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NEW BUILDING FOR A NEW WAY?

New School Pedagogic and its building spatial configuration in Paraíba (Brazil)

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ABSTRACT

This study is an initial phase of a research that analyses the influence of the New School (Escola Nova) education movement in the spatial configuration of Brazilian school buildings of the 1930s. This paper addresses specifically the Paraíba's Education Institute, as a model of the educational reform being set in Paraíba state. The movement aimed to reform and modernize traditional education, indicating that the student should become central to education, which should happen with practical experiences, rather than the teacher simply transmitting information. The school should also be more open to society and cease to have distinctions between genders. Understanding that space configures movements and experience in buildings – being able to promote or hinder encounters between peoples and activities – this work studies the Institute's spatial configuration and investigate whether, and to which extent, such principles express themselves in space. To do so, the New School foundation discourse – found in official documents of the time – was translated into spatial properties, then it was compared to the analysis of the topological structure of convex spaces of the Institution's central building. Deciphering such documents into socio-spatial relations, some spatial attributes that might favour New School practices were identified, such as: little hierarchy and control by directors and teachers; and integrated classrooms in the overall structure, so that students could easily reach other areas that might encourage practical activities and interactions (e.g. spaces of recreation and exterior). The analysis shows that the exterior is the most integrated area. This indicates that circulation rings are formed with the exterior, showing flexible flows that facilitate outdoor activities, and that there was proximity to society at large, as low walls between the school and public space allowed visual contact. However, when the building was analysed disregarding the exterior, the boardrooms become more integrated. This indicates a privileged administrative sector, a situation that refers to traditional teaching, with greater disciplinary control of students. Overall, comparing the socio-spatial relations embedded in the pedagogic discourse with historic school buildings' spatial structure, there were some points of innovation in Paraíba's Institute, but also other traditions were kept. This reinforces spatial configuration analysis as a means to confront discourse with socio-spatial relations and shall be further explored at other pre and post Brazilian school buildings around the same time.

KEYWORDS

New School Movement, Socio-Spatial Discourse, Spatial Configuration, School Buildings

1. INTRODUCTION

By giving shape and form to our material world, architecture structures the system of space in which we live and move in. (Hillier & Hanson, 1984, p. ix).

Spatial configuration is intrinsic to social life by people's tendency to move in lines, interact in convex spaces and see changing fields as they move in the built environment (Hillier & Vaughan, 2007). However other factors might affect people's uses, spatial configuration conditions peoples' experiences in space and activities.

This paper analyses the New School (Escola Nova) education movement influence on the spatial configuration of Brazilian school buildings in the 1930s, having as case study Paraíba's Educational Institute buildings, model of such educational reform being set in Paraíba state (northeast Brazil). Hence, after presentation of the building and the education movement, the spatial attributes embed into discourse are extracted; the study case spatial configuration analysis is then presented; finally, this study verifies if there are coincidences between the buildings spatial structure and the pedagogic expectations.

The education renovation movement known in Brazil as New School, valued the children's self-training and spontaneous activity, inspired in ideas of John Dewey, Adolphe Ferrière, Édouard Claparède amongst others. Learning initiative should centre on the pupil, exchanging with the teacher through practical experience (Saviani, 2004).

Ideas of New School movement in Paraíba resulted in the Public Instruction Reform (1935), intending to create new models of school buildings, which should adopt modern architecture to adjusted new teaching methods (Mello, 1936). Paraíba's Educational Institute was created (1937-1939) as a model establishment to form up-dated teachers, made of three buildings: kindergarten, application school and the main building (with the Secondary school and the teachers' school). Figure 1 shows the newly opened Institute's main building, its modernist style and openness to the street.



Figure 1 - Paraíba's Educational Institute main building, in 1939.

2. NEW SCHOOL MOVEMENT SPATIAL ATTRIBUTES

The publication of the New Education's Pioneers Manifest (Manifesto, 1932) was a mark of New School movement in Brazil, gathering movement ideas to renovate education in the country. This document is adopted as representing New School discourse to extract spatial attributes favouring this pedagogy. This manifest advised that the learning process should happen "from inside out", the child as centre of the school, respecting its personality, and to "open to the student its energy in observing, experiment and create all activities capable of satisfying himself".

In the school's spatial structure, this should result in the traditional rectangular layout of classrooms being replaced by centralized configurations, with easy to move furniture and create new arrangements (Alegre, 2012). Classrooms should be well integrated globally and to areas destined for free activities and playing, there should also be spaces to socialize and allow interaction of different interfaces.

Another principle is that the school should not be a formal and isolated institution, but extend its action to society and irradiate educational activities. For this recommendation to happen, it is hereby understood that the school should be spatially integrated with the exterior.

Furthermore, teaching should be equal for both genders, unseparated; buildings should no longer have to be separated in two quarters.

Complementary information is revealed by the Paraíba's Educational Institute project memorial, another document explaining the building's pedagogic attributions. It described that the new way - of comprehending the learner and its more equal relation with the teacher - demanded a new study environment to favour knowledge's natural curiosity, with an educational mission (Joffily, 1937). In relation to spatial organization, classrooms were distributed along two wings centrally articulated, rather than the classic building type with central courtyard. This aimed to augment lighting and ventilation to improve comfort and health conditions, and reduce noise by separating corridors accessing the classrooms.

