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ONE HOUSE, THREE GENERATIONS:

Exploring conversions in domestic space that tell about sociocultural changes over a century.

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ABSTRACT

This study seeks to further knowledge about Brazilian homes by addressing the spatial reorganisation of a vernacular residence, as it was adapted to changing lifestyles along a century and over three generations of dwellers from a same family. The house was built in the 1920s in a rural area in Northeast Brazil as the main residence in a farmstead – now no longer a productive unit. It is currently used as a residence by the second generation of landowners and as a holiday place by the family's third generation and their children. Morphological aspects of geometrical (shape, size, position) and topological (accessibility, visibility) natures, as well as space labels and functions were analysed in diachronic perspective, in the light of narratives and views of some of the house's dwellers about the successive conversions suffered by the spatial arrangement and how spaces were used then and now. Results point out that relations amongst inhabitants – family and servants – and between them and visitors were altered by subtle changes in those morphological aspects, following tendencies that predominated in Brazilian homes at certain times (some of them also elsewhere), and particular needs of the family. Among aspects turned mainstream at a certain epoch in our domestic architecture: (i) the space used for family meals has become highly accessible and visible in post-colonial society, signalling social openness and less reclusiveness of women, and (ii) the growing seclusion of bedrooms and number of shower/toilet (often *en suite*) facilities follow contemporary requisites of privacy and body care. The change from a farming support unit to a family residence in the 1980s required less complex, more practical service-related spaces whereas its increasing role as a holiday house, demanded the enlargement and higher visibility of gathering spaces, such as the verandas. It was, therefore, seen that within a minimally altered built shell (the container), the spatial structure (its content) was radically transformed to give expression and physical support to changing modes of life, and that such changes related, at once, to the ways Brazilian homes were – *sensu lato* – topologically reshaped in time, as well as to the specific needs of successive generations of householders in this case. This interplay of genotypical and phenotypical properties tells about Brazilian lifestyles in the context of middling socioeconomic groups, adding up to the corps of case studies that have been using configuration analysis to unveil the spatial soul of Brazilian homes.

KEYWORDS

Domestic Space, Vernacular Architecture, Spatial Configuration, Space Syntax

1. INTRODUCTION

Domestic space is not only a consequence of social changes, it is also a producer of social relations and can reveal possibilities of interaction amongst users. Dwellings may present the same appearance and have distinct spatial configurations, constituting different styles and modes of living. Conversions to readapt functions may show how the reorganization of domestic space relates to lifestyles that regulate everyday use of the dwelling and translate a cultural phenomenon.

This study seeks to further knowledge about Brazilian homes by addressing the spatial reorganisation of a vernacular residence, as it was adapted to changing lifestyles along a century and over three generations of dwellers from a same family. We can verify a process of transformation and adaptation of space to needs and modes of life through conversions, extensions and change of uses in some rooms.

2. DATASETS AND METHODS

Built in Brazilian northeast rural zone as a farmstead, the house examined in this study was initially a building in which residential use mixed with rural production functions. We considered the floor plans of 1920 (when the residence was built), 1980 (when it was refurbished to accommodate changing functions, and the addition of a third bathroom/toilet and a second kitchen) and nowadays (after the extension of a veranda and the addition of two *en suite* bathrooms). The study addresses two situations: the minimal living (interior spaces only) to simulate the family's intimate way of life – and the minimal living plus the exterior – which better represents the spatial hierarchy concerning interaction among the communities that comprise the household – family, servants and visitors.

The method explores functional and morphological aspects (geometric and topological) in diachronic perspective in the light of the users' narratives. In the geometrical analysis, we compare the room area in order to ascertain whereas certain uses demanded more space at each phase. Topological aspects are analysed through visibility and justified graphs. The space nodes correspond to different rooms within the house. Measures of integration and depth were calculated through the JASS software (BERGSTEN et al, 2003). Visibility analysis (processed through UCL Depthmap, TURNER; FRIEDRICH, 2011), reveals hierarchies of visual fields that might favour certain practices of social interaction and movement options.

