

The Mystery of the Social Sector

Discussing old and emerging spatial structures in Brazilian contemporary homes

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Abstract

This paper addresses the question of change, continuity and adaptation of spatial patterns in contemporary Brazilian housing. It seeks to discuss some nouveau tendencies in domestic space design that appear contradictory in themselves and especially when confronted with the presence of pervasive patterns some of which dating from nineteenth century colonial Brazil. Homes from different regions of Brazil were investigated through a combination of space syntax techniques, open interviews with residents and client briefings, following the authors' distinct lines of research and design practice. Findings point towards transformations that bear parallels with reported international tendencies, thus signaling the emergence of new types of household composition and ways of life, alongside some deeply rooted socio-cultural inheritances. Although still uncertain whether the studied cases represent the last chapter of an old novel or the dawn of post-modern homes 'made in Brazil', the study attempts to demonstrate that various assumptions concerning domestic space functions (some of which still taught - and cherished - at architectural schools) have become history.

The Problem

This paper follows the acknowledgement of common aspects in domestic space organization identified in the rather diverse cases with which the authors have been dealing in two regions of Brazil - Southeast and Northeast - commonly associated with the cosmopolitan and the provincial sides of the country. Those cases are: (1) houses built from the fifties through the seventies in Natal, Northeast of Brazil; (2) dwellings of varying types and time periods currently inhabited by residents who do not conform to the parents-plus-children household in Natal; and (3) houses and flats built or converted in the nineties, in or around Rio de Janeiro and Sao Paulo in the Southeast.

Cases (1) come from a database on the *modernist* architecture of Natal that is being produced as coursework, research and training activities at UFRN (Trigueiro, 1999; Trigueiro e Marques, 1998). Cases (2) come from the research 'Novas formas de morar' (new ways of living) that focus on emerging *alternative* dwelling habits (Marques, 1999). Cases (3) come from the *contemporary* design practice of an architect operating in the Rio-Sao Paulo circuit.

The layout organization and spatial structure of ten modernist plans (1) and of ten newly designed/converted plans (3) were examined through the application of syntactic analysis; results were fine tuned by the contents of the design briefing in the latter, so that syntactic findings were seen in the light of information about how residents intended to use key spaces. Graph representation (*access graphs*) and numerical measurements (*integration values*)

Keywords:

Domestic space, change and continuity, contemporary living

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were the basic syntactic analysis tool used to explore the way essential functions relate to one another and to all others in the studied cases, that is, to search for *inequality genotypes* in domestic space as defined by Hillier & Hanson (1984:12).

Instead of searching for socio-cultural evidences by scrutinizing the artifact, the researcher chose to tread a contrary path - from society to building - in the ongoing study 'Novas Formas de Morar'. In this research, dwelling plans are selected according to the dwellers' status. Conditions associated with the post-modernity, as extensively referred in the literature, are privileged: single dwellers, flat/house sharing mates, restructured families, single parent families, home-based working inhabitants are instances of people whose homes are being investigated.

Empirical observations and open interviews were applied to identify conspicuous or inconspicuous space structuring that may indicate transformations regarding previous arrangements in thirty-six alternative households (2). Activities that take place in each of the dwelling spaces were recorded in schematic plans and in synoptic tables.

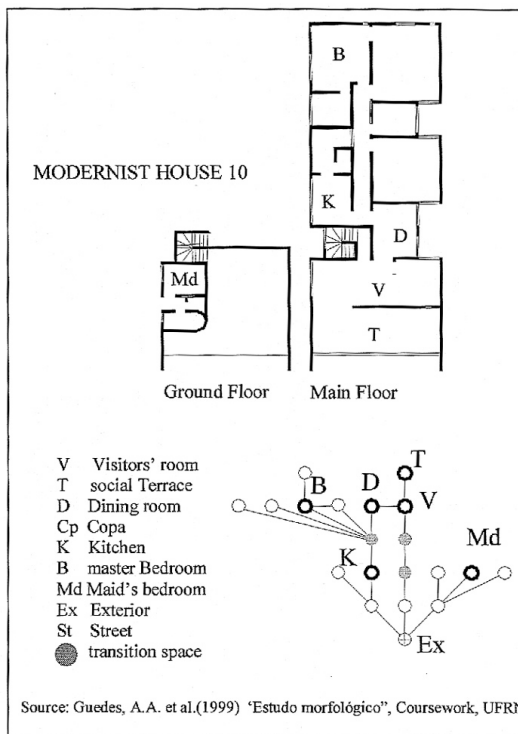
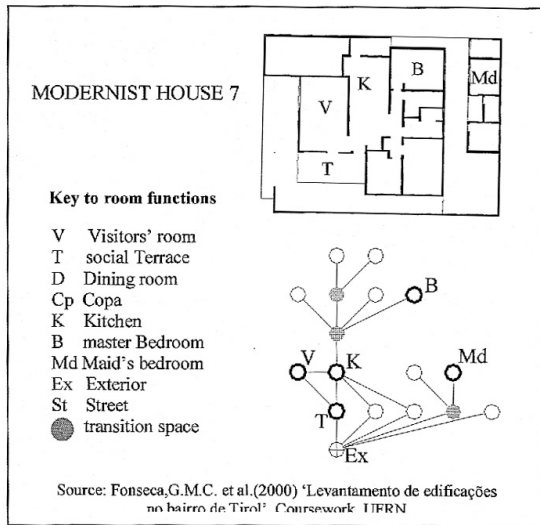
Innovations and permanencies were revealed by means of different approaches. Syntactic tendencies were examined by various comparative procedures: (a) modernist to newly built/converted plans; (b) unconverted to converted plans; (c) modernist-plus-unconverted to converted-plus-new plans. Designed function of key spaces, as labeled in the plans, to the patterns of use that take place in those spaces, as declared by residents, in converted/new plans and alternative household dwellings. By comparing syntactic and non-syntactic findings generated from the procedures above to results from previous studies of pre-modernist

