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research and projects on architecture and the city

56

School: pedagogy, language, society

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FAMagazine. Research and projects on architecture and the city is the on-line magazine of the Festival of Architecture on a quarterly temporality.

FAMagazine is a scientific e-journal in the areas of the architectural project (Anvur disciplinary areas: 08/C - Design and technological planning of architecture, 08/D – Architectural design, 08/E1 – Drawing, 08/E2 - Architectural restoration and history, 08/F - Urban and landscape planning and design) that publishes critical articles compliant with the indications in the Guidelines for the authors of the articles.

FAMagazine, in compliance with the Regulations for the classification of journals in non-bibliometric areas, responding to all the criteria on the classification of telematic journals, was considered scientific journal by ANVUR, the National Agency for the Evaluation of the University and Scientific Research.

FAMagazine has adopted a Code of Ethics inspired by the Code of Conduct and Best Practice Guidelines for Journal Editors prepared by the COPE - Committee on Publication Ethics.

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For the purpose of the publication, the contributions sent to the editorial staff are evaluated with a double blind peer review procedure and the evaluations of the referees communicated anonymously to the proposer. To this end, FAMagazine has set up a special Register of reviewers who operate according to specific Guidelines for article reviewers.

The articles must be submitted according to the procedure described in the Online Proposals section.The magazine publishes its contents with open access, following the so-called gold road, ie making the articles available in both html and pdf versions.

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Author Guidelines

FAMagazine comes out with 4 issues a year and all the articles, with the exception of those commissioned by the Direction to renowned scholars, are subjected to a peer review procedure using the double blind system.

Two issues per year, out of the four expected, are built using call for papers that are usually announced in spring and autumn.

The call for papers provide authors with the possibility to choose between two types of essays:

a) short essays between 12,000 and 14,000 characters (including spaces), which will be submitted directly to the double blind peer review procedure;
b) long essays greater than 20,000 characters (including spaces) whose revision procedure is divided into two phases. The first phase involves sending an abstract of 5,000 characters (including spaces) of which the Direction will assess the relevance to the theme of the call. Subsequently, the authors of the selected abstracts will send the full paper which will be submitted to the double blind peer review procedure.

For the purposes of the assessment, the essays must be sent in Italian or English and the translation in the second language must be sent at the end of the assessment procedure.

In any case, for both types of essay, the evaluation by the experts is preceded by a minimum evaluation by the Direction and the Editorial Staff. This simply limits to verifying that the proposed work possesses the minimum requirements necessary for a publication like FAMagazine.

We also recall that, similarly to what happens in all international scientific journals, the opinion of the experts is fundamental but is of a consultative nature only and the publisher obviously assumes no formal obligation to accept the conclusions.

In addition to peer-reviewed essays, FAMagazine also accepts review proposals (scientific papers, exhibition catalogs, conference proceedings, etc., monographs, project collections, books on teaching, doctoral research, etc.). The reviews are not subject to peer review and are selected directly by the Management of the magazine that reserves the right to accept them or not and the possibility of suggesting any improvements.
Reviewers are advised to read the document Guidelines for the review of books.

For the submission of a proposal it is necessary to strictly adhere to the FAMagazine Editorial Guidelines and submit the editorial proposal through the appropriate Template available on this page.

The procedure for submitting articles is explained on the SUBMISSIONS page

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n.	Id Code	date	Type essay	Evaluation		Publication
1	738	dic-20	Long	Peer (A)		Yes
2	735	mar-21	Long	Peer (B)		Yes
3	734	gen-21	Long	Peer (A)		Yes
4	693	gen-21	Long	Peer (B)		Yes
5	739	feb-21	Long	Peer (A)		Yes
6	728	feb-21	Long	Peer (C)	Peer (A)	Yes
7	737	mar-21	Long	Peer (B)		Yes

NEXT ISSUE

57/58 July-December 2021.
Forms of the rite. Forms of the architecture
edited by Renato Capozzi, Claudia Pirina

Sigfried Giedion in The eternal present. The Beginnings of Art, wondering about permanence and the mutation of the form, individualizes the religion as the key to understand the attitude of the people in front of their destiny, especially to express that the «human desire […] inextinguishable and universal […] of a longer life, of a survival after death».
During the months of the Covid-19 pandemic, the images of mass graves, stacked coffins waiting to find a worthy burial or long rows of military trucks that take them away from loved ones, call for a new reflection on the tragic condition of the transition from life to death and on appropriate forms capable of reifying, in an also lay hierophany, the sacredness inherent to the abandonment and detachment from earthly transit.
The contingent condition has shown us the impossibility of carrying out the 'funeral rites'. But what are funeral rites? As Alain warns us "[...] when responsibility hurts us, the nature, that dies without knowing it, is not enough to call us back to our human condition, and other things are needed, human things [...] well planted in the ground, equal by the two parties, and proceeding according to a rule. [...] Nevertheless, there is a common reason, daughter of the earth as we are, but being the most beautiful fruit of the earth and the true God, if we really want one, according to which courage bends together with the body, and for which everyone knows that must get up and look far beyond own pains. Not lying down or even on your knees. Life is a craft that must be done standing up».
Therefore, the rites, keeping us human, have to project us beyond, and architecture and its adequate forms have to put into action and on stage these sequences of acts linked to remembrance, detachment, memory, passage, to the sacred and the symbol.

Can the role of architecture then reside in the ability to ferry, through memory and the sacralization of the passage, the human transient condition into a permanent and lasting condition? And to overcome the trauma of death, which is both terror and wonder (Thaûma), by staging the rite?
In the issue of FAMagazine, some initial theoretical contributions, to which those objects of the call will be added, will define and investigate the architectural theme and its renewal in two sections: rites that accompany, rites that hand down.
The first section will investigate the ways, places and architectures assigned to the rite of passage from life to death, whether they are secular or religious, focusing on possible themes of architectural invention or reinvention, or on new typologies and models as the farewell hall or the funeral homes. The second section will focus attention on the places of representation of memory and on those architectures that, according to Étienne-Louis Boullée, «require, in a more particular way than others, the Poetry of architecture». From the 'cemeteries of the poor' to the 'monuments' of remembrance, the cities of the dead are frequently built in the image of the cities of the living, making manifest different cultures and traditions.
If in northern Europe cemeteries in the form of parks and gardens refer to the archetype of the Garden of Eden, in southern Europe it is the City of God that is welcomed in burial places as a reference for 'streets' and 'squares'. Elementary forms and symbolic forms, on a domestic or monumental scale, immortalize the memory in the solemnity of places. In these spaces, however, recent re-semantizations and experiences aim to respond to new demands and needs resulting from the multi-ethnicity and multiculturalism of the population. Spaces for lay burials, or burials of different religions, therefore require a profound rethinking of burial places.
The cemeteries and crematoria are flanked by sanctuaries, memorials, mausoleums or monuments which, interpreting the dimension social (and sometimes political) of mourning, convey the icastic memory of specific collective events such as the one that involved the world in the months just passed and still in progress. Thus, the forms of representation and evocation of the absent and unattainable object are at the center of the architect's interest, the inescapable capability of architecture to educate and monère, of representing memory in the fixedness of the stones.

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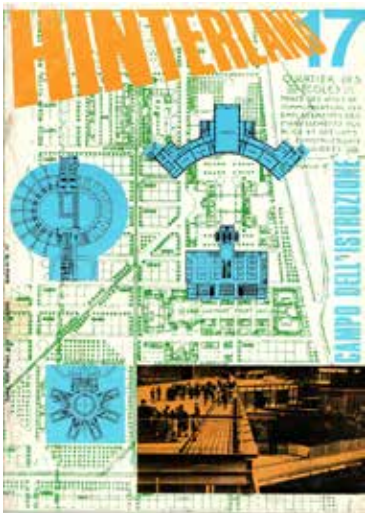
Editorial 1

Enrico Prandi

The school and the contribution of architecture

With this issue, FAM experiments with the vast layout of a research magazine published at the turn of the 1980s in Milan and directed by Guido Canella: Hinterland.
The school theme recalls the multidisciplinary approach typical of Hinterland which must necessarily converge in the project as a moment of synthesis. As well as the number 17 of Hinterland dedicated to the field of education, our FAM 56 is also full of historical-critical analyzes and planning reflections.

Keywords
School — Architecture — Hinterland



This issue dedicated to the theme of the School and edited by Francesca Belloni and Elvio Manganaro, is the one that most denotes the imprint of a magazine very dear to me despite having lived it as a result of the cycle of publications concluded.
A little-known magazine which in its concise title offset by an otherwise very broad subtitle *Hinterland. Architecture design and context for the management of interventions in the territory* denoted his militancy in the field of architecture and the city.
It was the first magazine founded and directed by Guido Canella who subsequently, after a pause of just over five years, gave life to another editorial project which was the second series of *Zodiac*, the ideal continuation of the historical publication founded by Adriano Olivetti .
During the 34 issues that followed one another from 1977 to 1985 the most disparate issues were addressed always in a critical, never predictable and above all operational way. A research magazine open to the field of ideas in which there were often interviews with figures outside the project but within the vast world of architecture (administrators, intellectuals, figures from the political landscape and so on) to seek that dialogue with the institutions that too often it is missing in the construction of the contemporary city.
The same structure of the magazine, with a layout that reflected its character, mixed essay texts with anthological passages with themed iconographic cards, favoring, indeed, suggesting very stimulating parallel reading paths: it happens therefore to find, next to a theoretical definition, the extract of a reflection by Pasolini or Max Weber.
This issue of FAM, I said, collects the vast approach made up of testimonies and experiences that are differently militant and not necessarily in

the architectural world to reiterate the need for a broad look at one of the themes (that of education and the construction of its spaces) fundamental for the future: to use Canella's words (1981, p.2), school is «investment with deferred profit». I am also pleased that the gaze on current events passes through the critical filter of the analysis that starts retrospectively from historical experience.
The seventeenth issue of Hinterland was dedicated to the world of school and was entitled Field of education: an editorial in interrogative form by Canella himself School and landscape: a missed opportunity? reflected on the relationship between school and city starting from the Modern Movement, coming to propose some «almost provocative ideas» (Ibidem) of the project for the rearticulation of the Milanese education system and ending, the editorial by Canella, with an apologue[1] that was none other than the poem *Il Tesoro* by Giovanni Pascoli. An ode to knowing how to see, to knowing how to collect.
Giorgio Ciucci (2014, p. 42) writes about Hinterland:

«I like to see in the programmatic and formal requests of the Canella project for Turin [The project for the Directional Center of 1962, ed] the premises on which his civil and disciplinary commitment over the years has been built to come: the "formal distortions", as Manfredo Tafuri will call them in 1981 describing his architecture of the Sixties, are real "civil invectives" that invoke, through the figures, a *design* for a renewed *context* of architecture - to take up the full title of the magazine - which is intertwined with a new *management of interventions in the territory*».

We too, in a moment of great design confusion, offer food for thought hoping that the heirs will find the treasure before ruining the field.

Notes

[1] «According to an old fable, there was once an old peasant who, feeling the approach of death, called his children to his bedside and said: "I am going with my conscience at rest, because in the field I'm leaving you a fortune". When the fader died, the sons dug up the field everywhere before they realized that the fortune was the by now ruined field itself» (Canella 1981, p. 3).

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Enrico Prandi (Mantova, 1969), architect, graduated with honours from the Faculty of Architecture in Milan under Guido Canella, with whom he carried out teaching and research activities. He obtained his PhD in Architectural and Urban Composition from the IUAV in Venice in 2003. He is currently Associate Professor in Architectural and Urban Composition at the Department of Engineering and Architecture of the University of Parma. He is the director of the Festival of Architecture in Parma and founder-director of the class A international scientific journal «FAMagazine. Research and projects on architecture and the city» (ISSN 2039-0491). He is scientific responsible for the Parma unit of the project ArcheA. Architectural European Medium-Sized City Arrangement (published in Routledge, Aión and LetteraVentidue volumes. Among his publications: *The project of the Childhood Centre. Sperimentazioni architettoniche tra didattica e ricerca* (Aión, Florence 2018); *L'architettura della città lineare* (FrancoAngeli, Milan 2016); *Il progetto di architettura nelle scuole europee* (in European City Architecture, FAEdizioni, Parma 2012); *Mantova. Essay on architecture* (FAEdizioni, Parma 2005).

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Editorial 2

Francesca Belloni, Elvio Manganaro

Scuole – schulen – schools – écoles – escuelas

Abstract
The recent health emergency has marked a moment of crisis for the class unit that has constituted, since the first half of the nineteenth century, the minimum dimension through which our culture has organised the process of mass education. In the light of these conditions and following a debate that has been going on for more than a decade, it therefore seems unnecessary to return to the subject of schools. We have therefore decided to dedicate this issue of FAM to the school, setting it out along three lines of study, which more than others we felt it was important to try to tackle in parallel: pedagogy, language and society, identifying three areas that are in themselves autonomous, but also certainly dependent in the construction of learning spaces and in the daily experience of those who attend them, starting with children.

Keywords
School — Pedagogy — Language — Society

It seems far from pointless to go back to talking about school.
The recent health emergency has marked a moment of crisis for the *class unit* which, since the first half of the nineteenth century, has been the minimum dimension through which our culture has organized the mass education process.
The idea that a child's education should be mediated by a circumscribed community that accompanies him/her in the learning process has been put to the test by recent prescriptions on social distancing.
This concerns both pedagogical and spatial aspects – the remit of architecture.
It did seem that the *city* could offer an answer to this crisis, in line with an idea of exchange between school and city that derived from the best experiences of the Sixties and Seventies. However, even this hypothesis, which prospectively seemed the most reasonable and capable of profoundly redesigning the current limits of the Italian school, soon evaporated, became unsettled among countless bizarre and imaginative solutions, and was forced to withdraw in the face of the didactic and spatial inertia of a far from dynamic educational establishment.
At this point, after the phase of contingent responses aimed at guaranteeing the return of students to the classroom, it is time to tackle the issue using a critical and scientific approach, trying to patiently unravel the complexity of an activity which is naturally subject to different disciplinary and ideological polarizations. Above all, it appears necessary to avoid the shortcut of proclamations and clichés, even those with a progressive pull.
That nothing will be the same as before, as we keep repeating to ourselves in chorus, is valid as an act of faith or an apotropaic formula and nothing else.

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The images accompanying the editorial and the following three interviews reproduce some of the ceramic tiles designed in 1997 by the students of the primary schools in Fagnano Olona, under the guidance of the teacher A. Vaccaro.
Photo by Francesco Pavan.

The times of architecture are not those of pandemics nor those of pedagogy, which in turn do not even correspond to the times of language. And the times of architecture are certainly not the times of the city.
Therefore, every society that takes care of educating the new generations must strive to periodically link together these areas, while shunning any scientific rigidities.

Consequently, it was decided to focus this issue on three lines of study, which more than others it seemed important to try to address in parallel: pedagogy, language and society; three areas that are autonomous in themselves, but also unquestionably dependent on the construction of spaces for learning and on the daily life of those who frequent them, first and foremost the children.
Pedagogy because it is more evident than ever that only a virtuous relationship between pedagogy and architecture can shape spaces for learning in which the environment itself is an "educator", and because architecture is capable of favouring the narrative dimension of the teaching experience, to become a place of life, meetings, relationships and learning.
Language because if – with Loris Malaguzzi – «the environment is decisive with respect to acquisitions of an affective, cognitive and linguistic character», never as now, in such a complex and plural society, does the codification or re-codification of a common linguistic code of learning, be it spatial or strictly verbal, seem to show implicit albeit profound relationships between the design vocabulary used for schools and verbal language, itself subject to continuous modifications due to cultural and social changes.

Society because the ideal objective of an educating society that takes on the responsibility, together with and beyond the school, for educating children finds its natural counterpart in the increasingly pressing demand from society to have children – and therefore future adult citizens – who are capable of acting responsibly, creatively, innovatively and effectively, individuals capable of acquiring new skills in a lifelong-learning process.
And in the background, always the motives of architecture, because this is an architecture journal and because it is believed that an effective point of view could be offered to pedagogues, educators and administrators starting precisely from the experiences of certain architects who, more than others, knew how to give the school theme a civil, symbolic, and figurative slant each time, starting precisely from the educational capacity of the space, its social value, with a searching attention to those ancestral intuitions which children, sooner than adults, develop towards the world they live in.

The following essays, which in the initial idea of the editors should each have belonged to one of the three lines of study proposed, actually demonstrate that the reasoning developed cannot be easily pigeonholed or harnessed in pre-established categories, and that, precisely for this reason, every author makes continuous forays into the field, driven by a need to build the conditions for a complex reasoning which clarifies the multiplicity of the elements at stake when it comes to schools and school buildings.
This is evident from the three interviews – conducted respectively by Riccardo Rapparini, the editors of this issue, and Micaela Bordin, which were supposed to respectively open the three sections and which, on the other hand, in the final draft, it seemed more effective to group together.
In the first one, Beate Weyland introduces the major theme of the relationship between pedagogy and architecture, underlining the need to build exchange modalities between the different disciplines capable of producing (maieutically) virtuous design processes, starting from the construction of a common language: «In the book *Designing Schools. Between Pedagogy And Architecture*, written together with Sandy Attia and published in 2015, we wanted to indicate five keywords at the intersection between pedagogy and architecture, which are often interpreted differently by the two worlds, and which can make it easier to understand how necessary it is to create a common language. *Form, space, flexibility, beauty, innovation*, are terms widely used both in the pedagogical and architectural fields, especially when it comes to school projects. But what meaning do they have for the school world and what for designers?».
In the second interview, Silvana Loiero reflects in structural terms on the very decisive function of language in the construction (of thinking) of and about the world and how, in relation to this, it is necessary «to talk about the learning environment in a broader sense, not only as a physical environment but also as a cultural and mental 'space of action', in which interactions and exchanges take place between students, objects of knowledge, cultural and technical tools, and teachers, and how it is possible to have meaningful experiences on cognitive, affective-emotional, interpersonal and social levels».
Lastly, in the third and final interview, Marco Rossi-Doria extends the outlook and shows the need to elect the city along with its spaces as a privileged place for democratic learning, starting from the profoundest thing a school can represent for society: «From the point of view of the 'city', the 'school' is a stronghold of emotional unity as well as ethics, I would

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even go so far as to use the adjective ‘republican’ for a city, that is, it is the stronghold of the Republic in the city’s neighbourhoods. This is a target which lies behind everything. And this is the first thing».
It is clear, therefore, that reflecting on these premises, the attempt of these brief introductory notes can only be that of recognizing convergences between seemingly distant areas, identifying analogies, and bringing out common reflections, which the reader of the essays that make up this issue will be in turn free to reorganize according to other criteria and distinct categories.

The analysis of such general issues as the relationship between pedagogy and architecture in Italy starting from the period after WWII is addressed by Claudia Tinazzi, in whose essay we read the desire to look at recent Italian achievements in the light of the twentieth-century tradition to reconstruct the thread which links this cultural tradition to the contemporary experiences of the “Alto Adige case”. In fact, for the author, only within this large fresco is it possible to understand the exceptional nature of this unique aspect of the Italian panorama and the reasons why the attempt to export this model «has generated an interesting process of methodological contagion so far [...] whose final results, at times uncertain, raise questions [...] on the impossibility [...] of entrusting the transformation development of our school system only to the competition process and to the ‘tailor-made’ training of the teaching staff», rather suggesting a slow but necessary time «to give space and body back to the school».
A slow time to which other authors also refer for whom the *city* is the privileged viewpoint from which to look at a specific school. The essay by Anna Irene Del Monaco traces the Roman experience of school and university

buildings from the end of the nineteenth century to the Seventies, underlining the close link between the projects analysed and the city, seen as an essential cognitive background and cultural context of comparison for the definition – also linguistic – of the single interventions. In fact, referring to the first decade of the twentieth century, Ciro Cicconcelli, one of the protagonists of that experience of the renewal of studies on school building, complains that there was still no «qualified level of studies on school building and that the main reference was still churches and barracks, respectively elaborated on the basis of the British and German traditions», and that, «if in terms of urban planning there are some general principles, there are none as regards the sizing of schools and the distribution of these within the urban fabric. School buildings are built without realizing the importance they have for the urban organism and without clearly seeing the economic, pedagogical and social aspects framed by the very life of the community».

Moving on to Turin, Caterina Barioglio and Daniele Campobenedetto present some typological experiments conducted since the 1970s through school buildings serving the residential expansion areas built following Law no.167 of 1962 and developed through the P.E.E.P. council-house building programmes. The authors analyse the question of the search for repeatable models as a possible solution to the problem of school buildings, but also underline how «the practices of contemporary use of these buildings reflect the disconnection between the tools – distributive, constructional, normative – put in place by planners and administrators, and the stresses to which the school infrastructure is subjected by the transformation of the city and educational culture». According to the authors, this separation of uses, with respect to didactic models and original policies, opens up the need for narratives capable of *recomposing their complexity*, fully exploiting the «transformation potential of an infrastructure widely distributed throughout the municipal territory».

Although with a different slant, Annalucia D'Erchia questions similar issues, analysing the figure of Arrigo Arrighetti and the numerous school projects he developed when he was Technical Office Director of the Municipality of Milan: «These are unfinished structures, dominated by growing patterns according to models that have constant, recognizable, familiar elements and alternate flexible parts with others that are not, parts dedicated more specifically to the education of learners and parts with a collective and public vocation, some of which are also open to the city [...] It is precisely in these experiences, therefore, that the specific sensitivity of the relationship between the school and the city develops, both from the point of view of the social role it assumes and in the urban design which it defines».

Straddling architecture, society and pedagogy, Francesca Serrazanetti tells the story of Giancarlo Mazzanti's firm (*El Equipo Mazzanti*) and the strong impact on the Colombian suburbs of his projects, capable of "acting" in a performative sense on the space they define and on the community who inhabit it. By clarifying the methods and motives for the associative and compositional "games" implemented in the projects of El Equipo Mazzanti, the author shows how «in going beyond the physicality of the project and its formal execution, architecture plays a guiding role in the transformation of the city and in the construction of citizenship. In Giancarlo Mazzanti's design methodology, the architectural space becomes, we can say, a learning mechanism in itself».

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The Community – like those on which the work of El Equipo Mazzanti "acts" – is also the keyword to interpret the work of Hassan Fathy, a necessary dimension so that, through an idea of cooperation and self-construction, a fairer economic and social structure can be envisaged. Viola Bertini writes: «Training the inhabitants, teaching traditional construction techniques, revitalizing local crafts through craft schools, encouraging spontaneity in the field of applied arts are actions that therefore take on a profound social and cultural significance. Social, because a possible development model was envisaged which, despite being far from reality at times, staked a claim for a civil value for architecture. Cultural, because the handing down of ancient knowledge to the new generations was an attempt to build a renewed identity».
Starting from similar themes – so much so that his essay opens with a long quote from Hassan Fathy – Camillo Magni analyses the cultural, social and architectural context of certain particularly significant experiences in the context of international cooperation processes in the Global South countries. Looking at these processes with a politically critical gaze, interested in identifying the differences between "colonial" practices and interventions capable of promoting the development of local communities through architecture, particularly through the construction of school buildings, Camillo Magni states: «Looking at the school buildings built in the last decade as a part of international cooperation [...], despite the heterogeneity of places and professionals, we can find a common design matrix capable of combining contemporary languagesand vernacular atmospheres. [...] In a somewhat chaotic form, these projects demonstrate an uninhibited way of drawing on very distinct formal repertoires, through which to combine diverse cultures [...]. The positivism that supported the Movement [...] here leaves room for a pragmatic proceeding by those who set themselves the goal of solving concrete problems through architecture and who are not afraid to contaminate the project in order to accept all its contradictions».

The transitive role that the school organisms of the Egyptian architect Hassan Fathy, El Equipo Mazzanti, or the achievements of International Cooperation in the Global South countries have towards their social environment, is also the *educational prototype* of Guido Canella, which inspired Tommaso Brighenti in his essay. These prototypes, in fact, which have their origin in the experiments on primary school conducted during the course of Ernesto Nathan Rogers on which Canella was assistant and which would find their maturity in the years of the Milanese *theatrical system*, are, to use Canella's own definition, real *formal embryos*, in which «the dictation of

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society became more incisive». In short, organisms which programmatically freeze the linguistic, material and stylistic declination in order to «arrive at a 'cognitively founded' choice, in which the student could 'indulge, to the point of binding, respect for a precise program and a decisive transformation', arriving at a synthesis consistent with a formal or construction logic».
The theme of experimentation on language and of the compositional processes that determine the ways of formulation is instead deepened by Elvio Manganaro's essay in speculative and figurative terms on the thread of geometric abstraction as a tool, which in itself proves – at least for modernity – intrinsically pedagogical, although – the author notes – «it is as if the linguistic combinatorial process, that is the insistence on the configurational possibilities of a language reduced to a few elementary signs whose meaning resides in the world, had severed the mystical impact of abstraction».
And if the concept of space as a "third educator" permeates many of the essays in this issue, it is certainly a central theme which transversally unites Claudia Tinazzi's reflections on the state of the art of Italian school building, the subtle discussion of the projects of El Equipo Mazzanti conducted by Francesca Serrazanetti, as well as Lucia Pennati's narration of Dolf Schnebli's experience in Locarno and the particular relationship between a progressive vision of education and the design of spaces assigned to it, with respect to which the pedagogical capacity of architecture and art find concrete expression: «The architect [...] takes an active role by designing a flexible and anti-authoritarian educational environment, which from its composition down to the single detail, provides teaching and self-teaching tools. The educational environment prepares the child to be part of a new society and the educational function of architecture is not carried out exclusively by a spatial distribution or technological choices, but also through the presence of numerous works of art».
Starting from similar considerations, Francesca Belloni's essay reflects on the relationship between pedagogical instances and the layout of educational spaces starting from Le Corbusier's experience in Marseilles, to then analyse some contemporary realizations of the European panorama, identifying recurring typological and distributive patterns in which the ability of architecture to organize spaces proves to be a valuable pedagogical tool, while maintaining its precise disciplinary characteristics: «This means returning in some way to the origins of the architectural discourse to distinguish between settlement principles, typological variations, and spatial qualities in relation to the ways of life and their characteristics. All of this through some cases, not necessarily exemplary, but certainly indicative of the possibilities implicit to the discipline».

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It is from this same point of view that Andrea Ronzino's analysis of Alison and Peter Smithson's project for the University of Sheffield extension seems to begin; apparently distant from the proposed theme, in reality this precise analysis of the project shows how the architecture conceived by the Smithsons introduces organizational, distributive and linguistic devices conceived in relation to the scholastic use and the education which it embodies and in some way must be able to promote, by producing a space *in between*, i.e. from time to time open to interpretation: «The *space between,* open and fluid which [...] can be recognized in the virtuous antagonism between *drawing* and *word* appears to represent a 'field of action' within which we are called to move, decode and interpret the language of architecture of Alison and Peter Smithson. A suspended 'space' – but always and forever available – in between».

Despite the difference in interpretations and the diversity of the themes dealt with, what is important to underline is that each individual essay and the reciprocal interrelationships within the three sections and between the sections themselves show how in this issue dedicated to school architecture the historical, design and critical gazes overlap and intertwine to outline a composite framework inspired by numerous sources and – precisely because this is an architecture journal – attempts to show the means – be they typological choices, linguistic declensions, constructive elements, theories, words or drawings – through which space can become a "third educator".

Francesca Belloni (Rho, 1977) architect; in 2007 she received her Ph.D. in Architectural Composition. Currently, she is researcher in Architectural and Urban Design at the ABC Department of the Politecnico di Milano. She has taken part in numerous conferences in Italy and abroad and has taught at the Accademia di architettura in Mendrisio. She has published several articles and essays; she is also the author of some books including *Falso movimento. Progetti e architetture tra cambiamento e fissità* (Milan, 2020), *Ora questo è perduto. Tipo architettura città* (Torino, 2014) e *Territori e architetture del fiume. Il Ticino dal Lago Maggiore al Po* (Milan, 2009). Beside her academic activities, she is a designer of several architectural proposals and has taken part in numerous competitions.

Elvio Manganaro (Pavia 1976), architect, Ph.D. in Architectural Composition from 2009. Currently is researcher in Architectural and Urban Design at the ABC Department of the Politecnico di Milano. His publications include: *Il libro delle immagini/The book of images*, 2020; *L'altra faccia della luna. Origini del neoliberty a Torino*, 2018; with A. Ronzino, *Corpo a corpo con un capo d'opera dell'architettura d'autore piemontese a mezzo dell'architettura d'autore piemontese/ Hand-to-hand with a masterpiece of Piedmontese auteur architecture by means of Piedmontese auteur architecture*, 2018; *Warum Florenz? O delle ragioni dell'espressionismo di Michelucci, Ricci, Savioli e Dezzi Bardeschi*, 2016; *Scuole di architettura. Quattro saggi su Roma e Milano*, 2015; *Funzione del concetto di tipologia edilizia in Italia*, 2013.

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Riccardo Rapparini

Practical instructions for dreaming about school. Interview with Beate Weyland

Abstract
From the very first reflections on how to structure this issue of FAM, the need arose to talk about school architecture while also talking about *something else*, *another thing*, which, in truth, has existed for too long and perhaps has an air of guilt about it. In the case of this interview, then, considering that this *other thing* means pedagogy, architecture's guilt in having omitted the discipline which is the protagonist of scholastic processes emerges in an even sharper light. It is in an attempt to mend the relationship between architectural and pedagogical disciplines that we are including this interview with Beate Weyland, a Professor of Educational Sciences at the Free University of Bozen-Bolzano, and long committed to deepening and developing shared design processes through which to maieutically lead participants towards an awareness which makes them active in building their own "dream school".

Keywords
Beate Weyland — Pedagogy — Architecture

Riccardo Rapparini: *For me it would be interesting to begin this interview by recognizing a common* arkhé *between architecture and pedagogy that can be summed up by the word* 'formation'. *In pedagogical terms,* formation *implies the construction of a path of maturation and growth for the learner; in architectural ones, the act of leading a design idea to become a* form. *Do you think this is an appropriate starting point to discuss these two disciplines in the same breath?*

Beate Weyland: In the book *Between Pedagogy And Architecture*, written together with Sandy Attia and published in 2015, we wanted to indicate five keywords at the intersection between pedagogy and architecture, which are often interpreted differently by the two worlds, and which can make it easier to understand how necessary it is to create a common language. *Form, space, flexibility, beauty, innovation*, are terms widely used in both the pedagogical and architectural fields, especially when it comes to school projects. But what meaning do they have for the school world and what for designers? Starting from the simple etymological data of the word, we've deepened its specific values for our respective disciplines, we've compared them with the meanings of everyday life, we've sought them among research data, in a dialogue with the various individuals who gravitate around a school. Lastly, we've built a bridge between pedagogy and architecture precisely through this appraisal, identifying the common meaning we wished to give these terms.
As regards the words FORM and formation, if by the latter term we mean the *process of formation*, it has an active value and mainly refers to the genesis of physical and material structures (the formation of minerals, the

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formation of clouds…). In more figurative uses, it can refer to psycho-physical and intellectual development or, in an active sense, to the civil, spiritual and moral education of a person. In an absolute use, always with reference to the Treccani dictionary [of Italian, t/n], the result is also indicated, namely, the baggage of knowledge acquired in a given specific sector (e.g.: having a good educational formation in...). In common parlance, this term means whatever constitutes the effect, the result, of forming or being formed, therefore, generally, a *structure*, a more or less uniform and compact union of *material elements*.

I agree with you that the concept of "formation" is an opportunity to create a dialogue between pedagogy and architecture. But we must be careful: this word can have two meanings. One being that of forming as in *giving a form*, therefore as used in the architectural discipline, the other instead alluding to the concept of *being educated* with a pedagogical approach oriented to the theme of *Bildung.* I would avoid thinking of the combinations with "giving formation, providing formation" which hark back to an overly-outmoded reading of planning oneself in the world. Form and formation both offer us the element of concreteness and consistency on the one hand, the generative and heuristic, ethical and aesthetic dimension on the other. In both fields, we're concerned with *giving form to a content*, with *carrying out a formative action* which is intimately linked to the broad concept and to *learning*, which only in English has a complete meaning in itself, a meaning which the Italian word "*apprendere*" lacks. Therefore, formation as *Bildung*, as *learning*, not as a transitive verb ("learning what?"), which indicates learning one thing rather than another, but as an undertaking of continuous and vital growth, expansion, cultural enrichment, being in touch with research, respect for people's becoming in every educational activity.

