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A Brazilian Response to 20th Century School Infrastructure Planning
Une réponse brésilienne à la planification des infrastructures scolaires au XXe siècle
Una respuesta brasileña a la planificación de la infraestructura escolar del siglo XX

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L'État, la démocratie et l'éducation au Brésil : le parcours d'Anísio Teixeira
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Abstract

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Keywords: school space, modern architecture, urban planning, historiography, circulation of ideas, Anísio Teixeira

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Una respuesta brasileña a la planificación de la infraestructura escolar del siglo XX

Resumen

Tomando los espacios escolares como una cuestión interdisciplinar, que abarca los campos de la educación, la arquitectura y el urbanismo/urbanismo, este artículo recoge referentes teóricos y técnicos que se mueven entre estas disciplinas a lo largo de la primera mitad del siglo XX con el fin de localizar posibles intercambios realizados por Anísio Teixeira mientras dio forma a su programa *Parque-escuela, Clase-escuelas*. El argumento se apoya en la lectura de documentos extraídos de diversas circunstancias de su carrera como administrador educativo, aunque no necesariamente producidos por él. El objetivo es fomentar un debate sobre una respuesta brasileña al desafío internacional de proporcionar una infraestructura espacial consistente con un programa escolar moderno.

Palabras clave: espacio escolar, arquitectura moderna, urbanismo, historiografía, circulación de ideas, Anísio Teixeira

Une réponse brésilienne à la planification des infrastructures scolaires au XXe siècle

Résumé

En approchant les espaces scolaires en tant que question interdisciplinaire englobant à la fois les domaines de l'éducation, de l'architecture et de l'urbanisme/aménagement urbain, cet article rassemble des références théoriques et techniques circulant entre ces disciplines durant la première moitié du XXe siècle afin de repérer les échanges possibles effectués par Anísio Teixeira tandis qu'il formulait son programme *Parc-école, Classe-écoles*. Nous examinons des documents tirés de diverses circonstances de sa carrière d'administrateur scolaire, même s'ils n'ont pas nécessairement été écrits par lui. Le but est de susciter un débat autour d'une réponse brésilienne au défi international de fournir une infrastructure spatiale conforme à un programme scolaire moderne.

Mots-clés : espace scolaire, architecture moderne, urbanisme, historiographie, circulation des idées, Anísio Teixeira

Introduction

In April, 1964, TV producer George Movshon arrived at Salvador with the task of reporting on the experience of the Carneiro Ribeiro Educational Center (*Centro Educacional Carneiro Ribeiro*—CECR) through a short documentary produced by the United Nations for the International Zone series.[1]

By narrating the school routine of two boys, Hugo de Andrade and Jorge dos Santos, the production contrasts the spatialization of the modern school program proposed by Anísio Teixeira to the traditional Brazilian school of the time.[2] While the traditional school offered Hugo de Andrade four hours of regular schooling in an improvised classroom with desks lined up and fixed to the floor and an excessive number of students, Jorge dos Santos attended a *Class-school* at *Centro Educacional Carneiro Ribeiro*—a modernist building; modest yet designed as a school from the onset—for the same four-hour period dedicated to regular education. However, Jorge's school experience was complemented by a second round of four hours in which he attended the progressive *Park-school*. During this period, he would engage with activities related to the universe of work, sociability, leisure, and body care, all in an exuberant architectural ensemble.[33]

The short documentary entitled *Two Boys of Bahia* portrays the daily life at CECR as a paradigm for schooling brought to light by the avant-garde nature of its facilities: large, wooded outdoor areas with an open-air amphitheater, library, cafeteria, auditorium, and sports gym, and other spaces designed for pedagogical practices essentially linked to real day-to-day social activities. What is conveyed in the documentary is the spatialization of a school program attuned with the prerogatives of an integral education and, as one could not fail to mention, designed in accordance with Brazilian modernist architecture, which since the 1940s had been carving out space in the world arena due to the uniqueness of its constructive and spatial solutions (Freire, 2015; Capello, 2011; Liernur, 1999; Mindlin, 1956; Gropius et al. 1954; Giedion 1956; Goodwin, 1943).

Seen as worthy of journalistic coverage by the UNESCO body of educational technicians, the Center, besides illuminating the international reach of Anísio Teixeira, stood out as a paradigm for international efforts towards the expansion of schooling in so-called underdeveloped regions. But how exactly could the CECR approach contribute to such campaigns in terms of providing educational infrastructure? At the III National

[1] This documentary series, with short films that lasted about thirty minutes, was produced between 1961 and 1967 by the United Nations Television.

[2] An overview of the development of schooling in Brazil can be found in the research by Diana Vidal and Luciano Faria Filho regarding the process of institutionalization of elementary schools in Brazil. (Faria Filho; Vidal, 2000).

[3] UN Television, International Zone. *Two boys in Bahia*, 27min26s, 1964.

Figure 1. Scenes from the documentary *Two Boys in Bahia*, 1964.

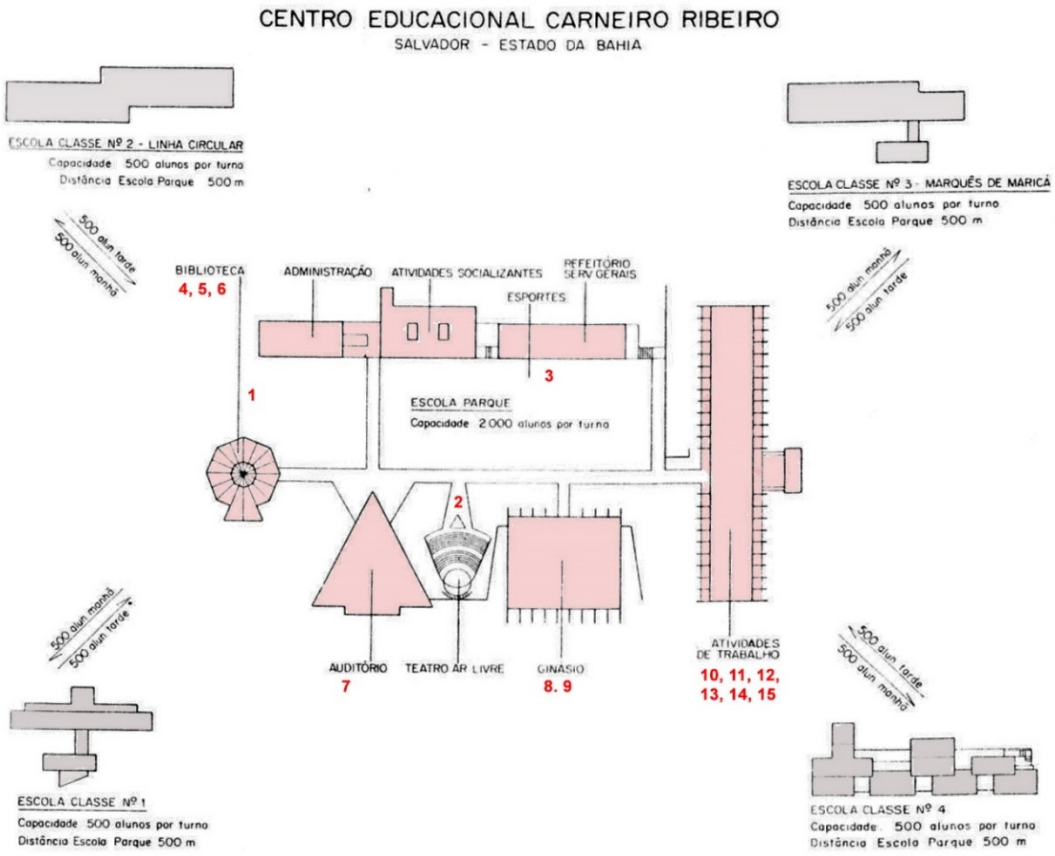


Figure 2. Scheme of functioning of the Carneiro Ribeiro Educational Center, published by Terezinha Éboli in 1969 (1983, p. 27) and modified by the author. The numerical identification corresponds to the scenes in the previous image.