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Table 1: General and syntactic data from modernist houses in Natal and from converted, unconverted and newly built dwellings in the Southeast

cases	no.sp	funct	trans.	t/f	mean	mn.Int	mx.Int	Dining	meals	Vis	MstB	Maid's	Kitch	Ext	Int.Ord
Mod1	27.00	14.00	8.00	0.57	1.08	0.51	1.52	0.72	•	0.58	1.49	1.25	1.06	0.75	V>D>Ex>K>Md>M
Mod1	27.00	14.00	8.00	0.57	1.08	0.51	1.52	0.72	•	0.58	1.49	1.25	1.06	0.75	V>D>Ex>K>Md>M
Mod2	9.00	6.00	1.00	0.17	1.05	0.45	1.47	•	•	0.79	1.24	•	0.79	1.47	V>K>B>Ex
Mod3	27.00	13.00	7.00	0.54	1.35	0.79	1.99	1.06	•	0.93	1.59	1.91	1.03	1.17	V>K>D>Ex>B>Md
Mod4	12.00	7.00	3.00	0.43	1.20	0.64	1.53	0.77	•	0.64	1.53	•	1.53	1.02	V>D>Ex>K=M
Mod5	23.00	12.00	6.00	0.50	1.23	0.77	1.90	0.77	•	1.08	1.39	1.90	0.87	0.87	D>K=Ex>V>B>Md
Mod6	10.00	8.00	0.00	0.00	1.00	0.46	1.46	0.46	•	0.55	1.27	•	1.18	1.00	D>V>Ex>K>M
Mod7	30.00	16.00	8.00	0.50	1.31	0.89	2.19	1.02	0.89	1.01	1.14	2.19	0.99	1.05	ml>K>V>D>Ex>B>Md
Mod8	25.00	12.00	5.00	0.42	1.14	0.58	1.85	0.58	•	0.96	1.43	1.56	0.74	1.14	D>K>V>Ex>B>Md
Mod9	26.00	17.00	4.00	0.24	1.43	0.85	2.14	1.23	•	0.92	1.70	1.26	1.28	0.85	Ex>V>D>Md>K>M
Mod10	20.00	11.00	4.00	0.36	1.28	0.83	1.72	1.06	•	1.20	1.22	1.72	0.86	0.94	K>Ex>D>V>B>Md
Uncv1	13.00	7.00	1.00	0.14	1.35	0.71	2.37	0.71	•	1.21	1.27	1.76	0.88	1.38	D>K>V>Ex>B>Md
Conv1	13.00	7.00	1.00	0.14	1.32	0.71	2.37	0.71	0.71	1.21	1.27	1.76	0.88	1.38	ml>D>K>V>B>Ex>Md
Uncv2	16.00	9.00	2.00	0.22	1.58	0.99	2.58	1.14	•	0.99	1.59	2.12	2.05	1.14	V>Ex=D>B>K>Md
Conv2	15.00	8.00	2.00	0.25	1.78	1.15	3.02	1.40	1.40	1.19	1.74	2.46	1.61	1.40	V>Ex=ml=D>K>B>Md
Uncv3	16.00	9.00	1.00	0.11	1.30	0.76	1.97	0.99	•	1.14	1.52	1.97	1.06	1.29	D>K>V>Ex>B>Md
Conv3	16.00	8.00	3.00	0.38	1.50	0.89	2.49	1.02	0.89	1.02	1.54	2.05	0.99	1.57	ml>K>D=V>Ex>B>Md
Uncv4	8.00	5.00	1.00	0.20	1.02	0.44	1.60	0.72	•	0.44	1.02	•	1.60	1.30	V>D>B>Md>K
Conv4	8.00	5.00	1.00	0.20	1.02	0.44	1.60	0.72	0.72	0.44	1.02	•	1.60	1.30	V>ml=D>B>Ex>K
Uncv5	13.00	6.00	2.00	0.33	1.28	0.66	1.98	0.88	•	1.38	1.10	•	1.98	1.49	D>B>V>Ex>K
Conv5	14.00	8.00	2.00	0.25	1.11	0.63	1.63	0.63	0.63	1.06	1.35	•	1.63	1.39	ml>D>V>B>Ex>K
New6	21.00	12.00	3.00	0.25	1.16	0.74	1.99	0.74	•	1.37	0.98	1.53	1.01	0.89	D>Ex>B>K>V>Md
New7	16.00	14.00	3.00	0.21	1.40	0.80	2.09	1.04	0.80	1.41	1.31	1.51	0.97	1.58	ml>K>D>B>V>Md>Ex
Uncv9	24.00	12.00	1.00	0.08	1.34	0.73	2.16	0.73	•	1.16	1.35	1.74	1.00	1.39	D>K>V>Ex>B>Md
Conv9A	31.00	14.00	2.00	0.14	1.58	0.96	2.41	0.96	1.36	1.32	1.63	2.03	1.36	1.62	D>V>ml=K>Ex>B>Md
New10	15.00	8.00	1.00	0.13	1.20	0.59	1.74	0.94	0.94	1.19	1.19	1.70	0.77	1.11	K>ml>D>Ex>V>B>Md
New12	50.00	24.00	1.00	0.04	1.24	0.65	1.74	0.96	0.96	1.00	1.14	1.74	1.21	0.97	ml>D>Ex>V>B>K>Md