RR: *The first question suggested a semantic root common to pedagogy and architecture. The theme of language, however, also plays an important operational role in the participatory processes on which your own research is based. The first step in drafting a pedagogical concept*[1] *is the sharing of the needs and aspirations that each* inhabitant *of a school (managers, teachers but also parents and students) has developed with their own experience. In these terms it seems to me that, metaphorically, you are covering the role of the interpreter in a* frontier *space in which each* inhabitant *tries to express him/herself with his/her own language, encountering inevitable but fertile communication difficulties.*
How do you help to build *a common language capable of becoming a communication tool which everyone can understand?*

BW: I believe I carry out a maieutic activity on the one hand while on the other I encourage awareness of the different points of view of the school project, with the idea that everyone's contribution can lead to the best response for the school in the making.
Let me explain: the first job I do with the school communities involved in the processes of developing a new school idea is to give everyone the floor. Both in the maieutic sense – so that everyone can clearly express their own vision – and also to create a climate of collaboration and mutual respect. Taking the floor, explaining positions, indicating problems, responsibilities, the different points of view in a dynamic arena which stimulates communication, allows everyone to become aware of the separate roles and tasks that each has in a school project. Clients have economic responsibilities, schools have pedagogical and organizational responsibilities (with a series of specs), architects have compositional and structural responsibilities. Knowledge of the distinct roles that each plays, ranged side by side on the drawing board, offers a different basis for beginning.
Later on, when they all know one another and recognize one another in the tasks and in the different points of view on the school project, my work becomes profoundly maieutic: I invite everyone to express a dream for school. I use a methodology inspired by Christopher Alexander, asking everyone to close their eyes and imagine the new school, looking for a place within it that the person imagining would want. What is this place like from which you are looking at your new school? How is it linked to everything else? What happens in this new school? In my maieutic work, I create a space in which everyone feels entitled to express their dream in turn. The mayor, the child, the teacher, the mother, the manager, the janitor, and the architect all speak. Everyone listens and discovers that they are great dreamers, but above all they become aware that they have a lot in common, that they are not really so different from one another. Everyone is surprised, they light up, they discover themselves. Everyone becomes curious, and when I ask them to work in groups to summarize their proposals, they tend to respect the different dreams and seek out points of convergence. This is a process which always moves me, so much so that they call me "the midwife" of new school ideas. A new idea of a school is born, just as a child is born. It's young, helpless, needs to be cared for and nurtured in order to grow.

RR: *For me, one of the most critical issues of participatory processes is the democratic one. This was already maintained by Giancarlo De Carlo who saw participatory planning as a tool to build a kind of architecture that is «multiple and meaningful for all, in the sense that everyone should*

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find an answer to what they ask for in architecture» (De Carlo 1989) and, therefore, the reflection of a society that aspires to be democratic.
As in De Carlo, the processes you propose intend participation not only as the construction tool of a tectonic architecture, but also of a community capable of subsequently recognizing itself in a project capable of translating ambitions and needs. In what way does participation build a community? And why, in this sense, is it important for a school to return to having a core civic value as well as an educational one?

BW: In reality, we no longer speak of participation, but of sharing[2]. You participate in a party, meeting, or event, and if you leave early, nothing happens. You can also not participate; the event will take place anyway. In shared planning, all are organizers of the event. If an individual is missing, a piece is missing. It cannot be done without him/her. It's done together. Everyone feels empowered and active, each capable of responding with their own skills.
For me, it's vital to work in this way so that my world, the pedagogical one, represented by teachers, managers, parents, and children, is fully active in the process which leads to the birth of a school. We are no longer living in a time, like that of De Carlo, when users were involved by architects (always architects) to understand how such users think, how they live, what they want. Nowadays, it's a question of working in a particular area of responsibility. It's the users themselves who need to understand how they live now and how they want to live in the future. A school must be fully empowered in a process of developing its own identity. In addition, it's necessary to learn to deal with the budget (client problems) and with the various structural, compositional and aesthetic problems (architect's thoughts). I'm committed to ensuring that my world nurtures knowledge and competence in these fields as well; we're talking about a basic ABC which, however, can deeply contribute to developing a new culture of designing and inhabiting schools.

RR: *Just recently, Professor Franco Lorenzoni, during a* lectio magistralis[3] *for the awarding of an Honorary Degree in Primary Education Sciences, proposed a very interesting example to describe how space influences human actions. Borrowing the words of Jean-Pierre Vernant, he defined the foundation of the city Megara Iblea as the first example of democracy, given that the architects chose to place a public square in the centre of the* polis*, a place dedicated to sharing and speaking. So, in some way, democracy is recognized as having a spatial* genesis*.*
Consequently, if space has such a profound influence on a community, how does designing a school space contribute to making the school a "peda-

gogical device", as, for example, theorized by Loris Malaguzzi or more recently planned by Giancarlo Mazzanti?

BW: The theme of space as a pedagogical device is very important. As such it implies a heuristic and propositional quality. It offers the user the opportunity to do or not do something, to discover and create situations, to generate encounters and exchanges, and so on. Malaguzzi taught the exploration of space to children and the encounter with space for teachers to understand what space talks about and what its potential for education can be. This interest in the quality of space is not widespread in a pedagogical context, a lot of work still needs to be done.
More often than not, architects are able to read the pedagogical universe and therefore offer a possible scenario in which to live with the didactic processes and experience the educational relationship. When it comes to a public, community space, there is no shortage of experiences and experiments. On the contrary, when it comes to a space for teaching (classrooms, laboratories), architects simply give up. The fantasy is interrupted and the script of the classroom forcefully "breaks through", like a timeless monad.
I'm working with Giancarlo Mazzanti, a dear friend, more than just a colleague, to understand whether it's possible to develop together a discourse on "play" as a tool for dialogue between pedagogy and architecture. Play is a right expressed by the UN Convention on the Rights of the Child. Free, self-determined play. A school is not a place where many children's rights are safeguarded, least of all that of play.
Much could be said about this, but what I would like to explore with Giancarlo is how we can design a free play space for children and teenagers in a school. If space can be a pedagogical device designed by both educator and architect, then how is a play space configured? As a place of absolute and free fun, where learning is built through relationships with others.

RR: *The next question I would like to ask you is more closely related to the themes of architectural design. As happens in almost all disciplines, by now architecture seems to have become accessible only to those who are a part of it, producing in the inexperienced a condition of illiteracy which makes it difficult to understand the criticality and potential of the space they inhabit. How do you enable participants to see architecture – paraphrasing Zevi – as the only way to participate in the choices of the future school project actively and consciously?*

BW: We need to teach architecture to teachers as well as to children. There are many proposals to teach the quality of spaces to the younger generations, using playful, exploratory approaches. I'm contacting various institutions, such as the Biennale Education, imagining that I'm also making proposals for my own world, which would need them so much. Future first-year architects receive the rudiments of architectural language in the same way. Paths should also be developed for the world of schools, in order to bring the culture of space into dialogue with pedagogy.
Consider that the training of an architect is in any case multidisciplinary. You are aware that you are designing for people, who are multiform, multifaceted, and complex. The architect is preparing to understand the needs of extremely diverse clientèle and needs a kind of thinking which is as open to influences and rich as possible.

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The training of teachers currently does not have this richness. An educator from *Reggio Children* once told us during a visit: «Remember that our training is the least interdisciplinary of all». Currently, the training of prospective teachers is aimed at having enough culture and knowledge to manage the triadic educational relationship between teacher, learner, and knowledge. A relationship which generates a triangle that, depending on where the attractive force moves, from equilateral, can become isosceles, and even end up becoming a straight line. While learning the most current cooperative and enabling educational techniques, a lot of training is strictly disciplinary. There are no broad-spectrum cultural insights, and in no way are the themes of spatiality and aesthetics considered.
We work with teachers to become aware of the spaces they have in a straightforward way. A phenomenological analysis of the educational space. What do we find at the entrance? What do we see in the classroom? What is or isn't there in the communal areas? Without passing judgement, we proceed space by space to see what it says and whether this story corresponds to what we would like to experience or do in the various environments. Most of the time, it's the teachers themselves who discover that their spaces do not at all expound the values and principles that they would like to champion.

RR: *The urgency of setting school projects on the basis of shared pedagogical foundations would call for the use of participatory processes on an urban or even regional scale, like the* Torino Fa Scuola *project*[4] *for example. What critical issues do you think the generalization of processes based on such subjective and specific principles can present? In other words, is it possible to maintain the same degree of sensibility in understanding and translating the needs of each school community by systematizing participatory processes?*

BW: Shared, non-participatory planning is a question of method, not of systematization. In my career I've spent a lot of time carrying out courses with school communities geared to testing a potential method. In my latest publications I've explained this road, which was the same one that I tried out in the *Torino Fa Scuola* project. Each school has its own made-to-measure suit. It all begins with a sharing of intentions and an acknowledgement

of the different viewpoints and roles in the project. We continue with a needs survey (on participation) and with a collegial analysis of the status quo. We may continue with visits to cases of excellence, or by looking at proposals which show ways of teaching/learning (both pedagogically and architecturally) that are very different from those we are used to. The dream then develops and work is done to summarize it in the compulsory themes which emerge. The last steps focus on matching the dream to the budget, with the development of functional schemes and general quantifications. The law is a theme, it's interpreted. Money is a theme; we do what we can. However, we have a clear idea of where we want to go and what we want to do. It's rather like being with the family and discussing our new home together.

RR: *Right from his or her formative years*, *any designer ends up dealing with the combination of* form and function. *Even if the term 'function', having picked up a negative reputation, has been replaced by that of 'use', the debate around this dichotomy remains fundamental. Therefore, starting from the relationship of these two terms, I do wonder whether rooting an architectural project so specifically in its uses can cause difficulties when it's inherited by new* inhabitants. *When a member of the school, for example a manager or teacher, with his/her own beliefs and visions, takes over from a predecessor, can he or she experience difficulty settling in? Or if not, how can this risk be avoided?*

BW: I'm always asked this question. If we give our school a strong identity, what are we going to do with newcomers? And if we leave, what are they going to say? The fact is that we're not thinking about creating an element that is completely devoid of all logic. We always talk about 'school', that is, a place where the experience of knowledge, mutual exchange, skills development, love for culture ought to become increasingly enjoyable and richer. Dreaming of a different school does no harm. We always stick to the rules dictated by school building regulations. The functions are clearly defined by the number of people (teachers and pupils), as well as by the disciplines. It's like when we dream of a new way of organizing a hotel or restaurant: the function is clear, but the way in which this is conceived and experienced can be better defined and personalized.
However different you might like it to be, the school space sets out to develop the four guidelines of global skills: orientation to demand and research, team-building and empathy, healthy relationships, responsible actions (capable of germinating in the world).
These are skills which, up until now, have not been covered in this straightforward way. School has always been the place to cultivate good answers, to work alone and not to copy (and the desk is an emblem of this); a place which does not necessarily pay attention to bodily health (moving, being in the open air, eating well), and which certainly did not develop projects with children and young people so that they can feel effective in the world. All of this is changing, and many schools are on their way precisely to IN-FORM – to make these guidelines concrete. The world is racing towards the end. They say that we have no more than 100 years ahead of us. It takes good questions, excellent team skills, great attention to everyone's health and wellbeing and a willingness to act immediately in the world to improve it even slightly. How do schools need to be made in order to use and develop these skills? Perhaps classrooms are no longer enough for us;

will systems of interconnected environments be welcoming us? Perhaps the school as an island in itself is no longer enough; will the city and the country enrich us? Maybe the gym is no longer enough; will the gardens, woods, countryside, lakes and sea give us more?
The function of the school will always be there, but we shall rename it. From a place of teaching to a cathedral of knowledge and culture. A place for meeting and exchange, a space for the empowerment of mankind, designed to generate new worlds.
I think of those films in which the reasoning is made the other way around: with the future in the hearts of our children. They know. For them we create platforms over which adults, the wise, the elderly, preside, so that these young people are free to think and create, free to share and grow in constructive confrontations and exchanges.

Conclusions

The title chosen for this interview attempts to bring together two complementary aspects which emerge strongly from the words of Beate Weyland. The first, *Practical Instructions*¸ yields the scientific character at the base of the research through which Weyland has been able to cannily build a rigorous method which is still sensitive to the specific issues and subjectivity with which her processes tackle each case; the second, *Dreaming of School*, yields a further, fundamental aspect, namely, the feeling, the emotional nature which is inevitably linked to school life and which, at least in a mnemonic form, will always remain so.
Weyland straddles this fine line, poised between the scientific and the emotional, through which to build in the inhabitants of the school a strong awareness which can reveal their fantasies and desires but also their responsibilities and integrity, previously dormant in a dependence borrowed from a school structure which tends to produce more nightmares than dreams.
In fact, Weyland's processes not only build the school in tectonic terms but also – and one could even say above all – in community ones, through a constant sharing which takes on an indispensable educational character. Educational because she teaches dialogue and awakens in each of the participants a sense of community which does not disappear with the end of the project but continues in the life of the school, modifying and reinterpreting it when necessary. In this sense, it's interesting to underline the clarification on the passage from a *participatory* to a *shared planning* through which Weyland attempts to overcome a tradition which saw participation as an exclusive form of listening, emphasizing, with, on the contrary, the need for each member to feel involved, thus taking on a starring role and not that of an extra.

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Notes

[1] The term *Pedagogical Concept*, in full an *Organizational Plan with a Pedagogical Goal*, identifies «the starting point for rethinking spaces based on an educational approach and to examine the problems/potential of the building from the point of view of the teacher and the school principal in relation to local needs (the municipality, the province) and those of society. It is also an opportunity to verify the quality of the school project in cultural and educational terms and to study the possibility of welcoming activities and external subjects even after school hours, in such a way as to acquire a new vitality for the fabric of towns and cities and to transform itself into a proper civic and cultural place, or a 'radiating centre' for the new educative community». See http://www.padweyland.org/programma.html

[2] To learn more about shared design issues, see the PAD (Pedagogy Architecture Design) portal run by Beate Weyland at: http://www.padweyland.org/

[3] The *lectio magistralis* held by Franco Lorenzoni at the University of Milan-Bicocca is available in full at: https://www.youtube.com/watch?v=hYXqlEHexYQ&t=122s.

[4] *Torino Fa Scuola* is a project promoted by the Giovanni Agnelli foundation in collaboration with the city of Turin and the Fondazione per la Scuola. Reflecting on the relationship between architecture and pedagogy has contributed to the creation of two schools in Turin (the Enrico Fermi and Giovanni Pascoli lower secondary schools). See https://www.torinofascuola.it/

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Francesca Belloni, Elvio Manganaro

Restarting from language education. Interview with Silvana Loiero

Abstract
The interview published here started from the letter addressed in September 2020 by Silvana Loiero, with Nicola Grandi and Miriam Voghera, to the then Prime Minister Giuseppe Conte and the Minister of Education Lucia Azzolina, with the significant title Re-starting from language education. In that letter, the three signatories, members of the national secretariat of GISCEL, stated that "language education does not end with the education of Italian or other languages, but must be referred to language in general", a semiotic and semantic world that affects every aspect of life and logical thought and not only and consequently permeates the education and teaching of girls and boys. This is what Silvana Loiero, GISCEL national secretary since 2018, school manager in charge of teaching and teacher training, editor of the primary school magazine "La Vita Scolastica" from 2017 to 2020, talks about at length in the interview.

Keywords
Language — Linguistic pedagogy — Learning environment

Francesca Belloni, Elvio Manganaro: *Today the debate on schools is extremely lively. Is language still the terrain on which inclusion from exclusion is measured?*

Silvana Loiero: Yes, language is still a factor of exclusion: this is an age-old question, but also a present-day question. There are Italian-speaking children of all ages, and therefore born and raised in Italy, who, despite speaking Italian, only have an apparent command of the language. In front of a written page or when listening to a lesson they have difficulty in understanding or have expressive skills limited to a single "register"; they are unable to vary the forms through which they can express themselves.
To them we must then add their peers who are excluded because they speak a different language.
Don Milani's words come to mind in this regard: «I call someone a man who is a master of his language». These are words which still resonate strongly today. And at the same time we must note the great relevance of GISCEL's *Ten Rules for Democratic Language Education*[1], especially where (in Rule VIII) it is recalled that:

«the development and exercise of linguistic skills should never be proposed and pursued as ends in themselves, but as tools for a richer participation in social and intellectual life».

Today, however, compared to the '60s and '70s, we have important official documents on schools in Italy which set as the purpose of language education the development of *wide-ranging, confident language skills* and,

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as in the case of the National Guidelines[2], specify that the possession of adequate levels of control and use of the Italian language represents:

«an indispensable condition for the growth of the person and for the full exercise of citizenship, for critical access to all cultural areas and for achieving academic success in every field of study».

The official texts are not sufficient to allow students to travel the road of scholastic and social inclusion with any agility. In fact, much more is needed if, as the statistics tell us, the learning of the Italian language by Italian and foreign children of all ages continues to produce differences and bring to the fore new inequalities.

ISTAT surveys[3] have shown us, for example, that in the 2018-2019 school year, 30.4% of second-year students at upper secondary schools had not achieved sufficiency in literacy, as found by INVALSI[4] using reading comprehension and grammar tests. The variations are large across the country (41.9% in the South and 20.7% in the North) and are also large in terms of gender, social class and citizenship, with 34.4% of insufficient literacy skills among boys against 26.3% among girls; 54.2% among first-generation foreign children, compared to 27.8% among children born in Italy to Italian parents, 46.5% among children belonging to the lowest socio-economic and cultural levels, compared to 19.4% among those living in wealthier families. Furthermore, the percentage of insufficiency is higher among students at vocational institutes (66.7%) than among high school students (16%).

In conclusion: we can say that undoubtedly there is still a problem of exclusion linked to the possession or not of language skills. However, we

must add that today there are other considerations: distance learning in the COVID period has in fact shown us that not having a connection and a PC or another type of technological support available represents a further factor of exclusion. Consequently, the disadvantage of a lack of access to a network or the necessary means, those tools through which language travels, is added to the lack of language skills. These factors are even more exclusive for children who speak another language.
Consequently, Italy still has many steps to take to increase the effectiveness and degree of inclusiveness in its school system.

EM: *does this combination still make sense, beyond the most obvious aspects? In what terms does this relationship stand today? What has changed compared to the years when the thinking was to correct the imbalances in society, also through language education?*

SL: Naturally, the combination still has a very significant meaning today. However, it would be unrealistic to think that the school alone can correct the imbalances in society: the school can only play a part, and in particular it can offer tools for participation in the social and democratic life of a country. In my opinion, the fundamental function of language education today is to train citizens who can consciously participate in the construction of larger and more composite communities, quite apart from the national one. Ensuring proficiency in Italian while giving value to native and EU languages makes the school a privileged place for learning and, at the same time, a space for free and pluralistic confrontation.
I have already mentioned the document entitled *National Guidelines* (for primary and lower secondary schools). In it, a close link is established between the idea of *citizenship*, being able to *exercise it fully*, and the acquisition of language skills. To put active citizenship into practice, a fundamental condition is therefore required: the possession of wide-ranging, confident language skills. Skills which represent indispensable tools for citizens to participate in social and political life actively and responsibly, to feel that they fully belong to a community, to have a guaranteed set of rights and at the same time be in a position to fulfil a set of duties. This is why it is important that at school an effective communication climate is created in which boys and girls of all ages learn to dialogue, converse, and discuss things; that is, they are able to express their own opinions, argue, listen to others, and really understand what they are saying. This is the way to exercise the *right to express their ideas by word*, which is an integral part of constitutional and citizenship rights (Article 21 of the Italian Constitution):

> «It is through the word […] that shared meanings are built and work is done to heal differences, to acquire new points of view, to negotiate and give a positive meaning to differences as well as to prevent and regulate conflicts»[5].

The practice of the *right to express their ideas by word* thus opens the way for dialogue and confrontation, essential elements of democratic processes in today's multicultural societies.
In 2005, the well-known linguist Tullio De Mauro, in officially opening the *Day for the Thirtieth Anniversary of the Ten Rules* (De Mauro 2007), underlined that the earnest effort of the *rules* had been to propose a linguistic education that was not only efficient, but democratic, that is, aimed at inclusion, to the "not one less". For the linguist, and for the GISCEL association

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which he founded in the mid-1970s, this was not merely a question of talking about language education: it was in fact necessary to choose «democracy. Trying to make language education work in a democratic sense is something different, additional, compared to the simple linguistic-educational construct». So said De Mauro. And today, fifteen years later, his words ring even truer: it is necessary to achieve equality and democracy and «devote every effort to building that necessary condition of democratic living which is, in fact, democratic language education».

FB: *With regard to language in the proper sense, the central question seems to be teaching and learning not so much (and here I am referring to the words of De Mauro) how we should say something, but rather how we can say that thing and, I would add, to decide and understand why to say it or not. It seems that freedom is still at stake and in ways that are increasingly difficult to pin down. In this sense, what are the specific aspects of the current condition?*

SL: The traditional "linguistic pedagogy", that of the "theme" and of beautiful writing – so to speak – was prescriptive, it responded to the logic of *how* to say something. But it is easy to explain how to say something, it is more difficult to explain how to say something and what the effects from saying that something in a certain way can generate and determine.
In this regard, I would like to recall the well-known motto of Gianni Rodari: «All uses of the word for everyone», which is well suited to the current zeitgeist, characterized as it is by the presence of numerous varieties in the Italian linguistic repertoire and by constant changes in the uses of the language. We must ensure that children concretely experience the ductility of the language and become able to adapt to the multiple situations in which they use it, exploiting its expressive and communicative potential to make apposite choices. This means giving all the tools to be able to interact on a linguistic level, enabling them to vary their ways of expression to adapt them to the environment, society, contexts, purposes, and interlocutors.

FB: *Speaking of architecture, to what extent can the spatiality of school buildings help define a learning environment? In your opinion, in what ways does physical space affect the development of skills, the acquisition of knowledge, and the enhancement of skills in complex contexts.*

SL: In discourses relating to the educational sciences today we speak of "learning environments". This term is generally used in the plural to indi-

cate innovative schools and classrooms in terms of their school buildings and furnishings. The expression "new learning environments" is instead increasingly used as a synonym for "digital learning environments"; in this case, the relationship between educational and organizational innovation and digital competence is emphasized.
However, I would like to talk about the learning environment in a broader sense, not only as a physical environment but also as a cultural and mental "space of action", in which interactions and exchanges take place between students, objects of knowledge, cultural and technical tools, and teachers, and there is the opportunity to have meaningful experiences on cognitive, affective-emotional, interpersonal and social levels. This more complex and multi-faceted meaning is linked to recent research in the psycho-pedagogical field that highlights the importance of school learning not as an individual process separate from the situation in which it occurs but as an intersubjective process which implies collaboration and sharing.
Learning therefore has a strongly social characterization: we learn *from* others and *with* others. The process of building meanings, acquiring new knowledge, developing skills, takes place within the social relations between students and the activities they carry out.
In particular, for the purposes of our discourse, it should be noted that current research has demonstrated the importance of a collective discourse taking place in the classroom, both in the forms of teacher-led discussions and in those of small groups of pupils who work independently and collaborate to solve a problem. It is precisely through collective discourses that meaningful knowledge and socially shared collective ways of arguing and reasoning in specific areas are built up, thus allowing a "sharing of knowledge". Hence, in this sense, the learning environment qualifies as a "community of discourses" or "of learners" because, in addition to learning knowledge, techniques and procedures, children also learn social procedures and relationships and collaborative practices[6].
It goes without saying that the spaces and equipment must be geared to the creation of this "community".

EM: *What could be a way of setting up the relationship between language education and the language of architecture? Today, it seems to me, all efforts are aimed at updating spaces. However, if we look at the winning projects for the construction of new schools, we get the impression that the rhetoric on the educational possibilities of informal relational spaces (corridors, stairways, atria, etc.), compared to the traditional classroom unit, is the mirror precisely of a deliberate resizing of the community and collective dimensions in the education of children.*

SL: The traditional image of the teacher is linked to *giving lessons*, a teaching practice which has always had a central place at school. During a lesson, the teacher *shows, explains, asks questions, gives definitions*, stimulates, prompts... The showing phase is often followed by exercises done by the students, the assignment of homework, subsequent interrogations.
Today, however, educational psychology speaks of school learning not as a consequence of a transmission process but as an effect of a constructive process, a dynamic process in which learners, as I have already said, play an active role within contexts in which they interact with peers, adults, and the tools of their own culture.

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Hence, for the purposes of interaction and social exchanges, the structure of the classroom needs to be changed. In fact, only a circular arrangement of the desks can effectively allow speaking, listening, participation in debates, collectively building argumentation and reasoning strategies in the various fields of knowledge, and working together in small groups, not only to discuss a problem or a text read previously, but also to write collectively.
However, the structure of the entire school building should also be changed, both to make the spaces more attractive and pleasant and to make them more functional. Classrooms should have French windows which open out onto a lawn (it would thus be a beautiful encounter between culture and nature); they should be adaptable to various functions and equipped with the necessary technological equipment, with sliding doors which, if necessary, can remain open to ensure that the space becomes one with a central meeting space. In addition, room should be found for workshops of various kinds in a school where pupils can work with their hands and mind, experimenting with and manipulating materials to do things and learn to do things, while working with others.
And, in addition to the canteen and the gym, room should be found for a library in a school, as its beating heart. A library which becomes a place not only for lending books and autonomous and collective reading but also for presenting books, and for such promotional activities as exhibitions, workshop activities related to the catalogue raisonné, reviews and bibliographies, multimedia activities, theatrical performances and meetings with experts, debates, meetings with authors, listening to music...
A library which can also become a place for families to participate and therefore a venue for meetings and exchanges between all kinds of people. Libraries represent «a powerful factor for the growth of reading and, therefore, for the overall growth of the nation». This what Tullio De Mauro wrote (2010) and we want to recall it at the end of this chat because we would like the linguist's voice to reach the architects who design schools. If for De Mauro the promotion of reading is a democratic necessity, then a library must be built into every school. Because, as Antonella Agnoli has written:

«The library is the most democratic place that exists, open to all: children and adults, Italians and foreigners, poor and rich. A truly universal place, where it is not necessary to eat or drink something to sit down, it is not necessary to have a computer, or an internet subscription because access to the Net is always possible [...] This is the library: an invention which will still exist when cars are long forgotten, or are locked up in a museum along with Ötzi's mummy» (Agnoli 2009).

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Notes

[1] The *Rules*, drawn up by Tullio De Mauro in 1974, were later discussed within the Intervention and Study Group in the Field of Linguistic Education (GISCEL), a group established within the Italian Linguistics Society in 1975. In their current form, the *Rules* are the result of collective work. To be found [in Italian] on the site: www.giscel.it.

[2] *National Guidelines for Primary and Lower Secondary Schools*, in: http://www.indicazioninazionali.it/wp-content/uploads/2018/08/Indicazioni_Annali_Definitivo.pdf last consulted 05/07/2021.

[3] See the report BES 2020: *Il benessere equo e sostenibile in Italia*, in https://www.istat.it/it/archivio/254761 last consulted 05/07/2021

[4] Istituto Nazionale per la Valutazione del Sistema Educativo di Istruzione e di Formazione, in https://www.invalsi.it/invalsi/index.php last consulted 05/07/2021. https://www.invalsiopen.it/ last consulted 05/07/2021.

[5] *National Guidelines for Primary and Lower Secondary Schools,* in: "Annali di Pubblica Istruzione. Periodico multimediale per la scuola italiana a cura del Ministero dell'Istruzione, dell'Università e della Ricerca", 2012.

[6] For research on "discourse and learning", see Pontecorvo C. (edited by) (2005) – *Apprendimento e Discorso*. Carocci, Rome; Pontecorvo C., Ajello A. M., Zucchermaglio C. (2004) – *Discutendo s'impara*. Carocci, Rome.

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Micaela Bordin

School society / city school. Interview with Marco Rossi-Doria

Abstract
The Italian edition of Colin Ward's "Il bambino e la città" is introduced by Marco Rossi Doria. The interview with one of the most authoritative experts on educational and social policies, at the forefront of the defence of children's rights, is based on that book and on the idea of the city as an important resource, able to offers girls and boys a widespread education starting from all its spaces. A teacher since 1975, Marco Rossi Doria has taught in the difficult neighbourhoods of Rome, Naples, the United States, Kenya and France. The first street teacher, he founded the "Chance" project - a second chance public school. He received the Gold Medal for Culture, Education and School from the President of the Republic in 2001. He founded the Association "If-Imparare a fare". Today he is president of the social enterprise "Con i Bambini", which implements the Fund for the fight against juvenile educational poverty

Keywords
Geography of learning — Widespread education — Educational co-responsibility

The school is the privileged place for meeting and exchange, also between diverse cultures. A fertile ground for integration and to reduce inequalities and segregations, a place to cultivate and create the most innovative and ambitious projects for society and its "wellbeing". A space for socializing, aggregation, meeting and growth, and for this reason also a place of conflict, confrontation, and the encountering of diversity.
The school, to return to John Dewey's teaching, is a "social institution" (Dewey 1954) whose sole task is not simply the transmission of knowledge, but that of offering a variety of experiences which can allow children of all ages to swap opinions, co-design, feed their imagination, awaken interests, and engage in critical and constructive thinking, starting from a direct, concrete experience, one always subjected to comparisons and verification, of the natural and social reality.
Only in this way, only by operating in this way, can an education system create thinking, active individuals and lay the foundations for a democratic society.
Democracy and education (Dewey 1949) are deeply interrelated and feed off each other. Democracy is achieved only when there is an education system capable of creating free and critical individuals, and an education system fully fulfils its mission only if it can enable individuals to swap opinions, to co-construct, to become "public", that is, not only able to guarantee access to everyone, whether male or female, but able to generate good practices and opportunities for sharing in society and in spreading culture and a sense of citizenship.
This can happen only and exclusively if a school is «without boundaries»[1], if it emerges from its enclosure and its walls, if it becomes a city and if it measures itself against and enters into listening and dialogue with society,

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with the physical conditions and social practices of its local context.
The school is an integral part of the social complexity and spatial resources of a city. It is part of an urban system and its rich "geography of learning". A city offers itself as tangible and intangible cultural heritage, it is described through its architecture, its open spaces, but also through the transformations taking place or already rooted in its fabric, through its inhabitants and its differences, its history and its stories. Its listening and its discovery constitute paths of knowledge to create informed and active citizens, capable of appreciating and, consequently, of taking care of its places.
As Colin Ward reminded us, a city is a valuable resource because it offers children a widespread education in all its spaces and places. Everyone's growth and education is enriched by participation in the life of a city. Each square, each public building, is a classroom, because each place can offer vital relationships and a unique opportunity for comparisons and growth, helping to stimulate autonomy and a direct participation in social life.

After reading the introduction to the Italian edition of "The Child in the City" by Colin Ward, it seemed to me a precious opportunity to be able to ask some questions to the Italian teacher and politician Marco Rossi-Doria, one of the most authoritative experts in educational and social politics[2], at the forefront in defending the rights of young children. A teacher since 1975, he has taught in the difficult neighbourhoods of Rome and Naples, but also in the United States, Kenya, and France. The first "street teacher", he founded the "Chance" project – a second chance public school. He received the Gold Medal for Culture, Education and School from the President of the Republic in 2001. He founded the IF Association – *Imparare a Fare* ["Learn to Do"]. He is currently president of the social enterprise "Con i Bambini", the implementation body of the Fund for Combating Child Education Poverty.

I join him via Teams, and he greets me with a smile in a room with two bookcases full of books behind him. I cannot deny my embarrassment. I ask him just one question which he smoothly begins to answer and then tells me about his extensive experience as a teacher around the world. His voice is reassuring, his words are measured, considered, heartfelt. Every now and then he cracks a joke. He speaks with the slowness of someone who is used to speaking, respecting everyone's timing. I listen to him and take notes. I write without haste, and I can follow his words while I am writing, and I think that this calm and this clarity in his phrasing is a habit learned in many years of teaching. I can imagine a class of his with chil-

dren who are listening and writing, perhaps a dictation, and I think that together with learning to write they have learned something else: the habit of respecting, paying attention, and listening to everyone else.

Micaela Bordin: *I would like to start this dialogue from Colin Ward's book, "*The Child in the City*", for which you wrote an introduction to the Italian edition entitled "For a practice of rights". In it, you emphasize that Ward was a radical critic of the policies which influenced the construction of the city and that in his studies he stressed that cities are deeply marked by social injustice. Today the situation does not seem to have improved, far from it. What do you think about this?*

Marco Rossi-Doria: Colin Ward's studies date back to the 1960s and are still surprisingly current. I would like to begin this meeting by going back to that wonderful definition which Ward took from the entry *Anarchy* in the eleventh edition of the *Encyclopaedia Britannica* written by Peter Kropotkin: «Harmony is not obtained by submission to law, or by obedience to any authority, but by free agreements concluded between the various groups, territorial and professional, freely constituted for the sake of production and consumption, as also for the satisfaction of the infinite variety of needs and aspirations of a civilized being».
For Ward, the sense of anarchism has nothing ideological or proclamatory about it, but is the most effective form of social organization, not a hypothetical organization, but a living social reality. His research focused on how society can produce alternative proposals to the dominant ones.
I would start from these suggestions and then try to say some concrete things. There is always the danger of speaking while remaining on a generic level, while "grounding" is important. It is important to work, to get your hands dirty, in an attempt to combine concrete facts, operational issues, but looking up because, if you only look at your feet, you cannot play football well.
A school is made up of a system of relationships and different points of view. It is made up of a continuous "groundings" which involve boring administrative and organizational tasks, tiring negotiations, and a lot of work to do with people and not just with the children. It requires constant work within a system of relationships in which there is not a single individual and there are no pre-compiled forms of how teachers, parents, pupils and therefore society should be, because each individual is primarily a person and not the category to which he or she belongs. Working within such a complex system requires an incessant "making sense", a careful and scrupulous work similar to that of an artisan.
For me, the relationship between the school and the city is not detachable from the operating system of human relationships, knowing that this involves a continuous intertwining in multiple layers and a progressive knowledge of the context understood in a complex and multidimensional sense. So, there is the institutional part, the methodological part, the psychology of the community and also of the individual; your projections exist, the fact that you need to deal with yourself, your limits along with those of others, the ideal thrust exists, but also the material interests, the most brutal ones, the good and the bad of everything and then you to fulfil the luminous theories you have studied on the relationship between school and city, even the most airy-fairy ones like those of Colin Ward. But you are in that neighbourhood, in that situation, in that city, in that moment of

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history, with those limitations and drives, etc. You need to be integral; you need to accept it all, and you don't have a clearly defined selector upstream of it all. You certainly have some knowledge and an awareness that, if richer, makes your "toolbox" better equipped to navigate this complexity, but all of this is certainly not easy because it is necessary to operate through authentic and participatory negotiations and above all, the result obtained is not valid forever, and this is a further burden.

