Abstract  The Italian school system is still affected by the “Berlinguer Reform”—it never entered into force but it became the basis of every subsequent reform that was implemented—for which the legislator intended to compensate for the imbalances of the Italian school, in the relationship with mass-studies, with the transposition of European directives that have substantially changed the schools of every order and degree and introduced a “3 + 2” structure in the university educational system, stiffening the entire school cycle and causing further fragmentation. The essay presents a pilot project of a reversible wooden pavilion as the primary nucleus of (the) experimental teaching, for the recovery of degraded and typologically insufficient public schools in Milan, but also for the reuse of the “mother houses”, the farmhouses in Lombardy and also for the restoration of the “forum” in the Italian places damaged by the earthquake.

Keywords Architectural composition (architectural design) · Architectural theory · Italian architecture · Typology · School complex project · Prefabrication
1 Public Compulsory School in Municipal Complexes for a New Culture-Civilization: Project for the “Carro di Tespi” Pavilion

“Test suckers and roots to build a new ethnicity”. If we consider how it is possible that the origin (the poleogenesis) of Italian cities (whether large, medium or small) is to be attributed fundamentally to “facts of structure” (in the meaning given by Ferdinand de Saussure)—as the historian Henri Pirenne seems to suggest, paraphrasing the well-known thesis about the paleogenetic dualism of the medieval city (fortified nucleus and mercantile town) that became functional to the proto-capitalistic structure (Henri Pirenne 1927)—we could therefore argue that the interaction between the resources and the endowments of the city-center and resources and endowments of the peripheral area and of the metropolitan concentric structure becomes necessary to the understanding of the phenomena of transformation into an inalienable coherent destiny.

If after all it is considered possible that the most careful and in-depth analyzed urbanistic critique now tends to favor this hypothesis, it is also true that, in the not so disorderly growth of the same Italian cities, hazarding a generalization, there are entirely original characters that distinguish, in adherence or in transgression, the destiny of some of the most representative and emblematic among them.

It would seem that these characters may depend precisely on the “suckers” and on the “roots”, that is the propensity of the humanized environment and of the work culture that takes place in the relationship with the “longue durée” (like Annales), underlining once again the relative autonomy of architecture and of composition (Guido Canella 1969), but also suggesting the way to complete its “knowledge”. An architecture of the city that is capable, precisely, of bringing that “knowledge”, when it is considered “behavioral” architecture, which we believe must be the basic philosophy and ultimate goal filtered into the project and into the construction.

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1The Carro di Tespi (or Pavilion) were mobile theaters built with covered wooden structures used by the comedians of the popular Italian nomad theater for their street theater, starting from the late Nineteenth century. They were mounted “on the town square” and remained set up for 40/50 days during which the companies of the “guitti” wanderers recited a different script night after night, exhausting completely their repertoire. They owe their name to the mythical figure of the theatrical actor Tespi d’Icaria, described by Horace in the Ars poetica and were anchored to the idea of a mass theater with a strong emotional impact and capable of conveying theatrical culture to forgotten sections of the population. The fascist regime used this experience to build an outdoor traveling theater in 1929.

2For a constructive intervention strategy by parts in the polycentric city: “Saggiare polloni e radici fino a costruircene nuova etnia”. Title of the famous essay by Lucio Stellario d’Angiolini published in “Hinterland” n. 4, For a metropolitan museum, monographic number dedicated to the museum, July–August 1978, pp. 50–54.
And it would not seem on the other hand, still generalizing, to contradict this hypothesis with the appropriate differentiation between capital cities, military cities, trade fair cities, ration cities, etc. These non-ordinary, genuine characteristics of Italian cities, superimposed on the “structural facts” that have conditioned their development, would seem to be the expression of a whole culture, even if specific point to point. What then could be a minimum common denominator that can confirm the belonging of these cities to that level of merit that is attributed to the “boroughs of Italy” and that can condition the project of the “modern”?

It could be, for instance, a geographical factor, which is declined at first in the great Italian cities divided, for example, by climatic bands (north, south, but also coast, countryside, mountain); or for medium and small cities it could be the effect of irradiating the characters of the same major cities of reference on the territory and the other way around. Characters that combine and recombine with different degrees of intensity and elaboration to create a “skein” whose in-depth and punctual deciphering is decisive for understanding the true nature of every Italian city.