Mod - Modernist House Plan; Uncv - House; Flat Plan before conversion ; Conv - Converted Plan; New - Newly Built House/Flat



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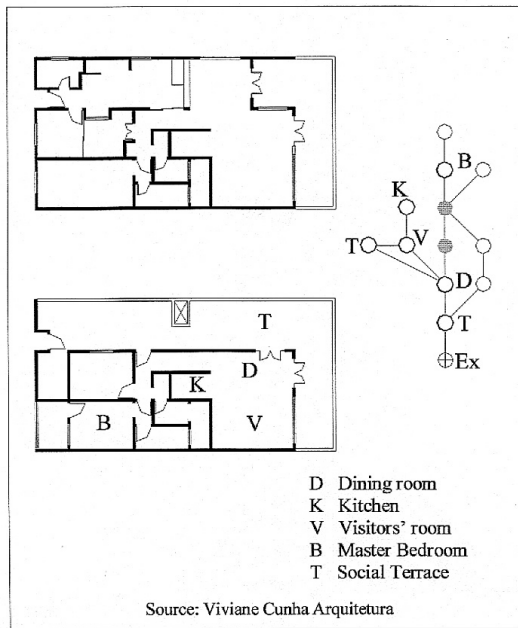
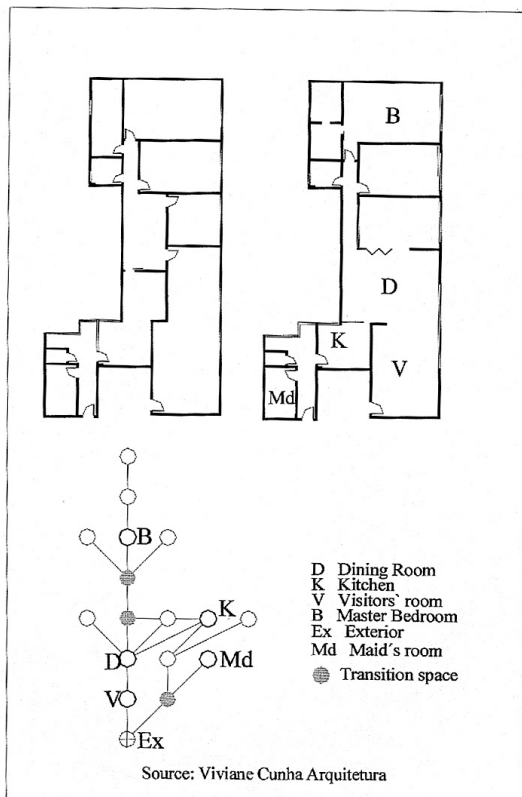


Figure 1a. Top Left. Plan and access graph of a modernist houses in Natal (case Mod7)

Figure 1b: Top Right. Plan and access graph of a modernist houses in Natal (case Mod10)