3. RESULTS

Results point out that relations among inhabitants – family and servants – and between them and visitors were altered by subtle changes in those morphological aspects, following tendencies that predominated in Brazilian homes at certain times (some of them also elsewhere), and particular needs of the family.

In the justified graph analysis, the existence of rings within the building is associated to an easiness to circulate and to reorganize space (Cavalcanti e Trigueiro, 2001). An internal ring that passed through a bedroom – a common aspect of Brazilian pre-modernist domestic architecture – was eliminated in 1980 following increasing privacy demands. Furthermore, the existence of multiple rings connecting external areas – a resilient aspect of Brazilian homes that only recently tends to disappear following a widespread fear of insecurity – is related to the hierarchical rules of access and control involving the interface among dwellers besides the desirable openness to the outside space in a tropical climate. Contrarily, to the current trend, this openness increased in the studied case as time passed.

Currently, the internal space is mainly used to prepare food and sleep as residents and visitors spend most of their time at the verandas. According to Trigueiro (2015), the exterior is an important integrating element in vernacular Brazilian houses and, when considered in the analysis, tends to increase the system accessibility. The study case in question corroborates this, as the system was less integrated, and deeper (1.11), when considering the *minimal living*. When external space was added (through all entrances) the average integration value was enhanced

(0.87)¹ even though the number of spaces in the system increased. In post-colonial Brazilian houses the space used for everyday meals, here labelled as “dining room”, is recurrently the most integrated functional space. Our study case confirms this situation in all studied scenarios (Tabel 1). When only the minimal living was considered, the scale of most accessible spaces were: corridor, kitchen and master bedroom. When contemplating external spaces, the five most integrated spaces were the same for the 1920 and the 1980 representation: dining room, veranda, kitchen, corridor and exterior. As expected, bathrooms and bedrooms tend to be the most segregated spaces.

In the 1800s’ colonial houses, the front room, often referred to as the “visitors room” (here labelled as “living”) was related to the patriarch power to decide who was to be granted access to the house, and therefore, mainly used by him, unless when in the context of the closed family circle (Leitão, 2005). In our case, up to 1980, the living room was used only when there were distinguished guests. Indeed, its connection to the other rooms inside the house happened only through the master bedroom. According to interviews, even when the living room changed place (in 1980), it was never used as the family leisure and social area. These gatherings have always happened in the verandas.

The dwelling had four different entrances according to the 1920 plan, and three entrances from the 1980 configuration up to present days (Figure 2). Except for the kitchen entrance in 1920, all other entrances had transition spaces between interior and exterior, a common trend in Brazilian architecture. In the original house structure, there was a stronger distinction of routes as different people used diverse entries: the visitors through the living room, the servants through the kitchen and the family through the dining room, again a predominant feature in Brazilian houses. Since 1980, all entrances are used freely by family members, servants and visitors alike.

In the 1980 plan, a second kitchen (two spaces) was built aiming to facilitate domestic chores, thus adding 33,35m² (Figure 3) to the house. In 2016, the increase in area was mainly due to the verandas enlargement, which grew from 61,79m² to 100,09m², and signals the priority given to it by current residents. A former spare room was turned into the living room, which, therefore, gained area and the old living room became a bedroom (Table 2). Rooms that diminished in area were the larder (9,50 to 1,50m²) and the dining room/meals. The reduction of the larder is justified by an easiness to acquire provisions nowadays. In total, main changes in areas accounted for rooms for socialising (i.e. the veranda enlargement).



Figure 1 - Image of the house in the 1980’s and nowadays. Source: personal archive.

1 Integration levels in this paper were computed by JASS and relate to RRA – real relative asymmetry (HILLIER&HANSON, 1984). The lower the value is more integrated.