Having said that, there are some things that you need to know and be acquainted with and that perhaps are upstream of the "toolbox", that is, things which guide you and that you need in order to manage what scientists call «navigational capacity» (Appadurai 2014), that is, the ability to stick with the uncertainty and make decisions with others in complex contexts. All of this concerns the two poles of the title of this interview: "city" and "school". Because a school basically has its own major rules, whatever the political and social contingency of the nation or the city.

So, I have been trying for many years to analyse these rules and these guidelines and to reduce them more and more. The reason comes from the fact that some of these, which seemed eternal, even if they were criticized from the outset by certain pedagogues and scholars and that perhaps over time have frayed, are still there. The school we imagine is the school that we attended and it's not very far from that of our parents and/or grandparents. We all attended a school whose location was a closed and time-driven place, in a class that was always the same every day, and in which the class and the classroom coincided.

We all want what we know, so it becomes important to identify those "targets", those elements, from the point of view of the school, which are not too calibrated on tradition, and so present in your own country and in our

individual and collective memories.
In my long experience as a teacher I have tried to minimize the targets, to summarize the elements that define the founding character of a school, working on a continuous and precise subtraction from my own certainties, to arrive at the consideration that a school is first and foremost a place among unrelated peers who must also learn how to get on; a place where we learn the knowledge of humanity in all its uncertainty, and ultimately that is the place where you learn quickly and well all those codes without which knowledge of humanity is inaccessible. These are in principle the essential guidelines that lie behind the contents of the "toolkit" that you carry with you, to enter the arena of a complex negotiation.
From the point of view of the "city", the "school" is a stronghold of emotional unity as well as ethics, I would even go so far as to use the adjective "republican" to talk about the city, that is, it is the stronghold of the Republic in the city's neighbourhoods. This is a target which lies behind everything. And this is the first thing. The second thing is that it is a place around which and within which a meeting might take place between different citizens, and who have in common the fact that they take care of people who are smaller and younger than themselves. It is the place where we live, where we are in everyday life in the proper sense, day after day, together and uninterruptedly.
To simplify, I think that if people steal from that school, and in certain contexts this happens continually, this is a problem of the city from the point of view of its "civitas" and the "republic". And likewise and at the same time, if around the school or inside the school there is a bar, or a library, or a square, a place to pass the time, somewhere to share the problems of one's own children with other parents, it is better that there is one, rather than not.
One final issue which I have dealt with for a long time, and which perfectly represents the arena that links "city" and "school", is everything to do with comprehending and learning. It has now been established by the sciences and studies that we "sapiens" learn everywhere and not just at school. We now know that children learn best between school and after school. Realization and disorientation, the basis which arouses discovery and curiosity, which occurs on some occasions after school, brought back into the school, is a powerful learning lever.
So, if you accompany the children in your class to discover anything: from observing snails in the garden in front of the school, to learning geometry by calculating the height of the shadow of a church tower cast onto the square in the daytime, as Thales did, and you have them take notes and then have them argue and formulate hypotheses, these children are going to learn a whole lot more. This direct experience will remain in their memory for a long time because, when learning is accompanied by an emotional and affective significance, it settles both in the heart and in the mind and remains there forever. In fact, it is important to start from their emotions, not to remain on the affective level, but to start a path which leads to the cognitive, and returns to the affective, enriching and developing it.
In some schools, all of this is already happening. And those who are doing it and those who conduct their profession in this way are not a special or innovative teacher, they are simply a "normal" teacher who wants to thrill children in the world in which they will have to live for the rest of their days.

But for this to happen, it is necessary that there is a city willing and

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equipped to welcome them around it and to discover it.
It should be emphasized that it is possible to obtain satisfactory results even without reaching the total realization of Ward's "city of children" or the other possibilities that have been codified over the years, but rarely followed up. There are a number of projects and good practices underway which support the "grounding" of these ideas. For example, there is a very interesting and captivating project called "The School Adopts a Monument"[3] whose purpose is to educate people to respect and protect their historical-artistic heritage and more generally the environment, keeping the school at the centre of this process of knowledge, protection, care, and valorization.
Adopting a monument does not only mean knowing it but also taking care of it, guaranteeing its conservation, spreading knowledge of it, giving it value and thereby rescuing it from oblivion and decay. So, if there is a city willing to do all of this, if you live in a city capable of welcoming these opportunities and opportunities, then this is good for the whole community, but where this does not happen, where the city is indifferent or reluctant, it is only the school, as a social institution, which is the active subject capable of initiating a path of "reconquest", of knowledge, and in some cases even of use, of the places of a city.
For me, the pandemic has boosted the potential for innovative alliances between school and city on which it is necessary to work to think of an effective educational revolution.
I believe that it's essential to rethink educational systems and relationships in order to renew the school which has not been at the centre of attention for too long and is suffering from the failures of politics and public administrations. There are still too few ongoing renewal processes capable of making education a laboratory of citizenship and a strategic asset for the development not only of the most fragile or peripheral areas but of the country as a whole.
I maintain that this action is necessary and urgent regardless of the tough times marked by the pandemic. The school must open up to the territory and the city, and the city must welcome the school.
I think of those young and older children whom we lose every day and to whom we have offered, during the closures of the schools, only two possibilities: either stay at home in difficult and fragile neighbourhoods, far from school, but immersed in problems of family hardship, precariousness, educational abandonment, and in some cases even of nutrition; or go to school in that alternate and more or less dependable way known as remote learning. But there could be points of solidarity and safety that

lie midway between the two. In the squares, museums, and libraries, in some places in the city, educators, with due distance and attention, could follow groups of children staying in connection with the school and with one another. For all of this there are the legal premises such as Article 118 of the Constitution on Subsidiarity[4] and the funding could be found. The voluntary sector has been mobilized and active since before Covid and the alliances between educators and teachers are already present in many contexts and are building more extensive and richer educational offerings by acting as educating communities, wider than school alone.

Notes

[1] The proposals of the "School without Boundaries" have been published in AA. VV., *Scuola Sconfinata*. *Proposta per una rivoluzione educativa*, Fondazione Feltrinelli, Milan, 2021. (Downloadable [in Italian] from the site https://fondazionefeltrinelli.it/schede/scuola-sconfinata-per-una-rivoluzione-educativa).

[2] He was Undersecretary of Education of the Monti Government from 2011 to 28 April 2013, reconfirmed in the same position from 2 May 2013 to 22 February 2014 in the Letta Government.

[3] Launched in Naples in December 1992 on the initiative of the Napoli Novantanove Foundation, in agreement with the Education Department and the Superintendencies. http://www.lascuolaadottaunmonumento.it/index.php.

[4] The principle of subsidiarity is governed by Article 118 of the Italian Constitution, which states that: «The State, regions, metropolitan cities, provinces and municipalities shall promote the autonomous initiatives of citizens, both as individuals and as members of associations, relating to activities of general interest, on the basis of the principle of subsidiarity».

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Francesca Belloni

Les enfants nous parlent

Abstract
By admitting that the environment is the third educator, beyond the different pedagogical implications that this entails, a reflection would be necessary on how the conception that is expressed through the project in the built buildings contributes to define this specific attitude, and we should also look into the ways the architectural spatiality and its relations with a child's life can be shaped from a strictly disciplinary point of view. This is respectively due to the character that each spatial and distributive choice intrinsically contributes to define, no less than for the transitivity that architecture has in cultural terms in the construction of each one's identity.

Keywords
Learning Environments — Spatial Character — Linguistic Experimentations

Reflecting on the meaning of a *learning environment* – meaning with this expression a complex system of places, modes and actors – from a disciplinary point of view, implies asking oneself if it is possible to make a (literal) transcription in physical terms of pedagogical instances, considering the *space of the action* as a complex set of characters that are not only spatial. The title *Les enfants nous parlent* refers to the Marseille experience of Le Corbusier and to the very special story of the school *La Maternelle de Marseille-Michelet* on the roof of the Unité d'habitation, considered here as a comparison term through which to look at some recent projects.
This result was mainly based on the relations between Le Corbusier, the French pedagogue Céléstin Freinet, and Lilette Ripert (Mme Ougier), director of the nursery school between 1953 and the end of the sixties. Certainly, the experimental character and the deep correspondence between the school setting and its use, between the environment and the educational system, offer an extraordinary quality to the Marseille experience, an experience that seems interesting to analyse starting from Le Corbusier's attempt to «reconnect to the architectural vocabulary of his purist period» (Sbriglio 1992, p. 100).
Placed on the 17th floor of the Unité building, the educational environment of the kindergarten is shaped through the plasticity of architectural objects, arranged as in a pictorial composition. The articulation of the spaces is emphasized by the access ramp to the roof which, used by children as a playful object, anticipates the elements present on the roof itself: the inclined plane, the swimming pool, the artificial rocks and the famous "wall of death".

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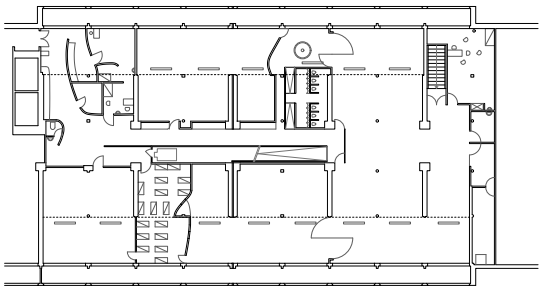

Fig. 1
Le Corbusier, La Maternelle de Marseille-Michelet, Marsiglia (redrawing of the design drawing: Jardin d'enfants niveau 17, 02/02/1953, FLC 25668A).

Contrary to what was claimed by the detractors, who criticized *La Maternelle de Marseille-Michelet* for its subversive character, every element, conceived to encourage the daily experimentation of the educational principles of Freinet and used for this purpose by Lilette Ripert herself, the more it is characterized from a spatial and plastic point of view according to the dictates of purist aesthetics, the better it is able to resonate positively and show its pedagogical qualities. Through the free plan, Le Corbusier seems to be testing the possibilities of his own language by exalting the concatenation of the spaces and their ability to «convey educational models and values in a deeper and more pervasive way than a plethora of words and project documents» (Castoldi 2020, p. 140).
Exemplary in this respect is the collaboration with Freinet, promoter of the *natural method* based on the model of the *school-laboratory*, the direct experience of children, and trial and error learning. In Marseille the purist grammar, in some ways employed in the surrealist forms of the elements arranged on the roof, allows the experimentation of the *pedagogical materialism* supported by Freinet, which acknowledges that the school spaces and their material content entail a strong pedagogical value: if the educational principle is that of *thinking by acting and acting by thinking,* the space in which the action takes place is an educator agent himself.
From the Marseille experience on, it has been considered useful to look into how the educational scope of the spaces can be translated into architectural terms, what intentions they tell and how they are given shape, whether and how we can talk about *educational architecture*.
This perhaps without going as far as to say, like Leclerc de Buffon, that «le style c'est l'homme même», maintaining however that for architecture, as a physical fact, the (formal) outcome is closely linked to the concept that you want to support, it is in some way its faithful mirror and for this represents a standpoint, as demonstrated by the *La Maternelle Marseille-Michelet*.
In fact, if certain experiences are certainly significant for the experimentation of new teaching strategies, which combine the rethinking of the traditional school model with a certain innovation of spaces, it is important to ask yourself what the different meanings are, with which, in recent years, architecture has been involved in building such a reflection, not only from the point of view of interior design, in many cases used as a tool to promote alternative pedagogical models[1], but trying to identify certain specific categories.
This means going back in some way to the origins of the architectural discourse to distinguish between settlement principles, typological variations and spatial qualities in relation to the ways of life and their architectural characters. All this through some cases, not necessarily exemplary, but certainly indicative of the possibilities implied in the discipline.
A first reflection can spring from an observation of the school complex of Vila Nova da Barquinha, architects Aires Mateus. Criticized by someone for its radical design, the marked aphasia and linguistic minimalism, the

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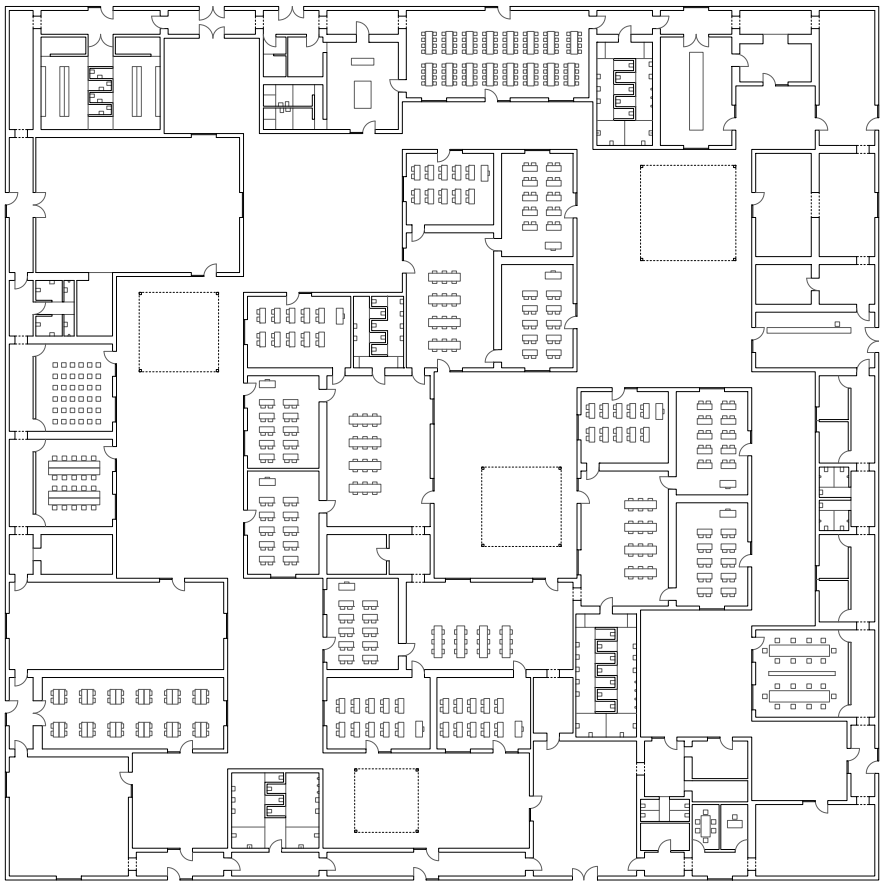

Fig. 2
Aires Mateus, School Complex, Vila Nova da Barquinha (PT), 2006-12.

project allows to start the analysis from the relationship between the building and the city. The plan, conceived as an introverted citadel, is the result of the composition of pure solids repeated and variously assembled. The structure of the voids, obtained by omission of volumes, conforms the interior spaces, conceived in close relationship with the external patios, typical of the Portuguese tradition; the rigidity of the starting scheme and the use of a limited number of elements produces, as in games with wooden blocks of children, a conceptually infinite number of possibilities and opens up the building to the life that in it takes place:

«The universes we attend in childhood tend to linger in our memories. It's the time when we interact with architecture in a more free and genuine way. It is when we settle appropriations and intuitively hierarchize values of architecture. We are interested in identifying the assets that are esteemed by all, and design the memories that will be formed»[2].

Angela Deuber's school in Thal, canton of St. Gallen, is conceptually organized according to a totally different settlement principle – that of *everything under a single roof*, according to the well-known classification of Albert Demangeon. However, the relationship between classrooms and informal sharing environments is analogous to the one described in the previous case and nonetheless relevant is the importance attached to the compositional aspects and the linguistic connotation. Organized according to a tripartite scheme and a modular load-bearing structure, the building plays on the contrast between the static composition of the plan and the variety of facade design articulation. The central space, which organizes and distributes access to different rooms, connects the individual classrooms, performing a similar role to the patios of the Mateus's school. Unlike that, the relationship with light, air and landscape is left to the loggia which,

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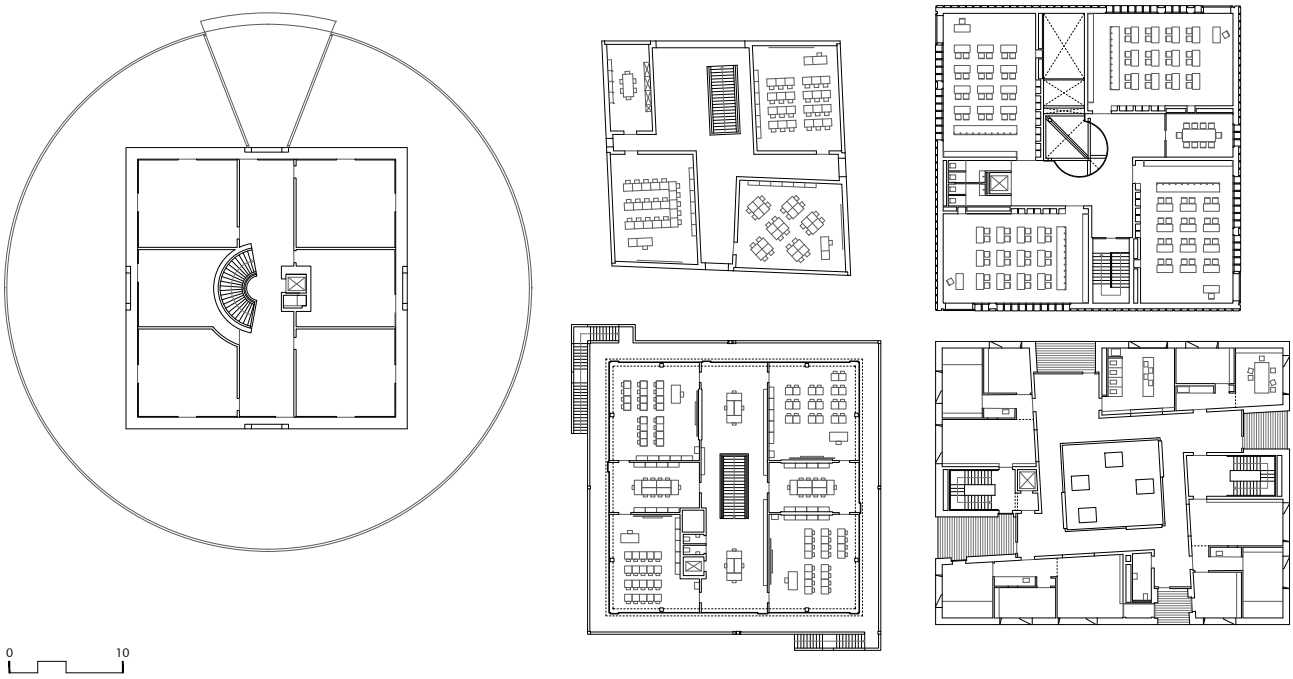

Figg. 3-4-5-6-7
Raphael Zuber, Kindergarten and primary school, Grono (CH), 2007-11.
Valerio Olgiati, Primary school, Paspels (CH), 1996-98.
TEd'A arquitectes + RapinSaiz architectes, GrangEcole, Primary school, Orsonnes (CH), 2014-17.
Angela Deuber, Kindergarten and primary school, Thal (CH), 2009-13.
Bruno Fioretti Marquez, KinderUniversum, Karlsruhe (DE), 2010-13.

running along the entire perimeter of the building, accentuates the spatiality and compositional richness of the façade, emphasized by the unusual geometries of the structural elements, the openings and the parapet.
The specific attention in the definition of individual architectural and structural elements characterizes the spatial experience offered in the transition from the central nucleus, introverted and community, to the loggia, the place of individual contemplation, open to the landscape. Evidently the linguistic research and the attempt to specify, perhaps even in an excessively marked way, the identity of the building is a precise design aim, especially if read in reference to the school destination and the desire to produce a somewhat prossemic architecture, identifying spaces for social relations, filter and circulation areas and semi-public spaces, which allow the extension of the personal dimension to the collective and landscape.
Indebted to the tradition triggered by Valerio Olgiati and his Paspels's school, the project for Thal is certainly related to the school complex by Raphael Zuber in Grono, Graubünden. In this case, the plasticity of the architectural elements becomes a spatial and linguistic educational device. As a sculptural object placed on the ground, the parallelepiped is the result of a pure compositional exercise of primary forms: a square inscribed in a circle and the curved volume of the staircase inside it. Precisely for this reason, the multiplicity of perspective views, recomposed within a planimetric and distributive organization once again static, is certainly the most interesting architectural outcome of the attempt to build a linguistically connoted space which evokes an altered and elitist dimension, able to encourage the children who live that space to undertake a critical creative exercise, similar to that which is produced while facing a work of art.
A progressive rediscovery of the *intermediate space* is evident in Paspels, Grono and Thal, as well as in the many other buildings that adopt the same principle of distribution, where the *space between the spaces* has no other specific function than to be available for flexible and dynamic use[3]. The type is refined and specified from project to project and the central space inside the block is functionally coded; the frequent repetition of such scheme is evident in various projects[4], so that it can be argued that we are witnessing a real consolidation of the type, accompanied by a plurality

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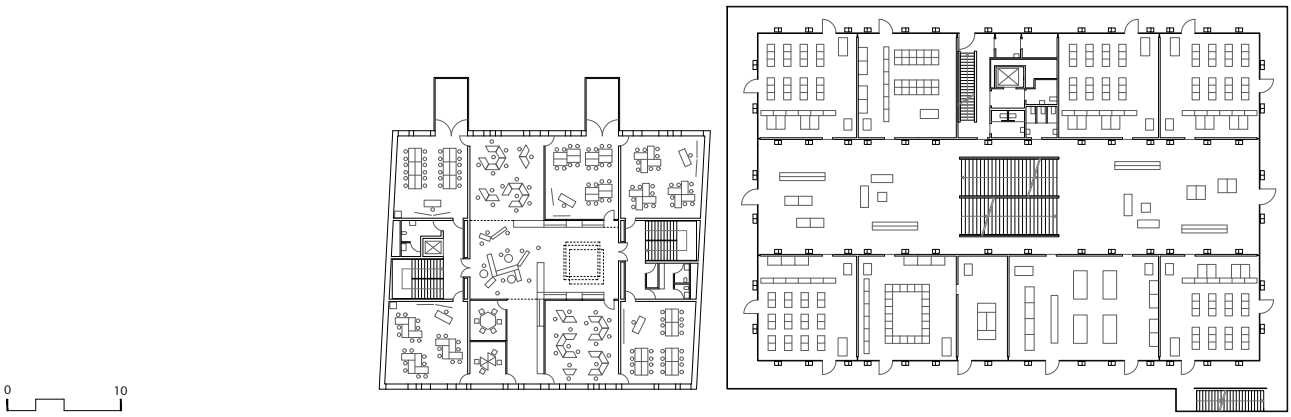

Figg. 8-9
Cebra, Bülowsvej School, Frederiksberg (DK), 2009-13.
Christian Kerez, Leutschenbach Schoolcomplex, Zurigo (CH), 2002-09.

of possible linguistic connotations. In this respect, the project for the Orsonnes school complex by Ted'A arquitectes is a case in point worth recalling, since the *middle space* is organized in a centrifugal way, as it brings back in section the complex game of intersections between the parts, and then characterizes linguistically the entire structure and its figuration with a code that rewrites the local dialect with contemporary inflections.
However, the attention to this intermediate space, daughter of Hertzberger's reinterpretation of the Montessorian model, and its different architectural interpretations are not limited to *the block between the blocks* of the alpine landscape. It would be a mistake to think differently. The Bülowsvej School by Cebra, in Frederiksberg, Denmark, located in a block of the consolidated city, albeit under different conditions, employs the same aggregative-distributive principle, modified in relation to the block's perimeter continuous façade and the constraints that it entails.
Cebra produces a volumetric transcription of this system and distinguishes between served and distribution spaces by extruding the elements and inserting multiple connections between the rooms, both horizontally and vertically. The space is organized like a chessboard where a single module – the classroom – rules a game of different combinations on the different floors, identifying the three parts of the building: the one towards the street, with sloping roofs that allude (though contradicting it in fact) to the serial juxtaposition of elements developed in depth; the central one or distribution area, with informal spaces, and that towards the garden, where the principle of variation (volumetric, material and linguistic) finds free expression, sometimes with remarkable meanings.
Back to the Demangeon *everything under one roof*, to comprehend the further possible variations of this settlement principle in terms of school buildings, we should consider the school of Leutschenbach in Zurich by Christian Kerez, which creates a school-tower superimposing the gym, the auditorium and the library on the floors of the classrooms and the entrance in order to minimize the occupation of soil. The multi-level structure – a *stacked school programme* – has no corridors and the individual rooms overlook, on each floor, large informal spaces.
Springing from an *intellectual minimalism* brought to the extreme structural and formal consequences, the building shows how, unlike the previous cases, the type of isolated building prevails conceptually and spatially and is not the central space to organize the relations between the parts but rather the s*tarke Einheit / strong unit*, a result of the coincidence between plan, form and structure: «The rooms, stacked above one another, vary in size and height. They constitute variations on the same overall spatial and architectural concept»[5]. *No more space between spac*es, but total removal of

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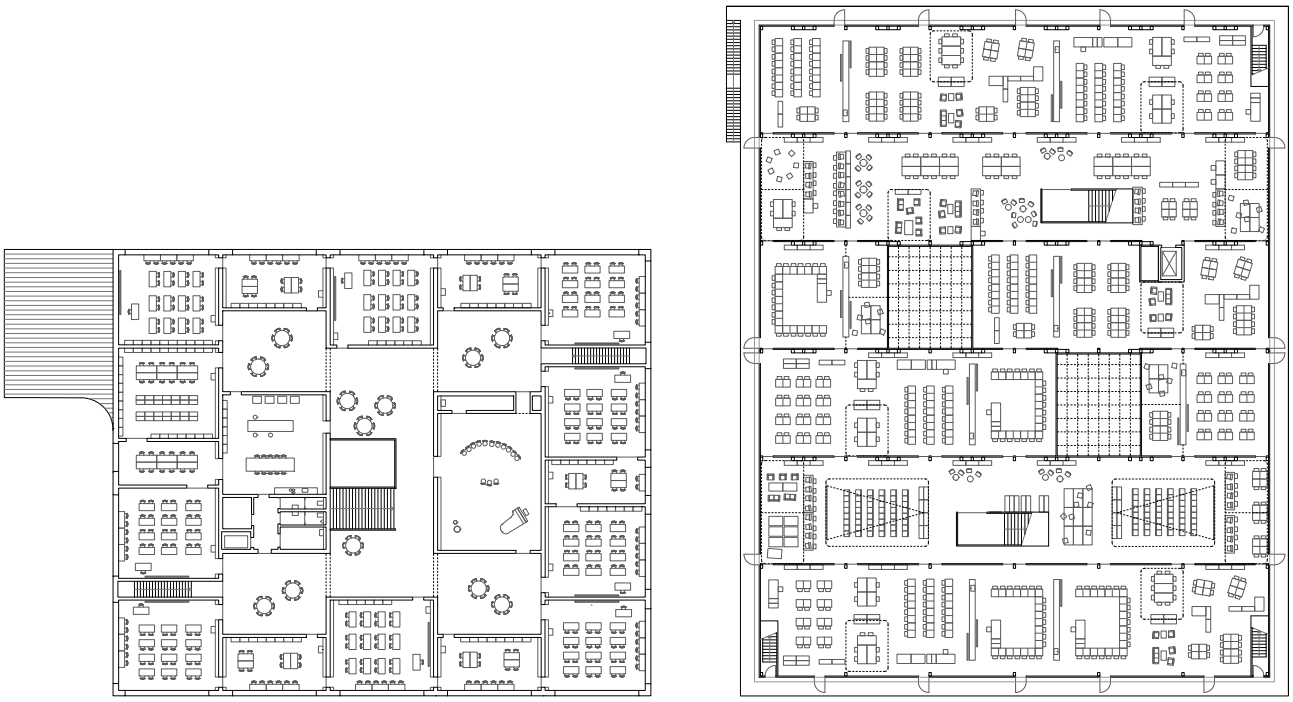

Figg. 10-11
Felgendreher Olfs Köchling, Kindergarten and primary school, Azmoos (CH), 2015-19.
Thomas Fischer, Secondary school, Laufen (CH), 2017-2021.

interstitial spaces. The absence of corridors, which would fragment such uninterrupted unity, translates into a dynamic centripetal organization, emphasized by the coherence of the load-bearing structure that, although varying from plan to plan in relation to the functional program, confirms its objectual character:

«I am not interested primarily in the simplicity and clarity of an idea. Ultimately, for me an idea is only a means of succeeding with a project. In the end the project exists in its own right and should be comprehensible without explanation. It was successful in the case of the Leutschenbach School. The stairs and the bearing structure turn up constantly in the children's drawings. […] I am delighted that the children like the Leutschenbach School building, and that they can relate to it because of the frames and staircases. I am all the more pleased about this because I never set out to achieve a specifically "child-directed" architecture» (Kerez 2012, p. 34-36).