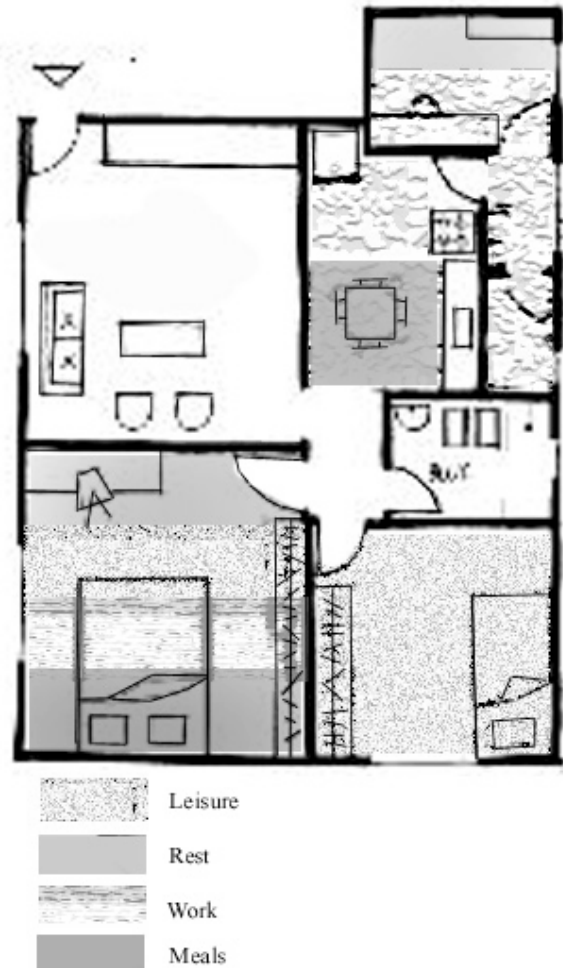
Figure 2a: Bottom Left. Plans and access graph of a converted flat in Niterói, Rio de Janeiro (cases Unconv3 and Conv3)

Figure 2b: Plans and access. Bottom Right. Graph of a converted house in Bizios, Rio de Janeiro (cases Unconv5 and Conv5)

ENTREVISTA	Chefia	número	Tipo	Cômodos	Usos / equipamentos dos cômodos	Reformas	LEGENDA DOS SÍMBOLOS
Ana Maria				3 2wc..... 2 1 1cz 2 1 varanda..... 1lav..... 1Dep. Emp.	 microondas, máquina de lavar louça máquina de lavar	De uso - uma das salas de estar é usada como estudo pois comporta o computador. Obs. - possui empregada doméstica e lavadeira	LEGENDA DOS SÍMBOLOS - Mora em apartamento - Mora em casa - Significa casamento, casal - Significa clo familiar - Homem - Mulher - Filho / Menino - Filha / Menina - Garagem / carros - Vídeo - cassette - Som - Televisão - Computador - Quarto / Cama - Sala de estar / sofá - Sala de Jantar / mesa de jantar - Significa que o ambiente é pouco ou não usado
Eugênio				2 1 suite..... 1 biblioteca..... 2wc..... 1 1 1cz 1 2 1 terraço..... 1lav..... 1Dep. Emp.	 microondas máquina de lavar	Obs. - possui empregado doméstico	
Marizo				2 1wc..... 1 1 1cz 1 1 varanda..... 1lav..... 1Dep. Emp.	 lanque	De uso - transformou a dependência do empregada em escritório. O wc de empregada em depósito.	

Table 2: Synoptic data from alternative households in Natal, with key information about household composition and a detailed record of daily activities developed in each space