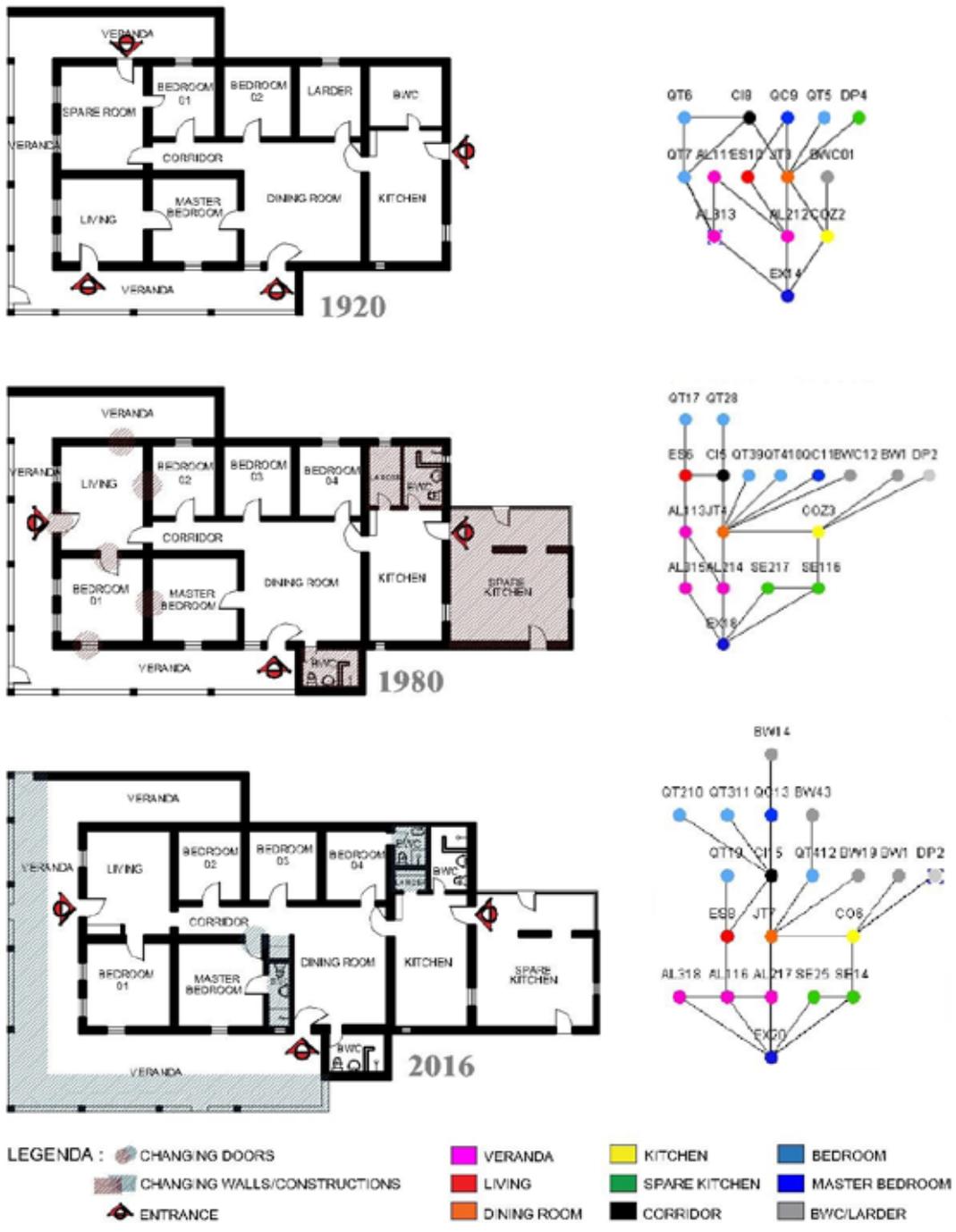


Figure 2 - Floor plants and justified access graphs through the exterior.