Such documents were deciphered into some spatial attributes that might favour New School practices, such as: undifferentiated spaces for male and female students, little hierarchy and control by teachers, classrooms integrated in the overall structure (so they could easily reach other areas – and exterior areas – e.g. to play, and a strong connection to the exterior, and public space.

3. METHOD AND ANALYSIS

Paraíba's Educational Institute main building layout was represented and quantified by means of space syntax convex analysis at two levels (Figure 2): the minimal living – the system of interior spaces only – and the minimal living plus exterior – all connections between the interior spaces and the exterior were considered. The structure was read through justified graphs in the JASS¹ program calculating integration (through Real Relative Assymetry). The minimal living considered only the first and second floor. The minimal plus external considered all the four floors and entrances. It was considered that originally all entrances were used as access by those who control space (directors and teachers) and by main visitors (children) since there were no doors – or indication of control – that could force students to enter in a particular place.

¹ JASS. Created by BERGSTEN, L. et al. v1.0, 21 May 2003, GNU-General Public License.

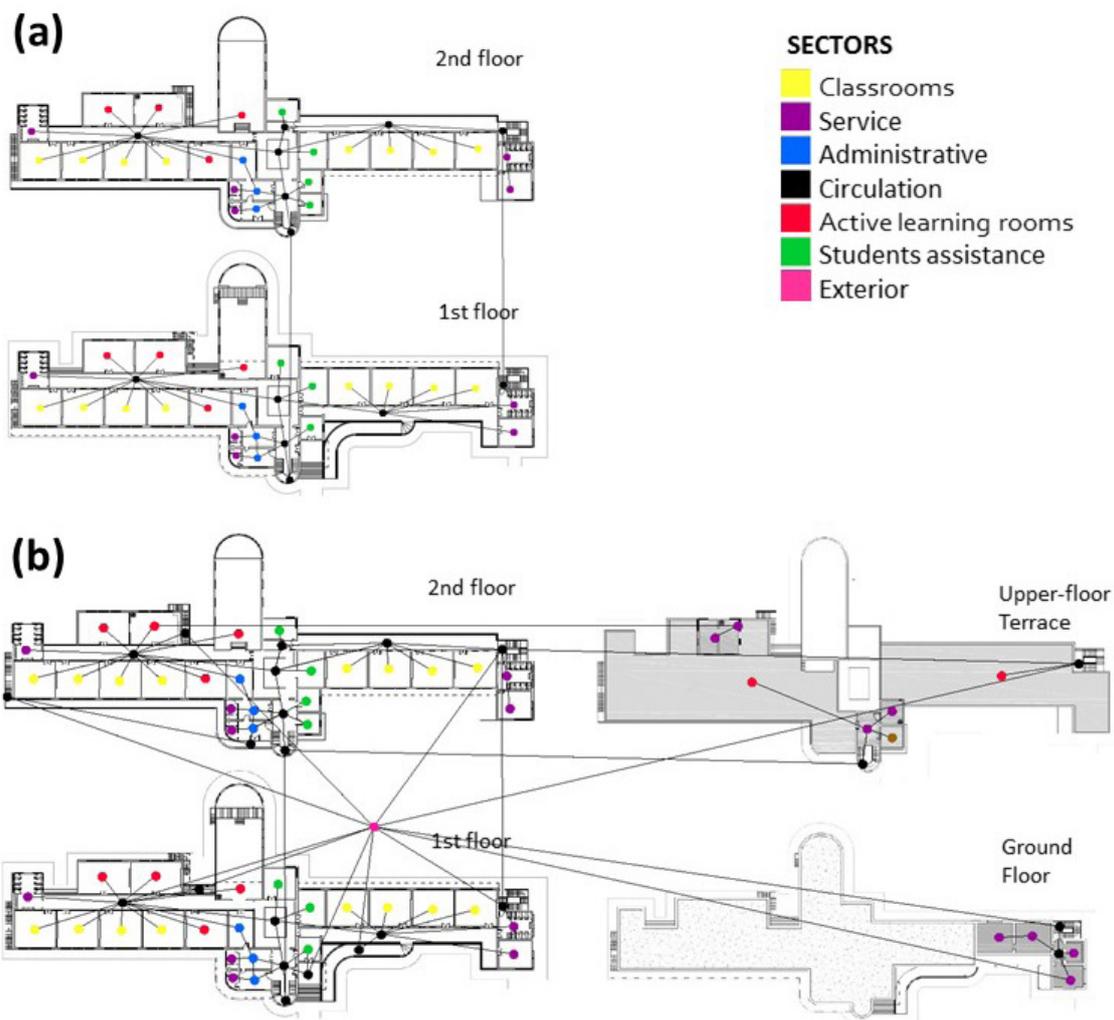


Figure 2 - Main building's floor plants and convex spaces system with connections: (a) Minimal living; (b) Minimal living plus exterior.