Conference on Education,[4] held in 1967 in the city of Salvador, Teixeira presented the operating logic of the *Park-school, Class-schools* program,[5] as stated in the late 1940s:

> The project for the first primary education center comprised four *Class-schools* for 1,000 students each and a *Park-school* for 4,000 students, all of which would

[4] Anísio Teixeira's speech on this occasion (Teixeira, 1967), taken as the main primary source for our reflection here, is explored in greater depth in the final part of this article. The speech was first published by the *Revista Brasileira de Estudos Pedagógicos*, which was an important instrument for debating educational ideas in Brazil. The magazine published its first issue in 1944 and continues to be edited to this day.

[5] In addition to mentioning the documentary produced by the UN (Teixeira, 1967, p. 252), he recalls not only that he was working as a UNESCO collaborator in the mid-1940s, but also that he considered resuming his work with the organization after some frustration as Secretary of Education in the State of Bahia (p.248).

> operate in two combined shifts, so that the student would enjoy a full day of education. (Teixeira, 1967, p. 248)

Besides marking what would be Anísio Teixeira's ideal for a time-space of integral schooling, this sentence—quite celebrated in the history of Brazilian educational architecture—also signals how school infrastructure, based on a modern program for education, would engage with the city by connecting its platoon logic—characteristic of the platoon system—to the territory. The platoon system is certainly one of the references informing Teixeira's background as an administrator. First implemented in Gary, Indiana, United States, in 1907 by the education administrator W. Wirth, also an architect, and based on John Dewey's educational philosophy (Case, 1931; Spain, 1929), Anísio Teixeira learned about the platoon system during his first study trip to Teachers College, Columbia University, in 1927, on the occasion of his visit to the Brady School in Detroit.[6]

Although the report of this particular trip conveys his impressions about several educational institutions visited in different locations in the United States, it is essential to point out his enthusiasm for the educational architecture program observed at Brady School (Teixeira, 2006, pp. 177-188), especially in view of the solutions he would later come up with while working with his architecture teams.

His first team of architects was formed within the Division of School Buildings and Facilities when he was in charge of the Board of Public Instruction of Rio de Janeiro (1931-1935). At the time, he was responsible for the typological elaboration of the Minimum Plan for School Buildings (Dórea, 2003; Oliveira, 1991), designing projects which, by referencing the platoon system, carried the seed of what would later become the Park-school, Class-schools program implemented at *Centro Educacional Carneiro Ribeiro*, in Salvador. In a second experience, now as secretary of education of Bahia (1948-1951), Anísio Teixeira enjoyed the support of the technical team of the urban planning office of the city of Salvador (EPUCS), especially architect Diógenes Rebouças, who was involved in urban planning efforts in the city and also worked alongside architect Hélio Duarte in the architectural projects for the CECR Park-school and Class-schools buildings (IPAC, 2014; Andrade Jr. 2012; EBOLI, 1983). Finally, the School Building Program for the Educational Plan of Brasília (1958) developed in the context of the creation of the new Brazilian capital, the result of a collaboration between the Brazilian Center for Educational Research (CBPE), a branch of INEP, then directed by Anísio Teixeira, and Novacap (Chahin, 2018), the company responsible for the urbanization works. Although none of these experiences[7] had their projects fully

[6] The system was later spread by educator and educational administrator Ellwood P. Cubberley and applied to over a hundred schools in Detroit (Case, 1931, pp. 30-35). The Brady School, visited by Anísio Teixeira in 1927, was one of these schools. On the same topic, Ronald D. Cohen and Raymond A. Mohl's (1980) study of the Gary Plan paradoxes is noteworthy.

[7] Given the scope of this article on what would be a formulation for the issue of school equipment in Brazil in accordance with Anísio Teixeira, the picture presented here refers only to a portion of a broader research effort.

realized, it was during this process of multiple dialogues that the Park-school, Class-schools program came to be shaped.

In order to reflect on the confluence of ideas between Anísio Teixeira's proposal and the constitution of educational architecture as an interdisciplinary specialization throughout these experiences, I propose what can be called a "montage" (Jacques, 2018; Jacques & Pereira, 2018), presenting side-by-side some events related to the school space .Aware of the limitations of this portrayal and not purporting to exhaust the issue (Chartier, 2000, p. 243), the picture presented here deals with successive efforts in favor of rationalizing the production of school equipment, from the genesis of an interdisciplinary field of expertise in the early decades of the 20th century to a series of actions focused on the industrialization of school construction as directed by UNESCO during the second post-war period.

In this montage I approach the constitution of a modern school program in which the school building began to absorb new functions directly related to the pedagogical renovation movements that flourished throughout the 20th century (Dudek, 2000; Roth, 1950). Starting from this framework it is possible to identify certain spatial qualities of school architecture produced around the world, including a noticeable reorientation towards a dialogue between school equipment and the city. Beyond a monumental urban landmark, the school was systematically thought as necessary infrastructure in all localities, organizing not only the territory, but also its communities (Houghton & Tregear, 1969; Kennedy, 1979; Perry, 1929; Perry, 1910).

Still in the context of these international efforts, it is worth mentioning that the Anisian formulation for the problem of school infrastructure in Brazil takes part in a larger "game" of circulating educational, architectural, and urban ideas characteristic of 20th century modernity, ideas which flowed on two-way streets, shaping institutional cultures through multiple actors who did not always share convergent understandings or equivalent forms of appropriation of the same international repertoire. Brazilian modernity, created between the 1930s and 1950s, was also an arena of clashes and adaptations resulting from institutional negotiations, driving a complex fabric of concepts—in opposition to what could be interpreted, in Francisco Liernur's terms, as a unidirectional assimilation of ideas (2014, p. XIII). This article, therefore, is guided by the observation of Anísio Teixeira's propositions, taking into account the circumstances of a long process of interdisciplinary and transnational exchanges.

The international diologues of Anísio Teixeira is evident not only in his biography, but also in the formulation of his educational ideas and in the weaving of the policies he introduced as a public administrator of Brazilian education. His correspondence[8] also points to the myriad of interlocutors cultivated throughout his career, since his first study trip to Teacher's College, Columbia University, in 1927 (Cardoso, 2011; Nunes, 2000; Nunes, 2007). Nevertheless, despite his later trips to the United States, the recurring

[8] Anísio Teixeira's archives are kept by the Research and Documentation Center, CPDOC, associated with Fundação Getúlio Vargas. For more details, access: https://cpdoc.fgv.br/acervo/arquivospessoais/programa

mentions of John Dewey's work, and the constant training agreements offered to Brazilian and American technicians, researchers, and professors in institutions in both countries, it is important to note that his intellectual exchanges did not engage only with American thinkers and institutions. Both his performance as a UNESCO official in the 1940s and the constellation of contacts he established and strengthened from that moment until his departure from the leadership of INEP in 1963 are all remarkable circumstances in his trajectory.

The fact that he was part of a Brazilian intellectual elite is an equally noteworthy fact for the recognition of Anísio Teixeira's interlocutions. His social environment made him part of a group of thinkers and public officers who were committed to a national development agenda. These were people who held command posts, envisioned public policies, and sought to strengthen a typically modernist national identity (Gorelik, 2005). It is this context that explains his proximity to modernist architects and urbanists, especially those who belonged to or engaged with the political arena that marked the city of Rio de Janeiro as the first republican capital. That's why we can find his name among the signatories of the manifesto for the creation of the Center for Studies and Dissemination of Brazilian Architecture (NEDAB) (*Habitat*, 1954, p. 2).