Considering the relationship between pedagogy and architecture, the school of Leutschenbach best represents the algid and not meditated use of the distributive principle characterized by a wide indistinct open space with a few classrooms or separate rooms, created on the spot thanks to movable walls even made of glass, as in the Ørestad Gymnasium by 3XN architects in Copenhagen, or in the configuration *without classes nor walls* of Vittra Telephonplan by Rosan Bosch in Stockholm, which stretches the same principle to its extreme form. Here «the environment is not only a physical space, but it is above all an attitude»[6] and architecture can only provide a container as neutral as possible to be characterized and equipped in a versatile way.
To stick to the linguistic metaphor, while in the previous cases we can trace a sort of linguistic structuralism applied to architectural spatiality – given the content we see the order of the words used to tell it – in Stockholm it is almost as if the words disappeared or could assume any meaning depending on the eyes of who reads them or based on the changing and dynamic relationships among readers.
For this reason, the studies of Thomas Fischer seem more interesting from a strictly architectural point of view and because of the implied possibility

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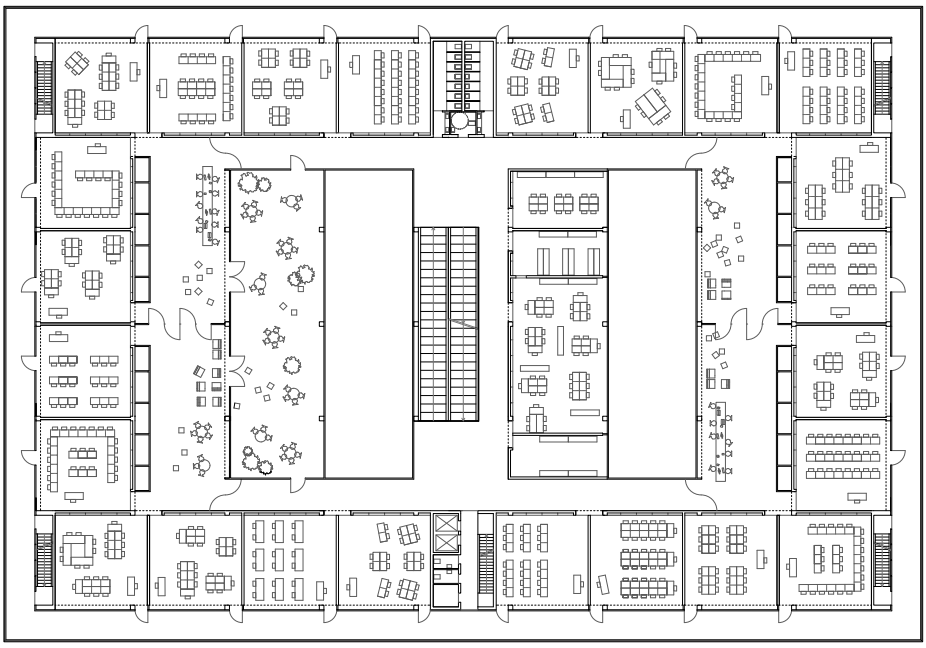

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Fig. 12
Bruno Fioretti Marquez, Oberstufenzentrum Sozialwesen OSZ Anna-Freud, Berlin (DE) 2017.

of tracing potential spatial values in the configuration of compact buildings, since Fischer has been conducting for more than a decade several experiments on the possibility of combining *under a single (multiple) roof* an uninterrupted sequence of interrelated spaces so as to shape a continuous flow between communicating rooms within a superblock. Fischer's projects, physical transcriptions of the pedagogical concept of an *open learning environment*, show how the sophisticated coincidence between compactness and flexibility is able to become architectural theme.
It is no coincidence that the slogans of the projects – *Atelier Himmelslicht* (Secondary School in Laufen)*, Atelier im Park* (Freilager School Complex in Zürich-Albisrieden) – emphasize the creative dimension of space, which, although rigidly shaped, offers users different possibilities of spontaneous appropriation, favoring different and contemporary synergies of actions, behaviors and learning modes. Fischer's radical proposals, a contemporary reinterpretation of the laboratory schools of the seventies, such as the Laborschule in Bielefeld by Ludwig Leo, identify some organizational principles and order them in relation to the functional program: compact plan with matrix organization, no corridors, passing rooms, deep floors illuminated from high above by skylights or shed roofs. An uninterrupted *architectural sequence plan*, a spatial flow without hierarchy.
It is important to underline how these projects are not isolated examples, but rather part of a common experimentation field; the building for the nursery and primary school in Azmoos in the canton of St. Gallen by the Berlin studio Felgendreher Olfs Köchling is proof of this. Again, a learning landscape articulated under a *single (folded and multiple) roof – Alle unter einem Dach* is the projects slogan – in which scale of the village and scale of the building blend: a (large) roof between the roofs, a (large) house between the houses.
Matthias Bär's Bregenz-Schendlingen school campus also employs similar principles, while organizing autonomous clusters interconnected with each other, basic units that allow the shaping of the pedagogical concept on which the project is based. Within the different clusters and between one cluster and another, the rooms are conceived in continuous sequence and semitransparent rooms define a «schematic and fluid topology»[7]; the wide and measured inputs, the central cables, the minimisation of circulation

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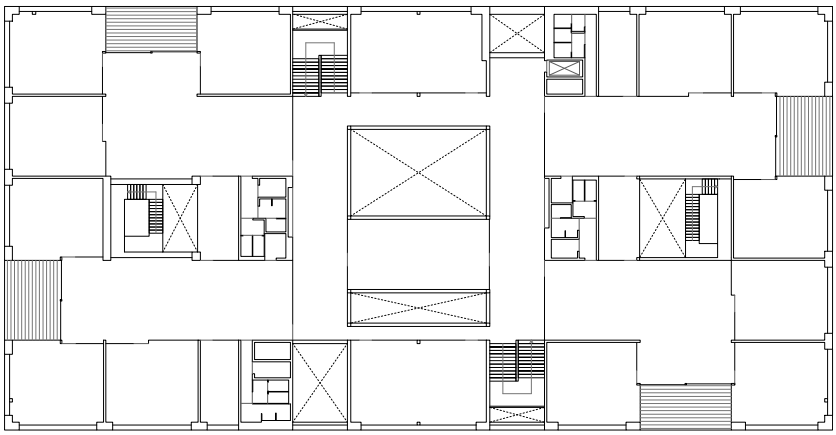

Fig. 13
Matthias Bär, Schulcampus, Bregenz-Schendlingen (A), 2014-17.

and the continuous visuals between one spaces and another characterize a modular organization (*Netztypologie*), within which large portions of *multifunctional white space* are identified, which best suits a flexible didactic, in order to answer the request for a hybrid functional program. All of this is organized in a single and compact isolated building, linguistically homogeneous and with a familiar character, excavated by a large central *lichthof* and by the two lateral stairwells, which mark the rhythm of the plan and accentuate the continuity between the parts.

The project for the school Oberstufenzentrum Sozialwesen OSZ Anna-Freud in Berlin by Bruno Fioretti Marquez, employs the type of the isolated building organized around a central core of distribution analogously: a Teutonic and in some ways ordinary concrete frame, typical of the industrial language more than of the aulic constructions, is transformed into an articulated building.

The use of a few elements, the attention to detail, and the accurate spatial study allow measured variations, able, within a conception of classical matrix, to contribute to the definition of the architectural character; the praise of the monotony of Schimidtian memory and the uniformity of the syntax aspire to «become artistic medium» and translate the functional program into a place rich in innovative spatial effects, of alternative learning opportunities.

From the point of view of the relationship between classrooms, distribution elements and vaults, the Volta Schulhaus by Miller&Maranta in Basel is somehow the forerunner of the Bregenz building, demonstrating how, despite the constraints imposed by the project area, a precise spatial intention is capable of shaping a complex distributive and functional articulation, without apparent effort. In Basel, an enigmatic concrete building, which according to Quintus Miller, «could be anything, especially from the outside» because «there is nothing to suggest that this is a school» (Schindler 2002, p. 10), reveals an internal unitary and articulated spatiality, haughty and domestic, able to recover, even with a minimal and completely abstract language, the individual dimension of living a place, of belonging to it.

The classrooms, the learning labs and the spaces related to them are organized around narrow vaults of Gothic proportions, excavated in the compact and monolithic volume; the gaze is lost in a continuous variation of views and perspectives; natural light is diffused and penetrating, amplified by multiple viewpoints and by the treatment of some surfaces with mother-of-pearl paints; everything is unitary, coherent and severe, available to life and its unforeseen manifestations:

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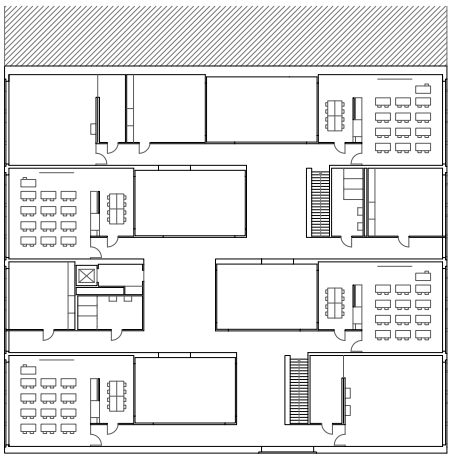

Fig. 14
Miller & Maranta, Volta School Building, Basilea (CH), 1996-2000.

«Only the jackets and coats that come out of the wardrobe and the drawings of the children, hung with duct tape, reveal that it is a school. While the exterior is flat, almost blind, refractory, the interior opens up on an unexpected spatiality which is difficult to grasp at first glance» (Schindler 2002, p. 10).

In the light of this partial reconnaissance the school of Vila Nova da Barquinha seems to be interpreted as an attempt to build a universe coherent in itself. The identification of an enclosure excavated inside it, free translation of the more general concept expressed by Demangeon, produces, by way of conceptually identical aggregations, a recognizable unity. Direct memory of the iconic Munkegaard school in Gentofte by Jacobsen, who organizes classrooms and corridors around large courtyards within a potentially infinite mesh. However, a difference can be traced: despite the sought-after uniformity and repetition of the classroom-courtyard module, Jacobsen characterizes the different parts volumetrically by aggregating and differentiating them, without renouncing to show the joining elements, whereas the Mateus brothers articulate the individual volumes and build an uninterrupted spatiality, effectively eliminating the traditional distribution. Thus, if externally the enclosure is reminiscent of caravanserais, the internal organization alludes to the variety of urban space, to those ancient cities built by the combination and variation of a single type.
As in Vila Nova da Barquinha, also Bruno Fioretti Marquez's childhood school in Cassarate is based on the principle of assemblage, albeit concealed, and offers a volumetric and formal transcription of it. The three-dimensional deformation of an ideal chessboard produces the alternation between solids and voids in such a measured way that it is impossible to say whether we are witnessing an addition or, on the contrary, a subtraction process. Once clarified the game rules, the identification and repetition of a single module to build a sequence of courtyards inside a series of houses – identified each by its own roof – allows to proceed for alterations and variations and to build a highly horizontal *ensemble*, with familiar proportions and contained dimensions. The organization of the five sections is characterized by a refined continuity that alludes to the grid that generated it without depending on it anymore; serving and auxiliary spaces share the same nature, outdoor and indoor are in direct relation. Abandoning Jacobsen's classical grammar, the continuum follows the rules of an unconventional syntax with juxtapositions and alterations, it speaks an allusive and completely new language as in Joyce's continuous stream of consciousness.

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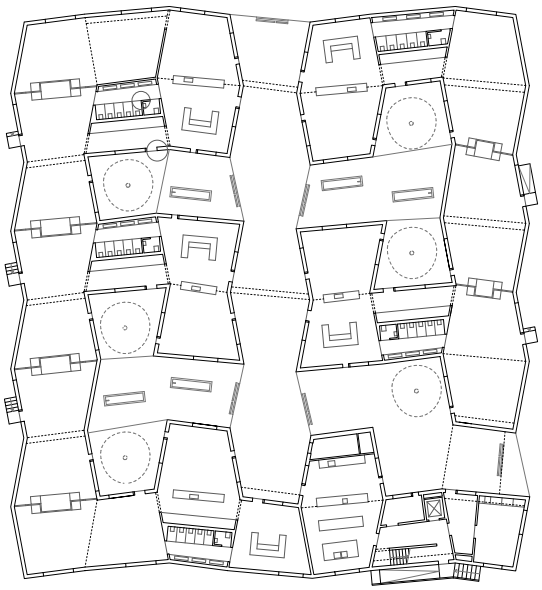

Fig. 15
Bruno Fioretti Marquez, Kindergarten, Cassarate (CH), 2007-14.

The Kinderuniversum KIT in Karlsruhe, made by the same designers in subsequent years, demonstrates no less sensitivity in handling the type of compact block organized around a central space, employing architectural principles already present in Cassarate. Actually, the two projects do have opposite characters, but they both work on the subtle correspondences between the different spaces: natural light and irregular geometries are recomposed within a silent and monolithic volume, dug by deep openings that emphasize its compactness. The relationship with the city is direct in both cases, there is no mediation of elements that are not in themselves already present in the architectural conception of the building – urban projects by means of architecture.

Anew houses between houses, roofs between roofs, are found in Copenhagen in the Frederiksvej Kindergarten by Cobe: the functional program of a kindergarten for nearly two hundred children is broken down into eleven buildings that, instead of opting for a huge construction, brings back – *under many small roofs* – the intervention to the grain of the city. The project pivots on the formal and volumetric breakdown and shows particular care in bringing each element to a scale that is compatible with that of a child perception. The whole figuration refers to the idea of a typical childhood home – *As simple as a kid's drawing* is the project's slogan – and uses the archetype of a pitched roof house as a figurative element to produce an instinctive sense of belonging, an appropriate "feeling of space".

The present reconnaissance could certainly go on for a long time, identifying other criteria for the classification and selection of genders, pinpointing recurrent types and configurations, examining concrete cases and comparing buildings by analogies and differences. However, the present work does not pursue any encyclopedic intention and so we have rather anthologically collected works by several authors, placed them before each other, read them in parallel, as if the one were the text in front of the previous, in order to recognise recurrent ways of translating specific pedagogical instances into architectural terms.

This reading key allows the chosen examples to acquire a meaning since their apparent arbitrariness can be conducted to a common discourse, showing that the requirement to respond to certain functional needs is not dictated by the rules of composition, but becomes part of the project itself. Therefore, it seems useful to come back to Le Corbusier in order to

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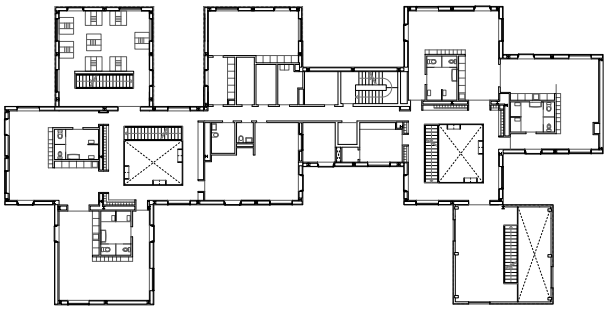

Fig. 16
Cobe, Frederiksvej Kindergarten, Copenhagen (DK), 2011-15.

answer the question whether *educational architecture* exists and whether there is some correspondence between the configuration of buildings, their language and the pedagogical models adopted, whether, in other words, the distributive question is defined according to the pedagogical families to which it refers, and from here on to the compositional and linguistic aspects. In Marseille the definition of a linguistic space, whose architectural characteristics are able to act positively on the learning process, is produced by using perception as a tool of relationship and communication and the architectural spatiality is engaged for its ability to shape alternative ways of making and living the school.
The great *plasticienne* declines the principles of the *tâtonnement experimental* tumultuously and sculpturally. The spatial and distributive character and the linguistic and compositional choices of *La Maternelle de Marseille-Michelet* seem even able to show the possible architectural terms of the *méthode naturelle* applied to teaching grammar and orthography which, according to Freinet, can be learned by undergoing tangible and progressive experiences and not by mnemonic-cognitive processes:

«L'orthographe, c'est comme l'habit des mots. La contexture, les particularités de ces mots s'inscrivent dans notre esprit et dans notre comportement non point par logique et mémoire, mais par des voies exclusivement sensibles, par les photographies successives dont la netteté indélébile est seulement fonction de la sensibilité des organes qui les enregistrent, de l'éclairage particulier que nous projetons sur les éléments à inscrire sur la plaque sensible» (Freinet 1963).

In this respect, the Lecorbuserian orthography applies to a purist syntax obtained by two-dimensional crushing of a composition that, for the accentuation of the space-time relationship, is of cubist matrix. As a matter of facts, as Sbriglio remarks, since the syntax is certainly purist, the spatial experience evokes the cubist code, enriching it with surrealist notes: the narrative discourse proceeds with scenes in sequence as confirmed by the marked use of chromaticism, the nudity of the concrete and the insistence on the polyphonic composition of the relationships between architecture and natural elements – between their light and the sea.
Once again, Le Corbusier demonstrates that the ability to manage and organize space is the core of the best architecture and that, in the specific case of school buildings, this capacity is linked to the memory of childhood. Wondering how we would like children to live and remember theirs is therefore essential, while being aware that childhood, as Foucault notes, comes with the innate ability to recognize and imagine *counter-sites*, that are alternative places to the monolithic vision of space itself:

«[…] and these counter-spaces, these localised utopias, are something children know perfectly well. It's the bottom of the garden, of course; it's the attic, or rather the wigwam put up in the middle of the attic, or else – on a Thursday afternoon – it's their

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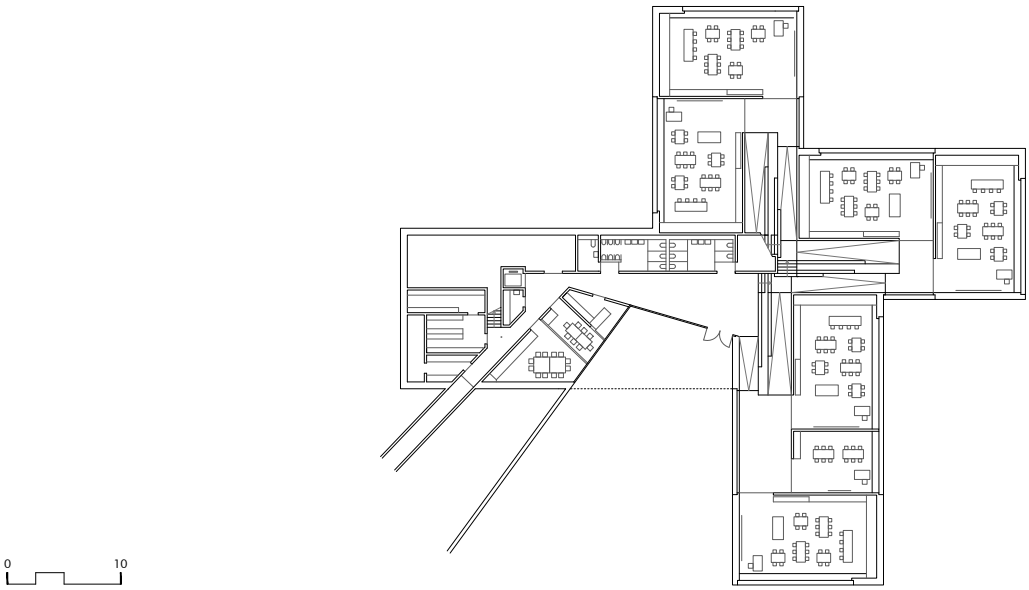

Fig. 17
Pierre-Alain Dupraz, Kindergarten, Prangins (CH), 2013-15.

parents' double bed. It's on this double bed that they discover the ocean, as they swim between the covers; and then this bed is also the sky, as they bounce up and down on its springs; it's the forest, as they can hide there; it's night, as they turn into ghosts under the sheets» (Foucault 2018, pp. 12-13).

Why not being confident with this, then?

* The redrawing of all the plans of the different schools included in this essay was conceived and conducted by Alessandro Petroni, whose contribution made it possible to standardize the different materials, make them readable at the same scale and therefore comparable.

Notes

[1] For the sake of example, see Rosan Bosch's works, starting from Stockholm Vittra Telefonplan School.
[2] Description provided by the architect.
[3] It would be useful to go back to the genesis of the theme of *space between spaces* in-between realm, from van Eyck to Hertzberger, to reflect on the different interpretations of Eisenman, Koolhaas, Tschumi and others and read them in relation to the artistic and philosophical declinations of this concept.
[4] It is possible to recognize a sort of progeny which stem from the centripetal layouts of Renaissance origin, passed through the German way, between the hands of Ungers and others, or through Anglo-Saxon hands, for example through the *Houses* of Eisenman, and has arrived in Switzerland and here, for reasons related to the increasingly marked search for volumetric compactness, is declined as a recurrent type especially for school buildings.
[5] Description provided by the architect.
[6] Indire Ricerca, *Vittra - Telefonplan. Senza pareti e senza classi*, last cons. 25 February 2021, https://www.youtube.com/watch?v=sato4iut_vk
[7] Description provided by the architect.

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Claudia Tinazzi

The time of the school. The slow path of a new "Educational Architecture"

Abstract
The idea of 'school' has bound *architecture and pedagogy* in a single body and maintained the bond between designing a space for those who inhabit educational places daily and a precise training model reflecting the society of the time. Singularity and generality come together in a balance necessary for understanding differences among everyday needs. For this profound reason, *school architecture* is the most tangible opportunity to desire and imagine forms corresponding to a precise teaching model. It frankly interprets the multiple needs underlying this subject – slight nuances, different characterisations, unique slants, and controversial interpretations of a period in human life that encompasses the greatest changes in a short time. The difficult yet desired relationship between *architecture and pedagogy*, educational environment and thought is not new. Undoubtedly, the last twenty years have taken up with greater determination an issue that has long lain dormant under a convenient scapegoat: a regulation that since 1975 halted any utopian thrust.

Keywords
Space and learning — Pedagogy — School

In 1947, Ernesto Nathan Rogers used the pages of Domus (Rogers 1947a) to invoke a need for an "educational architecture" as the «synthesis between the most advanced principles of education and an equally evolved architecture» [sintesi tra i principi più progrediti dell'educazione e un'architettura parimenti evoluta] (Rogers 1947b). It is easy to imagine that he was aware of the possibility and the need to outline in a magazine dedicated to a «general architectural topic which is not related to the home» [a un argomento d'architettura generale fuori da quello specifico della casa] (Idem), i.e. schools, a practical political and social manifesto setting the priorities for restarting Italy during the Reconstruction.
It is no coincidence that his brief but determined editorial leaves room among the pages for the contribution of an educationalist, Ernesto Codignola, «an illustrious and combative Italian educator» (Idem) just as firmly as Rogers, he outlines the reasons for the evident ineffectiveness of the Italian school system, the likelihood of an immediate internal revolution, and the tools for transforming traditional schools into «small social cells» (Codignola 1947).
The *Time of the School,* with its related reflections and hypotheses, is a chronological moment that views schools as a critical aspect in Italy, spanning most of the 20th century. If one tried to deceive contemporary criticism by reintroducing texts from the last century and falsifying their temporal source, one would risk attributing with shameless confidence to the most profound research on the adequacy of learning spaces in our time, reflections by Arrigo Arrighetti (1956), Ciro Cicconcelli (1952) or E.N. Rogers (1947).
Discipline relating to the problems and aspects of today's education barely

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Fig. 1
The cover and editorial of Domus "La Casa dell'uomo", no. 220, June 1947 dedicated to the theme of the School.

manages to create new projects that are practicable and shared by architecture discipline. It struggles to push forward, rethinking the great intuitions of last century's educationalists. These promoters of the idea of new schools, were solid Italian educationalists who can speak to architects and the architecture worldwide, directing the deepest choices in imagining new spaces for *all levels* of schools. Already at the beginning of the last century, Maria Montessori wrote the following about places for learning: «Education is a natural process carried out by the child and is not acquired by listening to words but by experiences in the environment». [L'educazione è un processo naturale effettuato dal bambino, e non è acquisita attraverso l'ascolto di parole, ma attraverso le esperienze del bambino nell'ambiente] (Montessori 1991). And as Loris Malaguzzi more recently underlined: «The atelier […] has produced a subversive intrusion, an additional complication and instrumentation capable of providing a wealth of combinatory and creative possibilities between languages and the non-verbal intelligence of children» [L'atelier […] ha prodotto un'irruzione eversiva, una complicazione e una strumentazione in più, capaci di fornire ricchezze di possibilità combinatorie e creative tra i linguaggi e le intelligenze non verbali dei bambini] (Malaguzzi 1971). Mario Lodi wrote in the mid-1970s about the need to «create a community in which children feel like equals, companions, brothers and sisters» [realizzare una comunità in cui i bambini si sentano uguali, compagni, fratelli] (Lodi 1977).
In architecture, *environment, atelier,* and *community* denote just as many figurative possibilities. They quickly anticipate an idea of "school": physical spaces or metaphorical forms that centrifugally generate complex school buildings as they have often done.
And yet, faced with the rich pedagogical thought spanning 20th-century Italy, it is in the Netherlands that the first schools were built as "new buildings" based on the Montessori method by the architect Hermann Hertzberger beginning in the 1960s[1]. It is challenging to trace modern architecture for nursery schools in Italy that follow the Reggio Emilia Approach – the American name given to this experience. This educational project originated in the second half of the 1800s. It intensified in the 1960s with the fundamental contribution of Loris Malaguzzi, who is credited with the first municipal nursery schools capable of establishing innovative educational content and organisational structures.

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Fig. 2
1960, Journals and publications dedicated to the theme of the school.

Upon closer inspection, there has been pedagogical experimentation in the close relationship with the learning space. Various perceptive experiences – starting with the foundations mentioned above – have begun to innervate Italy from north to south, adhering to a more intimate, less evident revolution. But, under the impulse and apparent albeit inadequate contingency of abundance of a broad heritage of school building, it has been content with a timid internal transformation, and changes in perspective supported more by learning tools than by physical space. Individual experiments, often driven by lofty ideals, hardly ever made it to the level of national debate as a real possibility for a joint rewriting of the school system from a ministerial perspective.

The difficult yet desired relationship between architecture and pedagogy, educational environment and thought is not new. Undoubtedly, the last twenty years have taken up with greater determination an issue that has long lain dormant under a convenient scapegoat: a regulation that since 1975 halted any utopian thrust.

These reflections around the topic of school architecture appear bound by a continuous line, separated in time or so we like to imagine. Today, this occasionally ambiguous path marks the *time of the school* through numerous architectural competitions. Moreover, it is always looking for procedures suited to the desired high expectations, with critical contributions from militant journals committed to collecting exemplary projects worldwide or heated debates at conferences often aimed at translating foreign, especially Nordic models, to synthesise a contemporary recognition of the issue. Finally, school architecture has become an essential part of teaching and research in numerous laboratories in Italian architecture schools. These study and re-imagine the topic's identity where at the beginning of the 20th century Italy was a pioneer in its interpretation.

Echoing the words of E.N. Rogers, it is almost as if today were nothing more than one remarkable point in a long journey composed of discontinuous segments to define a more adequate "educational architecture". He said: «There is no doubt that progressive pedagogy requires appropriate architecture, that is, flexible, functional organisms suited to the complex needs of an educational method that is not content to consider students as an indiscriminate mass, but aims to encourage the development of each individual» [È fuori di dubbio che una pedagogia progressiva richiede un'architettura adeguata, cioè organismi funzionali, flessibili alle complesse esigenze d'un metodo educativo il quale non s'accontenta di considerare gli allievi come una massa indiscriminata, ma vuol favorire lo sviluppo d'ogni individuo] (Rogers 1947a).

In this possible tendentious reading, the contemporary world can only be read in its close connection with the past and topics already addressed,

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Fig. 3
The "South Tyrol Case" on the subject of Schools: five thematic issues of the magazine Turris Babel published in the last 20 years.

in light of an inherited synchronous difficulty between research on pedagogical thought, the teaching project, and architectural representation, and with an awareness of the frequent friction between political directions and social applications. For this author, it still seems complicated to trace the specific path towards which current research – balanced or poised between architecture and pedagogy – is directing its efforts. So perhaps it is better to cautiously underline a possible array of good actions understood as a virtuous dialogue between pedagogical practice, space, and the city. Again, this does not imply a single, distinctive direction, which is perhaps impossible, but solid, profound singularities that by comparing them, create a common cultural and interdisciplinary practice.

In the events described above, the "Alto Adige case" has been unique in Italy for more than ten years[2]. It stems from a local reflection that began in the 1970s. It represents a pilot case favoured by a special Charter that makes an autonomous region exceptional. Italy has looked at this model with admiration for a while due to its practical attempt to build a new disciplinary and interdisciplinary dialogue aimed at the world of education and the formation of personal identities – children – within a single collective cultural identity. This practical push first encouraged a positive pedagogical drive promoted by the school director of Monguelfo, Josef Watschinger, by exploring new spatial configurations where the innovation of a "laboratory school" or "active school" environment becomes a proper pedagogical device.

This varied landscape of research in Alto Adige, is enthusiastically supported by Beate Weyland[3], architects and educationalists, school directors, administrators, and teachers, parents and children, who have worked together courageously to experiment. There has been a conscious degree of risk and undoubtedly limited financial and legislative means. Nevertheless, at times the work has indicated credible directions for defining virtuous procedures and, as a consequence, innovative spaces for learning.

This laboratory is still a work in progress. Still, it holds the exceptional merit of re-emphasising – by transforming existing schools and building new ones – many constant themes that have become essential in the contemporary interpretation of this type of architecture. Such themes that are now common include the school buildings' possible urban and collective role, necessary flexibility of interior spaces to overcome traditional teacher-centred classroom, careful relationship with technological innovation or responsible adherence between pedagogical orientation and the organisational concept of the school body. In the time covered by the research, these general topics and possibilities have found, through numerous international competitions and as many quick constructions in this border area, specific solutions in which architecture has once again become a key player in the quality of the school space.

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Fig. 4
Modus, Architects, School complex and district library, Firmian, Bolzano, 2014.

The revolution in Alto Adige – not far from Alberto Samonà's idea of coincidence between the educational programme and architectural organism for a 1964 competition for a compulsory school in Bologna – perhaps lies in the possibility of placing the relationship between "space and learning" before the more canonical preparation of an architecture competition aimed at defining a school. In this way, architects are forced to shape the teaching plans or moments, general thoughts about a possible educational idea, before responding to dimensions or regulatory requirements. The result is an idea of an extended school, an idea of a community and, in a sense, an idea of a city.
It is primarily a reflection on urban possibilities and the idea of community that makes the Firmian primary school, designed by MoDus Architects in 2014, a bridge between the school and city, between cultural places and the neighbourhood. It is the forerunner of a series of "village" school building projects conceived in the area as a pivot for organising community activities, overcoming the rigidity of strictly educational actions.
At the Firmian school, where the neighbourhood square is named after Maria Montessori, the project's defining idea lies in the measured composition of two courtyards combined to form a double figure. The first is open and faces the city and citizens with the juxtaposition of a library and gymnasium. The more protected second courtyard is dedicated to children and faces the natural open environment with connected spaces that cross more traditional places with individual or informal exploratory workshop spaces. This represents an initial attempt at a pedagogical reflection on space, but especially the possibility of questioning the school system's complete closure to the city's collective life. As it has become more precise over the years, it has become a practice, generating many innovative institutes, including San Martino in Val Casies, Bressanone, Bolzano and Vipiteno[4]. Here, municipal libraries, gyms, theatres, workshops, and meeting areas have infiltrated the traditional school space, making it an open place intertwined with the citizens' lives.

New structures with high architectural quality and transformations and expansions of existing schools have involved reflection on interior spaces

for learning. As in the case of Walter Angonese's project for the school in Egna[5], they have shown how a few simple actions – small openings between traditional classrooms, a roof used as a place for engagement, or the juxtaposition of service areas –create renewed opportunities to apply an updated teaching process.

The broad attempt to export the "Alto Adige model" through surveys and direct interaction with the leading figures of this phenomenon has so far generated an exciting process of methodological influence, from the *Progetto Iscola* promoted by the Sardinia region to *Torino fa scuola* stemming from a meeting between the City, Fondazione Agnelli, and Compagnia di San Paolo, to recent competitions promoted by the City of Milan. The final results of such experiences, at times uncertain, nonetheless question the impossibility of entrusting the transformation of our school system solely to the competition process and "bespoke" faculty training to define an appropriate learning environment for today and the future.

In parallel with this consolidated experience, which is increasingly open to the possibility of defining a national network driven by academic research and the INDIRE ministerial institute[6], the closer contemporary world provides other possible individual landscapes that align experiences deriving from specific situations. These are strongly defined by an optimistic wager based on a specific pedagogical slant, such as a strong international influence, the centrality of technological innovation, or the *outdoor education* model.

Such radical choices include Hcampus[7], Europe's largest innovative centre, which opened in September 2020 in Roncade, not far from Treviso. This is the most recent example in Italy of an Apple Distinguished School, an integrated, international, and technologically advanced educational model. As a small founding city, it houses on a single campus all levels of schools, from primary to university, accompanied by collective services and special residence halls.

This is an actual experiment for a future school immersed in the rural landscape of the Veneto countryside, where architecture and educational objectives, "space and learning", seek conscious interaction and the concurrence of performance objectives. The latter are places capable of evoking the usual systems – measured open courtyards, large usable yards, uniform collective spaces – achieving high architectural quality that is often underestimated and overlooked in Italian school buildings, even recently. It is a city of education model, or rather a prototype yet to be tested. This model takes us to the revolution brought about by Jefferson in 1817 with his design for the University of Virginia, in which a precise idea of community and possible model of society, together with architecture, changed university education forever.

Yet a different chapter of this episodic survey is occupied by "business schools". These are more correctly attributable to private foundations, which invest generously in culture and education and school architecture in the face of an increasingly detailed pedagogical profile capable of imagining future managers.

Overlooking the better-known experience of this type of experimentation in the 20th century[8], one precursor to this approach is the Benetton nursery school built in 2007 in Ponzano Veneto by Spanish architect Alberto Campo Baeza. With its precise geometry that protects and encloses the vibrant life of the children, it accepted the challenge of close contact" using the Reggio Children pedagogical approach from the preliminary design.

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Figg. 5 a-b
ZAA Zanon Architetti Associati, H-Campus, Roncade, Treviso,2016-2020.

Fig. 6
Alberto Campo Baeza, Benetton Daycare Center, Ponzano Veneto, Treviso 2007.

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Fig. 7
Made Associati, Marco Zito, Primary school and extension of Danieli & C. company kindergarten. Officine Meccaniche, Buttrio, Udine, 2019.

Measured spaces of light and shadow –A round box open to the sky like a secret garden, which attracts and directs the air inside». These were created as the highest expression of an experimental educational service that focuses on interaction, research, and the well-being of children and the community. Likewise, the most recent primary school for the Danieli company, built near Udine based on a design by Zito+MADE associati and the winner of an invited competition, illustrates a straightforward path to investigate the feasibility of an innovative educational model based on the importance of an environment imagined in a symbiotic relationship between inside and outside. It consists of a spacious open courtyard surrounded by large covered arcades, immersed in a poplar stand where the different educational experiences can use intertwined places, with space and nature coexisting in the desired quality of life for children.
There has been much fragmented research, at times constructive and others imprisoned in the proposed simulations, possible solutions, and standing issues of a time that is slow but necessary to give space and body to the school.

Notes

[1] In particular, the Montessori school in Delft, built between 1960-1981. Hermann Hertzberger (1932) lived in the Netherlands and dedicated his architectural work to designing public buildings, particularly schools. He attended Montessori schools as a child.
[2] Starting with the Provincial Law of 2009.
[3] Her work can be seen at https://pedarch.unibz.it.
[4] For more information, see the journal *Turris Babel*, and particularly issues 83, 97, 119.
[5] Expansion of the Emperor Franz Joseph I elementary school, (project: 2009 – 2010, implementation: 2010 – 2012).
[6] For more information, see the publication *Dall'aula all'ambiente di apprendimento* (edited by Giovanni Biondi, Samuele Borri, Leonardo Tosi) Altralinea Edizioni, 2017.
[7] Project by Zanon architetti associati in partnership with RSHP Rogers Stirk Harbour + Partners (2016 project pending completion).
[8] In particular, see the experience of Olivetti in Ivrea.