The configuration analysis reveals the exterior as an important articulator of the buildings spatial structure. The system with exterior is more integrated (RRA 0,938²) than the minimal living system (RRA 1,093).

Circulation spaces are the most integrated ones in both situations, facilitating encounters between different interfaces, profitable to socialization and sharing experiences. Indeed, in the project memorial it is suggested that in classes intervals, students could remain in the balcony corridors, designed with a width of 3,4m (Joffily, 1937); the designed wide corridors indicate that interaction there was intentional.

In the minimal living analysis, most integrated functional spaces are the director rooms (RRA between 1,024 and 1,083), showing the administrative privileged situation. However, when the exterior is added, the exterior itself becomes the most integrated space (RRA 0,524), as it easily connects to many rooms (Figure 3). The classrooms also become more integrated in the system considering the exterior. The exterior's high accessibility might very well be a reflection on New School ideology; its intention to integrate with society is further suggested by low walls and

2 For justified analysis through JASS, the lower the RRA measure, the shallower in the system and, thus, more integrated.

many openings with public space. More access to exterior may indicate a will to learn through action, as the area serves to group activities, garden visits, etc.

Figure 3 shows that the main building spatial structure justified from the exterior is shallow, presenting seven levels - which is perceived as low given the system's four floors and many rooms. At the second level one can already reach the most important spaces in the school, as classrooms, auditorium, library and administrative rooms. One can also notice in this justified graph the many rings forming with the exterior, which shows less control and many access possibilities.

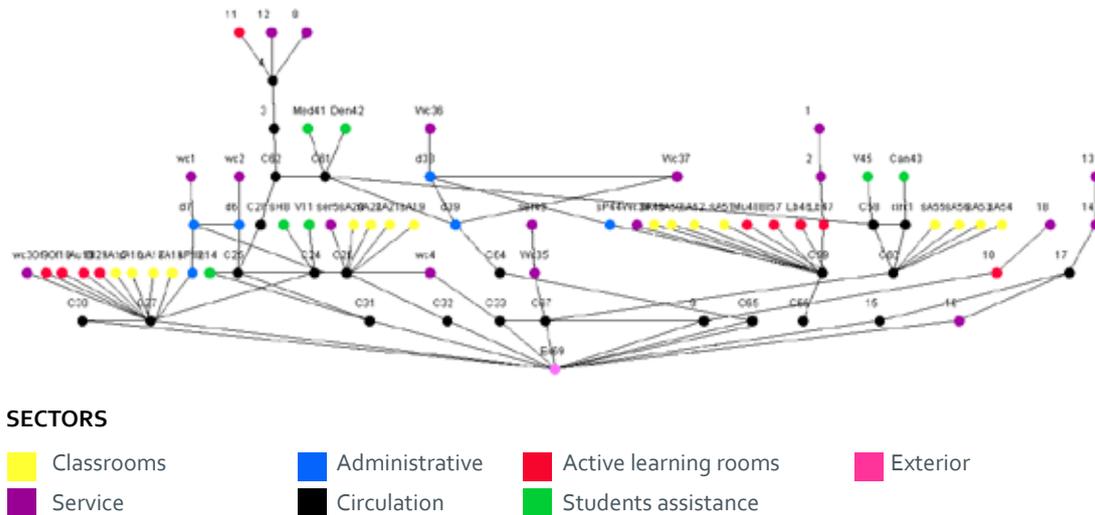


Figure 3 - Main building graph analysis, justified from the exterior (all spaces considered).

4. DISCUSSION AND CONCLUSION

Overall, comparing the socio-spatial relations embedded in the pedagogic discourse with historic school buildings' spatial structure, there were some points of innovation in Paraíba Institute, but also some traditions were kept.

Moreover, the comparison with other Brazilian schools studied by Loureiro (2000), reveals that this building is a more integrated system than most schools, showing an intention to integrate activities, and people. Thus, the most latent finding revealing new pedagogic ways, is the high integration and importance of the exterior, easily connected to the classrooms; it also forms rings with various areas, indicating less control of potential movement and possible intermingling of people and activities. The exterior represents a space for active functions for the learner and a connecting role with society, as it allowed for visual and physical continuity with public space. The buildings many openings and the exterior strong hierarchy seems purposeful indeed as there was also a strong belief that catching some sun was healthy and necessary.

Likewise, the corridors seem idealized to promote encounters between different people, they were designed in a way that people could pass through but also remain there (wide areas and central position) and indeed were integrated within the system.

However, the role of administrative quarters has remained important, especially when only considering the minimal living. This trend denotes hierarchies read in traditional education. Teachers' rooms have also maintained a controlling function over the classrooms, revealing that, although classrooms (and pupils) were well integrated with the exterior, they could still be controlled by teachers.

Spatial configuration analysis is thus also a means to confront discourse with socio-spatial relations. This research will be further explored at other Brazilian school buildings around the same time, which might enlighten similarities and contrasts of buildings of this type, as well as understanding better connections between discourse, uses and space, and relations between pedagogy and architecture.

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