The Constitution of an Interdisciplinary Field of Expertise

Efforts for school expansion were characteristic of the 20th century and aimed both at the qualification of pedagogical practices as well as the qualification of school time and space. Moving beyond ideologies, cultural interpretations, and theories, these efforts were anchored in technical and functional formulations, providing the opportunity to create quality parameters for the implementation and performance of basic schooling. On the one hand, the traditional school program, defined by "reading, writing, and arithmetic courses, which often operate intermittently, with no educational purpose and regular organization" (Teixeira, 2006, p. 178), was being transformed to meet new goals as well as to approach new contents through renewed pedagogical methods, expanding the range of school attributions. It was no longer enough to guarantee access to literacy. It was now necessary to implement a generalized school program also focused on technical and artistic training, socialization, body care, and the implementation of a culture of peace, among other objectives.

On the other hand, the production of specialized literature on school spaces begins to establish itself as an object of professional technical work. Manuals focused on school architecture multiplied throughout the 20th century, so that a set of parameters for a good spatial configuration of the school, its location, its costs, its adequacy to pedagogical and community demands, as well as the anticipation of the need for maintenance and further reforms resulting from curricular changes over time, among other precepts, was progressively established. At first, this explosion of publications is driven by renovation movements, highlighting the importance of shaping the school's spatial configuration through a specialized architectural project. Therefore, such publications are also put forward by education bodies of national and local public offices, non-governmental organizations, architectural institutions, or even by UNESCO

(Donavan, 1921; Perkins et al., 1925; Engelhardt & Engelhardt, 1930; School Planning Associates & Engelhardt, 1941; National Council on Schoolhouse Construction, 1949; Caudill, 1953; US Office of Education, 1953; US Office of Education, 1954; Engelhardt et al, 1956; US Office of Education, 1956; NY Board of Education, 1957; Uia, 1958; American Association of School Administrators, 1960; Oddie, 1966; Engelhardt, 1971; Asla, 1973; Oddie, 1975).[9]

Architecture takes on a prominent role in this endeavor, making the discussions more sophisticated through technical contributions both in terms of space (suitability of environments to new educational functions, recognition of a series of needs and demands related to ergonomics, ventilation, lighting, acoustics, etc.) and constructive streamlining (systematization of components and furniture, prefabrication, respect for local construction techniques) (Baker, 2012; Kowaltowski, 2011, pp. 63-110; Dudek, 2000, pp. 1-40; Lowe & Seaborne, 1977). Schools are no longer made up of volumes organized by a simple arrangement of identical rooms structured by corridors, a program often reproduced on more than one floor; now they start to display auditoriums, sports facilities, laboratories, and workshops with their own equipment. The environments are articulated around internal patios or patios that open to external areas, among other strategies marked by more complex spatialities (Roth, 1950). The school opens up to the outside on account of new understandings regarding health and hygiene, as well as local climate issues, adding areas and sections specially designed for special and extracurricular educational activities (Chatelet, 2003; Neutra, 1948). These are transformations that undoubtedly respond to the demands brought by modern pedagogies. Far from presenting a totalizing historical narrative about the school space, or even suggesting any link between the pieces, the montage that follows highlights documents related to a series of events in the successive administrations of Anísio Teixeira. Observing them in their proper contexts, albeit in juxtaposition, might offer clues about the exchanges involved in the formulation of the Anisian modern school program. Presented in two stages, and from the perspective of technical-professional encounters that marked his trajectory at different times, the picture must be understood as a hypothesis, as clouds of technical repertoires related to the school space that informed the thoughts and actions of Anísio Teixeira while administrator of public education in Brazil.

School Administration Meets Architecture And Urbanism

Tracking the flow of people, models, practices and pedagogical materials, among other elements of the educational universe, has been the methodological strategy for studies aimed at interpreting a variety of episodes in the history of education in Brazil (Rocha, 2020; Rabelo, 2016; Gondra & Mingnot, 2007). A series of exchanges promoted by Anísio Teixeira are mentioned, from sending teams of educators on educational missions to the United States between 1931 and 1935 while he was in charge of the

[9] Most of this set of references was gathered from research in the library at Teachers College, Columbia University, resulting in a prevalence of US textbooks in this selection.

Department of Public Instruction in Rio de Janeiro, to collaboration with the long-term *Bahia State* research project, coordinated by anthropologist Charles Wagley, between 1949 and 1970 at the Latin American Studies Institute at Columbia University, either by providing opportunities for American researchers to come to work with the CBPE or by making it possible for INEP professors and employees to travel to the United States for training courses (Wagley & Wagley, 1970).

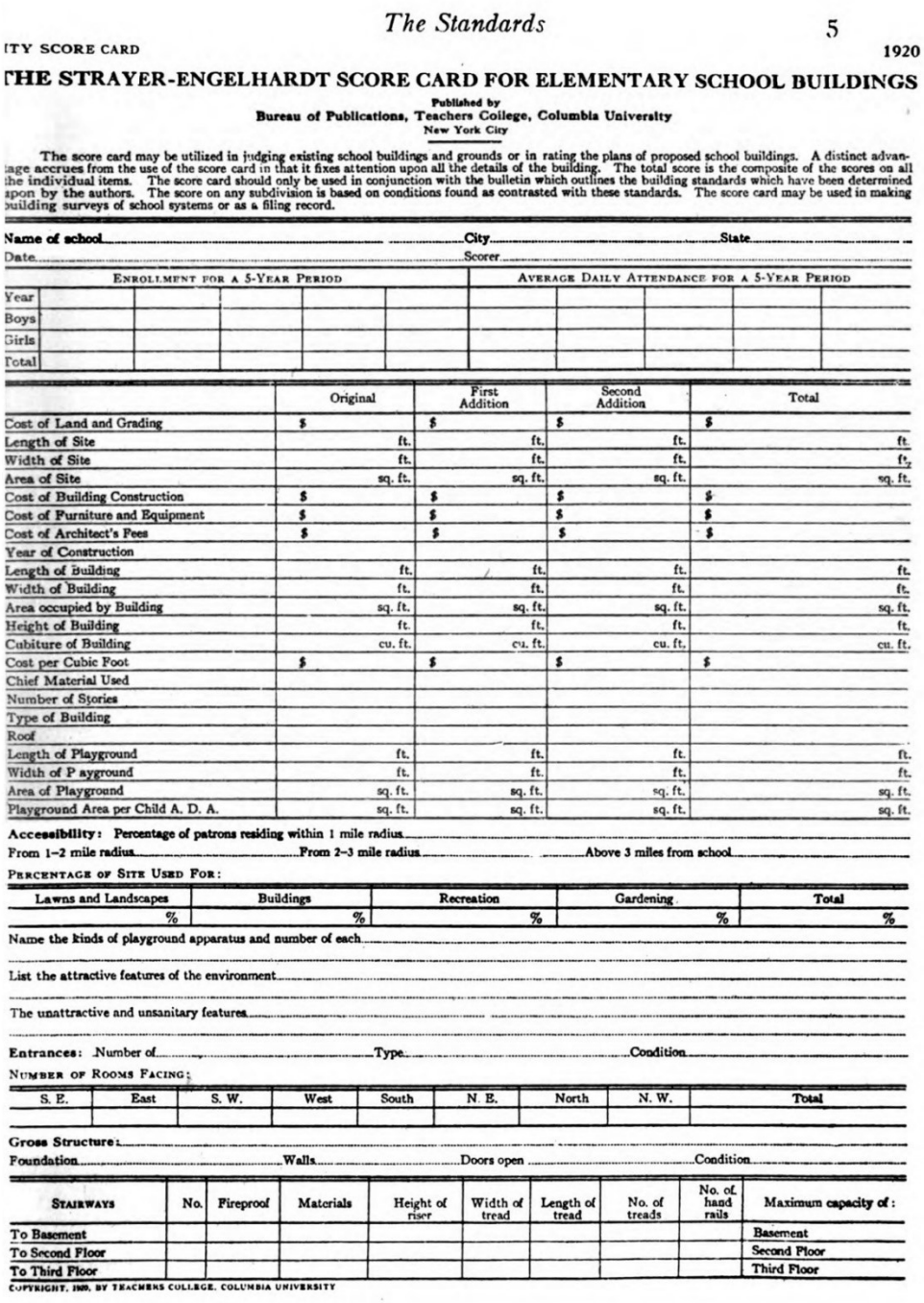
Regarding actions directly related to school buildings, it is worth highlighting an interesting circumstance of the daily work environment at the Division of School Buildings and Facilities, coordinated by architect Enéas Silva, during the stewardship of Anísio Teixeira at the Department of Public Instruction of Rio de Janeiro (1931-1935): the adoption of the methodology for evaluating school construction formulated by teachers N. Engelhardt and G. Strayer in the context of their research on resources and procedures for managing school equipment, developed at Teachers College, Columbia University (Sampaio, 1935, pp. 261, 264-265). The “scorecard” they adopted reports the commitment of this public department to use technical-scientific rigor when assessing the conditions of existing school buildings in the city, as well as the guiding principles for the effort to formulate and implement a plan of distribution of schools, corroborating what Clarice Nunes identified as a drive to produce systematized and organized knowledge about school infrastructure (2000a, p. 236)[10] in the face of the widespread precariousness of school facilities, usually improvised in rented properties (Nunes, 2000b; Vidal & Faria Filho, 2000).