TIME		ROOM'S INTEGRATION
Minimal Living	1920	DR>CO>KI=MB>BR=LA>BR>LI=BW
	1980	DR>CO>KI>MB=BR=BW>LI>BR>LA=BW>BR
	2016	DR=CO>KI>MB=BR=LI>BR=BW>LA=BW>BR=BW
Exterior	1920	DR>VE>KI=CO>EX>MB>VE=BR>LA=BR>LI=BR>BW
	1980	DR>VE>KI>CO>EX>VE>SK>LI>MB=BR=BW>VE>LA=BW>BR=SK>BR
	2016	DR>CO>VE>KI>LI>VE>EX=BR>SK>BW>MB>BR>VE>LA=BW>SK>BR>BW

Key: Dining Room, Corridor, Kitchen, Veranda, Exterior, Master Bedroom, Bedroom, Bwc², Living, Spare Kitchen e Larder.

Table 1 - Sequence of most integrated spaces in all settings.

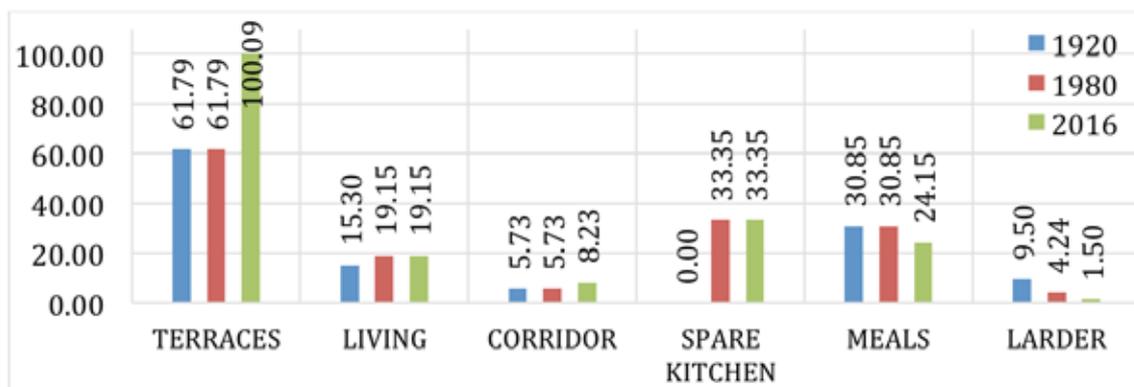


Figure 3 - Altered metric areas for rooms.

SECTORS	Quantity / Areas					
	1920		1980		2016	
BEDROOMS	4	55,05m ²	5	60,70m ²	5	60,70m ²
BWCS	1	9,70m ²	2	10,02m ²	4	15,82m ²

Table 2 - Altered metric areas for private sectors.

In the visibility graphs (Figure 5) warmer colours indicate locations with higher visibility and colder colours (e.g. blue) those with less visibility. In the studied case, high visibility coincides with rooms where there is, at present, more social interaction and movement of people at all times. Considering the minimal living only, there are no significant changes among the three situations; the dining room/meals always appears as the most visible space. When the exterior is considered in the current layout (2016), not surprisingly, the verandas become the most visually integrated space.