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Anna Irene Del Monaco

Schools of the Roman School

Abstract
The school and university buildings built by three generations of Roman architects during the twentieth century in Rome and in other Italian cities, has produced design experiments that have interpreted the theme according to the most innovative pedagogical models of the moment, but mainly in terms of urban form, resolving the relationship between buildings with specialized programs and parts of the city in which they were built.

Keywords
Schools in Rome at the end of the 19th century and during the twenty-year Fascist period — Schools in Rome after the war — University campuses

This brief note is intended to shortly retrace some project, study and teaching experiences on the subject of school and university construction carried out by at least three generations of Roman architects, active during the twentieth century in Rome and in other Italian cities, and to highlight the outcomes, in terms of urban form, of the relationship between the design solutions proposed for the architecture of schools and the parts of the city in which they were built.
A quick comparison of the bibliographic sources and literature allows us to point out that the greatest proactive ferment corresponded to the periods in which national political programs were implemented; among these the most significant phases correspond to the years between the end of the nineteenth century and the Fascist period, to the years between the second postwar period and the seventies, and to some interventions between the eighties and the 2000s; the latter, in particular, saw the construction of new university campuses or their extensions. Looking closely at the experiences that the Enlightenment studies and theories on the modern scholastic organism of Jean-Jacques Rousseau, Robert Owen and Johann Heinrich Pestalozzi attempted, we see that they found continuity, about a century later, in the concept of "active school" by John Dewey and Maria Montessori, which in Italy had their first results, for example, in the "Children's Houses" : the first was built in San Lorenzo in 1907 and was the first attempt to «reorganize a social life having as fulcrum the school» and of «structural reform of the urban agglomeration» (Cicconcelli 1958, p. 859).

In the context of the post-war events and among the personalities of the school of Rome who most contributed to the theme of school building,

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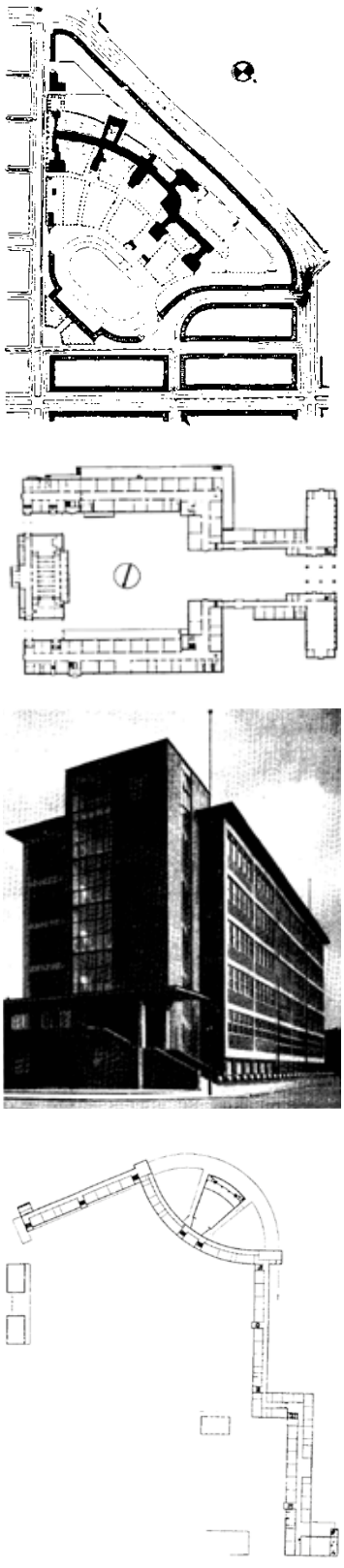

Figg. 1 a-b-c-d
School complex in Berlin-Neukölln by Bruno Taut (1927), vocational school in Angerstrasse in Hamburg by F. Schumacher (1928-31), Primary School in Meerveinstrasse in Hamburg by F. Schumacher (1929), Reformed school at Bornheimer Hang in Frankfurt by Ernst May (1927).

Pasquale Carbonara, a pupil of Enrico Calandra, had a fundamental role, indeed founding, as evidenced by the volume *Buildings for education (Edifici per l'istruzione)*, published by Vallardi in 1947. The important research activity that he contributed to set up and conduct, at least during the first phase, from the early 1950s– always targeting the most advanced international references –, involved the group of his students and assistants (Ciro Cicconcelli, Diambra de Sanctis, Alberto Gatti, Alberto Carpiceci, Fausto Ernammo Leschiutta) at the Study Center for School Buildings of the Ministry of Education. Research activity documented by the "Notebooks of the study center for school construction" published from 1953 to 1963, through files that had as their objective the solicitation of a reform of the regulations for school construction, to which was added the number 25 of the magazine "Review of Architecture" of 1952 and the volumes of Practical Architecture of 1954 which dealt with school buildings.
Ciro Cicconcelli, in particular, co-author of section 7^ (The buildings for education) of *Practical Architecture (Architettura Pratica*, Utet 1954), one of the protagonists of the renovation and studies on school buildings, was director of the Study Center from 1958, in continuity with the master Pasquale Carbonara; referring to the first decade of the twentieth century, he observed that in those years there was still no qualified level of studies on school building and that the main reference were still churches and barracks, respectively elaborated on the basis of the English and German traditions «[…] The cities continued in their chaotic development, they become bigger and bigger and, if there are some general principles in terms of urban planning, there are none as regards the sizing of the schools and the distribution of these in the city plot. School buildings are built without realizing the importance they have for the urban organism and without clearly seeing the economic, pedagogical and social aspects framed in the very life of the community» (Cicconcelli 1958, p. 853).
But it should be noted that already in the first formulation of 1904 of the *Une Cité Industrielle* project, formulated by Tony Garnier, published only in 1918, schools were included in addition to residential complexes, sports facilities and hospitals, according to a Taylorist thesis that analyzed the importance of hygiene and health factors such as light, air, ventilation, vegetation (Guillén 2008).
Scrolling through the review of projects collected in *Practical Architecture (Architettura Pratica)* by Cicconcelli and dwelling on the dates, it is clear that German modernist architecture had proposed innovative experiments on schools at least ten to fifteen years earlier than the Italian achievements. Among the projects worthy of mention: Bruno Taut's school complex in Berlin-Neukölln (1927), F. Schumacher's Angerstrasse vocational school in Hamburg (1927) and Ernst May's Reformed School at Bornheimer Hang in Frankfurt (1927). Even the typological schemes created in Rome between 1923 and 1927 are comparable to some German schools such as the middle school for girls built in Darmstadt in 1900 (Cicconcelli 1958, p. 853).
The design themes of school buildings, therefore, had a considerable importance among Roman (and more generally Italian) academic architects, since they coincided with the measures for the modernization of the country and therefore with the new pedagogical experiments to be implemented within a urban transformation program that at first, in numerical terms, appeared to be interpretable in the same way as the INA-Casa program – as Cicconcelli testified on several occasions, although the demographic trend expected during the 1960s did not correspond to reality. In the draft-

ed projects, experiments on typological and hygienic-sanitary aspects and construction systems were integrated, to create a building that was both of quality and mass.

Marcello Piacentini – Innocenzo Sabbatini – Augusto Antonelli – Vincenzo Fasolo – Mario De Renzi – Ignazio Guidi – Mario Moretti

The years between the Town Plan of 1883 (Alessandro Viviani) and the Town Plan of 1909 (Edmondo Sanjust di Teulada) saw the urban development of some neighborhoods within and outside the Aurelian Walls of Rome (Esquilino, Prati di Castello, Appio-Latino, Prati delle Vittorie, Salario, Garbatella, Aniene Garden City, etc.); in particular, during the syndication of Ernesto Nathan (1907-1912), measures were taken to implement public services within the neighborhoods built on the basis of the 1883 Town Plan (Esquilino, San Lorenzo, Appio, etc.). So, to help solve the illiteracy problem, new schools were created, increasing the number of students from about 30,000 to over 40,000. Over the course of the twenty-year period, «the school became one of the sources of indoctrination of young people for the political regime»: schools were built for an amount equal to 24 million lire (about 20 million euros) and a technical office for construction was established school directed by Mario Moretti, designer of the Liceo 'Torquato Tasso' in Via Sicilia.

Most of the buildings built in those years relate to the perimeter of the urban block according to a courtyard or semi-courtyard system, and establish a hierarchical relationship, also through the architectural facings, with the urban morphology of the neighborhood. In general, what is observed in the first new school building projects in Rome at the beginning of the last century, in fact, is the attempt to coordinate the problem of inserting the new building into the urban fabric and the principles of the new pedagogy that are spreading throughout Europe, in particular the issue of "outdoor schools", therefore the use of entrance spaces, terraces, loggias, internal gardens or that surround the building, although in Roman school buildings the internal system is characterized by symmetrical courtyards or semi-courtyards, and by the classroom-corridor system up to the interventions of the Sixties (Bonavita 2005, pp. 76-79) which refer, instead, to different models.

The competition launched in 1925 for "Four school buildings in Rome" by the Artistic Association among Architecture Lecturers – cultural institution in which Gustavo Giovannoni had a primary role until the mid-thirties and which culturally influenced the urban and architectural transformations of the capital – demonstrates the importance of the Roman debate on school buildings in those years. Among the projects presented, published in "Architecture and Decorative Arts"[1] in 1926, those drawn up by Alberto Calza Bini, Luigi Ciarrocchi, Roberto Marino, Achille Petrignani, Marcello Canino, Gaetano Rapisardi, Mario De Renzi and Giuseppe Wittinch stand out, Vittorio Cafiero.

In the same years, Innocenzo Sabbatini and Mario De Renzi, undisputed Roman masters, tried their hand at the following projects: the 'Luigi Luzzatti' kindergarten at Garbatella (1927-1930) whose loggia looks like a quote of Villa Lante by Giulio Romano on the Gianicolo, inspired by the classicist language – not far from the choices of Mario De Renzi for some model houses in the Garbatella (Lot 24) of 1929 – affirming the concept of "home-school" since the 1920s – a courtly house interpreted in the case of the Sabbatini kindergarten – which will continue to be considered until

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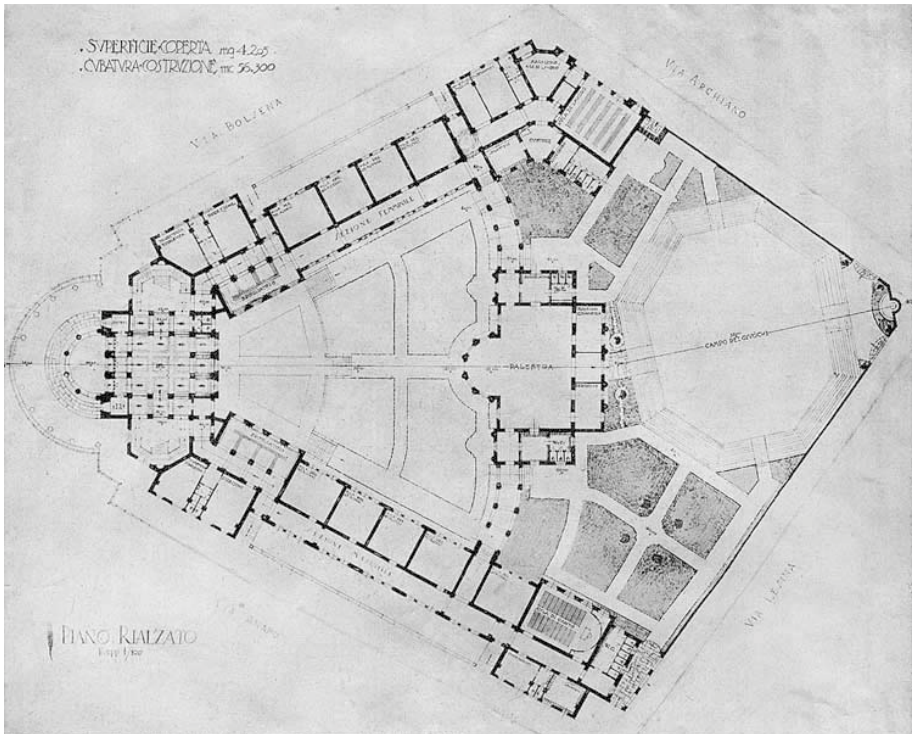

Figg. 2 a-b
Mario De Renzi, Giuseppe Wittinch, Competition project for "Four school buildings in Rome" by the Associazione Artistica fra i Cultori d'architettura (1925).

Figg. 3 a-b
Innocenzo Sabbatini, kindergarten "Luigi Luzzatti", Garbatella, Roma (1927-1930).

Fig. 4
Mario De Renzi, Primary school, Filippo Corridoni, Fano (1932-1935).

the 1950s; the Filippo Corridoni elementary school (1932-1935) in Fano, a 'Roman' version of rationalism compared to the school designed by Ignazio Guidi, which we will analyze later, a project entirely carried out in the 'Nordic' orthodoxy of language rationalist.

In the Esquilino neighborhood, in particular, the first built in post-unification Rome, several years after the first new building built by the Municipal Technical Offices[2], the 'Pilo Albertelli' high school (1879), the 'Di Donato' school was built considered an experiment that went beyond the idea of the school as a barracks or as a hospital: the administration held a competition and "the winning project is by the architect Augusto Antonelli

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Figg. 5 a-b
Augusto Antonelli, Primary school, 'Federico Di Donato' (1923) (Isolato A); Block B corresponds to the 'Galileo Galilei' industrial institute.

(1885-1960), 'brave' official of the Municipality of Rome", designer of the School Elementary Fourth November at Testaccio, «which on 22nd September 1923 is entrusted with the executive project» (Severino 2019, p. 8). The building, three floors high above ground and arranged around a courtyard with playgrounds, is marked by decorative elements typical of the more cultured "sixteenth century", recurrent in Roman architecture of the late nineteenth and early twentieth centuries and by architectural apparatuses of completion of the urban residences of the past centuries (loggias, roof terraces) rather than of modern specialized buildings, to mark the idea of "home-school".

At the same time, on the lot along Via Nino Bixio, what will become the 'Galileo Galilei' Industrial Institute takes shape after a few years. In fact, in 1917, «following the retreat from Caporetto, the temporary transfer to the capital of the 'A. Rossi' in Vicenza for his refugee students and some Roman students, in Via di San Basilio, while the workshops were located in shacks in front of the 'Mercato delle Erbe' on Via Nino Bixio»[3]. Meanwhile, in 1923, the Gentile Reform was launched; the school was no longer considered a "school of free research", but a "channel of mobility and social promotion". Then, the Industrial Institute, which already held courses for pre-military education (fitters, aviation engineers, specialization for telegraphists), whose new headquarters were being built, continued according to the "school-workshop" model. In 1920, therefore, a public competition was announced by the Board of Directors for the construction of the building which «was won by the project presented by Marcello Piacentini (1881-1960)» (Severino, *ibidem*). The realization of the project, however, continued in several phases due to lack of funds and the completion took place under the responsibility of the engineer Mario Tommasetti, who partially modified the project, adding a floor in the main body (you can guess because of the silent facade on the internal courtyard), with a severe character and inspired by industrial buildings, while the warehouses were the first to be built under the supervision of Piacentini. In 1923 the Liceo 'Terenzio Mamiani', established in 1885, also moved to the new headquarters in Viale delle Milizie, built on a project by Vincenzo Fasolo; the planimetric scheme defines a sequence of semi-open courtyards intersected by a central body that ends with an everted portico on the entrance court which

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Figg. 6 a-b-c
Marcello Piacentini, Industrial institute 'Galileo Galilei' (1923).

Figg. 7 a-b
Vincenzo Fasolo, High school 'Terenzio Mamiani', Rome (1923). Photo by Carlo Dani. Photo by Omar (ArchiDiAP).

Fig. 8
Vincenzo Fasolo, Primary school 'Alberto Cadlolo', Via della Rondinella (1912).

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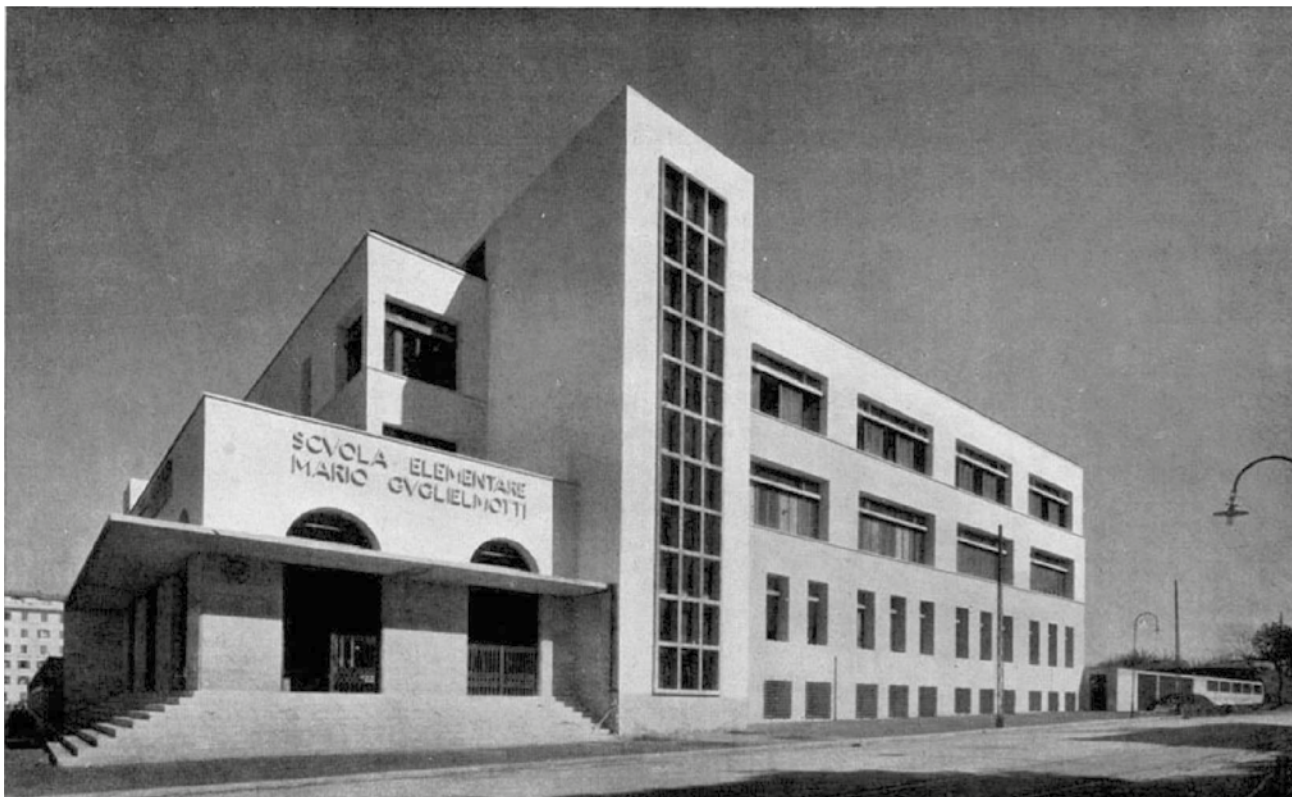

Figg. 9 a-b
Ignazio Guidi, School 'Mario Guglielmotti', Rome (1932).

qualifies its hierarchical character, one of the most cited examples of the so-called Roman "baroque". Fasolo had already built the 'Alberto Cadlolo' School on Lungotevere Tor di Nona in 1912, a singular building not far from the Liceo Virgilio built between 1936-37 by Piacentini on Via Giulia. A representative project of other public buildings is the 'Mario Guglielmotti' School – today the 'Alessandro Manzoni' Elementary School – designed by Ignazio Guidi (another very valued architect and official of the Municipality of Rome) in 1932 in Via Vetulonia in the Appio-Latin district. The building, whose layout could not ignore a pre-existing building, is one of the first rationalist buildings built in Italy[4], remodeled in the 1950s with the addition of a floor. About this school Gaetano Minnucci wrote in 1933: «it is a school building of the Governorate of Rome; it rises a few steps from the monumental and severe Aurelian Walls, in sight of Porta Latina and not far from Porta Metronia; it is the first Italian school conceived from top to bottom from inside and outside, with criteria and with a new spirit, today. All this says that even the official technical and artistic bodies, the offices that, due to their function and atmosphere, seemed less 'novecentizzabili' [in line with Novecento Style] in Italy, have finally opened their windows to the pure air of the architecture of our time. […] All the classrooms are equipped with ventilation ducts with regulating valves; [...]» (Minnuci 1933, p. 23-35). The affirmations of Minnucci, one of the most skilled, refined and cultured designers of his generation, are testimony to the cultural climate of those same years.

Pasquale Carbonara – Ludovico Quaroni – Ciro Cicconcelli – Luigi Pellegrin – Alberto Gatti/Diambra De Sanctis – Claudio Dall'Olio – Sergio Lenci – Lucio Barbera – Giuseppe Rebecchini

The teaching and research activities of some professors of the Faculty of Architecture of Rome accompanied or anticipated some ministerial initiatives in the first twenty years of the post-war period, such as the "Minis-

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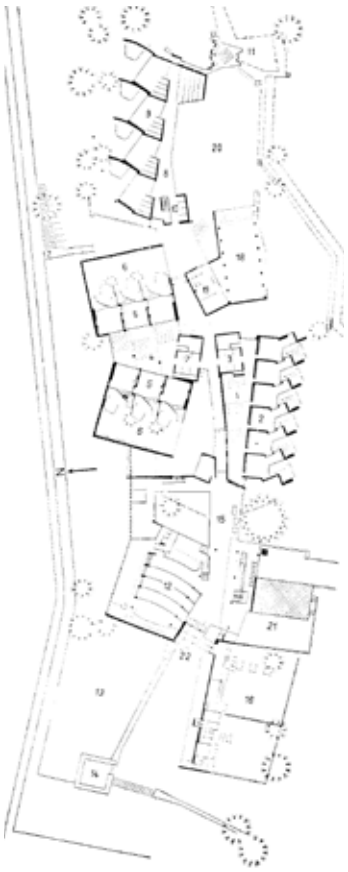

Fig. 10
Hans Scharoun school in Darmstadt (1951).

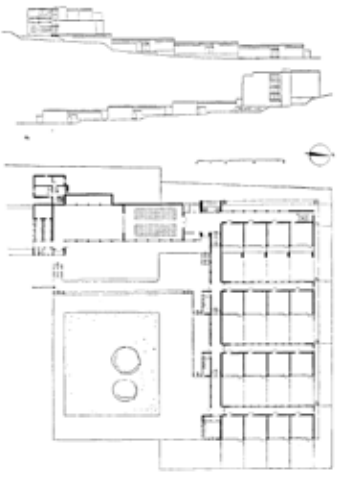

Fig. 11
Günter Wilhelm in Stuttgart (1952-54).

terial Commission for the development of new programs, instructions and models for elementary and nursery schools" (Ministerial Decree February 9, 1945) by Minister De Ruggiero, "National Commission of Inquiry into School Reform (1947-49)" by Minister Guido Gonnella and Minister Gui's 1962 "Reform of the Middle School".

In the 1952 issue of "Rassegna Critica di Architettura" and in the Quaderni del Centro Studi of the Ministry (1953-65), Ciro Cicconcelli proposes as a prominent example the project of the school built by Scharoun in Darmstadt in 1951 and, in Practical Architecture, a few years later, he extended the survey to the school designed by Günter Wilhelm in Stuttgart in 1952-54; both are demonstrative cases of the translation into spatial quality and architectural forms of the most advanced educational principles in those years, including the theories of the German child neuropsychiatrist Erich Stern and his book *Jugendpsichologie* (*Psychology of Youth*, 1923) – it is the first time, he recalls Cicconcelli (1952, p. 8), that a school is designed by an architect who «sets out to give the child not a metric space but a psychological space as a" form of the known» (Kant). This type of solutions, together with the theories already widespread and implemented for some time in the achievements of the first thirty years in Rome of the "open school" are interpreted in their respective projects by Ciro Cicconcelli and Diambra de Sanctis with Alberto Gatti in the competition trial delivered for the "National Competition for elementary school projects" banned by the Ministry of Education. The review "Rassegna Critica di Architettura" of 1952 published five of the seven projects reported (not all of which reached the editorial office due to the time of printing). The first prize was awarded to the architects Alberto Gatti and Diambra de Sanctis, the second prize to Ciro Cicconcelli (who the previous year had won the first prize), for a school project with 5 classrooms. The intent of the Ministry's Central School Building Service was, through these competitions, to finance some small schools in the area around Salerno. The typical school designed by Gatti-de Sanctis was realized in three schools that differ in the number of classes, from two to five: in San Giuseppe di Cava dei Tirreni, San Martino di Cava dei Tirreni and in the hamlet of Marini – it is very recent (June 2021) the news (www.lacittadisalerno.it) of the closure of the latter due to lack of subscribers, only four children, regarding the current demographic trend.

Ludovico Quaroni's projects for the school of Canton Vesco (1955) and Rosignano Solvay (1961) also date back to the mid-fifties and early sixties, the latter designed with the very young Mario Guido Cusmano (law 9 , 8, 1954 n.645), both based on the idea of modular units (classes) arranged around a common aggregation space, within an enclosure and under the same roof, i.e. an idea of spatial organization that can be associated with that of a "Court house". But even in this, as in other cases, the idea of space selected by the designers corresponds to the best possibility of optimizing the building quantities and the functional program with respect to the size of the lot and the character of the surrounding urban fabric. Later Cicconcelli continued to develop studies on schools, and to design some with his colleague and partner Luigi Pellegrin, author of several innovative school complexes including the 'Concetto Marchesi' school complex in Pisa in 1974, experimenter of prefabrication systems and of related patents, a very widespread system in those years, when «a policy attentive to spin [s] quality and experimentation, so much so that, as rarely happens in Italy, between 1958 and 1963 [were] filed about 200 patents that testify

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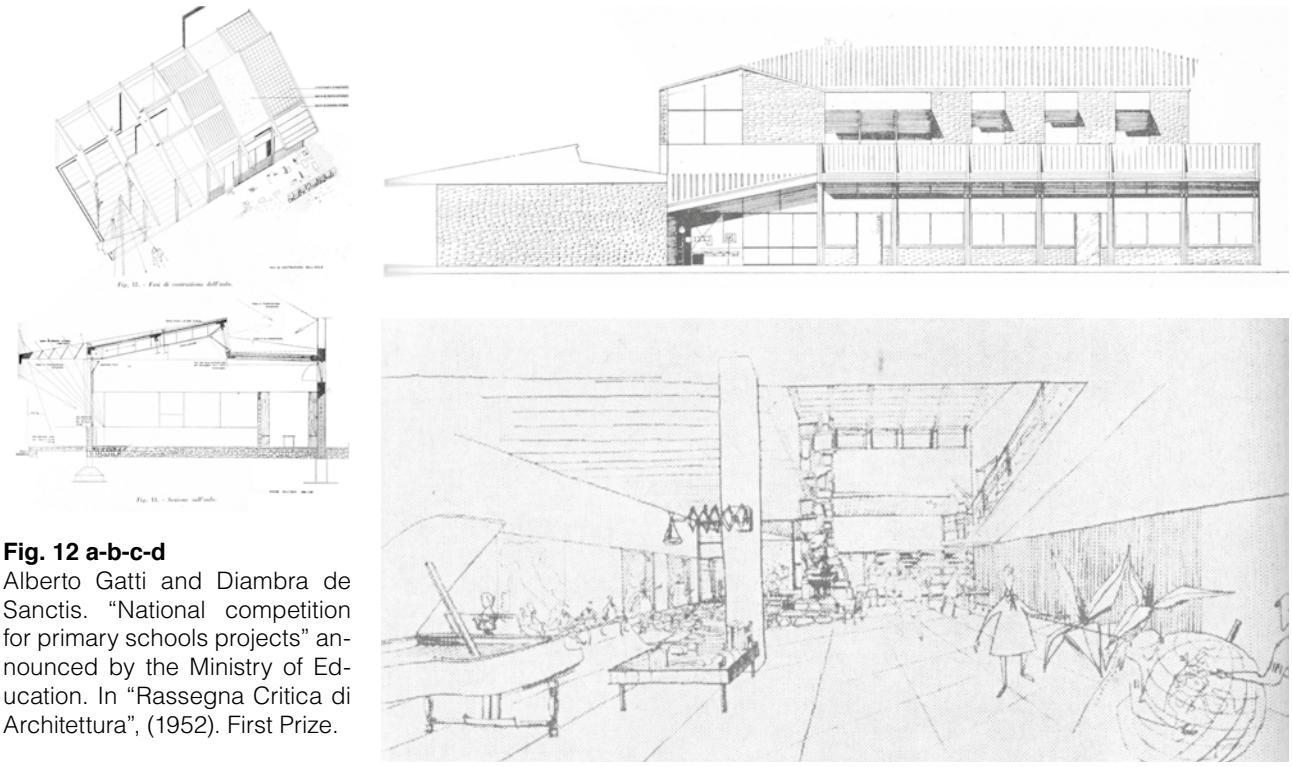
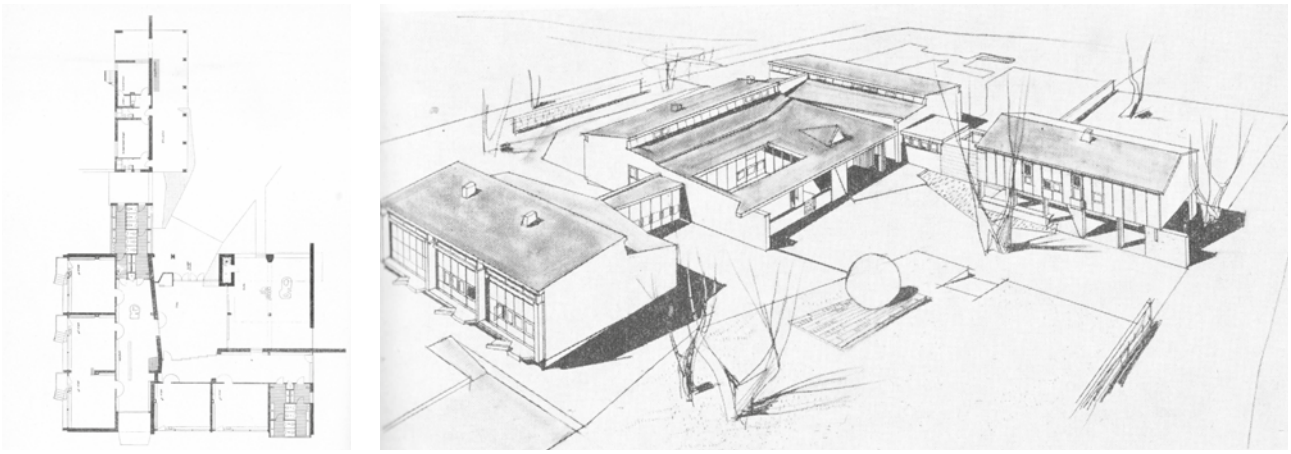


Fig. 12 a-b-c-d
Alberto Gatti and Diambra de Sanctis. "National competition for primary schools projects" announced by the Ministry of Education. In "Rassegna Critica di Architettura", (1952). First Prize.



Figg. 13 a-b
Ciro Cicconcelli "National competition for primary schools projects" announced by the Ministry of Education. In "Rassegna Critica di Architettura" (1952). Second Prize.

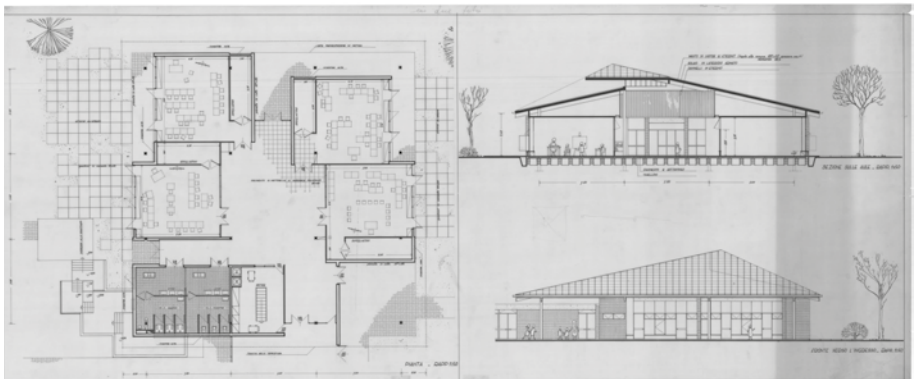


Fig. 14
Ludovico Quaroni, Mario Guido Cusmano, School in Rosignano Solvay (1961).

