Buildings for Education

A Multidisciplinary Overview of The Design of School Buildings
Research for Development

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The Schools as Heritage and a Tool for Political and Cultural Integration. The Buildings of the *Plan de Edificación Escolar* in Buenos Aires

**Maria Pompeiana Iarossi and Cecilia Santacroce**

**Abstract** The school buildings represent an important testimony to the social and cultural policies adopted in geographically and historically determined contexts. Today, these complexes constitute a broad and diversified patrimony, largely worthy of protection and enhancement. In the framework of a wider research program with Universidad de Belgrano-Buenos Aires, this chapter presents the results of a research about the 43 schools built in Buenos Aires between 1885 and 1904 as an implementation of the *Plan de Edificación Escolar*, showing how the school architecture can constitute a tool for the social and cultural integration, and simultaneously a decisive element to outline the face of the great *Capital federal*.

**Keywords** Schoolhouses · Buenos aires · Architectural heritage · Immigration in Argentina

1 Introduction

Concerning the development of modern states and in the majority of geographical backgrounds, the architectural definition’s choices for primary school buildings reveal features that a specific nation decides to give to itself. Often, not only the pedagogical principles are used like a model for distribution and functional layouts but also constructed buildings through their architectural language reveal a clear declaration about the cultural origin chosen to represent and define the national identity. Examples of these are the adoption of Lombard neo-Romanesque style by Camillo Boito for post-unitary Italian schoolhouses and, for the Germany between the two wars, the strict and, at the same time, domestic proto-rationalism type of school buildings by Heinrich Tessenow.

This iconic role of “future citizens’ knowledge factory” assigned to the schoolhouses gives them a huge documentary and testimonial value, suggesting the necessity of safeguarding this extended heritage that are often threatened by more than from

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the passage of time, to the obligation to mitigate between the necessary sanitary updates and the lack of available public resources.

An area of characteristic interest is represented by the extended compendium of scholastic complexes built in Buenos Aires in a historical crucial moment for the young South America republic, corresponding to the beginning of the massive migrant wave in 1880 (AA.VV. 1906; Zuccarini 1909; Capocaccia et al. 2016; Carcacha, and others 2016), which will continue until the middle of the last century, and to the transformation of the city into Capital federal.

2 The Schoolhouses Design as a Tool for Political and Cultural Action

The Argentinean historiography designates a group of liberal, conservative and positivist cultural formation politicians and intellectuals like Generación del Ochenta, who, between the 1880 and the 1916, were in-charge of the young South American republic, making the destiny of it, choosing to incarnate the imprinting of the Nation on three axioms: national secularity, Europe-like cultural model and immigration, especially the European one, like a resource.¹

A natural result of the last one was the Ley de Educación Comun n. 1420 of 1884—which sanctioned the obligatoriness, universality and the gratuitousness by the State of primary education up to 14-years-old²—an essential tool to govern, first of all through linguistic unification, the process of integration of huge and multiethnic migrant flows, which poured out on the nation (and above all on Buenos Aires) until the middle of the twentieth century, except the interruptions during both the world conflicts (Fig. 1).

1420 Ley’s inspiration were Domingo Faustino Sarmiento’s theories, who was the President of the Nation from 1868 to 1874, and whose theories, explained in De la Educación popular,³ addressed the strategic role of primary education and the necessity to propagate it through an organic implementation framework, the training of teachers and the definition of high architectonical and sanitary facilities standards for school buildings.

This organic vision was reflected in establishing, both the Escuela Primarias, destined to be a district’s basic service, and the Escuelas Normales, imagined like laboratories where the direct observation of students’ daily life was an essential part of the teachers’ training course.

The immediate application of the law determined in the first two-year period 1884–1886 the construction of 56 new schools in the Nation, which design was

²Art. 2 of the Ley says “La instrucción primaria, debe ser obligatoria, gratuita, gradual y dada conforme a los preceptos de higiene” [primary school must be obligatory, free, gradual and in compliance with sanitary precepts] in: Collección de Leyes y decretos, Tomo 1, p. 282.
³Sarmiento (1849).
defined by Italian architects and engineers, delineating the Escuela-Palacio [school–palace] model, in which the layout was organized around courtyards and the façades were in Neo-renacentista style, like the Escuela Normal Superior en Lenguas Vivas “Mariano Acosta”, designed by Francesco Tamburini between 1883 and 1885.