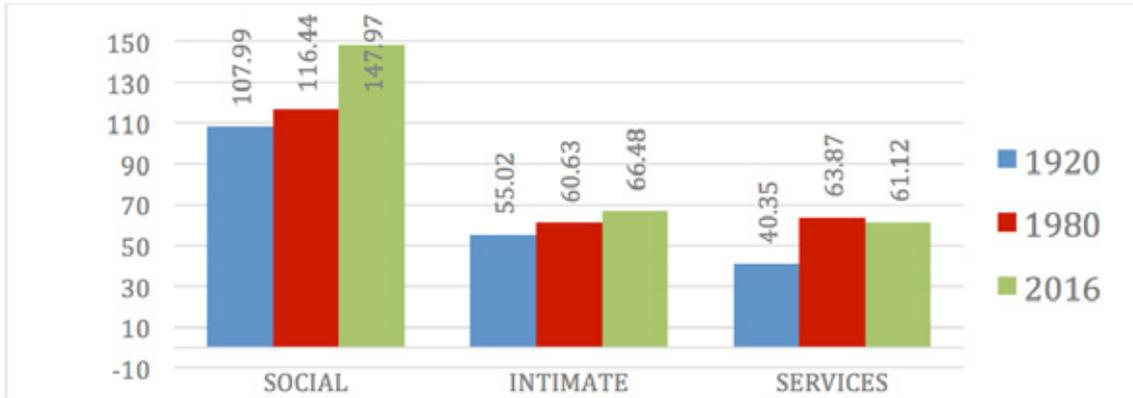


Figure 4 - Altered metric areas for sectors.