These spreadsheets were part of the material circulating in Brazil at the time, which would often come in the bags of the educational professionals returning from study trips, passing on academic research themes that reflected the practices of a variety of professional institutions. In this universe of sources, it is worth pointing out the appearance of those manuals in proper school buildings mentioned above. As an example, and insisting on the same institutional context, the book *School Planning and Building Handbook* was introduced to the library of the São Paulo Regional Center for Educational Research (CRPE-SP) only a few years after its release.[11] This is a mature work by the same professor N. Engelhardt, now in partnership with other authors, which tackles two decades of research on school construction, synthesizing results and polishing propositions (Engelhardt et al, 1956). With over six hundred pages, the manual addresses a wide variety of issues, from parameters for choosing where the school should be implanted and the building project, taking into consideration the hiring

[10] Despite the recurring associations between Anísio Teixeira and the philosophy of education in the United States, especially through his appropriations of John Dewey, the event also points to an intense dialogue with the issue of school administration (NUNES, 2000a, p. 117-118).

[11] The Regional Centers for Educational Research (CRPE) were a function of the structure of "the Brazilian Center for Educational Research (CBPE), which was an institution created in 1955 by Anísio Teixeira during his management of INEP. With the extinction of the CBPE, the CRPE-SP library was incorporated into the library of the Faculty of Education of the University of São Paulo. His books can be recognized by the stamp of the institution he had created. Other documents from the CRPE-SP collection can be found at the Education Memory Center, also located at the Faculty of Education of the University of São Paulo.

of architecture and engineering teams, to the specification of materials and furniture, the necessary financial resources, and even recommendations on the choice of the school's name.



The Standards 5

ITY SCORE CARD 1920

THE STRAYER-ENGELHARDT SCORE CARD FOR ELEMENTARY SCHOOL BUILDINGS

Published by
Bureau of Publications, Teachers College, Columbia University
New York City

The score card may be utilized in judging existing school buildings and grounds or in rating the plans of proposed school buildings. A distinct advantage accrues from the use of the score card in that it fixes attention upon all the details of the building. The total score is the composite of the scores on all the individual items. The score card should only be used in conjunction with the bulletin which outlines the building standards which have been determined upon by the authors. The score on any subdivision is based on conditions found as contrasted with these standards. The score card may be used in making building surveys of school systems or as a filing record.

Name of school ..... City ..... State .....
Date ..... Scorer .....

	Enrollment for a 5-Year Period					Average Daily Attendance for a 5-Year Period				
Year										
Boys										
Girls										
Total										

	Original	First Addition	Second Addition	Total
Cost of Land and Grading	$	$	$	$
Length of Site	ft.	ft.	ft.	ft.
Width of Site	ft.	ft.	ft.	ft.
Area of Site	sq. ft.	sq. ft.	sq. ft.	sq. ft.
Cost of Building Construction	$	$	$	$
Cost of Furniture and Equipment	$	$	$	$
Cost of Architect's Fees	$	$	$	$
Year of Construction				
Length of Building	ft.	ft.	ft.	ft.
Width of Building	ft.	ft.	ft.	ft.
Area occupied by Building	sq. ft.	sq. ft.	sq. ft.	sq. ft.
Height of Building	ft.	ft.	ft.	ft.
Cubiture of Building	cu. ft.	cu. ft.	cu. ft.	cu. ft.
Cost per Cubic Foot	$	$	$	$
Chief Material Used				
Number of Stories				
Type of Building				
Roof				
Length of Playground	ft.	ft.	ft.	ft.
Width of P ayground	ft.	ft.	ft.	ft.
Area of Playground	sq. ft.	sq. ft.	sq. ft.	sq. ft.
Playground Area per Child A. D. A.	sq. ft.	sq. ft.	sq. ft.	sq. ft.

Accessibility: Percentage of patrons residing within 1 mile radius .....
From 1–2 mile radius ..... From 2–3 mile radius ..... Above 3 miles from school .....

Percentage of Site Used For:

Lawns and Landscapes	Buildings	Recreation	Gardening	Total
%	%	%	%	%

Name the kinds of playground apparatus and number of each .....

List the attractive features of the environment .....

The unattractive and unsanitary features .....

Entrances: Number of ..... Type ..... Condition .....

Number of Rooms Facing:

S. E.	East	S. W.	West	South	N. E.	North	N. W.	Total

Gross Structure: .....
Foundation ..... Walls ..... Doors open ..... Condition .....

Stairways	No.	Fireproof	Materials	Height of riser	Width of tread	Length of tread	No. of treads	No. of hand rails	Maximum capacity of:
To Basement									Basement
To Second Floor									Second Floor
To Third Floor									Third Floor

Figure 3a. Strayer-Engelhard Scorecard used by the Division of School Buildings and Facilities as a parameter for evaluating school buildings, during the administration of Anísio Teixeira in Rio de Janeiro (1931-1935)

SCORE CARD
TO BE USED IN THE SELECTION OF SCHOOL BUILDING SITES

By N. L. ENGELHARDT
Teachers College, Columbia University

Location of Site Under Consideration _____

ITEM	DESCRIPTION OF ITEM	1		2	
I. LOCATION AND ACCESSIBILITY				250	
A. Scientifically located as to present and future population	Objective techniques used to measure population in all aspects contributing to a best choice	50			
B. Maximum distances	High school—2 miles ; junior high school—1 mile; elementary school—½ mile	50			
C. Accessibility to general public	The site should be readily accessible to all who are to be served by this school	30			
D. Remoteness from business	Freedom from business distractions should be sought	30			
E. Remoteness from industry	Sites should be free from noise, odors, dust and traffic of industry	30			
F. Remoteness from hazards	Freedom from all immediate water, air, or land travel hazards	30			
G. General character of neighborhood	General locality should offer only the most favorable social influences	20			
H. Proximity of service utilities	Access to water, sewers, electric light and power, gas and telephone should be readily possible	10			
II. SIZE	High school—20 or more acres; junior high school—10 or more acres; elementary school—5 or more acres			300	
III. TOPOGRAPHY				250	
A. Elevation	Suitable for proper drainage throughout at reasonable cost	50			
B. Orientation	The preferred orientation for each type of room should be possible. Desirable relationship of buildings to one another and to play fields and service units should be attainable	40			
C. Shape	The shape should be approximately rectangular, in order to eliminate unusable space, but with length not too long for width	40			
D. Vista	Maximum capitalization of the aesthetic both from a distance and at close range should be sought	30			
E. Surface of land	A portion of the area should be available, at a reasonable preparation cost, for athletic fields and playgrounds. A portion of site sufficient for a commanding location of building is essential	50			
F. Distribution of natural elements	Position of soil, rocks, water and sand should be such as to insure ease in putting in foundations and making athletic fields and playgrounds. Should be suitable for landscaping and gardening	40			
IV. UTILIZATION AND COST				200	
A. Present utilization	Site should be free from expensive structures with minimum salvage value	25			
B. Future utilization	Possible future value, if not used for school purposes, should be anticipated so that a minimum of future tax revenue is lost	50			
C. Original cost	Cost should be reasonably consistent with the character of the community	100			
D. Other costs	Cost of new improvements, such as streets, sidewalks, sewers, and water extensions, should be considered	25			
	MAXIMUM POSSIBLE SCORE	1,000		1,000	

Use the second half of Column 1 for the scores on the literal subdivisions when a specific site is being rated. The second half of Column 2 permits of the summation of these scores.