Figure 3: Plan of a one-person-household flat in Natal with recorded activities



Source: Marques, S. Novas Formas de Morar em Natal, ongoing research, 2000

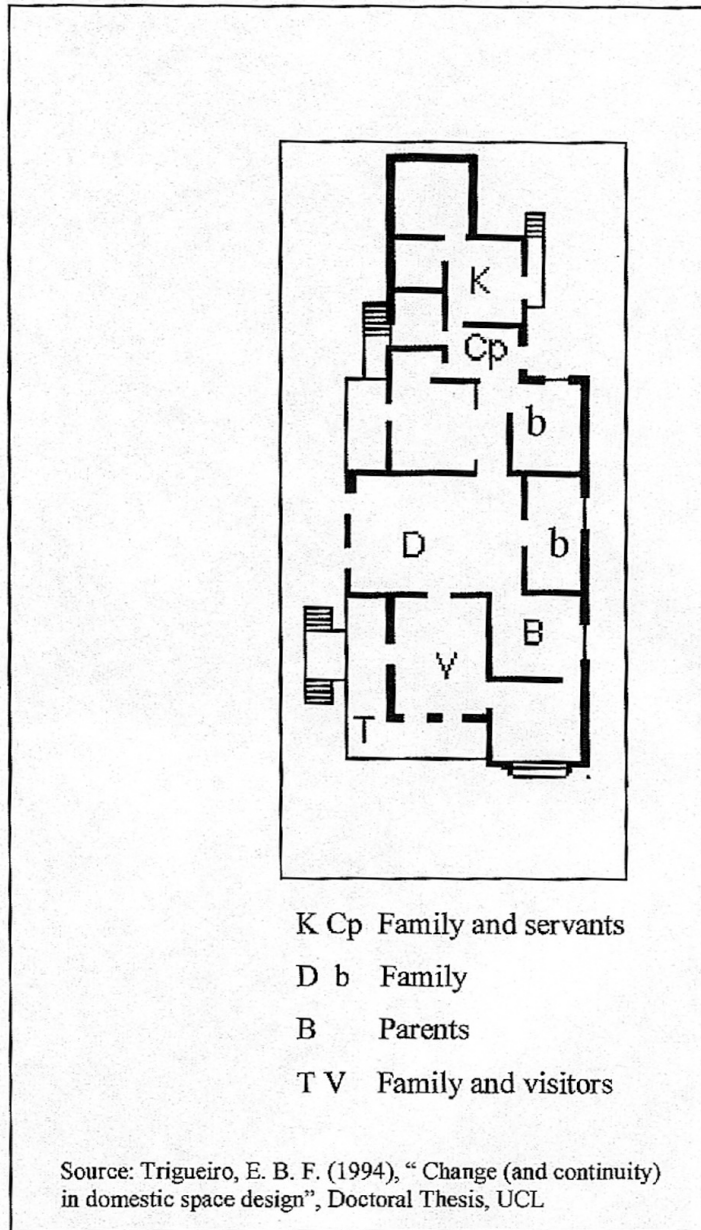
homes. The identification of well-established patterns alongside tendencies that appear to be new genotypes in the making is followed by a tentative discussion of their implications in terms of changing contemporary ways of domestic life.

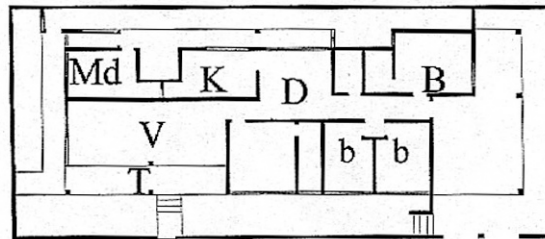
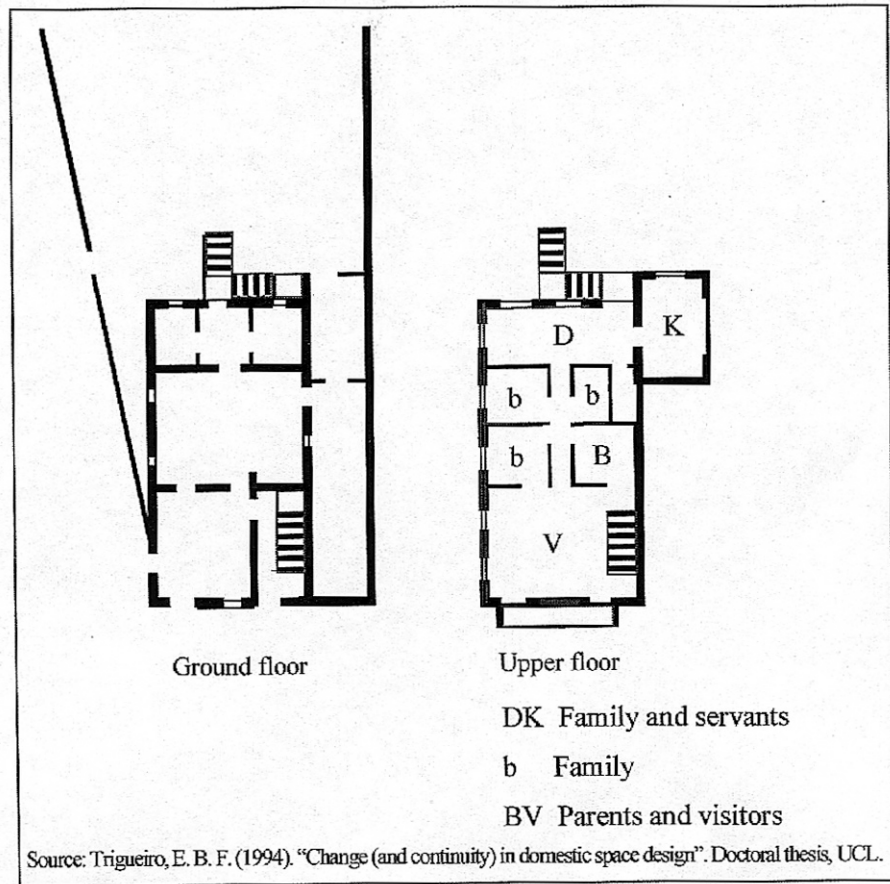
On Brazilian homes of old and new

A brief account on the morphological nature and development of Brazilian homes as referred in the literature and as investigated in previous studies by the authors of this paper was thought helpful to set up a framework for the issues discussed here.