However, it seems to be the so-called second and third order poles, precisely the “boroughs”, that contain in their genetic heritage—typological and figurative but also urbanistic-morphological—that clarity and transparency of “behavioral” intentions that it seemed to have been reached with the medieval construction of the primary space (the town square) of the compact city in a system however “polycentric”, that of the “boroughs of Italy”.

We could therefore be led to suppose that the structuring factor for excellence is represented by the agora, understood as an assembly and by its permanent surrogate, the public school, considering the epistemological question and the academic political-cultural distinction.

3Among the “big” names, the cases of Venice, Rome and Florence are memorable, but also those of Milan, Turin, Genoa, Naples, Palermo and of the others, which have become such since the realization of central quarters surrounding the square of the government, of the ritual and of the exchange, generally in the Middle Ages, up to the construction of the so-called “historical periphery” (this is the term-concept with which Guido Canella used to define the first suburb of Milan, the productive one, which seems to have been able to express its own original “character” since its formation), at times capable of relating to the countryside in a fruitful relationship of reciprocal regeneration, prevailing a physiocratic conception ante litteram, but at times also a reservoir of that workforce capable of sustaining and reviving the fortunes of the city itself, this, on the other hand, belonging more specifically to the modern era.

4Pisa, Siena, Lucca, Verona, etc.—considering its consolidated historical centers with only the adjacencies of the “historical periphery”, omitting the opportunistic and troubled expansion of the second half of the twentieth century—, but also for example Syracuse, naturally considering only the island of Ortigia with the adjacency of the neighborhood and the port on the inland sea.

5Ultimately by the “school of Athens”, understanding as a representation of the seven liberal arts: grammar, arithmetic, music, geometry, astronomy, rhetoric, dialectic.
For a didactic offer that is coherent in a renewed global course of studies that are truly “of the futuribles”\(^6\)—in the context of the Italian public school of every order and degree—a role that seems to us to be decisive should be covered by the instruction given by the universities, as well as by the research that is carried out within them in the name of them. But we are obliged to acknowledge that the didactic offer presented to university students doesn’t follow a coherent academic organizational program, even if we consider a new faculty and the implicit epistemological and methodological assumptions.

Therefore, a possible new direction for a degree course today should inevitably be placed in coherence with a general reference assumption (perhaps incorporated as stigmata of the same faculty), with the sense of belonging to a critical thought.

Nevertheless, belonging to that partisanship that is consistent with the assumption, we are trying to introduce into the debate to circumscribe and define a “problematic and operational”\(^7\) approach to knowledge, aimed at forming critical intellectuals and not just specialists or professionals with a trade.\(^8\)

The coordinated professors within this new direction, beyond possible differences for cultural positions, would necessarily be united by the same “holistic” conception of reality, by virtue of which the approach to knowledge can be global, dialectical and historical, in total antithesis with that of ontological and methodological individualism, or “Robinsonian”.\(^9\)

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\(^6\)“Città dei futuribili”, an architectural column curated by Guido Canella, which appeared from 1968 to 1970 on “Il Confronto”, a magazine on politics and culture, in which appear the first critical writings by Guido Canella and his friends M. Achilli, G. Polesello, A. Rossi, F. Tentori and others.

\(^7\)This term-concept defines the modalities of teaching developed by the research group “Architecture and City” coordinated by Guido Canella and Lucio Stellario D’Angiolini in the Faculty of Architecture of the Polytechnic of Milan from the Sixties of the last century.

\(^8\)The experience of “field research” therefore seems to be the only cognitive approach that, on the one hand, allows an authentic contact with reality and an accelerated scientific education—creating among students interest in an unprejudiced study of the chosen problems and the need to corroborate it through direct relationships with the operators involved—and, on the other hand, allows a partialization of theories without necessarily renouncing organic conceptual relationships. The cultural project would be proposed as an “activity project”—in view of a critically assumed structure framework, in function of a policy of interventions capable of affecting the nature of the development of cultural and productive forces, their organization throughout the territory and the expectation generated by society, in the search of a new culture-civilization—and not as a mere expression of a good “scholarly” attitude and an involvement in the standards of the discipline. And never less as a tool of neoliberalism that is dominant today, functional to the needs of the market, guaranteeing an operational flexibility that the timely satisfaction of particular interests would demand from time to time.