Figure 3b: Engelhardt Scorecard for the selection of locations for the implementation of schools (ENGELHARDT, 1929).

Among the many translations, either directly related to the intellectual writings of Anísio Teixeira or derived from professional practices carried out since INEP, one receives little attention: a collection produced by the School Housing Section, in association with the US Office of Education, Department of Health, Education, and Welfare.[12] Entitled *Projetos de sala de aula para curso primário* (1956), the manual presents itself as a contribution to the issue of planning classrooms suitable both for children and pedagogical programs. The preface to the translation, signed by INEP, explains to the reader that, while recognizing the practical impossibility of applying much of that content in Brazil,[13] it is important to disseminate that material in order to show "the spirit in which primary school should be approached" (US OFFICE… 1956, p. II). And what would this spirit be? The awareness that there is no spatial standard to be implemented in all schools. Therefore, the main content discussed in the manual was methodological and not formal. Throughout its pages, the classroom project is seen as a complex problem, defined by elements directly related to the educational project. Above all, it should be conceived according to the recommendations of a "classroom commission," formed by members of the administration and also of the community (parents and students). In this manual, the planning of the school space must include teachers, students, and parents, and only at a later time should the school administration seek an architectural office.

Regarding this translation, there's a curious fact: the original cover was changed. The Brazilian edition is illustrated with an image of the project model for the *Instituto do Professor Primário* (Institute for Elementary School Teachers), which would later house the CBPE's São Paulo branch. The project was conceived by architects Alcides Rocha Miranda and José de Souza Reis.[14] Both were involved in the creation of NEDAB and associated with the Rio de Janeiro circle of modernist architecture, organized around names such as Oscar Niemeyer and Lucio Costa, central characters in the formulation of the Educational Plan for Brasilia.

[12] Despite the collection originally had other works, I could only locate only a translation of this issue; on the back cover, it says: "Annotated translation of an original work by the Office of Education of the US Department of Health, Education, and Welfare (Special Publication nº 1), Washington, 1953, published by the National Institute of Pedagogical Studies, associated with the Ministry of Education and Culture, Rio de Janeiro, 1956". Here are other titles from this collection, found in their original English version at the Avery Library, Columbia University, during research carried out in 2017: *The secondary school plant. An approach to planning functional facilities* (1956); *Functional schools for young children* (1961); *Space and Facilities for Art Instruction* (1963).

[13] The translation points out that this situation was possible in the United States due to the greater decentralization of the administrative structure of public education, based on School Boards (U.S. Department, 1956, p. 2; 5).

[14] The actual building differs from the model. Today it houses the Faculty of Education of the University of São Paulo (*Habitat*, 1954, p. 27-28).

Figure 4. *Left*: Cover of the original publication (US OFFICE… 1953). *Right*: Cover of the translation made by INEP (US Office… 1956).

In these documents, one can see the school space being designed and built with greater programmatic complexity and technical rigor, as well as the existence of a systemic reasoning in which the school network is conceived from a careful reading of the urban environment, as well as from the social characteristics of the place where each building is located. The circulation of this set of ideas could be dissected by a deeper reading, not only to decipher with greater complexity the contexts of the production and appropriation of each of the mentioned documents, but also to find new signs and, consequently, formulate more robust connections regarding the consolidation of school architecture as an interdisciplinary spatiality. For the purposes of this text, however, mentioning them will have to suffice.

Exchanges With Architecture And Urbanism

The maturation process of the Park-school, Class-schools program takes place over a period of time when Anísio Teixeira goes through many different experiences related to the implementation of school buildings, notably his work at the Board of Public Instruction of Rio de Janeiro (1931-1935), his initiatives at the Department of Education of the State of Bahia (1947-1950), and his headship at INEP (1952-1963) when the proposition for the Educational Plan of Brasília (1958) came about. In addition to these explicit technical-professional endeavors that left a valuable built legacy, and besides a myriad of institutional documents on the problem of school infrastructure (Chahin, 2018; Ruas, 2018; Dórea, 2003; Oliveira, 1991; Andrade Jr., 2012), many other circumstances mark the cloud of relationships that made possible the maturing of an Anisian proposition for the modern school program in Brazil.

Undoubtedly one of the articulators of Brazilian modernity, always open to interdisciplinary exchanges, Teixeira takes architecture and urbanism as allied forces for Brazilian progress. What is explicit in his speech on the occasion of the opening of the School Architecture Exhibition, organized by the *Associação Brasileira de Educação* (Brazilian Educational Association, ABE), in 1934 (Teixeira, 1934, p. 6), as well as in his consideration about the strength of incipient modern architecture as a vehicle for the

construction of a Brazilian identity, in the article "*Um presságio de progresso*", published in 1951 in *Habitat* magazine.[15] Teixeira sees the prominence of modern Brazilian architecture, displayed in its articulations and productions in the realm of cultural policy, as an indication of what the great adventure of building a national identity could entail.

> What, however, characterizes Brazilian architecture for us to make such a bold statement? Nothing more, and also nothing less, than 1) a singular liberation from old conceptions; 2) a courageous adaptation of old and new building functions to new features and new construction techniques; and 3) a lyrical confidence in man's ability to solve his problems. But what else should mark the actions of men who, in this stormy mid-20th century, were faced with a continent to conquer and an entire country to build? (Teixeira, 1951, p. 3)

This reliance on Brazilian architecture was mirrored throughout his career, in the recurring articulation of architectural teams, or even in the hiring of architects as consultants, along with the public policies that he would advance in all his iterations in public administration. When he launches his provocation on what should be the spatiality of a modern education program, Anísio Teixeira inspires and drives a sequence of experiments, reflections and even the construction of school plans. In turn, the fields of architecture and urbanism incorporate Teixeira's challenge, actively collaborating in the shaping of what became the Anisian proposition for the modern school program.

Among the experiences inspired by Teixeira's production, one cannot leave out the *Convênio Escolar Paulista* (Educational Agreement of the State of São Paulo), coordinated by architect Hélio Duarte, graduated in 1930 in the fervent modernist environment of the *Escola Nacional de Belas Artes* (the National School of Fine Arts - ENBA), in Rio de Janeiro. Duarte collaborated with Anísio Teixeira in the spatialization of CECR alongside Diógenes Rebouças (Lessa, 2017). Although never built, Duarte's version for this school complex (Rocha & Ruas, 2016), alongside the Park-school, Class-schools brochure (Duarte, 1973), written in the context of his teaching activities at the Faculty of Architecture and Urbanism at the University of São Paulo, are evidence of the appropriation of the modern school program that echoed throughout the national territory mainly through the influence of Anísio Teixeira. Echoes that would mark other school productions in Brazil, including in terms of international recognition.

[15] The magazine was created by the Italian immigrant couple Lina Bo Bardi and Pietro Maria Bardi as a vehicle for cultural education and promotion in Brazil. It published pieces on art, architecture, design, cinema, theater, music, photography, among other subjects. *Habitat* was issued between 1951 and 1965, constituting an important archive for discourses that helped to engender a Brazilian modernist identity.