Three layout types associate with certain built shells that, albeit not exhausting the repertoire available at each period, represent colonial, eclectic and modernist dwellings in most Brazilian towns. The front room, *alcoves-plus-corridors core, back room-plus-kitchen* layout of one-volume, side-gabled terraced houses (figure 4) has conquered archetypal status in historiography as they dominated the built environment up to the last quarter of the nineteenth century and still function as landmarks for older town cores. The front-core-back arrangement associates, respectively, with day-night-day activities and with modes of interface between inhabitants and visitors (mainly males) in the front, inhabitants and inhabitants in the core, and inhabitants and servants (mainly females) in the back.

Late nineteenth/early twentieth century eclectic houses present multi-volumed highly-ornamented shells that derive from various stylistic models, French neoclassic to Brazilian colonial, through Alpine chalets and Victorian villas (figure 5). Their layouts are made up of two sequences of adjacent, mostly intercommunicating, cells - day rooms at one side, bedrooms at the other - along a bisecting axis. The day room sequence includes terrace/porch, visitors' room, dining room (for formal meals), *copa* (for daily meals), kitchen, and service lobby (for laundry dealing) with the main dining room dominating the layout in the centre; the other sequence is made up predominantly of bedrooms (plus one bathroom in most cases). Servants are often accommodated in outbuildings. These houses encapsulate two modes of articulation: one of *laterality* (as found for Normandy farm houses by Hanson et al, 1999), for day/night activities; another of *frontality* with the inhabitants-visitors interface in the front day rooms and that of inhabitants-servants in the back.





Md Servants
K Family and servants
D b Family
T V D Family and visitors

Figure 5: Plan of an eclectic house

Figure 6: Plan of a modernist house (case Mod5)

Source: Rodrigues, A. (1999) 'Platibanda azul', Coursework, UFRN

More or less faithful to the international style formal repertoire (figure 6) the layouts of modernist houses, are characterized mainly by being subdivided in sectors - social, service and private - that have inspired the notion of 'the sector's paradigm' (Amorim, 1999). These are orientated primarily to meet environmental requirements with the 'noble' sectors - social and private - being privileged. The private sector of bedrooms no longer intercommunicate, being mostly dead end cells, whereas servants quarters although usually built under the same roof, do not link to any other part of the building except through the kitchen. Social cells still bridge

the outside and the other sectors, thus keeping their traditional double roles of functional and transition spaces, whereas connections to the family bedrooms are often permeated by halls and passages.

Colonial, eclectic and modernist houses have been objects of syntactic analysis in previous works (Trigueiro, 1994/1995; Marques & Trigueiro, 2000). In colonial and eclectic houses, three configuration aspects predominates (fig 1):

1. The visitors' room (spaces V) and the master bedroom (spaces B) are strategically positioned in relation to the complex. They are close to the main entrance, benefit from alternative accesses and are highly integrated (lying *shallow* and on a ring in the access graphs).

2. Service-related spaces (K) sit in the segregated side of the scale, do not lie on internal rings being accessible from the exterior or by means of various other spaces.

3. The exterior (Ex) is very integrated and integrating in colonial and eclectic dwellings, except for some inner town multi-storied colonial houses, the urban *sobrados* (Trigueiro, 1995), in which exteriors - be they the public space or the dwelling plot - were found to be highly segregated.

In most modernist plans either the visitors' (V) or the dining room (D) is the most integrated functional space and servants quarters (Md) are very segregated, as found for pre-modernist houses. On the other hand, the exterior (Ex) is not nearly as integrating as in previous cases and the master bedroom (B) no longer holds its former privileged position but often retreats back into the so-called 'private sector'. Formerly communicating bedrooms turn into dead end cells, often self-contained with their en suite bathrooms that communicate by transition spaces such as passages and corridors.

Whereas the spatial configuration of pre-modernist houses reinforces the idea of a male-orientated, class-segregating society, the modernist 'private sector', severed from the rest of the house, signals towards new requirements for privacy and the slackening of parental surveillance, without showing signs of change in terms of the family-servants relationship. Conversions observed in these houses over the last two decades, showed that bedrooms - and especially, en suite master bedrooms - became deeper and more segregated in relation to the domestic complex; that kitchens became more integrated; and that servants' rooms kept the same syntactic situation, despite some very conspicuous variations in layouts, which tend to display the 'maid's room' in the hot, sun exposed side of the building.