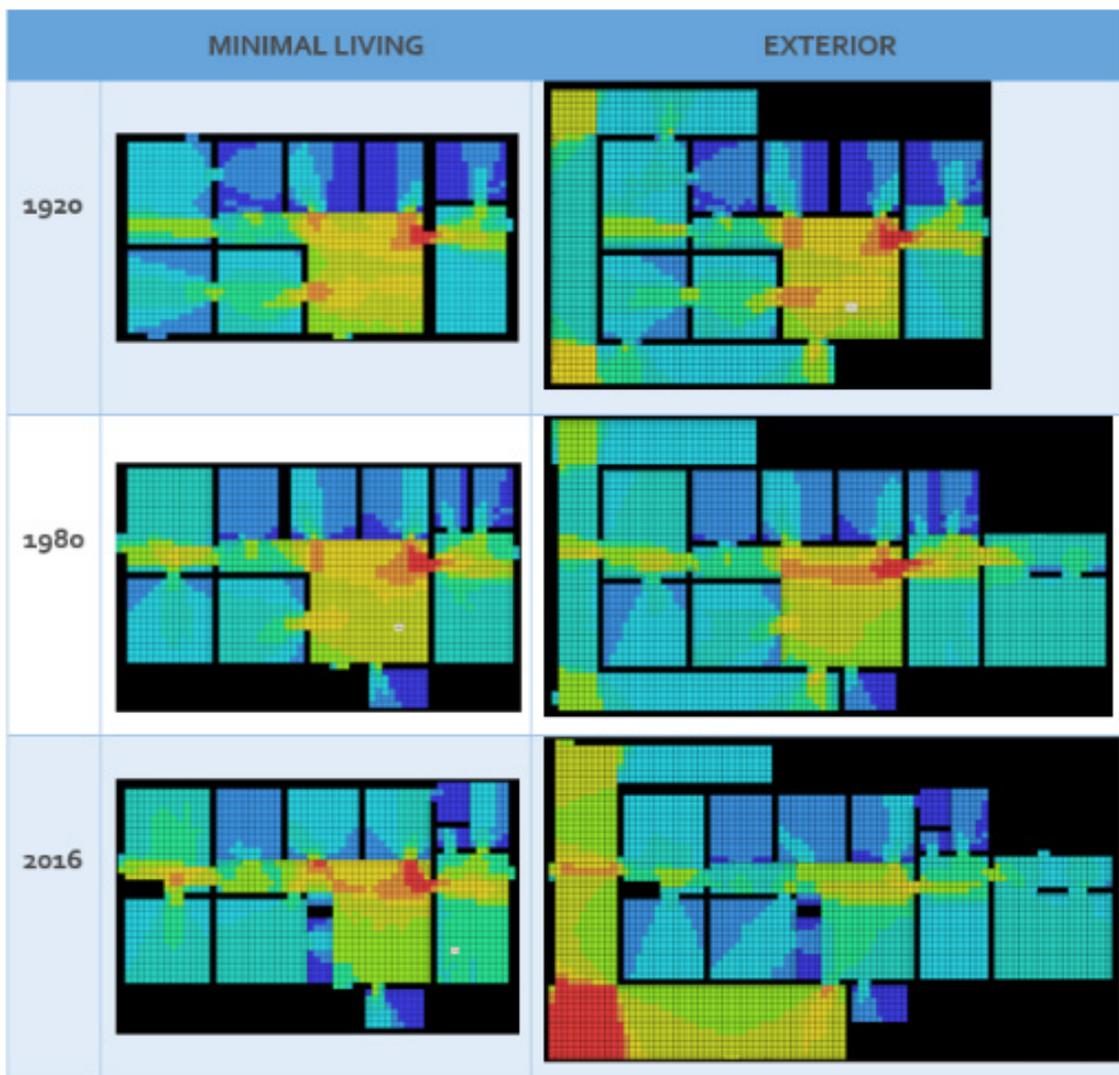


Figure 5 – Visibility graphs at each epoch, considering minimal living (left) and adding the exterior (right).

4. CONCLUSIONS

This study demonstrates that within a minimally altered built shell (the container), the spatial structure (its content) was transformed to give expression and physical support to changing modes of life. Such alterations related, at once, to the ways Brazilian homes were - *sensu lato* - topologically reshaped in time, as well as to the specific needs of successive generations of householders in the studied case.

Among aspects turned mainstream at a certain epoch in our domestic architecture, the space used for family meals can be pointed out as becoming highly accessible and visible in post-colonial society (TRIGUEIRO, 2015 e BUZZAR, 2003), signalling social openness and less reclusiveness of women. On the other hand, as seen in the studied case, social openness plus individual privacy are well indicated by the enlargement and higher visibility of the verandas and the construction of *en suite* bathrooms. The change from a farming support unit to a family residence in the 1980s required less complex, more practical service-related spaces. This interplay of genotypical and phenotypical properties tells about Brazilian lifestyles in the context of middling socioeconomic groups, adding up to the corps of case studies that have been using configuration analysis to unveil the spatial soul of Brazilian homes.

REFERENCES

- BERGSTEN, L. et al. (2003). *Jass*. Justified Analysis of Spatial Systems. Version 1.0. Available at <http://www.nada.kth.se/projects/proj03/SUX/tmpRoot/release>
- BUZZAR, M.A. (2003). A idéia de uma Casa Brasileira. In: *Anais of the V DO.CO.MO.MO BRASIL*, São Carlos: USP. Available at <http://www.docomomo.org.br/seminario%205%20pdfs/127R.pdf>
- CAVALCANTI, A. F.; TRIGUEIRO, E. (2001). Granny's home was not exactly like daddy's home. In: *Proceedings of III International Space Syntax Symposium*, Atlanta: Georgia Institute of Technology, v.01, p. 59.1-59.7.
- HILLIER, B.; HANSON, J. *The social logic of space*. Cambridge University Press, 1984.
- LEITÃO, Lúcia (2005). Quando um muro separa e nenhuma ponte une. In: *Cadernos Metrópole*, São Paulo, N. 13, pp. 229-253, 1º sem. Available at <http://revistas.pucsp.br/index.php/metropole/article/viewFile/8805/6526>
- TRIGUEIRO, E. (2015) Is there a Brazilian home? A overview of domestic space and modes of life. In: *Proceedings of X International Space Syntax Symposium*, London: UCL. Available at http://www.sss10.bartlett.ucl.ac.uk/wp-content/uploads/2015/07/SSS10_Proceedings_011.pdf .
- TRIGUEIRO, Edja (2012). Sobrados Coloniais: um tipo só? In: *Cadernos PROARQ*, 19. Rio de Janeiro: UFRJ, P. 194-211. Available at http://www.proarq.fau.ufrj.br/revista/public/docs/Proarq19_SobradosColoniais_EdjaTrigueiro.pdf.
- TURNER, A., FRIEDRICH, E. (2011). *UCL Depthmap*, version 10.14.00b. London: University College London.