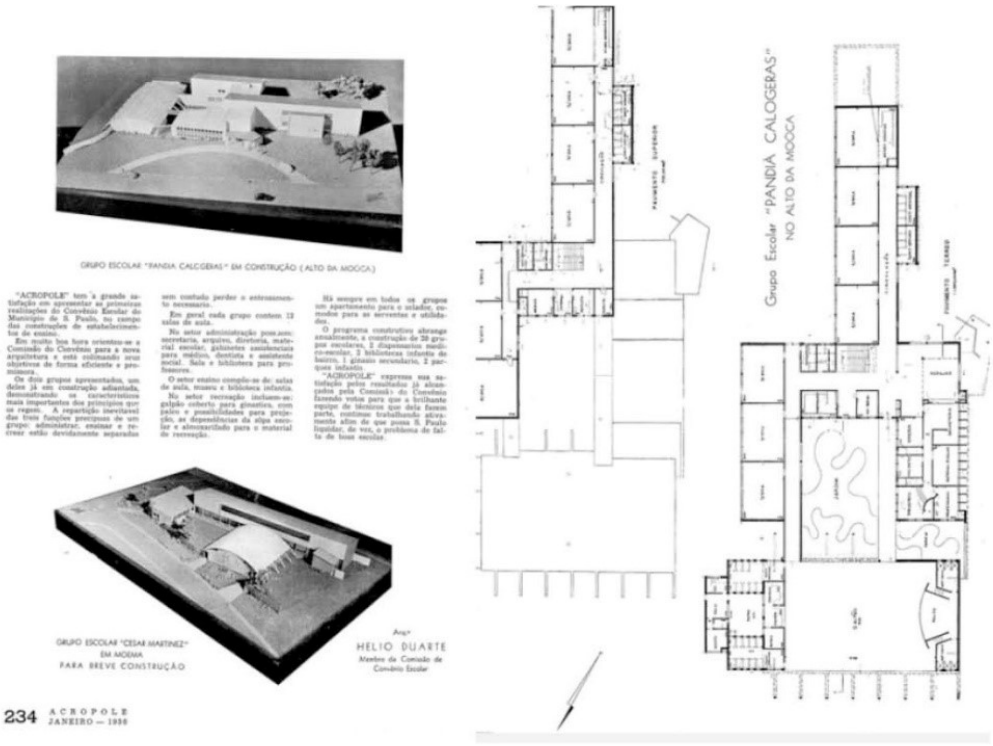


Figure 5. Dissemination of school projects designed by Hélio Duarte within the context of the Educational Agreement in São Paulo (Acrópole 1950, 234, p. 234-235)

In the history of the Brazilian school space, there are not many cases of public administrators in education so enthusiastic about the propositions of modernist architecture. Even so, the fact is that the recognition of this Brazilian architectural and urban production reached high levels of acceptance in those decades. The international projection of Brazilian modernist ideas can be confirmed by a myriad of authors, here in Brazil and abroad. Whether due to its formal exuberance, its boldness in the formal mobilization of reinforced concrete, the relevance of its spatial solutions in relation to the needs of modern society, or the richness of its different regional languages, the recognition of this Brazilian modernist inventiveness celebrates a set of works produced to serve the most diverse programs, ranging from manufacturing facilities to museums, from housing projects to new cities—and, of course, schools.

In the years after the Second World War, as part of the efforts towards a culture of peace through the promotion of education and culture programs, there was a demand for the setting of international parameters that could guide nations in the implementation of their network of school buildings. The International Union of Architects (UIA) is then invited by UNESCO to map the condition of school infrastructure in fifteen European

countries and the United States in order to set guidelines that would help in the task of generalizing the construction of schools around the world. The request gave rise to the creation of the *Commission des Constructions Scolaires*, whose first report, published as *L'école et ses problèmes* (UIA, 1955), is dedicated to researching and formulating technical guidelines for the planning of school building networks.[16] The material would become a reference for the technical dialogue between UNESCO and local political forces, with the aim of establishing milestones for the implementation of a national school infrastructure.

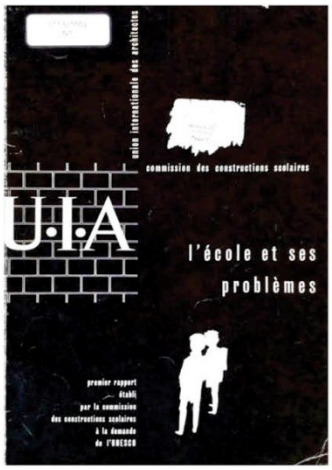


Figure 6. L'école et ses problèmes (UIA, 1955).

In 1957, the International Union of Architects, UIA, following this first partnership with UNESCO, published issue number 72 of *L'Architecture d'Aujourd'Hui*, dealing with problems and spatial references regarding school architecture with a clearly modernist bent. Besides presenting a first version of what would become the *Charte des Constructions Scolaires*, ratified by the 1958 UIA meeting in Rabat, (UIA, 1968)—a document that would circulate among professional institutions of architecture and urbanism around the world, including Brazilian ones, especially in the 1960s—this number puts forward a repertoire of school architecture projects produced in several countries, from Lebanon to Brazil (excluding Africa), transcending the geographical barriers that conditioned their initial research. This issue of *L'Architecture d'Aujourd'Hui* can be read as a compendium regarding the great questions that moved school architecture in those years, tackling spatial issues that ranged from kindergarten to universities (e.g., University of Caracas, designed by Venezuelan architect Carlos Raul Villanueva).

[16] This report was the result of a survey presented by the International Union of Architects to 16 countries in the northern hemisphere (fifteen European countries plus the USA), asking them to present their considerations regarding guidelines for good school infrastructure, as well as examples of schools in operation that could serve as inspiration for international public policies.

It is worth mentioning, for example, the constructive rationality present in French projects, conceived according to an apt logic of spatial modulation and detailing of prefabricated structural sections, also concerned with the best lighting and thermal conditions for the environment (*L'Architecture* 1957, pp. 4-15); or even the logic of programmatic spatialization of large school complexes produced by the architecture department of the London County Council (pp. 50-53). The school projects by Brazilian Enéas Silva,[17] also featured in this edition (pp. 96-101), encompass an emblematic repertoire of formal solutions related to modernism as conceived in Brazil, also signaling how school architectures produced here approached the organization of the modern school program with their own spatialities.

There are several other circumstances that point to dialogues and resonances in the field of architecture and urbanism brought about by the initiatives of Anísio Teixeira related to public school administration. Many still call for the attention of researchers, such as the aforementioned case of the project for the Institute of the Elementary School Teacher developed by Alcides Rocha Miranda and José de Souza Reis, for example, or even the association of Teixeira with NEDAB. The objective here, however, is not to exhaust these issues, but only to signal clouds of a technical and projectual repertoire which, in some way, hover over the trajectory of Anísio Teixeira and that engages, to a large extent, with the agenda of international articulations on school infrastructure. It was in this context, between concepts and achievements, that Anísio Teixeira's school program, rooted in the city of Salvador in the late 1940s, flourished in the form of the CECR over more than a decade, being picked up in 1964[18] as a UNESCO reference.

The Educational Program of Anísio Teixeira

In his speech at the III National Conference on Education, while recognizing the systemic ills of the Brazilian educational system and expressing dismay at its current state, Teixeira speaks enthusiastically about his desire to see the Carneiro Ribeiro Educational Center as a model for the Brazilian elementary school: "It constitutes an attempt to produce a model for our elementary school" (Teixeira, 1967, p. 247).