The above referred configuration tendencies found in houses built and/or converted in the last decades in Natal were confirmed and emphasized by the analysis of the newly designed or converted plans for middle class residents in or near Rio de Janeiro and Sao Paulo. Converted plans lost overall mean integration (figure 8a the mean overall integration of converted houses is plotted against that of original houses) as did exteriors, deprived of alternative entrances (so frequent in pre-modernist and even modernist homes), other than the front and back door. The bar charts in figures 9a, 9b display mean integration values of key spaces in dwellings before and after conversion whereas those in figure 9c, show the same data for newly built residences. All results compare with findings from colonial and eclectic houses as far as the hierarchy among social, private and service spaces go, an important change being, however, the increasing segregation of the bedrooms and the exterior alongside an increasing integration of kitchens, as referred before.

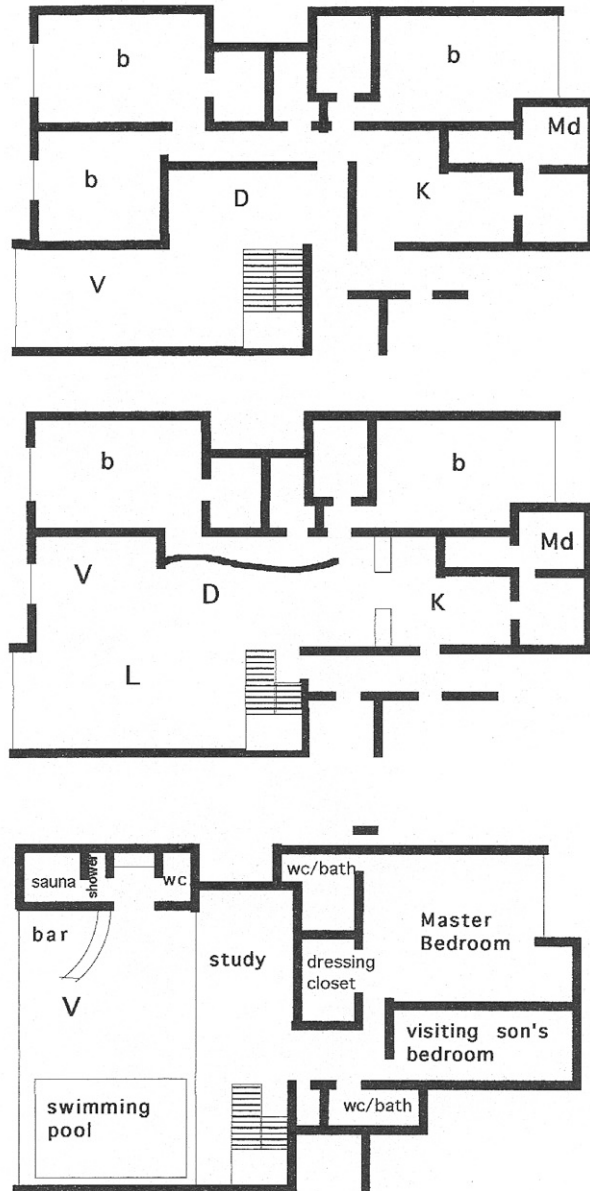


Figure 7: Plans of a covered flat in Niterói, Rio de Janeiro (cases Unconv9 and Conv9)

of service-related spaces), whereas others point towards a setback from those (enclosed semi-private communal areas strongly detached from the public space), and others, still, signal the emergence of novel themes (the home-based office). In the cases observed so far, changes in the previous building shell are almost non-existent. Configuration changes do happen in significant degrees however, in the ways space is being used. The most recurrent of these point towards a loss of significance of the social sphere - represented by the duet living and dining room suites - even when they retain their traditional arrangement in the home.

Nobody seems to entertain in their houses or flats. Entertaining - or at least those forms of entertaining usually associated with multiple reception spaces, like partying and celebrating - have been transferred to semi-private mezzanines and reception areas of apartment buildings or to 'reception houses' that multiply in most towns. Kept neat and polished as sacred

In the newly built homes, bedrooms and, particularly, master bedrooms are even more segregated, en suite bathrooms proliferate often together with their en suite dressing closet. Jacuzzis abound, surprisingly, in a society that had never, in previous times, come into terms with bathtubs. So do TV sets, stereo systems, mini-fridges and computers. In one case in the sample (but by no means an isolated example as designers report) the self-contained 'world apart' sports an office, a bar, a sauna closet and a swimming pool (figure 7).