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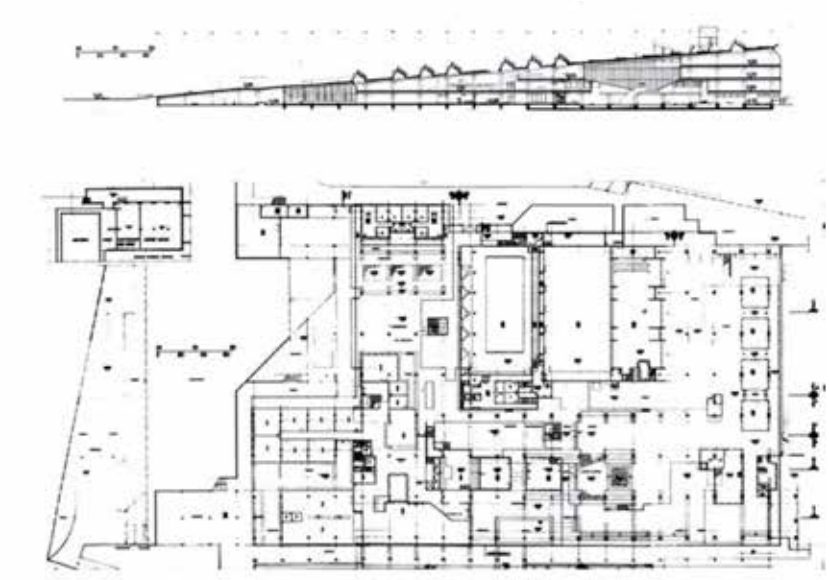

Fig. 15 a-b-c-d-e
Luigi Pellegrin, School complex 'Marchesi', Pisa, 1974. Prefabricated structures Benini Ferrara (1974).

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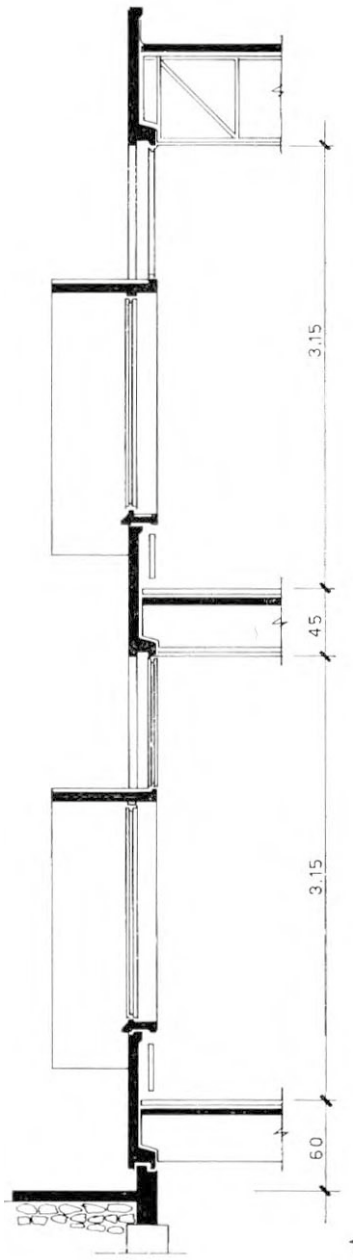
Fig. 16
Sergio Lenci ed al., School in Rome (1965-68).

Fig. 17
Sergio Lenci ed al., School in Formello (1965-68).



to a phase of research and widespread and innovative entrepreneurship» (Cupelloni 2014). Sergio Lenci, in fact, in the School of Formello – designed with Fausto E. Leschiutta, Vittore Martelli, Eduardo Micheletti, and engineer Roberto Leonori – following a competition tender announced by the Ministry of Education, in implementation of the experimental school building program envisaged by law no. 1358. The main purpose of the program was to promote interest in prefabrication in the school building sector and to qualify the companies concerned. Using the same system, Lenci designed a "School for visually impaired children in Rome" along Via Gregorio VII.

«[…] The Leonori construction system consists of a series of prefabricated reinforced concrete elements in the factory and naturally dried, transported on trucks and assembled on site by means of crawler cranes. The pieces fit together and are sealed with a concrete casting or with welding of the steel plates incorporated into the pieces themselves. […] The construction system must also make it possible to obtain a different distribution of the rooms by means of easy displacements or the abolition of internal separation elements. Systems by which large rooms can be obtained, without the encumbrance of pillars or internal structural elements, will be preferred. How the two requirements listed above should be interpreted is clarified in the many writings of Ciro Cicconcelli, director of the Study Center for school buildings of the Ministry of Education, and in particular in "Planning in prefabricated school buildings" in nos. 4-5 of the 'Papers of the Study Center for school buildings'. [...] For many years Cicconcelli has been conducting a discourse that can be summarized in the formula "equal education for all must correspond to an equal building level for all". This level can be guaranteed by industries and in particular by prefabrication; prefabrication can be offered as a 'ready-made' solution, indeed it is possible, when some fundamental issues have been solved, to repeat the same project. In fact, if you think about how many thousands of schools have to be built in our country, the idea of making each of them a particular object makes no sense; on the contrary, we are much surer of the results if we arrive at standardization, which is achieved precisely through contracts with prefabricated buildings. [...] The Leonori prefabrication system, used in the Formello school, fully responds to these requests, and in addition, it seems to us to have an expressive potential that enhances the possibility of prefabrication in reinforced concrete against that in metal, and indicates a way different from that of the so-called heavy prefabrication, to which all in all we owe the widespread diffidence about the figurative possibilities of prefabrication in reinforced concrete» (Lenci 1969, pp. 324-338).

Lenci's quote describes a series of problems and returns the salient issues of the cultural and technical debate of those decades.
On the "Quaderni del Centro Studi" (new series no. 3) is present, among others, Claudio Dall'Olio with his project for the competition for the Liceo Scientifico in S. Benedetto del Tronto drawn up in the mid-1960s, according to a floor plan divided into modular units corresponding to classrooms

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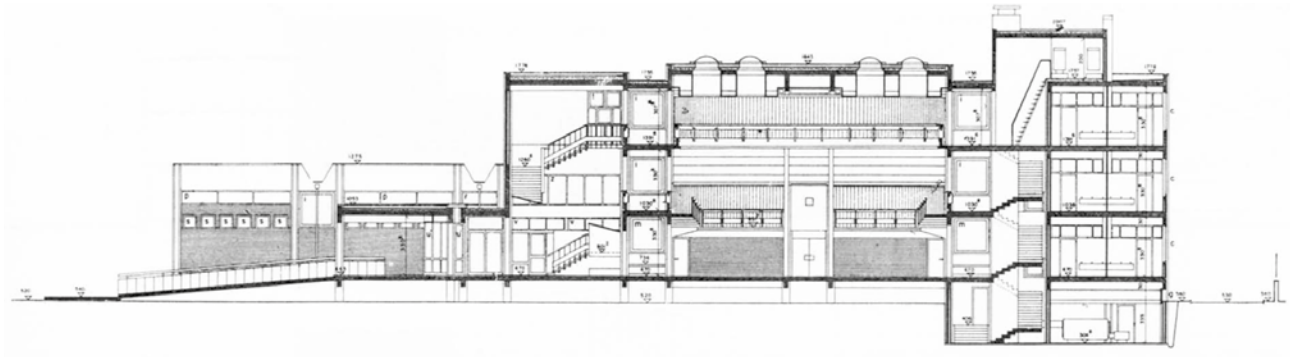

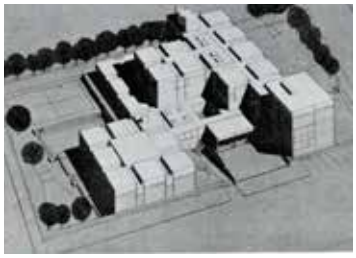

Figg. 18 a-b
Claudio Dall'Olio, High school, S. Benedetto del Tronto, Sixties.

and services that surround the larger module, corresponding to the aula magna, and are distributed on the urban lot according to an open plot and dialoguing with the surrounding urban environment. In the same notebook, the Study Center publishes some very interesting projects drawn up in the course of Saul Greco, with commentary texts signed by Sergio Lenci, Saul Greco and Ermanno Leschiutta that deal with "the organization of the technical and professional school as an element of planning", in particular the "Campus" as a school structure for the city-territory (among the students of the Ciucci course, De Giorgio, Muntoni, Pazzaglini, Toccafondi): «a concentration of school services qualified by specialty and equipment and suitably related and sized with respect to the city-territory can represent an integral structure on which the residence can rest as on one of the fundamental càrdini; that is, an intervention plan is hypothesized in school planning for nuclei concentrated and distributed throughout the territory» (Lenci 1963, p. 28).

This set of questions, projects and studies, conducted in parallel with the events of urban and residential development, almost certainly had a direct and indirect importance for the way in which the experiments on the design of university campuses carried out from the 1960s onwards were conceived. meaning «the mass university as the search for a new model» (De Carlo 1968). If from the early 1950s the course of Pasquale Carbonara – in which a fundamental seminar, according to the testimony of the students, was held by Ciro Cicconcelli – was centered around the theme of school planning, in the years between 1963 and 1966 the courses of Ludovico Quaroni experimented with the theme of the University. In those courses, most of those among the Roman architects who subsequently ventured into the profession on the subject of school and university buildings were trained as teachers and students (Barbera 2019, p. 58).

In addition to the very important contribution to Italian school buildings, Ciro Cicconcelli and Luigi Pellegrin designed in 1969 a very interesting competition project for the Universidad Autonoma de Barcelona.

Among the aforementioned personalities, Lucio Barbera, won the competition (contract awarded and final project delivered, but not realized due to conditions of political instability following the Chad war) for the Sebha Campus in Libya in 1972, by whose typological schemes are partly taken from those of the new central offices of the University of Basilicata built in Potenza, designed by the same author in 1990 – a rhythmically-metrically articulated "spinal" system of bridge-buildings, which in the intentions planning should have crossed the valley with the intention of connecting the historic city and the most recent services by foot, entering a space-gallery from the roof, reinterpreted as a modern variant and inspired by the cryptoporticos of the Roman imperial palaces, placing the university

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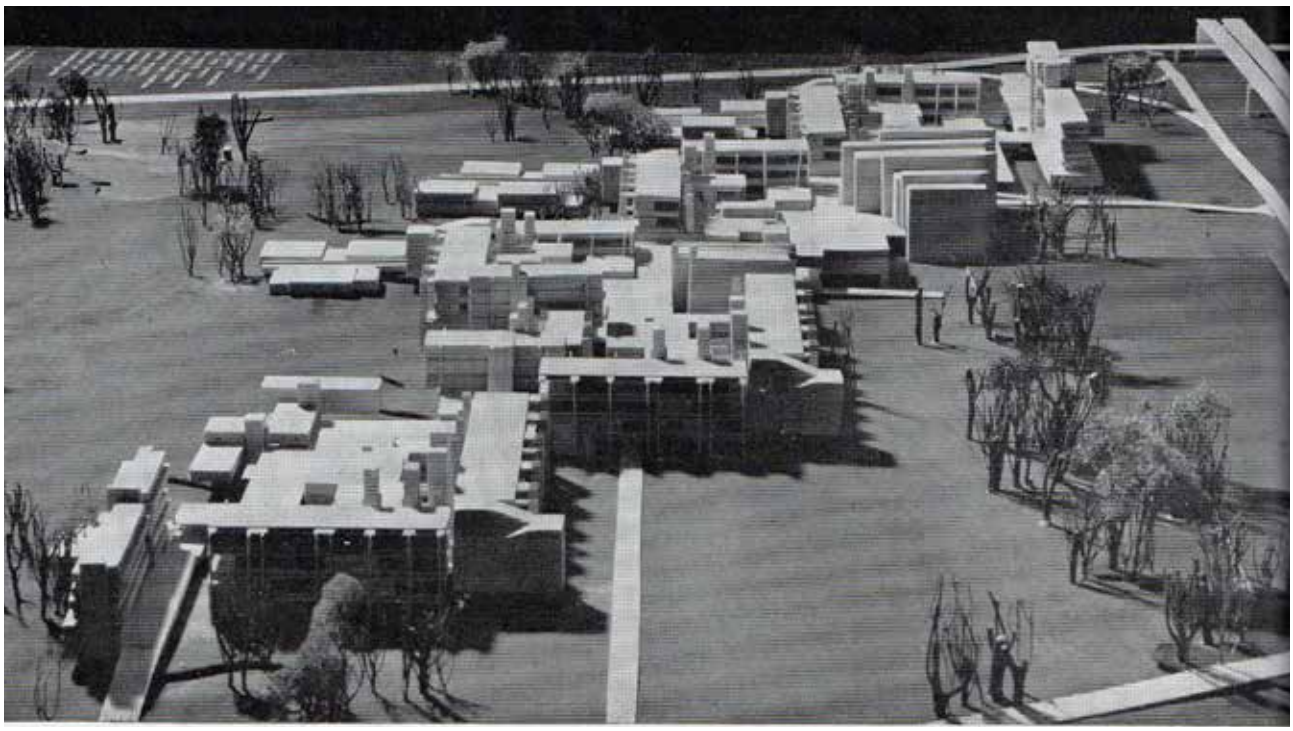

Fig. 19
Centre of technical and vocational schools set up by the students (Cambiz, Cantaro, Ciucci, Da Ponte, De Luca, De Sanctis, Di Pietro, Galan, Ranieri, Romani, Romoli, Samii, Severati, Valeriani), View of the model, 1964.

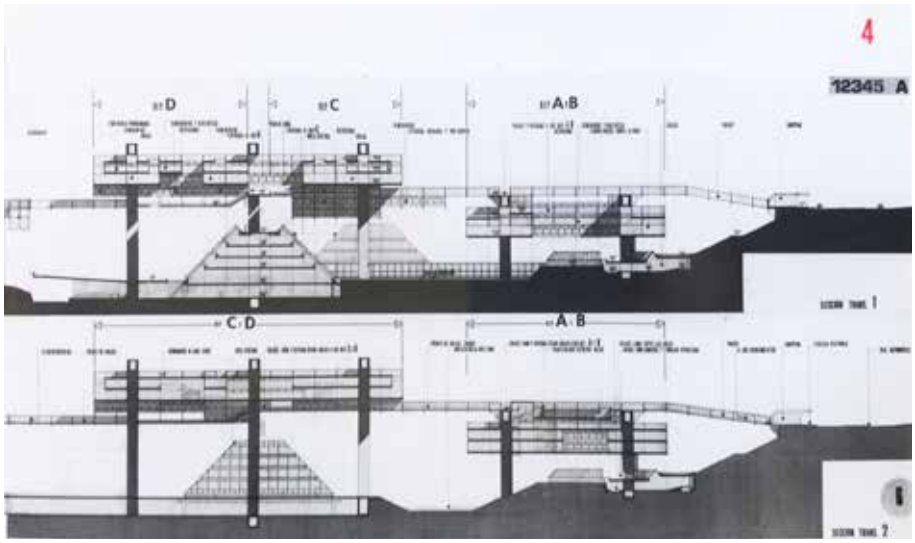

Fig. 20
Ciro Cicconcelli, Luigi Pellegrin, project for the competition for the Universidad Autonoma de Barcelona, 1969.

building as an indirect solution for an urban and territorial reorganization intervention. Barbera also built a school complex in Naples, within a larger area designed as a public park in Avellino a Tarsia in 1984, inserted in the wider system of about fifty interventions coordinated by himself, for the urban and environmental restructuring carried out in following the 1980 Irpinia earthquake, the Ventaglieri Park. The intervention anticipates a type of urban projects that integrate public functions and services for training, environmental and social requalification in a topographically articulated site, reconstructing the urban identity of a place with historical pre-existing structures; the project has received positive feedback from the inhabitants, as evidenced by the website of the Parco dei Ventaglieri association.
Another personality of a Roman designer who distinguished himself on the subject of the university building is Giuseppe Rebecchini; graduated with Quaroni on the subject of the University of Tor Vergata, he carried out some interventions in the following years, and also designed and built new buildings, extensions and renovations for the University of Udine, Florence, Bologna, of Ferrara, Foggia, Catanzaro.

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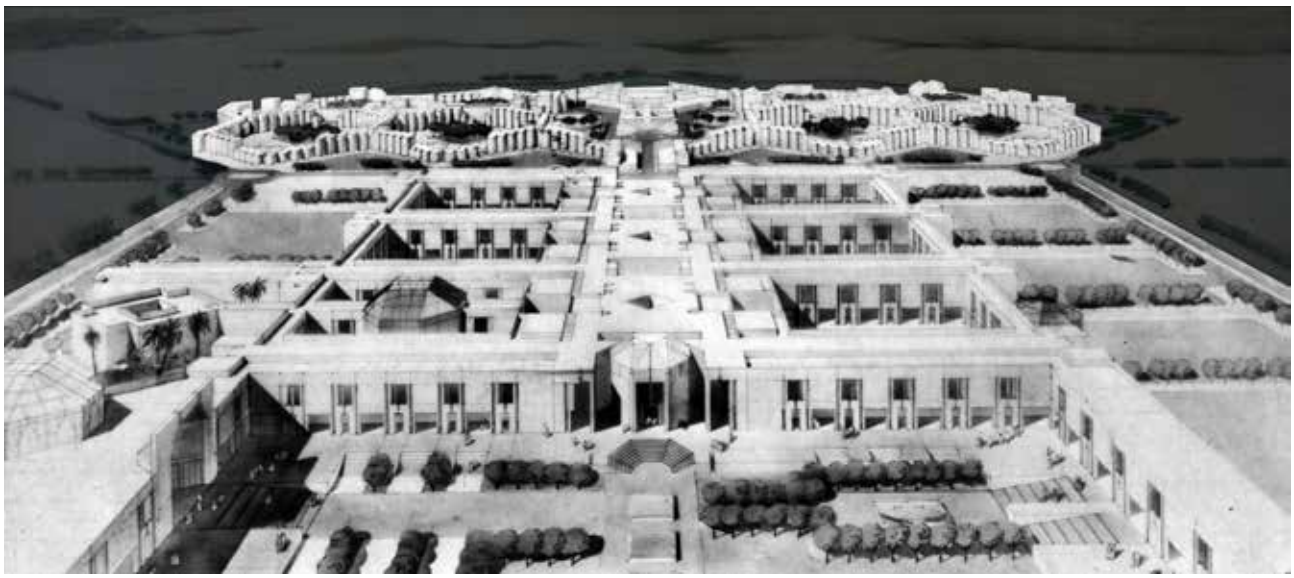

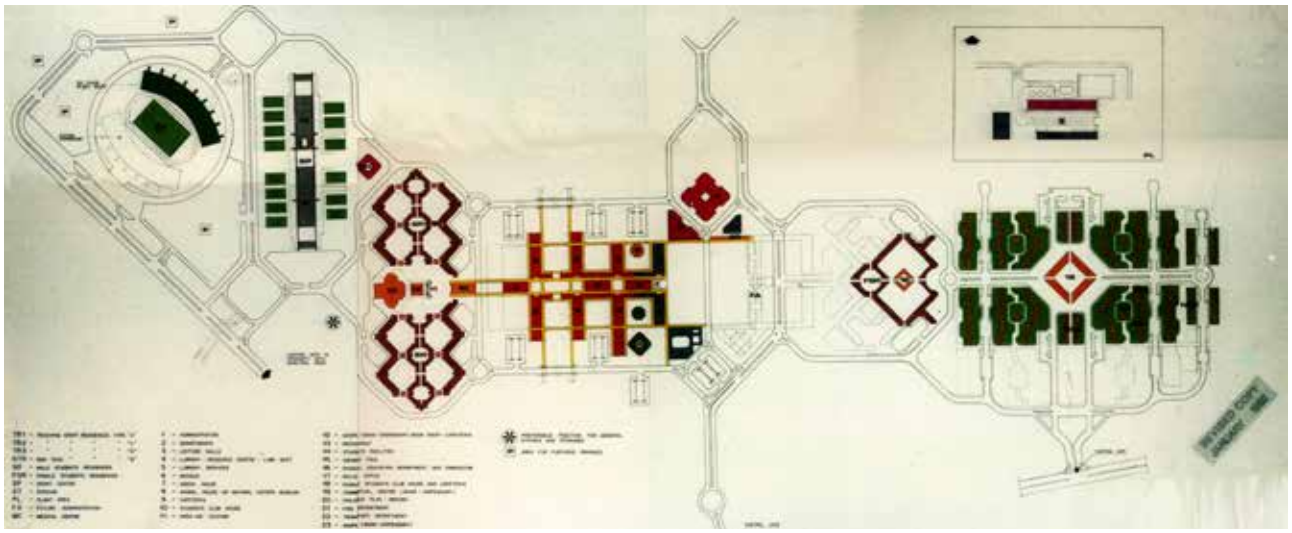

Figg. 21 a-b-c
Lucio Barbera, University Campus in Sebha, Fezzan, Libya, 1980-82. Competition won, contract awarded and interrupted due to the war in Chad, Sahel, 1972.

Fig. 22
Lucio Barbera, University of Basilicata, New Offices, Potenza, 1990.

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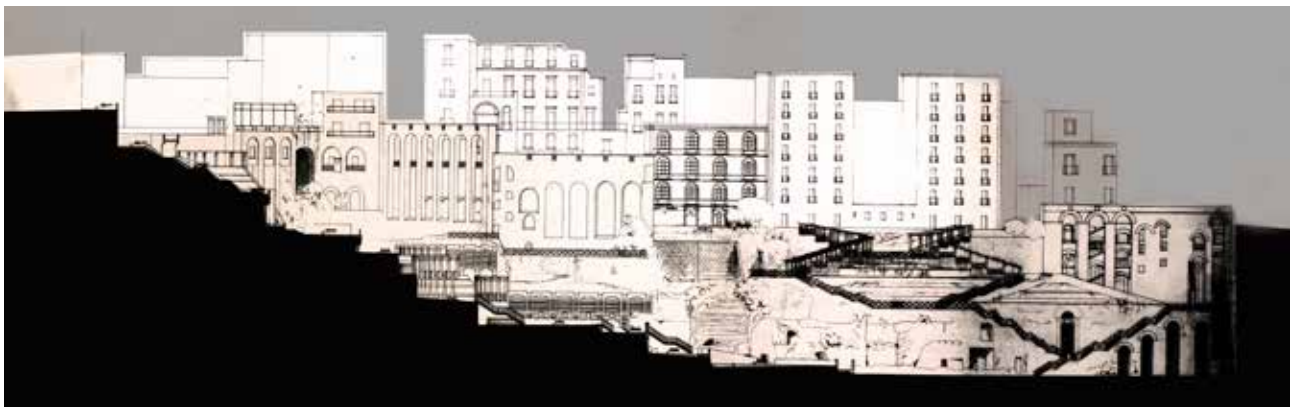

Fig. 23
Lucio Barbera, Ventaglieri park, Avellino a Tarsia, Napoli 1980-1984.

Fig. 24
Giuseppe Rebecchini, University of Catanzaro 'Magna Grecia', Faculty of Medicine and Surgery with polyclinic, 1987-98.

Figg. 25 a-b-c
Giuseppe Rebecchini, University of Bologna, multipurpose centre, 1986-90.

Against the background of this set of interventions, often conceived on a broad territorial scale, there was the well-known Project 80, which had no implementation feedback, but was the latest political and technical elaboration conceived on a national scale, proposed by the governments of the center-left between 1969 and 1971, relating to the national economic program for the five-year period 1971-75.
Over the last twenty years, since the early 2000s, Paolo Portoghesi, Franco Purini, Laura Thermes and Raffaele Panella have contributed with various titles and responsibilities, the first for the urban project, the last for the architectural one – today in the responsibility of Orazio Carpenzano –, to the design of the Pietralata Campus (not yet built) of Sapienza University of Rome[5]. This experience represents the completion of a long series of studies and consultations that originated in the late 1980s with Diambra Gatti and Paola Coppola Pignatelli, students of Pasquale Carbonara, on behalf of Sapienza together with other colleagues of the DPAU Department, with the aim of giving a knowledge base for the transformation of university real estate assets and its adaptation to new educational and research needs.
This brief testimony, therefore, intended to document, considering the brevity of the discussion, how much the project theme of the schools and university campuses represented an experience of Roman architectural culture, in parallel with the political programs influenced, even conditioned, as well as by the new pedagogical and sociological principles, also and above all from the specific conditions of the urban form within which the interventions were carried out, collaborating together with the architecture of the residence and other services, to imprint the character of the places and determine the results in terms of urban quality, for a *politically* efficient and innovative idea of a *public city*.

Notes

[1] Valle V. (1926) – *Concorso per i progetti di quattro edifici scolastici a Roma*. Architettura e Arti Decorative, May.
[2] Antonella Bonavita, *Eccezionalità e ortodossie.* The above-mentioned Guide lists 48 schools, 22 of which were opened between 1870 and 1900, 14 of which were built in former convents and existing buildings and 7 were newly built. Among the schools built in the first thirty years of the twentieth century in Rome the following ones stand out: Pilo Albertelli, Regina Margherita, Enrico Pestalozzi, Vittorino da Feltre, Regina Elena, Ruggero Bonghi, Edmondo De Amicis, Dante Alighieri, IV Novembre, Di Donato; they followed the new regulations: 1859 Casati Law, 1888 National Technical and Hygienic Institutions for the construction of school buildings and the new pedagogical indications implemented taking into account the specialisation of open spaces.
[3] https://www.itisgalilei.edu.it/it/home-ita/la-storia.html
[4] Giuseppe Terragni's S. Elia kindergarten dates from 1936-37.
[5] Other school buildings by the same authors (Panella and Thermes) have been published in other contributions by the author, in particular in a volume of the DRACo doctorate, Il poligrafo.

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SEVERINO C. G. (2019) – *L'Esquilino a scuola. La Federico Di Donato di via Nino Bixio.* Il Cielo sopra l'Esquilino*, 32, 8;* https://www.cielosopraesquilino.it/lesquilino-a-scuola-la-federico-di-donato-di-via-nino-bixio/; Severino is also author of*. Esquilino 1870-1911 ...e nel centro del progettato quartiere una vastissima piazza..., Gangemi 2019.*

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Caterina Barioglio, Daniele Campobenedetto*

The school as a model. Two experimental urban school buildings in Turin, 1968-75

Abstract
The heritage of school buildings constructed in the 1970s in Turin is one of the most interesting infrastructures of the public city in terms of extension and capillary diffusion across the urban fabric. The school buildings erected in the expansion areas envisioned by the Popular Affordable Housing Plans, which underwent great demographic changes in the last ten years, can be considered a resource for the present-day city. Through archive documents and the analysis of the relationship between built space and teaching styles, the present article explores this theme by looking at two schools in Turin, both of which were taken, at the time of their construction, as models of the relationship between built space and didactics.

Keywords
School buildings — Urban design — Turin

Introduction: a heritage under discussion

The city of Turin has been a laboratory for school building throughout the twentieth century (Deambrosis and De Magistris 2018; D'Amico 2010). In particular, the 1970s were characterised by a significant increase in the number of schools built within the city borders[1]. Those were transitional years in which national financing laws and regulatory innovations intertwined with local programmes in the construction of school buildings. In the following period, educational experimentation, already under discussion since the post-war years, was translated into built space through numerous opportunities for urban transformation.

Most of the buildings erected in this phase were designed by the City's technical offices and belong to ordinary architecture which has received marginal attention in architectural criticism and in the history of Italian schools.

This heritage, however, takes on particular relevance in the contemporary debate on the future of the City of Turin. Demographic contraction (Giorgio Rota 2020 report, chap.1), an ageing population (Vero 2019), and potential investment in the public heritage[2] all meet on the grounds of the "belt city" (Di Biagi 2008): its study is therefore relevant for future developments in Turin's urban transformation.

The areas established in Turin, as well as in other Italian cities, as a result of Law n.167 of 1962 and developed through the Popular Affordable Housing Plans (PEEP), are one of the main ways in which this belt city has been transformed over time; these areas provided the opportunity for the construction of school buildings designed to serve the growing communities at that time. This heritage is today largely affected by degradation and

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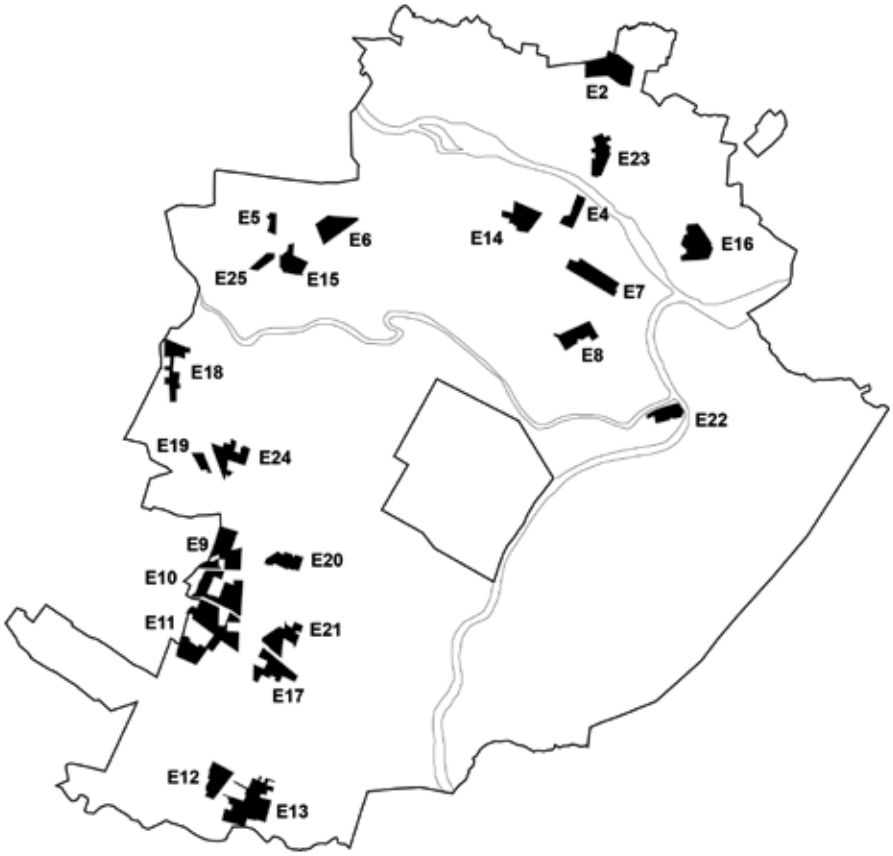

Fig. 1
Location of the expansion areas within the municipality of Turin, approved in 1963 so as to be developed according to Law n.167 of 1962. Authors' drawing.

decommissioning but, if considered as a whole, it is an important part of Turin's school infrastructure, and one of the most widely spread in the city.

School buildings in Law 167 areas

Law n.167 of 1962, *Disposizioni per favorire l'acquisizione di aree fabbricabili per l'edilizia economica e popolare* (Provisions to favour the acquisition of building land for affordable and social housing), played a key role in the expansion of Turin and of other major Italian cities between the 1960s and the 1970s (De Pieri 2015; Di Biagi 2008). The law provided regulatory tools to promote the acquisition of land at affordable prices and to encourage the construction of residential buildings and services for the less affluent segments of the population. The implementation plan (PEEP) drawn up for Turin in 1963 identified 24 areas for new construction works[3], distributed in a fragmentary manner and arranged around the city's perimeter (Frisa 1974). Partly because of their decentralised location, the PEEP or "expansion" areas were designed as self-sufficient urban islands, equipped, on paper, with the main basic services for their inhabitants[4].
The neighbourhoods of the "public city" resulting from Law No. 167 are still easily identifiable and recognisable today: unrelated to the traditional forms of the consolidated city, they are distinguished by designs that are for the most part continuous and homogeneous (Di Biagi 2008). The formal coherence of the areas is not, however, the result of a synchronous

realisation. The history of law n.167 in Turin, in fact, did not end with the PEEP of 1963, but continued in a long implementation cycle until the approval of the new local master plan in 1995 (De Pieri 2013). The planning of these areas was therefore the result of a non-linear transformation process that lasted over thirty years, in which residential buildings and structures for various services followed largely independent construction paths.
In 1967, inquiries into the progress of the works, a few years after the PEEP was drawn up, already described the disconnection between housing and services construction sites: in the areas that had already been partly built on or assigned, the service infrastructure building process was undergoing substantial delays, and the realisation of schools was not expected anywhere in the short term (Bastianini 1967).
To understand the reasons for this delay it is necessary to consider the development of school building policies in those years. The schools included in the area plans were in fact part of the municipal school building programme, and therefore followed a planning and financing process that was parallel to and independent of residential building.
In the late 1960s, it was state funding that sped up the planning of school buildings[5]: starting in 1968, the City of Turin drew up two programmes (one for the three-year period 1968-1971 and one for 1972-75) for the construction of new schools where they were most needed, particularly in the areas identified by the PEEP. To date there are 52 school buildings located in the expansion areas[6]: of these, only one was built before 1969, while over 80% were designed and built between 1970 and 1979, within the framework of the two municipal programmes.
If we compare the forms of the buildings with the first indications given in the detailed plans of 1963, this gap is evident: the urban form and distribution of the residential buildings was largely unchanged; on the contrary, as for the buildings intended for services – including schools – the architectural projects present forms and distributions that differ from the 1963 plans, whose building outlines still referred to Turin as it was in the 1960s (Città di Torino, 1962).
On the one hand, the schools in the areas outlined by Law n.167 resulted from the intersection between the expansion of the city belt and public policies attempting to respond to the demand for educational spaces. On the other hand, they were also the first practical translations of the national debate on the relationship between space and pedagogy that had been ongoing since the post-war period. The early 1970s were characterised by the reform of the technical standards for school buildings, formally approved in 1975, but already drafted in the early years of the decade (Leschiutta 1970).
In Turin, these experimental guidelines were translated on several fronts into building practice.
A first front concerns urban transformation processes: architecture contests and interdisciplinary working groups between designers and pedagogists resulted in the creation of experimental schools, based on the search for an integration model between space and the educational dimension. These were often the object of attention from architectural critics[7]. At the same time, the municipality's technical departments were called upon to respond to an ever-increasing demand for classrooms by initiating the design of affordable and repeatable models of school buildings.
A second front concerns the forms through which these experiments were translated into architecture. On the one hand, schools were designed to respond to a specific educational need, accommodating, for example, a

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Fig. 2
Popular Affordable Housing Plan (PEEP), Law 18-4-1962 n. 1967. Zone E10. Historical Archives of the City of Turin. By permission of the Historical Archives of the City of Turin.