[17] Enéas Silva, architect who, as mentioned before, coordinated the Division of School Buildings and Equipment of the Public Instruction Board of Rio de Janeiro, during the administration of Anísio Teixeira. In this department, he led names such as Paulo de Camargo e Almeida, Atílio Correia Lima and Wladimir Alves de Souza, a team that brought together recently graduated architects from the National School of Fine Arts in Rio de Janeiro, one of the birthplaces of modern Brazilian architecture. (RABELO, 2011). Years later, Wladimir Alves de Souza would become the representative of the Institute of Architects of Brazil (IAB) at the *Commission des Constructions Scolaires* of the International Union of Architects (DEDECCA, 2018, p. 401).

[18] With its work starting in 1947, the partial inauguration of the CERC took place on October 21, 1950, with only three school-classes and two of the pavilions of the School-Park complex. The other buildings that make up the School-Park complex were built during the 1950s as financial resources became available. In 1967, the CECR was still unfinished, still without one of its class-schools and without the pavilion for the shelter of helpless children (Teixeira, 1967; Éboli, 1983).

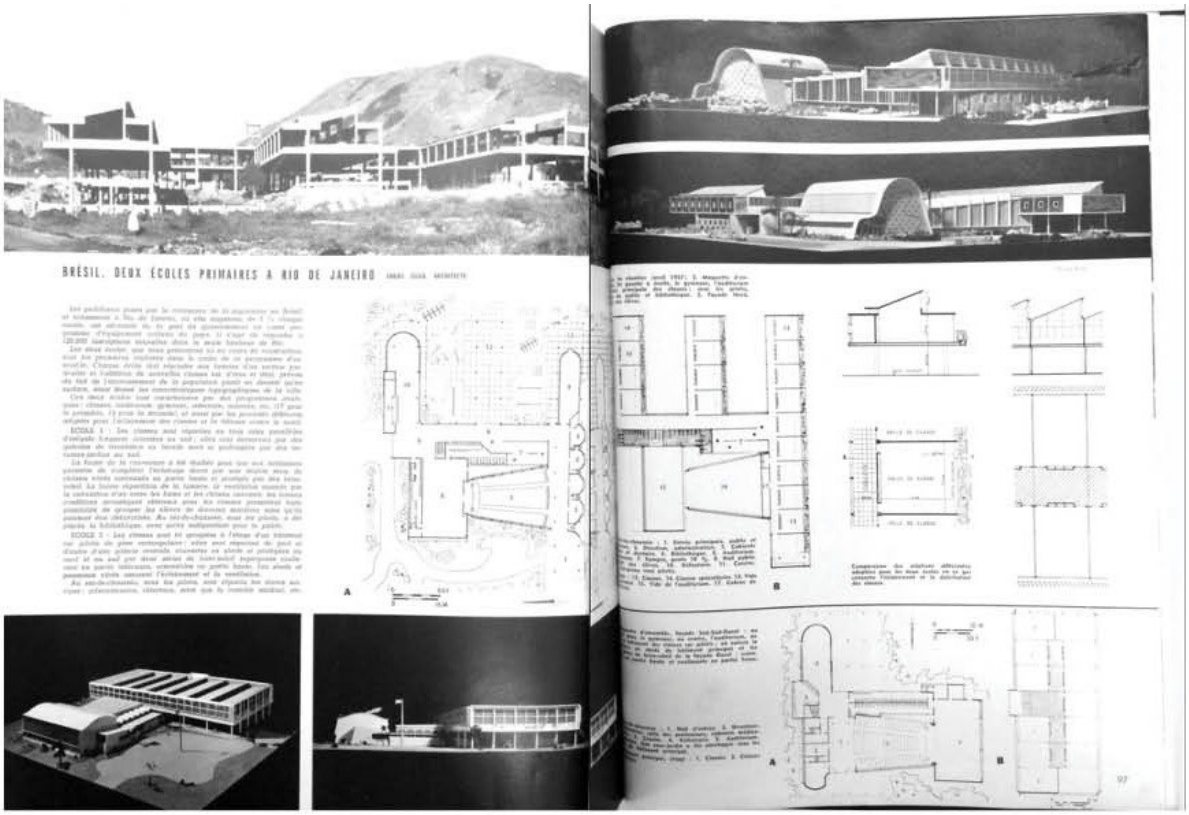


Figure 7. Elementary school project by Enéas Silva, published in *L'Architecture d'Aujourd'Hui*, nº 72, 1957, pp. 96-97, 99.

Although first conceived during his administration as secretary of education in the state of Bahia in the late 1940s, CECR was brought about in the context of the national circumstances that led Anísio Teixeira to create the Brazilian Center for Educational Research (CBPE, the Portuguese abbreviation) and its five regional research centers, "a system of educational research, distributed throughout the different regions of the country" (p. 249). The Carneiro Ribeiro Educational Center, thus, would be presented as a model for basic schooling in an administrative perspective of regionalized educational public policies, associated with the different local cultures observed in different regions of Brazil (Mendonça & Xavier, 2008; Xavier, 1999a, 1999b).

Although Anísio Teixeira had stimulated a reorientation of the production of school architectures during his management in the Board of Public Instruction of Rio de Janeiro, between 1931 and 1935 (Dórea, 2003; Oliveira, 1981)[19], it was in Salvador that an Anisian proposal for a modern school program was shaped, based on the CECR

[19] In the context of this public initiative, Anísio Teixeira pushed the school out of its own boundaries, expanding its area of influence in the city and conceptually outlining what he would later call progressive education (Nunes, 2000, pp. 227-345; Teixeira, 2007).

model. In his own words, his innovative scheme of operation can be presented as follows:

> The student body would enroll in the four class-schools, with their traditional grade placement, where they would spend half the time of the full 9-hour school day, divided into 4-1-4 hours. The other half of the time would be spent in the park-school, with an organization that differed from the conventional school, with students grouped predominantly by age and type of aptitude; the groups would no longer have 40 students, but 20; during the week, these students would participate in work activities, physical education activities, social activities, artistic activities and organization and library activities. Each morning, half of the students would be at the park-school and the other half would be spread over the four class-schools. At noon, morning class-school students would head to the park-school, where they would have lunch, rest in recreational activities and then be distributed, according to the program, to the different activities of the park-school. Meanwhile, the students who had spent the morning at the park-school would, in turn, have lunch at the class schools and would then be distributed among their school activities. Each student thus belonged to his class-school group and to another possible park-school group. As, in all, they move around several places every day, first from the class-school to the park-school and, once in the park-school, to the work pavilion, the sports hall, the social activities pavilion, the theater, the library and the restaurant, it is understood that this handling of 2,000 students at a time for different activities in different places would not lack complexity. However, the operating model, together with the timetable and the plan for handling the movement of children, as conceived at the time, showed the perfect feasibility of the program and made it possible to appreciate the educational benefits of the planned structure. (Teixeira, 1967, pp. 251-252)

The CECR would be the first of a set of *Centros de Educação Popular* (Popular Education Centers) planned to structure the elementary education network in Salvador. In an explicit dialogue with the platoon system observed by him at the Brady School during his stay in Detroit (Teixeira, 2006, pp. 177-188; Duarte, 1973, pp. 11-20), Teixeira proposed the division of the educational programs of these centers into two different disciplinary times and spaces, attended alternately in the morning and in the afternoon, exploring an educational program that would expand to encompass activities that could bring the school closer to the daily life of the community. While the class-schools would constitute the place for teaching the fundamental subjects of the elementary curriculum (reading, writing, spelling, arithmetic, social studies, history, geography etc.), the park-schools would tackle special subjects (art, music, drawing, manual works, etc.). Located in each of the urban subcenters of the city according to the development plan carried out by the Department of Urban Planning of the city of Salvador, the park-schools of each of these *Centros de Educação Popular* would consist of a set of buildings conceived as “children’s universities” (Teixeira, 1959, p. 84; Teixeira, 1962, p. 25). The focus of attention would shift from traditional subjects to the

interests of the child to be taught, reorienting the school space for educational activities based on real-life experiences, both of social and professional nature, linked to the lives of children in their communities.