This blowing up of the so-called private sector seems contradictory insofar as a similar explosion of the social sector accompanies it. Bedrooms are being knocked out to give way to multiple sitting arrangements (one for receiving, one for eating formally, one for watching TV, or playing games, or using the computer, etc), as if people did not spend most of their time, as would be expected, inside the elaborate 'world apart' of bedrooms. On the other hand the segregating character of service-related spaces inherited from colonial, through eclectic, to modernist and contemporary homes crystallizes in the ubiquitous maid's bedroom that remains as, or even more, segregated than the female slaves' quarters of colonial times.

In the investigated 'alternative' households, some aspects suggest a reenactment of modernist proposals (i.e. the shrinking

icons, dining rooms are seldom used as gathering places for household members and/or visitors at one same time according to what researchers have managed to gather from the often reluctant answers to the question about what went on in those places. It appears that dining rooms are being progressively substituted by the public premises of self-service canteens and restaurants in or around work places, where most people have lunch and often dinner and that eating at home is becoming a one-at-a-time kitchen-based activity when not a grab-your-dish-and-face-the-telly habit.

The copy of an schematic plan used in the research field shown in figure 3 illustrate how functions overlap, replicate and fragment throughout the spaces. In some cases reported in the research all inquired activity variable could take place in one space, thus signaling a tendency for rooms to constitute a home in itself and the domestic complex a set of independent dwelling units bunched together. As opposed to the apparent uneasiness demonstrated by respondents when inquired about their eating habits, the self-contained nature of bedrooms is comfortably discussed and acknowledged. En suite bath and dressing rooms, leisure and work gear located in the so-called private sector are even displayed with pride.

Very little if any change however, can be perceived in service-related spaces that remain as a pervasive 'hard core' in the fashion of the great majority of pre-modernist and modernist houses. A recently built apartment block complex in Natal illustrates the argument.

Marketed as a new dwelling concept for middle-class living in various Brazilian towns most units in the entitled 'Plano Cem' apartment complexes were designed with amalgamated kitchen and utility lobby and no maid's bedroom, but common shower and toilet rooms on the ground floor (Loureiro & Marques, 1999). The designer assumed that maids/nannies would be occasional non-resident workers. Actually, adaptations such as hammocks hanging in the kitchen are being introduced as sleeping arrangements for the ubiquitous maid. On the opposite side, large common indoor and outdoor areas are used for leisure and partying activities and as substitutes for individual social sectors in each housing unit.

On the 'mysterious social sector'

Would the apparent contradiction between increasing demands for privacy and enlarged social sectors signal a mere desire for status display or does it translate a tendency for *selective, occasional episodes of co-presence among dwellers*, as posed elsewhere (Holanda, 1999) in the spatial study of a newly built house near Brasilia. The first alternative sounds simplistic and repetitive; the second surprising, to say the least, considering the apparent poor cost/benefit ratio of these large sparsely used spaces in terms of material investment and time consumption for its maintenance. Although results are, as yet, far from conclusive it is just possible that the clue to this 'mysterious' phenomenon may be searched for in the service sector with its inhabitants ever so easy to engage and replace.

The aim of this paper, as exposed earlier, was to present and discuss change and continuity in domestic space imprinted in new emerging structural aspects that coexist with recurrent themes in homes from diverse regions of Brazil. The idea of a spatial complex in which functions replicate, fragment and overlap so to allow *selective, occasional episodes of co-presence among dwellers* appears to bear strong parallels with themes repeatedly reported in the international literature - i.e. changing notions of public/private, enhancement of old and emergence of new modes of transpatial relationship. On the other hand, whereas in reported international post-

modernist proposals that spatial flexibility is achieved by means of devising flexible design strategies - i.e. sliding panels to add to and/or subtract space according to momentary need - in the studied cases choice is achieved by replicating self-contained 'worlds' to be or not to be used as fits whims, a fact that seems to associate with the availability of cheap labour means to build those spaces and keep them clean.

As a final illustrative comment, a word will be said about 'lofts', a theme repeatedly come across by the authors of this paper as they go about their usual work experiences in morphology studies, housing survey and design practice. Inhabitants of varying economic profiles manifest desire to convert their living arrangements into 'a loft'. The English word is often used in a familiar, relaxed manner, meaning, in fact, that an open plan lounge with at least three - preferably four, to include a bar - different furniture suites is desired. In Natal, a recent conversion of an upper class apartment entirely refashioned it in the manner of a New Yorker loft (Teles, 1999), but for the immutable maid's bed and bathroom. In Rio and Sao Paulo, 'loft' apartments have been centre pieces in design shows with plans/models/settings displaying the social sector only or, at most, some sleeping arrangements but leaving the anticipated 'rest' of the house to the imagination (and certainty) of the observer.

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