\(^9\)Here understood as “individualism” in the sense given by Marx in the following essay: Karl Marx, Formen, die der kapitalistischen Produktion vorhergehen (1858), Dietz Verlag, Berlin, 1952.
Learning in this way could express itself in maximum awareness as a dialectic expression of a historically determined civilization. By virtue of an adequate ability to interpret the needs of society, it would be able to stand out on the identity of the European (and of the world) city and on those of the historical and problematic essence of its disciplinary heritage, escaping from a notion of cultural project which today is increasingly equated with the pursuit of the vogue too often claimed in the global market of postmodernist culture.

If we become aware of the underlying gnoseological and epistemological discriminating factor, perhaps the spaces intended for education should be reformulated in reverse order: from the configuration of a university to the possible configuration of a school complex that includes high school, passing through middle school, to end with primary school and kindergarten, where the configuration of a middle school would have a dominant role, as Giuseppe Samonà had already underlined back in the 1960s: “It is likely that in the future there will be large localizations of educational establishments of middle schools that will be much more significant than (the) universities, because in them the intelligences will mature and a very lively social life will be formed.

So it could be said that, by filiation, the school, considered as a functional and figural device, should present that same typological “asticity” and that predisposition towards the central role of the “behaviors” of the space of life, if not universal, of the center—church-palace-square—of the “boroughs of Italy”. Those same behaviors that are necessary for the learner to build their own critical intelligence corroborated by the juxtaposition of preparatory spaces delegated to their formation.

The research for a new way of child and of adolescent education based on “doing”, able to put the student at the center as an actor and not just as a user of their development, a new “Montessorian spring”\(^{10}\) (Fig. 1) seems to be a viable way within a scenario that appears to be completely fluid. To achieve these goals today the school should radically transform and renew itself, with an “ontological-social”\(^{11}\) attitude, into a “school-laboratory” made up of different ateliers, special rooms aggregated around a space that we could define as a “library” or as a town square “forum scientiam-forum of knowledge”, where children can carry out appropriate activities and become aware of the cognitive problems to be deepened through the aid of books.

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\(^{10}\)According to Maria Montessori—and according to Friedrich Fröbel, Rosa and Carolina Agazzi, but also according to Giuseppina Pizzigoni, Rudolf Steiner and others—school education should have overcome the division between theory and practice and favor a critical learning method based on direct and concrete experience.

\(^{11}\)See the essays on the subject by Georg Lukács and Costanzo Preve.
Fig. 1 Phototypesetting for the presentation of the project references. E. Beaudouin, M. Lods, *École en plein air*, Suresnes, Paris 1932–35; «Hinterland» directed by G. Canella, n. 17, 1981 and n. 3, 1978, dedicated to the subject of education; G. Folli, *Open air school in the Trotter*, Milan, 1918–1927; R. Steiner, *First Goetheanum*, Dornach, 1908–25; «Casabella-Continuità» directed by E. N. Rogers, n. 249, 1961 and n. 245, 1960, dedicated to the subject of school; T. Crosby, *Shakespeare’s Globe Theatre*, London 1997; G. Canella, P. Bonaretti, *Technical Institute Giambattista Bodoni*, Parma 1985; G. Canella, *Service Center Piazza Monte d’Ago Quarter*, Passo di Varano, Ancona 1984; A. Belloni, *Primary School Rinnovata Pizzigoni*, Milan 1924–27
and, above all, learn the art of permanent assembly as a form of culture-civilization.  

The project involves the prefabrication of a medium-sized structure, a “special” classroom to be placed in the courtyards of public schools of every order and degree that requests it, typologically preordained for those special operating activities that the teaching requires, when it wants to have the features and characteristics of a “problematic and operating” approach.

We are naturally favoring the atavistic distinction that there is between the work of industrial design—dominated by practicality as a form of knowledge induced by the dominant traction of ergonomics applied to the “object of use”—and the work of architecture—pervaded by practicability as a form of knowledge induced by the dominant traction of the typology applied to the public building for the city. It has been difficult for us to find away to identify “knowledge” in the structuring “composition” process that has characterized this research on prefabrication as an architectural product of a work that otherwise could be attributable to the design of the “object of use”. Thus it is uprooted from any “allocation context”, while still abstracting from the practice of reconstruction, imitation or anastylosis and evoking instead, in the construction of this prefabricated humanized environment, a tendential “approach by figures”.

The theme is therefore the search for the possible conformation of a reversible pavilion that can be inserted in the courtyards of the degraded and typologically insufficient public school complexes, but also for the reuse of the “mother houses”, typical of the irrigated countryside farmhouses, and also for the restoration of town squares in places damaged by the earthquakes, as the primary nucleus of experimental teaching.