3 Buenos Aires as an Experimental and Coding Lab of Schoolhouse Architecture

In 1899, in view of a more organic realization of the law, the Plan de Educación Escolar was promulgated, with the goal of supervising the construction of school buildings on the whole national territory and drawing the guidelines for their design, testing them at first in Buenos Aires.

Meanwhile in the city—chosen in 1880 as Capital of the Federal State—processes of transformation were in place, changing its original structure of Gran aldea [big
village]—based on the extensive application of the checkerboard foundation principle, fixed in the sixteenth century by the Leyes de Indias\(^4\)—in the current metropolis (Figs. 2 and 3).

Fig. 2 Relationship between urban layout and schoolhouses: a City’s plan by Bianchi, 1882; b Buildings’ position in a block: along a street (left: Escuela Normal Superior n°9 “Domingo Faustino Sarmiento”, 1886) and in the corner (right: Escuela Normal Superior n°7 “Bernardino Rivadavia”, 1902)

\(^4\)The Leyes de Indias is an imposing juridical corpus composed of the sum of all laws released by the Spanish Crown, between 1512 and 1680, to regulate the different aspects of political, economic and social life in the New World. In 1680–1681 they were revised and collected in the Recopilación de Le Leyes de las Indias, consisting of nine books, of which the fourth, title 111–130, includes procedures about settlement, fields’ division and public works’ fulfilment in new conquered areas. Through proportional rules within cuadras, calles y solares [blocks, streets and parcels], it was meant to guarantee the urban form’s normalization, as a sign of Spanish supremacy all over the New World. See: España (2017).
In the porteño urban landscape, the implementation of the Plan set two questions: a typological one—concerning the necessity to define some layout solutions based on sanitary facilities requisites—and a semantic one, linked to the need to identify the school buildings through their architecture, viewed as the tangible and unequivocal presence of the State, also in the Buenos Aires monotony, generated by the infinitive repetition of the grid block.

To answer these requests, CNE-Consejo Nacional de Educación nominated the Italian engineer Carlos Morra as general supervisor, who between 1898 and 1904 designed, only in the Capital, 23 schoolhouses (D’Amia and Iarossi 2018). Morra defined three different solutions, based on school educational level, on students’ class and on building’s position in the block (Grementieri and Shmidt 2010):

Type A: for elementary school: with classrooms on ground floor and the principal’s accommodation on first floor.

Type B: for Escuelas Normales: with classrooms on two floors and residence on the other side of the parcel.

Type C: for school in the corner of the block.

However, the most important of Morra’s contributions was the definition of a specific language for the building’s façade, determining an elements’ abacus—like entrance portal or thermal window—that identified the building’s functional parts and a syntactic rule system, and which application had determined a façades’ composition that instantly allows to recognize schoolhouses among the other buildings (Fig. 4).

4 Survey and Analysis of Study Cases

Researches were carried out in CeDiap’s archive in Buenos Aires showing that between 1880 and 1910 in the Capital, 46 schoolhouses were built; these have been collected in a database that gathers and compares, for each schoolhouse, historical archive data with the observed ones on site and recorded in individual census’
cards, supplied with photographic documents concerning the current state and, when available, stock photos (Fig. 5).

The main sections in which the database was divided were building’s name, architect, builder, historical address, actual address, Barrio [neighbourhood], construction year, references. In this first step of the research, it was verified that the main schoolhouses had been designed by Italian architects and engineers like Carlos Morra, Francesco Tamburini and Gino Aloisi.
During a survey and census campaign carried out in Buenos Aires, 23 of the 46 schoolhouses were designed by Carlos Morra. They represent today an important architectural bequest, deserving of knowledge, safeguard and enhancement.

Finally, in the collection of schoolhouses by Carlos Morra, four case studies were selected, chosen to guarantee a variety in terms of location, size, dating and pedagogical destination.

In fact, two buildings were built before and two after 1899, when PPE started. In addition, the second and fourth example were designed to host primary schools, whereas the first and third were Escuelas Normales, institutions like cornerstones for the implementation of the Sarmiento’s reform and of laical education, where primary school was included as an internship laboratory for future teachers.

The selected buildings are:

(A) Escuela Normal Superior n°9 “Domingo Faustino Sarmiento” (1886);
(B) Antigua Escuela Graduada de niñas “Hipólito Vieytes” (1880–1885);
(C) Escuela Normal Superior n°7 “Bernardino Rivadavia” (1902);
(D) Escuela n°3 “Juan Maria Gutiérrez” (1901) (Fig. 6).

