial properties and social attributes that govern space configuration and space use. In other words, the Curado's changing process expresses two different forms of managing the properties of permeability, which refers to the control over accessibility, and visibility, which refers to the property of co-awareness. The changes described here are emblematic to show that normative sets of rules used by designers, to a certain extent, do not fit the nature of the inhabitants' spatial culture. They also reaffirm the intrinsic paradox between space use and space form: whereas use is volatile, form is, to a certain extent, static. The inhabitants of Curado solved this paradox by subverting form.

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