Fig. 3
Popular Affordable Housing Plan (PEEP), Law 18-4-1962 n. 1967. Zone E8. Historical Archives of the City of Turin. By permission of the Historical Archives of the City of Turin.

single grade of school; on the other, projects were drawn up for large platforms capable of responding to the demand for public services in an entire neighbourhood.

Looking at the arrangement of these school models in the PEEP areas, it is possible to identify two recurrent settlement types. In most areas what is found is a "city of services": a set of buildings each of which is destined to a specific function and dedicated to a specific group of users, scattered in a green area; a few cases, on the other hand, consist of a "city-buildings", designed as centres capable of gathering services considered essential for the neighbourhood.

Among these city-buildings, two cases represent diametrically opposed models of school building, both relevant to the construction of scholastic infrastructure in Turin. One of these cases is the school in zone E8, named after Salvo D'Acquisto: it was the result of an architectural contest, conceived as a unique instance of experimentation on the relationship between the articulation of spaces and educational objectives. The three schools built in areas E10, E11, E13 are twin buildings conceived as a single project, based on the search for reiterable models that characterised the City of Turin's response to the shortage of educational spaces.

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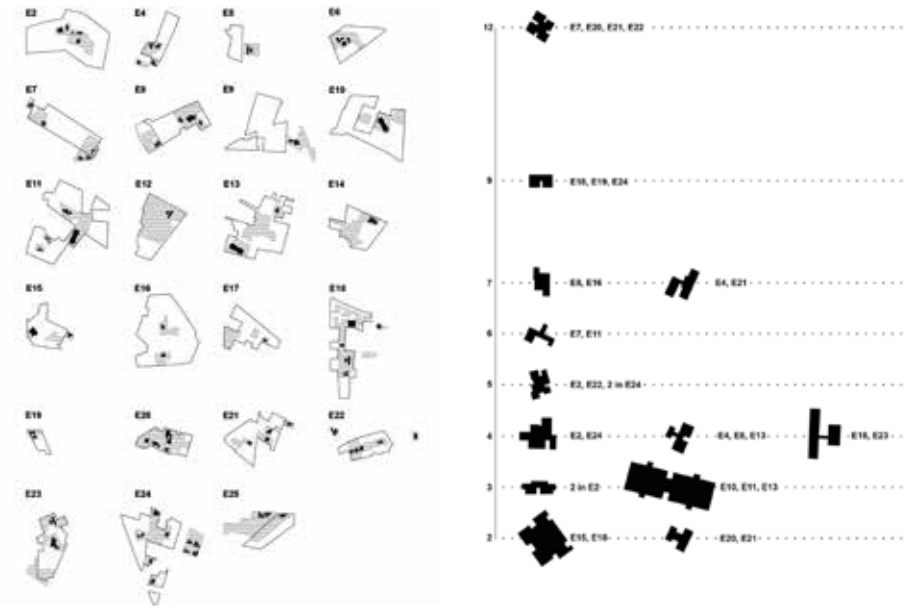

Fig. 4
Schematic overviews of the expansion areas. Areas dedicated to public services and completed school buildings are highlighted. Authors' drawing.

Fig. 5
School models and their frequency of realisation inside and outside the expansion areas. The Y axis shows the frequency of cases constructed within the municipal territory. Authors' drawing.

These two projects, despite substantial differences in terms of process, approach and actors involved, are both the result of an attempt to translate into architectural distribution the openness to the city, the homogeneous conception of the architectural organism and the overcoming of the centrality of the classroom, subsequently expressed in the 1975 technical standards for school buildings[8].

Two projects for four schools

The story of what was to become the school of the E8 expansion zone began in 1968, when the City of Turin, accepting the proposal of a group of pedagogists[9], included the construction of an experimental full-time primary school in its school building programmes. The project, signed by a group of architects from Turin[10], had originally been submitted for the contest for a school in zone E6. Although the project did not win the competition, it was judged to be of particular pedagogical interest by the administration, which proposed building it in an area outside the E6 expansion zone[11]. In 1970, a search was made for a larger area with plenty of green space for the school «so as not to compromise the effectiveness of an initiative which, because of its intrinsic value, deserves an exemplary solution in every aspect»[12], and the choice fell on the E8 expansion zone[13]. The school project had aroused much controversy within the City Council. Building an experimental school in a single unit, with high construction costs and extraordinary equipment (including two swimming pools) for just over 20 classrooms, contradicted the administration's declared urgent need to respond to the lack of space for teaching activities[14]. «Faced with a family that has many shoeless daughters, we take one of them and dress her up in Christian Dior», was one of the comments on this issue[15].

The project seemed anomalous in relation to the guidelines laid down by the administration through the two school building programmes of the early 1970s, which aimed to identify models of affordable and repeatable school buildings. The school complex in via Romita, in the E10 zone, is an example, albeit an exceptional one, of the logic expressed by these programs: the project was developed from the outset as a model to be replicated in different areas of Turin. Designed by the technical offices of the City of Turin[16] in 1973 and built between 1974 and 1975, this building is the

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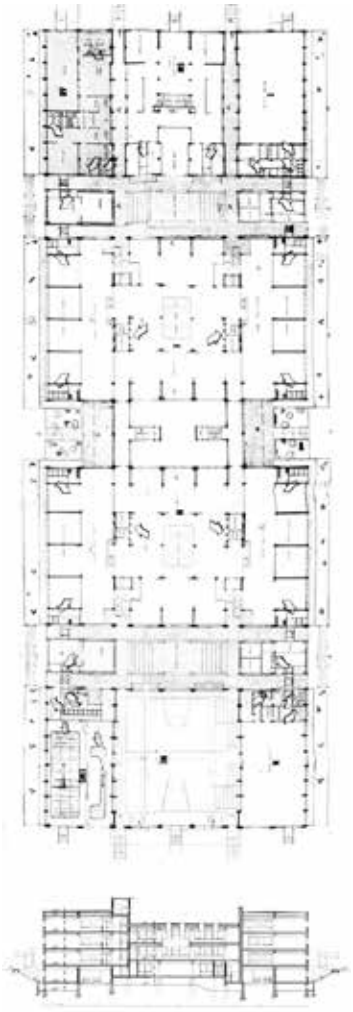

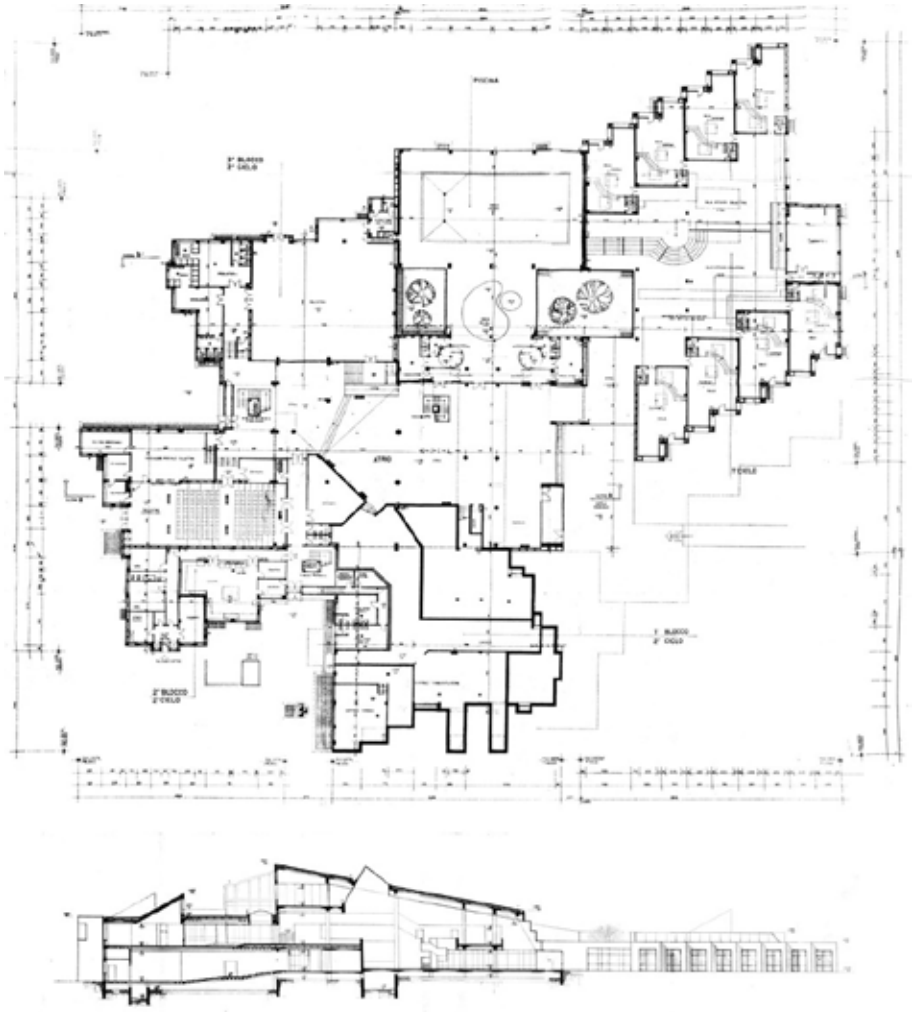

Fig. 6
School E10. Ground floor plan and section. Archive of the school building area – technical services division of the City of Turin.

Fig. 7
School E8. Ground floor plan and cross section. Historical Archives of the City of Turin. By permission of the Historical Archives of the City of Turin.

first of three twin examples, all designed in the first half of the 1970s within expansion zones to address the lack of services in the neighbourhood[17]. The school is designed as a civic centre, in response to the conclusions expressed by administrators, pedagogues and technicians when examining the projects submitted to the national competition held in 1971 by the City for the construction of the Corso Vercelli school complex[18].
The building consists of four blocks: the two outer blocks include a kindergarten, a nursery school and a gym on one side, and sports facilities on the other, dedicated both to the schools housed in the building and to the people of the neighbourhood. The two central blocks house the primary and secondary schools with a capacity for 1,500 pupils.

An urban question

Both schools were designed as integral parts of the city. The school building, as a public work, was intended as an opportunity to strengthen the link between the scholastic institution and the neighbourhood.
School E8's facilities – including a swimming pool, an auditorium, and dedicated spaces for activities such as photography, printing, listening to and performing music – are the spatial translation of a social programme, aimed at young people and adults, that goes beyond traditional educational activities and class time.
A similar concept of space can be found in the E10 school, designed to bring together in a single structure the spaces needed for school activities and those required for the social and sports activities of the entire neighbourhood[19].

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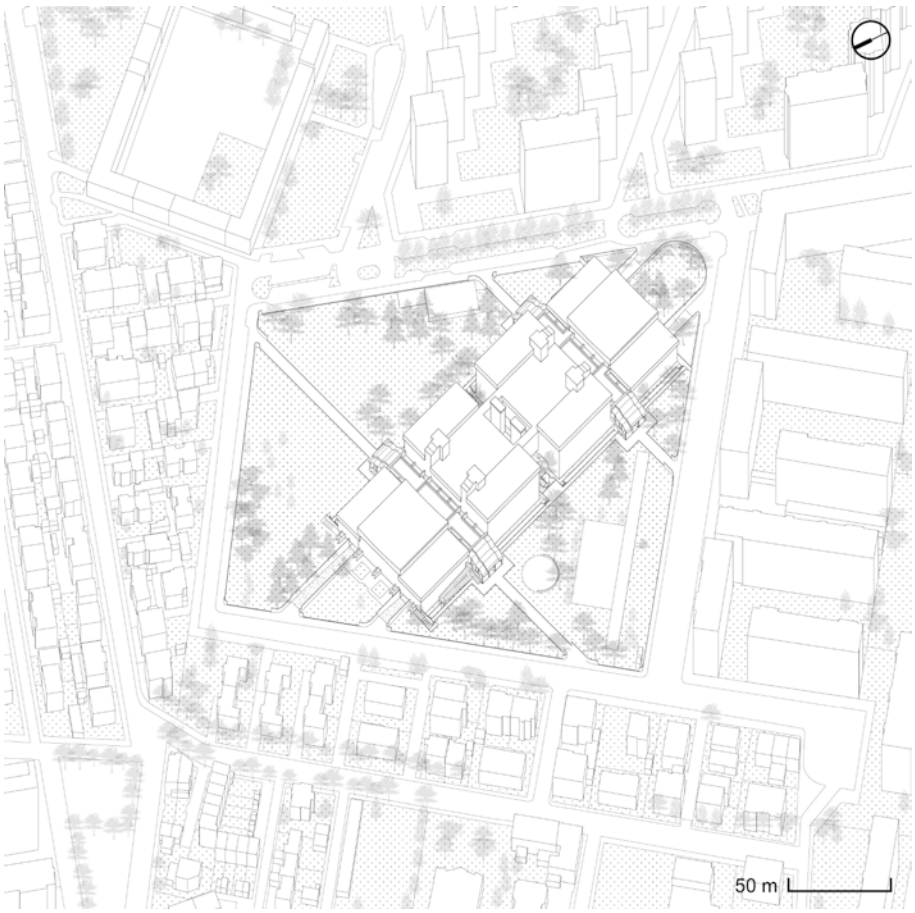
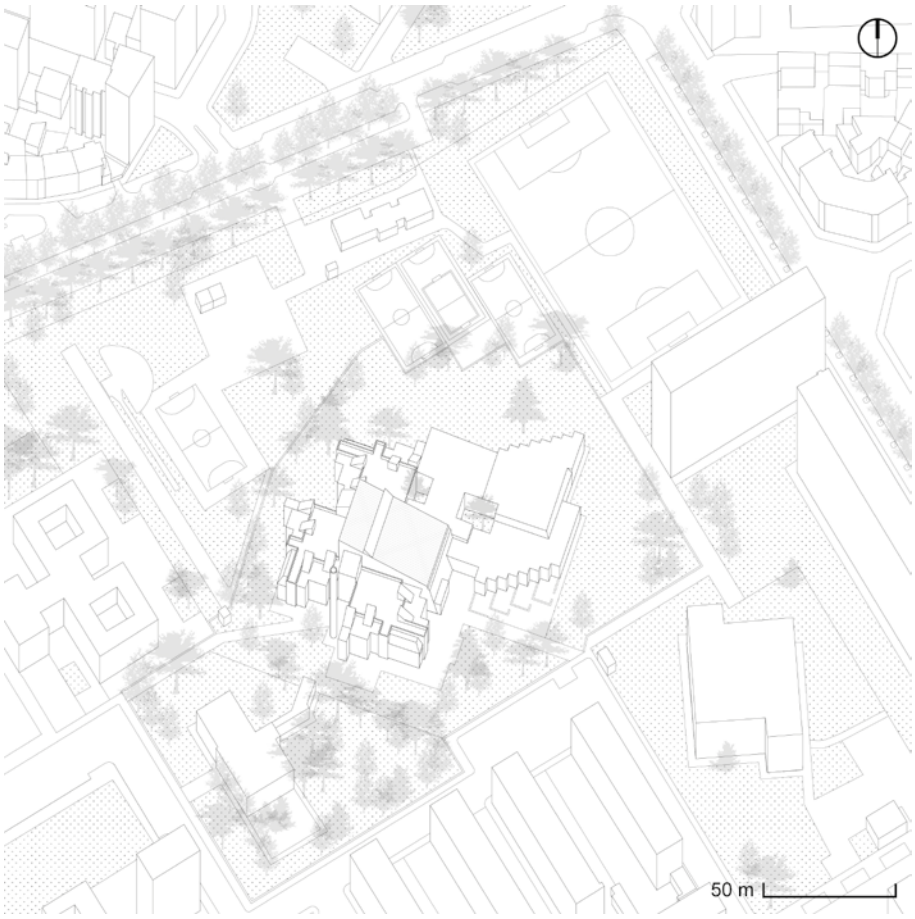
Fig. 8 a-b
The relationship of schools E8 and E10 with the urban context. Authors' drawing.





In addition to extending access to the school's large facilities – in particular the gym and the swimming pool – to external users, there are spaces reserved exclusively for neighbourhood activities: these are small spaces in the basement, with little natural light, directly accessible from outside the school perimeter by means of two driveways that cross the lot longitudinally.

The school as a distribution building

The internal organisation of the two schools reflects two different models of understanding the relationship between space and educational experience.
School E8 is articulated through spaces that have a clear function, such as the twenty classrooms, and spaces that are functionally ambiguous, designed to encourage pupil autonomy and the performance of activities in groups of varying size. Teaching activities are organised in five blocks of classrooms, two blocks for the primary school and three blocks for the secondary school, arranged at different heights and gathered around a central core that houses the spaces for group activities.
Each block of classrooms is distributed around a common area that can accommodate organised activities for large groups. The staggered height of each block is designed to allow autonomy of use with respect to the height of the atrium, while maintaining the visual continuity of the entire school environment.
The two central bodies of the E10 school building are also organised to accommodate activities in different group sizes. At the edges of the block one finds classrooms for small groups (today used as ordinary classrooms). These open up to distributive spaces for educational activities involving medium-sized groups. On the ground and first floor there are two central spaces, on a slightly raised level and in communication with each other, dedicated to large group activities. This central space is designed to be subdivided, if needed, thanks to the installation of movable walls that run along the structural mesh of the building.
The visual continuity and functional ambiguity of school E8 are not found in the distribution of school E10, where the different sets of rooms are always visually separated from each other. Moreover, while in school E8 there are significant differences between the blocks of classrooms dedicated to the primary school and those dedicated to the secondary school, in school E10 the spaces dedicated to the two grades are articulated identically.

The open classroom

In both schools, the classroom was seen as the testing ground for the relationship between built space and educational models as it emerged from the debate of the 1960s. In both buildings, classrooms open up to the other school areas, becoming part of a continuous and flexible learning space able to adapt to different educational experiences.
However, in the two cases analysed, the principles of openness and flexibility are translated into different spatial solutions. In the continuous space of school E8, classrooms are designed as devices integrated in the single block, but equipped in such a way as to have substantial autonomy: each classroom has its own toilets and those of the primary school feature a small stage. The continuity of spaces is also ensured between the interior and the exterior of the building: in particular, the classrooms of the primary school have a courtyard which acts as a filter with respect to the green spaces destined for collective use.

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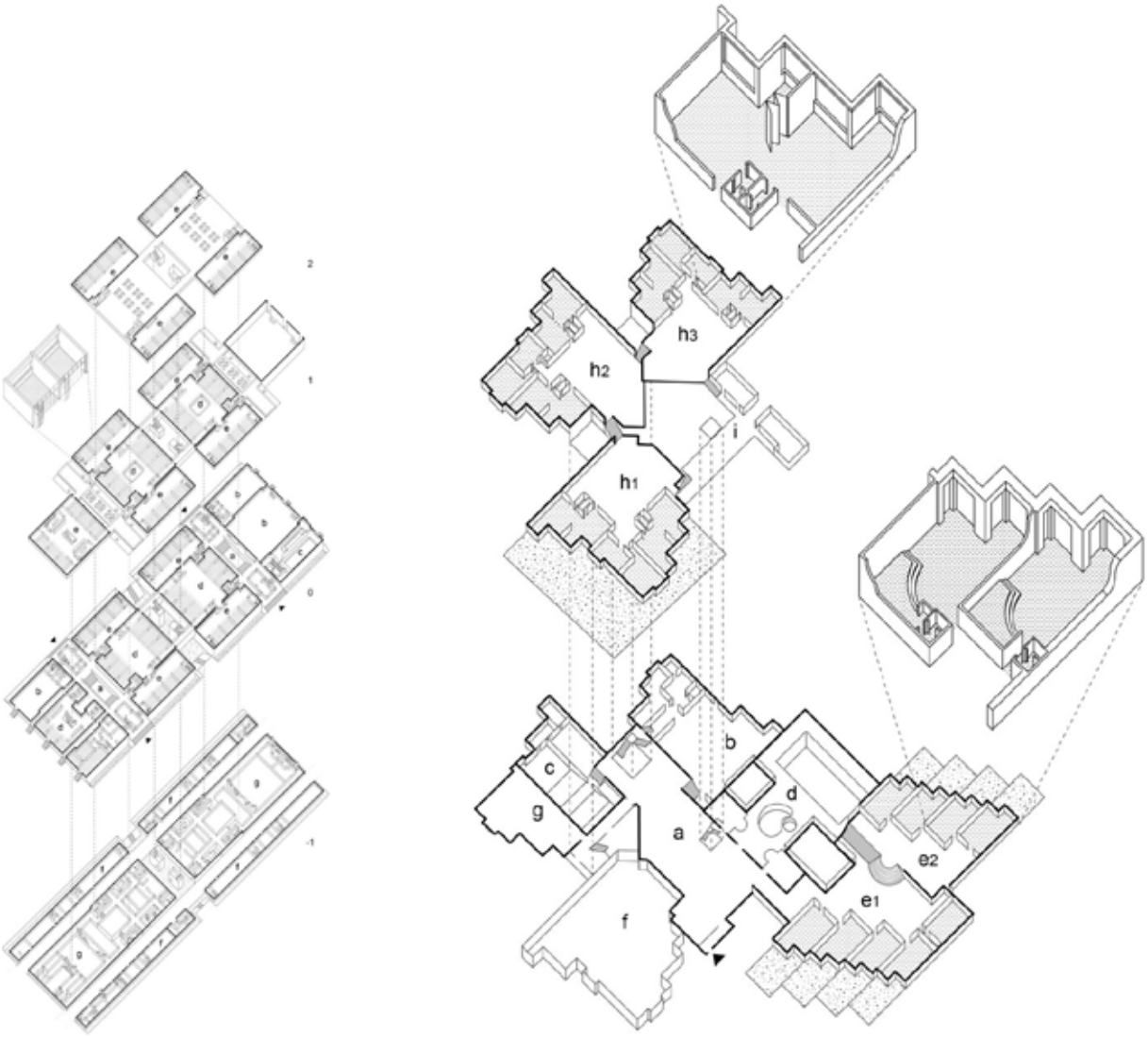

Fig. 9
Layout of school E10. a: atrium; b: gym; c: swimming pool; d: rooms for large groups; e: primary and secondary school units; f: rooms dedicated to neighbourhood activities; g: technical services, canteens and kitchens. Authors' drawing.

Fig. 10
Distribution scheme of school E8. a: atrium; b: gym; c: auditorium; d: swimming pool; e: primary school units; f: technical services; g: caretaker's house; h: secondary school units; i: library. Authors' drawing.

The principle of flexibility is translated into spatial devices: internal vertical walls that can be used as retractable blackboards, or secondary school classrooms separated by movable panels which can be made communicating to allow for different activities. However, the flexibility of spaces is not understood as total transformability, but rather as the intrinsic ability of their distribution to accommodate diversified teaching experiences.
The principles of openness and flexibility are translated very differently in school E10: the classrooms are all equipped with a movable partition wall which allows them to open up to the distribution space dedicated to medium group activities. In spite of the high flexibility of the environments, which guarantees continuity between the classroom and the distributive spaces, this continuity is not maintained in the relationship between inside and outside, which are designed as separate and autonomous environments.

Conclusions (or the storytelling of an infrastructure)

The areas identified as a result of Law 167 of 1962 have been the site of heritage expansion and experimentation with models for school building in Turin. This heritage, built mainly in the 1970s, is now at risk of abandonment and deterioration due to economic and demographic changes, as well as the obsolescence of the structures.
The analysis of the two schools in the E8 and E10 zones offers some keys to interpreting one of the most prolific construction periods in Turin's school

infrastructure. The two schools are emblematic cases of the degradation of a significant part of this heritage: the first is now abandoned, while the second is the subject of continuous technical and distributional adaptations. In addition, the two schools represent the *mise en espace* of diametrically opposed transformation processes. In the context of Turin, these buildings can be taken as the paradigms of two model-schools – in the first case as a single structure, in the second as a series – which attempted to respond, through the articulation of spaces, to the issues formalised by the 1975 school building regulations.

The contemporary usage practices of these buildings reflect the disconnection between the distribution, construction and regulatory tools used by planners and administrators and the stresses placed on the school infrastructure by the transformation of both the city and teaching culture. In school E10, the spaces for the activities aimed at the neighbourhood have been abandoned and the sports facilities cannot be shared with external users; the central spaces of the school buildings, originally intended for large group activities, are now used as administrative offices; the movable partitions between classrooms and connective spaces, designed to ensure flexibility of use, have been removed because they no longer meet the requirements of current safety regulations. The school in zone E8, on the other hand, was progressively declared unfit for use between 2012 and 2018, partly as a result of difficulties in the management and maintenance of its sports facilities.

The weaknesses of these buildings – particularly in terms of adapting to changes in teaching models and increasingly stringent regulatory requirements – and the potential of their spaces, such as large connective environments or green areas, exemplify a widespread condition in the city's school heritage.

The urban dimension of this heritage implies the need to address these weaknesses and potential on a scale that goes beyond individual buildings. Describing the infrastructure not only through maps – usually taken from the point of view of planning – or single cases, but also by connecting the urban scale to the architectural scale through the study of models, appears to be a promising way to intervene on these structures as a whole.

The weaknesses and, above all, the potential that can only be recorded through a study of the architectural models can thus be considered in their territorial dimension and provide a useful description of this heritage. Perhaps this will help to address the issues mentioned in the introduction with non-standard strategies. The need for safety and increased energy performance in Turin's school infrastructure, as well as the need for distributional innovations with pedagogical objectives, is evident. In this context, the stories of schools E10 and E8 can be interpreted not only as the spatialisation of policies and teaching models of a key period in the architectural culture of Turin's school buildings, but also as the description of the elements necessary to understand the transformation potential of an infrastructure widely distributed throughout the city.

In order to be understood, valued and, where appropriate, used, this infrastructure seems to require narratives able to convey its complexity.

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*The concept of the research, the writing of the article and the processing of the images are the result of the collective work of the authors. The authorship of this article is shared equally between them.

Notes

[1] Of approximately 270 public school buildings in use today, about a third were built between 1970 and 1979. Data from Piedmont Region's school building register (EDISCO Piemonte) and the technical cartography of the City of Turin.
[2] In particular, we refer to the Next Generation Europe funds, whose allocation plan is currently (April 2021) being drafted.
[3] The 24 areas of the PEEP were identified in 1963 and approved by the City Council that same year. In the following years, zone E3 was removed from the plan and replaced by a new zone called E25. Zones E12 and E20 were removed on the occasion of the "services variant" of the PRG (17/1974). The E1 zone was never implemented, see Vignuolo 2013.
[4] In Turin, these basic services are almost always the parish centre and the schools.
[5] Law no. 641 of 28 July 1967 would play a fundamental role in the development of school building plans, not only in Turin.
[6] Of the 52 buildings surveyed, 32 are listed in the Piedmont Region's school building register (EDISCO Piemonte) as active schools. A further 23 school buildings are located in the immediate vicinity of the boundaries of the expansion zones.
[7] This was the case with the school complex in Corso Vercelli, completed in 1978, and with the school in via Tollegno of the E8 expansion zone, both published in the 447-448 issue of Casabella, dedicated to school architecture.
[8] These principles are largely summarised in point 3.0 "Standards relating to the work – Characteristics of the work in general" of the technical standards. See Ministerial Decree of 18 December 1975, "Updated technical standards for school buildings".
[9] Municipal Proceedings – Municipal Council of 30 July 1968, City of Turin Historical Archive.
[10] The group consisted of architects Domenico Bagliani, Andrea Bersano Bergey (who later resigned), Virgilio Corsico, Sisto Giriodi and Erina Roncarolo.
[11] This is the area between via Palmieri, via Piffetti, via Talucchi and via Collegno.
[12] Municipal Proceedings – Municipal Council of 14 July 1970, City of Turin Historical Archive
[13] Work on the school in zone E8 (via Tollegno) was commissioned a few years later in 1973, and part of the building was handed over in 1977, so that the school could be opened in 1977-1978. Municipal Proceedings – City Council 24 September 1973, City of Turin Historical Archive.
[14] Statement by architect Radicioni, Municipal Proceedings – City Council 15 May 1972, City of Turin Historical Archives.
[15] Statement by Councillor Dolino quoting Councillor Lucci, *ibid*.
[16] The plans were signed by the architect Saverio Bacco. Technical Services Division Archive - School Building Area, City of Turin.
[17] The building in the E11 expansion zone was built in 1975, and the one in the E13 zone in 1976. It was also hypothesised to build a further example, reduced in size to three blocks, in the Lingotto area.
[18] Municipal Proceedings – Municipal Council 19th June 1973, City of Turin Historical Archive.
[19] *Ibidem.*

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Annalucia D'Erchia

Typological research for post-war school buildings in Milan. Arrigo Arrighetti pioneer of modernity

Abstract
The identification of a series of study sketches related to the possibilities imagined for new types of school buildings has become a pretext for recognizing the origin of a series of central topics in the research on the theme of the school that characterizes our time. By retracing the investigation conducted by Arrigo Arrighetti, a pioneer in translating the idea of the school as a small community in ways and with means that are familiar to us, we can trace a genealogy. The relationship between meaning and signifier, or rather between in-depth knowledge of the theme and its interpretation in the architectural project and its role, on a different scale, in the design of the city, leads to this reasoning, which becomes more precise and, from time to time, verifies itself through a series of projects which, from one level of education to another, re-discussing the relationship between the parts, decline the theme, increasing its complexity, until reaching the idea of the school as an integrated and integral part of a larger community.

Keywords
School community — Composition schemes — Typological research

«I spent days breaking down and reassembling [...], I devised new rules of the game, I drew hundreds of schemes [...] I felt that the game made sense only if it was set up according to certain strict rules [...] suddenly, the idea flashed through my mind that I could try again in another way, simpler, quicker, more successful. I began again to compose schemes, to correct them, to complicate them: I got entangled again in this quicksand, I closed myself in a maniacal obsession» (Calvino 1973).

The sharing of narrative composition processes to which literature has sometimes accustomed its readers almost seems to be the underlying narrative in describing the collection of work notes ordered, with precision and care, in the envelopes of the Arrigo Arrighetti fund kept today in the Archivio Storico Civico del Castello Sforzesco in Milan; a series of reasonings in the form of words and diagrams traced on loose pages and catalogued by the architect himself as new *types of school buildings*.
A *maniacal obsession* with doing and redoing moves Arrighetti in the tension of an ever more precise agreement between the meaning of the theme of the school, which changes by its very nature, and the clarity of the signifier through which this theme is declined each time; a language, this system of meanings and signifiers, which interprets and narrates the structure of the facts.
Calculations and annotations, signs and numbers, matrices and grids regulate the arrangement of teaching groups defined by *pedagogical units and services* that are distinguished for the first time with this clarity into school services and city services. Recurring elements that sometimes intersect and contaminate, often connect, always recognize each other and that, just like notes, illustrate the statement of the *Final Report of the commission for the study of the typology of school buildings*[1] of which Arrighetti was a member[2].