The project requires the constructive completion of a school complex in the outskirts of Milan, located at the intersection of two waterways, the Naviglio Grande canal and the Lambro river, characteristics that make it a microcosm, but unfortunately “wounded boroughs” hit by degradation and neglect, and characterized by instances of superfetation that have over time altered and mutilated their practicability (Fig. 2).

We therefore chose a planning strategy that envisaged the re-triggering of the endemic territorial polycentrism which, as always, also involved the small Italian cities, the so-called “boroughs”, and thus, by extension, the foundation cities, the additions of parts of cities, the quarters and “formally completed parts of cities”.

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12 The content of teaching has always been the study of human activities placed critically within a new mode of development—alternative to that of globalization or of generalized, polarized and financialized oligopolies, as Samir Amin calls them (in a recent essay later formalized in 2012 in the text The Crisis)—in the hypothesis of a coexistence of the capitalist system and the socialist system, trying to overcome the seasons of capitalism that have alternated as follows: competitive capitalism, oligopolies and monopolies, organization of the transnational network.

13 Developed in collaboration with the M2B Medie Montessori Association and conceived by its co-founder Andrea Perugini.

14 The Ilaria Alpi State Comprehensive Institute in Via San Colombano.

15 Carlo Aymonino used to denounce the relationship that his architecture establishes with the city.
Fig. 2 The pavilion “Carro di Tespi”. Ground floor plan, First floor plan, Masterplan
The pavilion, “Carro di Tespi”, is envisaged as prefabricated with laminated wooden structures and floors, and vertical infill walls in sandwich panels complete with building services and insulations, such as x-lam system. The panels are uniform, modular, square of three meters side, self-supporting and interchangeable, with three finishing solutions, so as to allow the construction of different sequences of “reversible” aggregation spaces, so to speak “in palimpsest”. For the reconstruction hypothesis, therefore, the research has provided for the maintenance of the original building, a work that would seem part of that eclecticism “of manner” of Milan (“Novecento” style without frills and tinsel) which, in the complicity of some architects dedicated to the construction of the city of the 1930s, it prefers a relationship with the context, not directly from a geographical point of view, nor from an exclusively historical point of view and not even from a purely linguistic point of view, but from a more general point of view of “evocation” (Figs. 3 and 4).\(^\text{16}\) The concept of “evocation” that these architects of the “Novecento” style seem to be transplanting for a criterion of assimilability that can be defined “of distance in absence” and “of temporal detachment” with respect to the chosen models, and it seems sublimated in their poetics. This concept can also be, for example, an alternative to other decisive experiences that have involved similar “boroughs” of northern Italy, which are prerogative of enlightened entrepreneurs (like Adriano Olivetti in Ivrea) who were able to operate in those same years through the wise planning and construction of the already industrial suburbs.

This practice of “evocation”, in the case of the school on Via San Colombano, seems to be an appropriate path to conform to, in the act of composing “by figures”, not so differently, on the other hand, from what Leonardo da Vinci undertook proposing for Milan—city for which the most original proposals were made over time, even though they have almost always been betrayed—the project of placement of his “giant” equestrian sculpture, which should have been allocated either in the Sforza internal courtyard (the Rocchetta) of the Castello Sforzesco or in the transplantation of the “Square of Central Italian tradition” newly formed in front of the Castle itself.

\(^{16}\) This attitude is more appropriately reminiscent of Central Italy, where it would seem that these same architects received assignments from various institutions, even “total” (Army, Ministry of Education but also the Vatican, for the construction of prisons, schools, asylums, hospitals, churches, orphanages), not only for the attraction exercised by the “Urbe”, the capital, but perhaps more as compensation to those common “rebels” and “secessionists” of the belt of Rome, because of the mutilated regional membership (the “secession” from the Lazio Region). These same architects would seem to operate through a series of institutional “grafts”, according to a practice of “evocation” of the ancient place of the decentralized government out of town, which brought “municipality” into the “ager centuriato”, countryside.
Fig. 3 The pavilion “Carro di Tespi”. Longitudinal section, General view, Cross section
Fig. 4 The pavilion “Carro di Tespi”. Front elevation east, Photographic insertion of the project in the Ilaria Alpi school, Front elevation north–west. (For all the images, rights are reserved for authors.)
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