Anísio Teixeira and his team sought to "employ the best principles of modern education"; therefore, the spatialization of the CECR should enable "a rich and diverse set of real experiences" where the student, while learning how to read and write and being initiated in the traditional disciplines in the class-school, would also have the experience of engaging with industrial activities in the school-park workshops, getting closer to the daily life of the community during social activities and training as a sportsman in the gymnasium. The inclusion of all these school activities in the curriculum of this elementary school model would start from the very context of the children's lives in their place of residence; later on, these activities would be planned with their full participation and then carried out by the children themselves (Teixeira, 1967, p. 252).

The architectural program of each of the Class-schools was defined by a straightforward building with classrooms and administration, medical and dental offices, on land with outdoor areas, gardens, and a vegetable garden. The architecture program of the Park-school, on the other hand, would demand greater complexity, leading to the design of a larger architectural complex consisting of two pavilions—one for work activities, the other for socializing activities—cafeteria, administration office, indoor gymnasium, outdoor theater, auditorium, and library. It is important to highlight the pavilion for community activities, which was also intended for the use of local adults, constituting a center for social culture fully equipped with library, cinema, theater, a hall for civic celebrations and recreational and literary meetings, as well as a place for offering cultural and technical training for adults.

According to architect Hélio Duarte, when evaluating the situation of the Brazilian school system in light of the requirements of modern education at an international level, Anísio Teixeira realized the need to reform the educational system in Brazil through four equally important tenets: "a diversified curriculum, a program founded on new bases, teachers prepared for new contexts, and adequate equipment" (Duarte, 1973, p. 37). Considering the socio-spatial inequality existing in the country, by promoting educational policies focused on these factors, Teixeira positioned the school building as part of a larger engine for social development operating on a local scale, valuing not only the architectural solutions of an adequate infrastructure, but also its urban function as a social center, articulating the cultural practices of the community in an open dialogue with the role played in social development by educational institutions in the United States. Aware of the roles assigned to school infrastructure, which transcended literacy, and attentive to the economic viability resulting from the adoption of a platoon system spread in the territory, he sought a way to carry out a modern school program in the very heart of underprivileged areas lacking urbanization and suffering from the absence of state.

> The region was the center of one of the so-called 'invasions,' as the precipitous and abrupt formations that in Rio are called favelas are called in Bahia. We know

> that these formations constitute a concentration of poor, displaced people, living in great distress. Governor Otávio Mangabeira had decided to expropriate the land and give the 'invaders' conditions to build their shacks and houses. *What better area could you choose to implement an experiment in elementary education, which could convey to its inhabitants the importance of education as a solution to their problems of life and poverty?* The idea was soon approved, and areas were reserved for schools." (Teixeira, 1967, p. 251, *emphasis added*)

In the American model, schools had their specialized learning environments characterized by the movement of squads of students within a single set of school infrastructure with all the functions of the modern school centralized.[20] Anísio Teixeira and his teams, however, conceived the Park-school, Class-schools program as an infrastructure system that would combine school functions in different buildings spread across the territory. It would prompt the intended economy through the implantation of a great articulating element—the Park-school—which was to be attended after school hours, while also bringing the school unit closer to the community through Class-schools— smaller facilities with a small number of students.

Furthermore, he sought within the country's own capabilities what seemed to him most aligned with the purposes of establishing an exemplary plan for school buildings. A school architecture of modernist language was consolidated as an image of the Park-school, Class-school program in the context of political efforts aimed at formulating a narrative for national identity. Teixeira articulated himself together with other subjects well positioned before public policies of nationalist bias since the time of Gustavo Capanema in the Ministry of Culture and Education (1934-1945) either by occupying technical positions in government departments or by contributing to specific commissions coming from the field of architecture.

The Brazilian Response

The assembly of facts presented is not concerned with constituting any teleological linkage between the facts narrated. Instead of trying to explain it, I observe Anísio Teixeira's answer to the problem of the school space as a "life project" crossed by references not necessarily guided or organized by the same ideology. On the contrary, they were often fortuitous. However, the Park-school, Class-schools program was formulated based on deep knowledge and respect for national conditions, by articulating not only technical resources from the various professional fields that contribute to basic schooling, but also the complex picture of the various local realities where each of the schools would be situated. Thus, the game of ratios that structures the apparently simplistic sentence "four class-schools to one park-school" implies many layers that

[20]Teixeira's representation of the platoon school elevates this form of school organization to the level of a panacea for the new spatial demands brought about by the pedagogical renovation that was underway in Brazil at the time. As a cost-effective strategy to rationalize the use of specialized environments and equipment, as well as to optimize the work of the teacher, it essentially consists of dividing the curriculum and student groups into two blocks: that of fundamental disciplines and that of special subjects (Teixeira, 2006, p. 177).

certainly cannot be reduced to a mere application of progressive tendencies coming from abroad.

In addition to his close professional exchanges with modern Brazilian architecture, which pushed for several advances in the spatial and aesthetic arrangement of the school building, one can also point out a unique contribution to Brazilian urban thinking. In addition to school architecture, the Park-school, Class-schools program ended up as a theoretical basis for urban planning initiatives in the cities where it was implemented, bringing about important seeds for this disciplinary field in Brazil. Anísio Teixeira spread —that is to say, exploded—the modern school program throughout the territory, leading both to an understanding of school buildings' community function as an urban infrastructure system on a local scale.

Formal schooling, according to Anísio Teixeira, in the context of efforts to implement complex public policies across the entire national territory, should be linked to the sociocultural conditions of each location, taking on the important role of being an economic and—why not?—political anchor of the state in these territories. In other words, in addition to providing classrooms, a larger program should be added to the educational effort. This program would be defined according to the needs of each location, carrying on what could be described as the function of educating people for the challenges of life (Teixeira, 1959, 2007). Thus, each *Centro de Educação Popular* would be constituted by spatial and programmatic specificities directly linked to local demands. Like the CBPE and its regional centers, the *Carneiro Ribeiro Educational Center* would be "exploded" throughout the territory, reaffirming this notion that the primary school should adapt to the conditions of each Brazilian location. Along with programs such as Lab Cities, which was part of the CBPE research program, local realities should also be the object of efforts towards teacher training, contributing to the definitions of the school program, from the formal curriculum to the extracurricular activities associated with an infrastructure network intrinsically related to each particular place.

These centers (CBPE and CRPE) were dedicated to the study of education in its different modalities and levels, and also to the study of Brazilian society, to which the multiple Brazilian school systems had to be adjusted. This was large-scale, far-reaching social and human research (Teixeira, 1967, p. 249).

It seems symptomatic that the short documentary produced by the UN was filmed in Salvador instead of Brasília, a recently inaugurated modernist city that was in the spotlight during those early years of the 1960s. Why choose the Carneiro Ribeiro Educational Center, in Salvador, instead of the school complex of the model neighborhood unit of the Brasília Educational Plan? To a large extent, and despite the fact that its installations were never completed, nor was it designed with the constructive rationality that would be one of the guidelines of the debate about school architecture from the 1960s onwards,[21] the Carneiro Ribeiro Educational Center embodied—through

[21] It is worth remembering that not even the subsequent experience of Anísio Teixeira would actually win over this challenge, given the decay of the school construction program derived from the Educational Plan for Brasília (Chahin, 2021). Here, any criticism must consider the understanding of the history of the

an educational experience with more than ten years of activity—the efforts for a basic schooling consistent with the spirit of educational modernity of the 20th century. Also, these efforts were largely amalgamated with the principles advocated by UNESCO for the expansion of national school networks and, consequently, for the generalization of literacy in underdeveloped countries, as outlined by the intentions of the Major Projects of Education, which this organization had been promoting since the 1950s.

Thus, it seems that it was not just by chance, or just out of mere curiosity, that the production of *Two Boys in Bahia* came about.

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industrialization of architecture in the very context of the construction of the capital and also in the later developing policies applied during the military dictatorship in Brazil (Bruna, 1976; Koury, 2005).

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