The analysis—based on surveys carried out in Buenos Aires, complemented with original archival materials, kept at the CeDiap-Centro di Documentación and Información—has been developed in order to identify four aspects, characterizing the architecture of each building:

- Urban and architectural characters: position in the block, size and layout articulation on the ground floor;
- Ordering principles of the façade: structural organization, symmetry, modularity and overhang/retraction of its parts;
- Proportioning of the façade and geometric layouts;
- Constructive system (trilithic system and/or masonry wall) and components of the façade, summarized and compared in a specific abacus.

This analysis highlighted significant differences between schoolhouses built before and after the Plan.

The two examples referred to the first period—although they are very different in size and destination, being one a primary school and the other an Escuela Normal—show typological and linguistic adhesion to the model of the Escuela-Palacio [palace–schoolhouse]. Connections are assured by monumental staircases, corridors and open galleries, marked by often coupled columns. The facades are

5The results of this campaign—carried out in March 2017 during the International History and Representation’s Workshop, in partnership with School AUIC of Politecnico di Milano and FAU of Universidad de Belgrano, under the scientific direction of M. P. Iarossi and G. D’Amia—were improved through researches and thesis expound on schoolhouses’ topic. They are still object of detailed studies, since they have converged in an innovative educational project and in a research about Italian-Argentinian heritage in Buenos Aires (Iarossi et al. 2017), in partnership with Dept ABC of Politecnico di Milano (coordinator, M.P. Iarossi) and FAU-Universidad de Belgrano (coordinator L. Bonvecchi) supported with Erasmus+ Ka 107 funds.
Fig. 6 Case studies, facade orthomosaics (elab. by Agisoft Photoscan): a Escuela Normal n°9 “Domingo Faustino Sarmiento”; b Escuela de niñas “Hipólito Yeytes”; c Escuela Normal n°7 “Bernardino Rivadavia”; d Escuela n°3 “Juan Maria Guitiérrez”

Neo-renacentista style, elevated on a stylobate and completed by an attic wall as a sculptural crowning.

The composition of the front, especially in the case of the grandiose Escuela n°9, in complex and hierarchically organized, with altimetric overlap of the elements and planimetric articulation, by protrusions and indentions of the facade (Figs. 7 and 8).

Fig. 7 Escuela Normal Superior n°9 “Domingo Faustino Sarmiento”. The facades are neo-renacentista style, elevated on a stylobate and completed by an attic wall as a sculptural crowning
Instead, the two examples following the PPE—in addition to the foreseeable surrender to this model in favour of adherence to the typological schemes by Morra itself codified in implementation of the Plan, with a close division of administrative spaces, always facing the road, from those for teaching, articulated around one or more courtyards—show the development of a specific language for the scholastic architecture, paying specific attention to define the elements of the façade, which is entrusted with the task of representing, in relation to the city, the value of the educational institution and the presence of the State. In addition, they demonstrate a foreseeable surrender to this model in favor of an adherence to the typological schemes by Morra, codified in the implementation of the Plan, with a close separation of the administrative spaces, always facing the road, from those for teaching, articulated around one or more courtyards.

This objective is pursued accentuating more the aspects of the tectonic wall compared to the trilithic order. Thus columns, as an autonomous element of articulation of the front, disappear and they are replaced by pilaster strips or, at most, by semi-columns, in giant order, to mark the sequence of wall modules of the front. These are of only two kinds: the window-module and the portal-module.

The latter, whether placed at the centre of the façade, to identify a symmetry axis, whether at an extremity, to conclude it asymmetrically, always consists of pilasters in giant order, resting on a base and surmounted by a tympanum, with the name of the school inscribed, to frame, at the ground floor, the entrance door and, above, a thermal window, an element that, reposed by Morra in his project of Biblioteca Nacional, will become a distinctive element of his architecture (Figs. 9 and 10).
Fig. 9 Model of the Escuela-Palacio. Connections are assured by monumental staircases, corridors and open galleries

Fig. 10 Architectural elements composing the Morra’s façade: tympanum, thermal window, pilasters in giant order, cornice

5 Conclusions

The study carried out highlighted the documental and the architectural intrinsic value one of the schoolhouses’ heritage built in Buenos Aires between the nineteenth and the twentieth century.

But, above all, the pragmatic value of Argentinean experience in building schoolhouses is shown, and also how they can be an efficient political and cultural action tool, especially helpful and necessary in contests where the occurrences of massive migrant phenomenon asks for the use of social and cultural integration’s strategies, able to set up real development perspectives for the Nation.
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