These reflections had to be placed in a developmental perspective; «foreseeing not only the future outlets of trends already in progress, but also to a certain extent promoting them through experimentation». Principles of a general nature that are capable of declining themes dear to the post-war debate and central to Arrighetti's own research.
A research, but above all an attitude towards research that recognizes, in the experiences that have preceded us, modernity in the interpretations and actuality in the way of verifying them yesterday as today through the different scales of the project.
At the date of these reasonings made of signs, Arrighetti had already completed his work at the Ufficio Tecnico del Comune di Milano, where, as *architetto condotto*, he had designed and built over fifteen new schools in just six years, between 1955 and 1961, some of which, studied and designed as prototypes, had been built in several examples.
Schools of every order and degree were distributed throughout the fabric of Milan, according to the *strict rules* of the urban planning of the new regulatory plans, in the best location, identified by interweaving demographic forecasts and density indices.
The Ufficio Tecnico, under the direction of Arrighetti, played a central role in the school issue, sharing its work during study days[3] dedicated to the subject and taking part in exhibitions[4], occasions for comparison during which the state of the art of school building in Italy was illustrated through panels and scale models.
Arrighetti understood that the strength of a conscious and reliable study was the ability to «accumulate design experience and apply it into the projects to be drawn up» (Arrighetti 1961). For this reason, within the Ufficio Tecnico, he set up a *Ufficio Studi e Progetti Edilizi* in which the design was supported by a series of in-depth studies on the subject, and therefore «set up in such a way that the information and study part acquired a prominent value in the work. In other words, the material drafting of the drawings became the final act of a complete examination of all the data on the problem» (Arrighetti 1961).
This focus on in-depth knowledge of the subject was a specific feature that had given the Ufficio's work wide acclaim in the scientific community and was also followed with interest by the Ministero della Pubblica Istruzione which published some of the new projects as exercises in its *Quaderni*[5] edited by the *Centro Studi per l'edilizia e l'arredamento della scuola* directed by Ciro Cicconcelli[6].
Arrigo Arrighetti was one of the first interpreters of this open dialogue between different disciplines, attempting to translate both the renewed pedagogical idea and the experiences of specialists in different fields into the most appropriate architecture, regretfully recognizing the missed opportunity to design new buildings for education even within the historical fabric of Milan, where schools «are buildings adapted for schools and the buildings built to serve as schools are now old, dilapidated and outdated».
The concept of *school*, as taught by modern pedagogy, had completely changed. Knowledge and the acquisition of disciplinary norms were no longer imposed but conquered by children and young people, and the school environment played a primary role in this conquest.

«The architectural space of the school cannot be the same at all ages and in all places. [...] So the traditional school is gradually being replaced by a school which, instead of being made up of a series of classrooms and disengaged by corridors or porticoes, is

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Fig. 1
Mostra dell'Edilizia Scolastica; Rome, 1956. ASC Fondo Arrigo Arrighetti, Scatola C, busta 35.

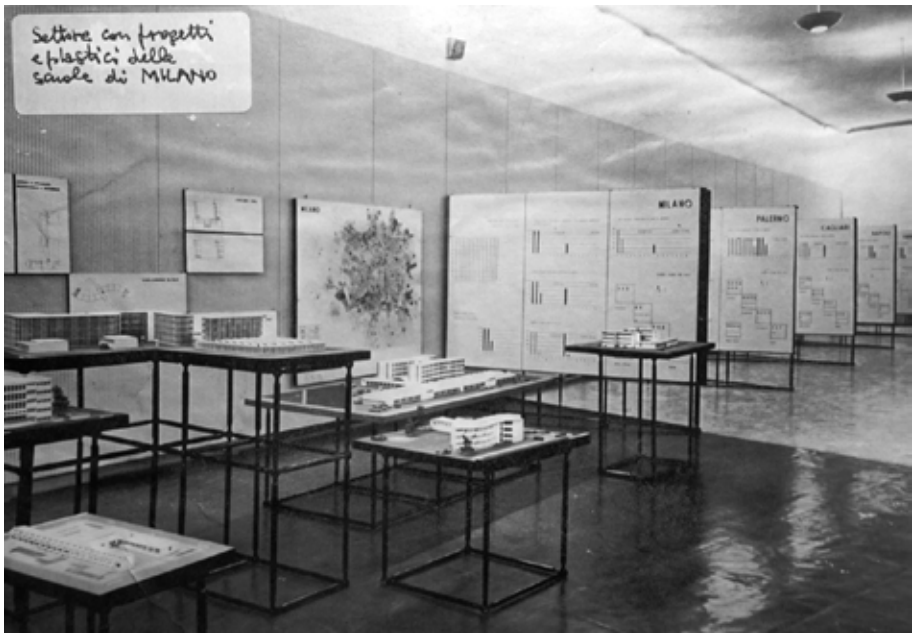

Fig. 2
Exhibition in the contest of Convegno sull'edilizia scolastica dei grandi centri urbani; Milan, ASC Fondo Arrigo Arrighetti, Scatola C, busta 85.

organized in *functional units*, each of which is almost self-sufficient, but united to the center of common life, to those environments, such as the auditorium, the library or the small theatre, which also serve the community. Just as a city is organized into families, neighborhoods, districts, so a school is organized into groups of pupils, classrooms comprising the various groups, functional units or districts, a set of functional units» (Cicconcelli 1958).

Thus, Arrighetti's investigation also starts from the idea of the school as a small community and becomes a community center «as a building that houses a basic institute of collective living» (Arrighetti 1957) and, from degree to degree, tackles the subject and interprets it, adding complexity.
This tension towards the most fitting architectural translation already concerns the first degrees of education, the nursery school, which is «a small new world to discover. [...] a world made of light and color, of stones and blades of grass. Of elementary forms [...] as simple as the soul of a child» (Arrighetti 1956).
The first experience of collective living is variously interpreted by Arrighetti, but perhaps the principle that best corresponds to this idea of a small

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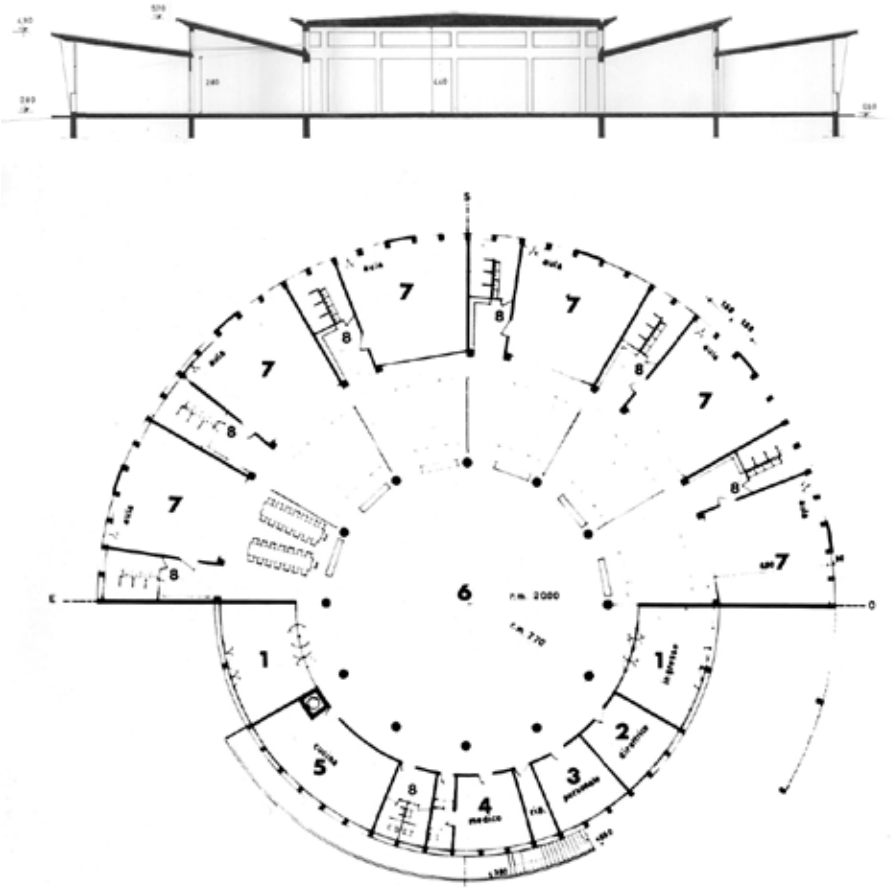

Fig. 3
A. Arrighetti, Nursery school at Villapizzone (1959). Section and plan.
1. entrance; 2. headmistress, 3. staff, 4. doctor, 5. kitchens, 6. activity room, 7. classrooms, 8. toilets.
Archivio del Comune di Milano, Cittadella degli Archivi

community is the one that can be recognized in the nursery schools imagined between 1957 and 1959[7], which reflected on the theme of the central square around which the classrooms were arranged, small autonomous units.
In Villapizzone (1959) the central, circular square, covered by a single roof supported by columns, is the place where the children's community used to gather and meet for collective activities. Six autonomous nuclei, each with its own cloakroom, which becomes an entrance and vestibule to the toilets, and a refectory space, which stands between the classroom unit and the central square, are arranged in a fan-shape and each opens out towards a portion of the garden, an open-air extension of the classroom space.
The gap between the space of the classrooms and that of the school services, where the more public part of the management and staff still coexists undivided with the more school-related part of the children's school, with the doctor's surgery and kitchens, is identified by the retreat of the covered but cold entrances which, by generating deep shadows, make them even more recognizable. They lead directly to the collective space from which the children, crossing the small tables in the lunch room, enter their actual classroom.
The discontinuity of use is also identified and recognized by the size of the construction radius of the second semicircle, which can be read as a subtraction from the complete footprint on the ground of the circular sector whose size coincides with the size of the classroom – toilet block.
This geometric clarity is confirmed in the elevation, which identifies, through the different heights of the roofs, the higher square, the circular sector of the services and the south-facing sector of the classrooms, whose screening is entrusted to the succession of pillars, tapering downwards, which construct the façades, and to the generous overhang of the roof, which protects the full-height windows from direct light.

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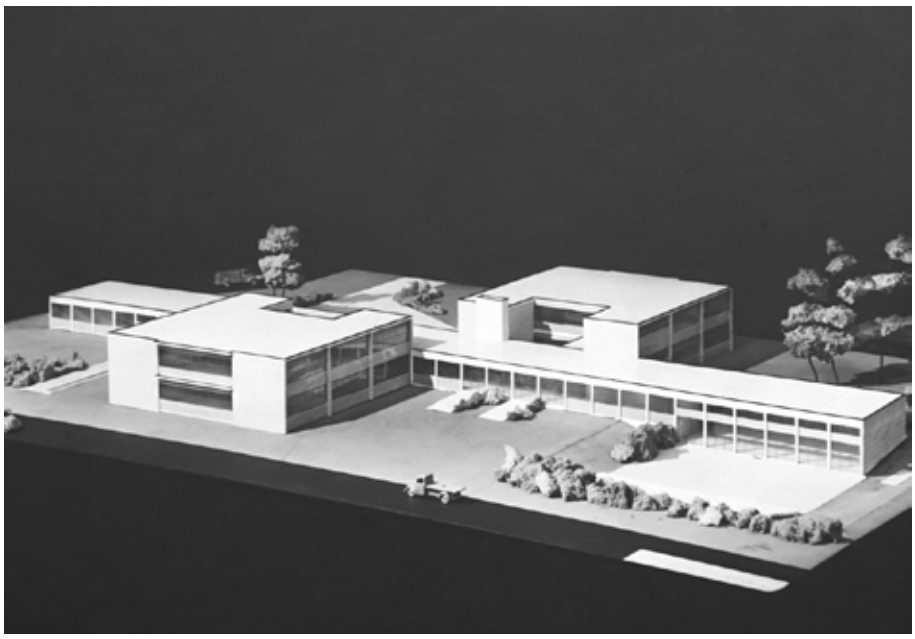

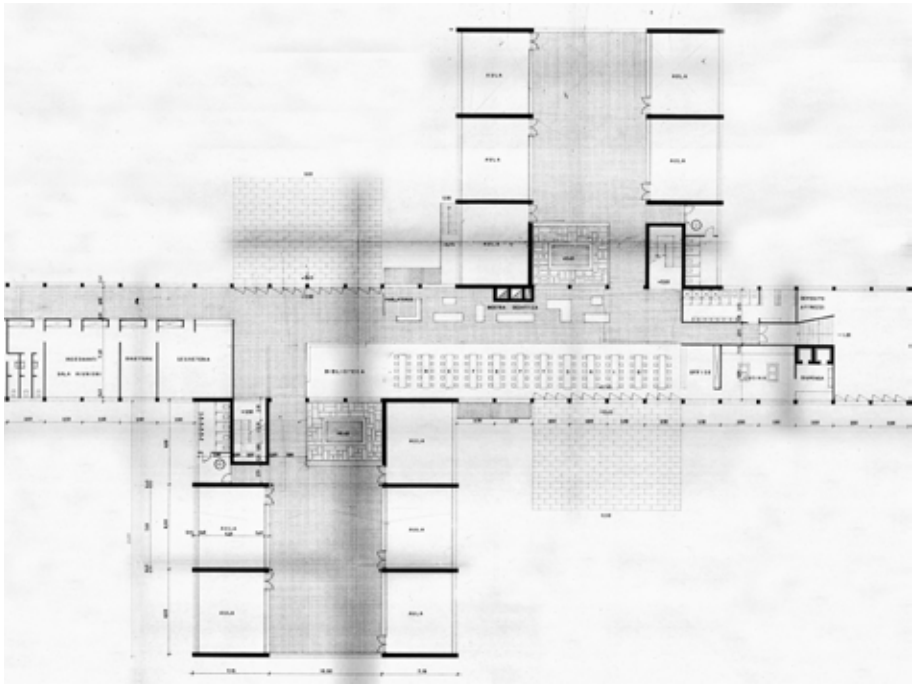

Figg. 4 a-b
A. Arrighetti, Primary school at Comasina district (1956) Study model. ASC Fondo Arrigo Arrighetti, Scatola C, busta 25.

But Arrighetti already had occasion to reflect on this idea of a *school-community* a few years earlier. In 1956, in fact, he had been called upon to oversee the design and construction of the nursery and primary school in the new self-sufficient Comasina neighborhood in the north of Milan.
The primary school imagined for the children of the district becomes itself a composition of *neighborhood units*. It is generated from the nucleus of the *school section* of five classrooms. Together with the toilet block, these classrooms define the size of the long side of the collective activity space where the children grow up together and share experiences, and which they all face, leaving the short sides free to let in light. The need to build four sections led to the idea of a two floors system which, mirrored and shifted by a span, clings together with its twin to a central spine, a street which not only distributes but contains the school's services in its linear body. Near the entrance we can recognize the administrative services, the medical clinic, an exhibition space and a small library used by the children. At the top, to the west, is the caretaker's accommodation, with its own ded-

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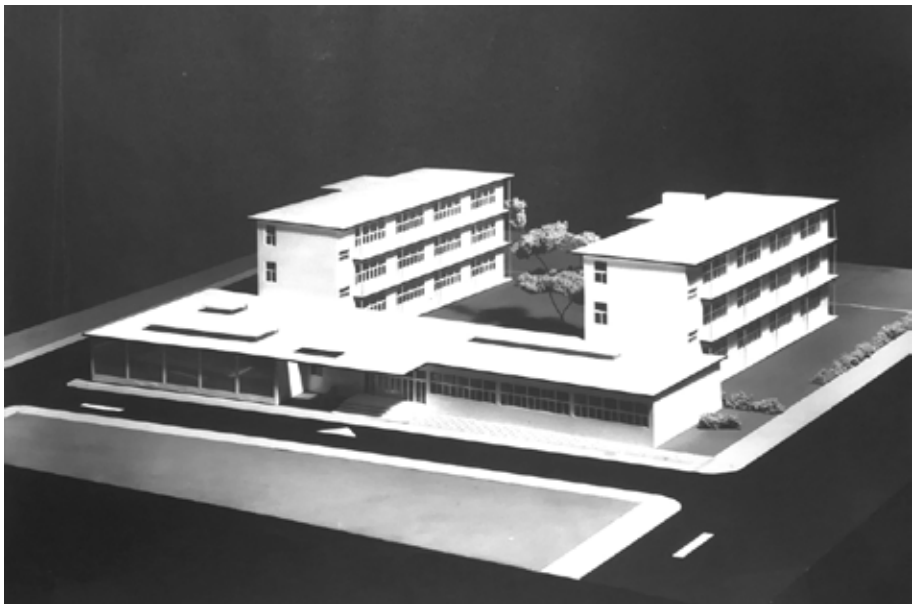

Fig. 5
A Arrighetti, Middle school Carlo Porta, via Moisè Loira. First projet study model.
ASC Fondo Arrigo Arrighetti, Scatola C, busta 28.

icated entrance, located in the portion closest to the residential part of the neighbourhood, while on the opposite side, towards the garden, is the gymnasium, adjacent to the cafeteria, which, following the slope of the land, descends to allow greater internal height and the roof to rest continuously. A pedestrian street separates the primary school from the nursery school, a small school district within the neighbourhood.

The same pedagogical idea is made more articulate by the increasing complexity of the higher level. The Carlo Porta middle school (1958) in Via Moisè Loira is an expression of similar reasoning and solutions, with particular attention paid to the spaces for study and collective work between pupils and teachers and the services, still linked to the exclusive use of the school, but which seek in their disposition a relationship with the city. In fact, even more strongly than in the initial project, the gymnasium, reaching out to the edge of the block, seems almost to elect itself as a place for the public, unlike the other parts which, set back, declare themselves related to the school.
The idea of *neighbourhood unity* remains in both projects, consisting of three classrooms in sequence, distributed by a single path culminating in the collective classroom facing the garden, and arranged in two blocks of three floors each.
The north-facing loggias of the first project are replaced by a system of projecting brise soleil placed one third of the way up the window openings, to the south, allowing two different types of light to enter. Attention to the theme of natural light inside the school building and the use of architectural expedients to regulate it had been explored in those years during the design of the primary school for children suffering from amblyopia (1955), which had led Arrighetti to investigate this theme with specialists and to build not only specific furnishings but also 1:1 scale models of the classroom space, verifying and evaluating the most suitable solutions together with the doctors. These dialogues had evidently become the basis for many subsequent experiences.
In the case of the *Special School*, it was not the idea of community that drove the typological research and the choices of the project but the strong need to guarantee *the right to education for all* and, using medical knowledge and the tools of architecture, to build the best possible space for learning.

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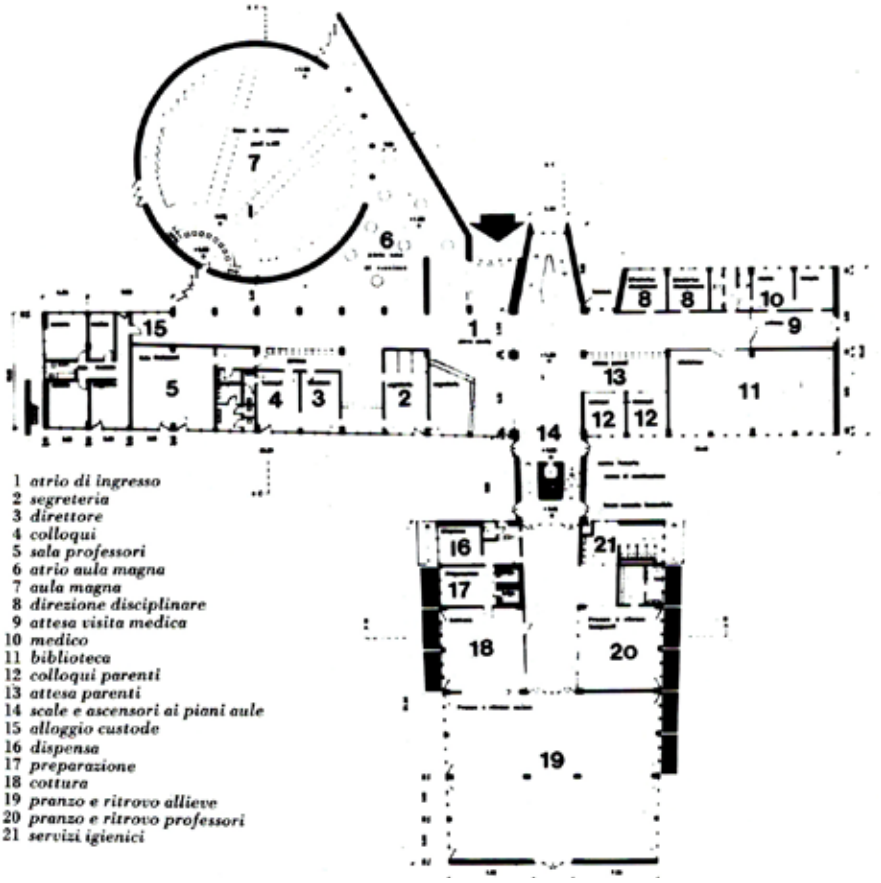

Fig. 6
A. Arrighetti, Civica Scuola Alessandro Manzoni, 1958. Ground floor plan.

And this same idea of *education for all* is also the basis of the project that is perhaps more complex and certainly closer to contemporary thinking on the idea of the role of the school in the city as an active body, one of the premises set out in points in the commission's report.
Secondary education for girls, conceived in a modern spirit as early as 1861, had led to the establishment of the *'Alessandro Manzoni' Civic School*, which had never had its own site. Having identified a site near Parco Ravizza, south of Milan, the school, planned in all its parts, was *soon to be started* but never built due to the change of use of the chosen land.
The longitudinal block of classrooms, which would have occupied three of the four floors of the project, would have been transversally intercepted by the axis along which the entrance, the distribution on the upper floors and the cafeteria were arranged, stretching out towards the park. Near the entrance we could recognize the circular main hall, an auditorium facing the city, which was just as modern, with dedicated entrances that would allow it to be used even during out-of-school hours.
Looking back at these projects, it seems clear that the civic role of the school, or of some parts of it, is the denominator that unites the latest shared experiences that become the seed for the thoughts collected in these notes.
If, on the one hand, Arrighetti became a model of a precise and cultured way of working whose depth is unquestionable, on the other, his research gave a strong direction to all subsequent research in which it is not difficult to trace the matrix.
Interweaving the built and unbuilt projects, we can read the continuous dialogue between meanings and signifiers pursued, between theme and its interpretation, exchange of knowledge between disciplines and translations into architecture. A dialectic that is encouraged by questioning choices, by starting again, but not from the beginning, to compose *schemes*, *to*

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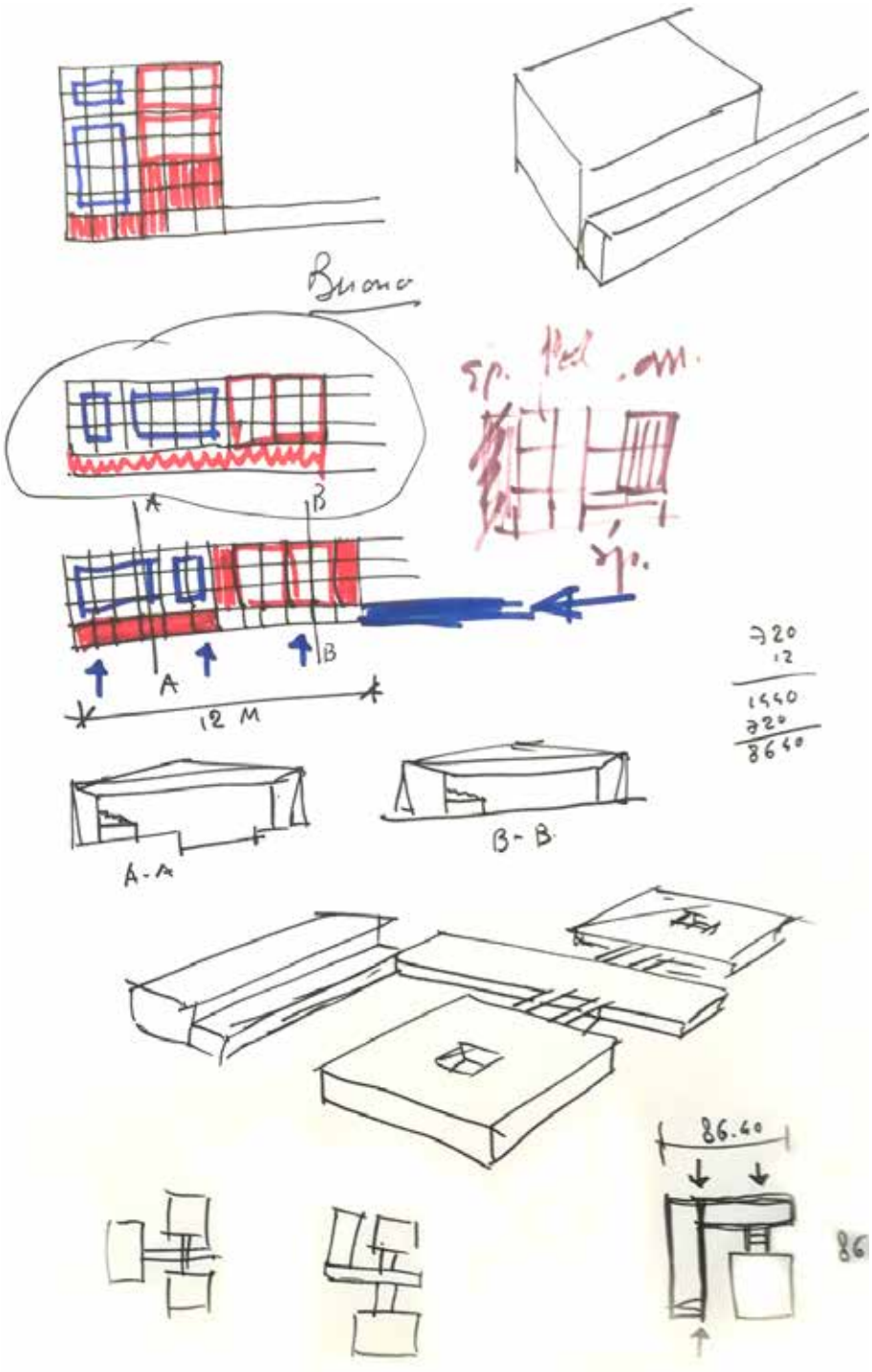

Fig. 7
A. Arrighetti, Study sketches for new types of school buildings. ASC Fondo Arrigo Arrighetti, Scatola B, busta 47.

correct them, *to complicate them*, even and above all after verifying them in construction.

Arrighetti outlines the data on the *school problem* from a perspective in which our time is still immersed.

Even today, we are questioning the meaning of the classroom – assuming its existence is still considered – and the relationship between this elected place for learning and all those annexed to it, as well as the place that makes them accessible. Even the most contemporary experiences, developed through the comparison between disciplines, first and foremost pedagogy, consider the possibility of contaminating the parts. This latter aspect can be seen in all the experiences that have been reinterpreted in this context and which, at the time, were really experiments to be verified.

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These are unfinished structures dominated by increasing schemes according to models that arrange constant, recognizable, familiar elements and alternate flexible parts with parts that are not, parts dedicated more specifically to the education of learners and public and collective parts for the school, some of which are also open to the city. The school districts then become a system of places that are recognizable by their very arrangement of the parts and by their volume are recognized as collective places for the city.
It is in these experiences, therefore, that specificity is developed in the relationship between the school and the city, both in terms of the social role it plays and the urban design it defines.
This is a lesson that can be found in recent times, at least as an open question, both in the results of the competitions promoted by the Ministero dell'Istruzione or by individual municipalities on this theme, and, more strongly, in the experiences of certain realities, such as the South Tyrol one, which has turned this theme into a laboratory for experimentation.
In this interpretation of the school as a pedagogical and socially constructed idea Arrighetti's work is certainly a forerunner.
Arrighetti, passing on the baton, leaves us, like many others, one of the most important teachings, that stoic attitude according to which a fool is he who always starts over and refuses to continuously unravel the thread of his experience[8].

Notes

[1] *Relazione finale della commissione per lo studio della tipologia degli edifici scolastici previsti nel piano di edilizia scolastica per il quadriennio 1972/1975, ACS*
[2] Arrighetti became a member of numerous commissions, committees and working groups. The result would be the drafting of a final report by the commission for the study of the typology of school buildings in the school building plan for the four-year period 1972/1975.
[3] See *Convegno dell'Edilizia scolastica dei grandi centri urbani*, Milan 8-9-10 March 1956 see Atti del Convegno edited by Ermete Monti, Tamburini, Milan 1956
[4] See Exhibitions include the *Mostra dell'edilizia scolastica dei grandi centri urbani*, Milan 1956 and Mostra dell'Edilizia Scolastica, Rome 1963, Palazzo delle Esposizioni
[5] See *L'Edilizia della scuola Elementare*, Quaderni, edited by Centro Studi, Le Monnier, Florence 1960. In the introduction, the Ministro della Pubblica Istruzione Giacinto Bosco emphasized what was expected from these notebooks, namely «a new, valid tool to enable the construction of school buildings that meet the dictates of the latest pedagogy, but are also more intimately and harmoniously sensitive to the needs of a modern school in modern life». The nursery and primary school of twenty classrooms in the Comasina district (pp.176-183) and the primary school of twenty-four classrooms for the Baggio district (pp. 184-189) were published.
[6]The Centro Studi was set up in 1952 and was made up of architects, pedagogues, doctors and administrators with the aim of defining the new characteristics of school building in Italy during the reconstruction period, seeking a close link with the principles of the modern pedagogical approach.
[7] See Scuola Santa Croce (1957) and its twin in Via Valvassori Peroni.
[8] See A.Rossi, *Architettura per i musei*, at IUAV, AA:1965-1966.

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Tommaso Brighenti

The schools of Guido Canella. Type, form and behaviour

Abstract
The aim of this essay is to briefly retrace the experience of one of the main masters of Italian architecture, Guido Canella, in particular from the period when he began to form a precise idea of architecture, namely, during his years as a young teacher at the Polytechnic University of Milan, and how this idea would be directly reflected in his built works, while focusing on a particular typology which was to characterize Canella's work and research: the school building. This research conducted on schools, initially together with Ernesto N. Rogers, later resulted in various built works in which the school activities, by means of a progressive "typological expansion", were joined by extensive work on function which enabled the transformation of the traditional school building into a public building.

Keywords
Guido Canella — Hinterland — Schools

In talking about Guido Canella's work, particularly as regards projects and research on various types of school, we should not fail to very briefly retrace certain chronological and other fundamental issues related to the formation of a precise idea of architecture, acquired as a teacher in university lecture rooms. This is because, for Canella, a built work and the research done on schools were two inseparable elements, which progressed cheek by jowl. An initial priority is to divide his teaching experience into two periods: a first season, which could be defined as the "great founding research projects"[1] beginning from his experience in Venice as a voluntary assistant in the early 1960s on a course taught by G. Samonà which segued into two years as an assistant for a course of E. N. Rogers titled *Elements of Composition* from 1962 to 1964, working on the theme of the Primary School, and then responsibility as a professor in charge of the same course working: from 1964 to 1966 (on the theatre); from '66 to '68 (on the prison); from '68 to '70 (on the university); from '69 to '70 (on the trade fair as a way of developing the cities of Lombardy and the Veneto)[2]; then a second phase which began in 1974, during which Canella would begin extensive research into the typological characteristics of architecture by working on recontextualizing Milan[3] in collaboration with Antonio Acuto and a group of young teachers who were his students. In this essay, I am going to deal briefly with the first period, when Canella would piece together a theory on the city and its transformation processes, designing and building some of the main types of public buildings, including schools, in relation to the city and its territorial context. In these buildings, and above all in his teaching projects, the conception of typology as a morphological invariant would stand out; something which would allow Canella to

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Fig. 1
Book cover: AA. VV, *L'utopia della realtà. Un esperimento didattico sulla tipologia della Scuola Primaria*, De Donato, Bari, 1965.

Fig. 2
Book cover: *Guido Canella, Il sistema teatrale a Milano*, Dedalo, Bari, 1966.

Fig. 3
Book cover: Guido Canella, Lucio S. D'Angiolini, *Università, ragione contesto tipo*, Dedalo, Bari, 1975.

search for those "case-by-case" characteristics in a circumscribed concrete historical period, while taking into account, as Bordogna has stated, «of the contextual specificities and hypothetical transformations in individual functional structures: it is in this sense, in fact, that typology acquired the value of a methodological assumption, becoming the architect's real 'philosophy'» (Bordogna 1981, p. 78). To do so, it is necessary to clarify some passages of his thinking before introducing some specific cases related to his teaching and the works that were built.

Historical awareness; formal-functional invariants; typological conception

The approach to teaching which Canella used to deal with issues related to architectural design dates back to the course called *Elements of Composition* which he participated in from the academic year 1962-1963, trying from the outset to delimit the sphere of relevance which revolves around a project, considering it necessary «to make analysis of architecture operative outside of any behavioural examination, but also safe from an aesthetic-conventional examination, by means of a more complex philological-semantic process, i.e., referring to architecture as a wholly historical product» (Canella 1968a, p. 90). Canella would conduct an analysis of those figures of architecture who had characterized the historical sequence, in order to «remove certain prejudices and historicize the causes of competition – in order to use them in architectural composition, capable of involving them, together with the emblem, in the behaviour required by it» (Canella 1972, p. 100). The acquisition of a "historical awareness", where «the representations of life are gradually realized in a concrete determination» (Rogers 1963, pp. 2-3), rich in those "seeds" suitable for transformation, thus became the first element of the architectural phenomenon to be acquired, an essential cognitive tool to understand reality. After which, it is important to remember that, precisely on the basis of this historical awareness, Canella would introduce one of the most important elements of his research, the *formal-functional invariants* which, as he himself claimed, would constitute «the arrangement of a work of architecture in a physical context: both when it takes it into account directly (as a practice), or when it takes it into account implicitly (as a theory)» (Canella 1968a, p. 90). The invariant thus became the tool which let him study these spatial arrangements in order to define a new architectural typology concept. To clarify, in addition to the example he gave in his essay *Dal laboratorio della composizione*, in which he demonstrated how the form of the Renaissance central-plan temple does not depend solely on allegorical-iconological issues taken from Renaissance treatises, but on the relationships it enjoys

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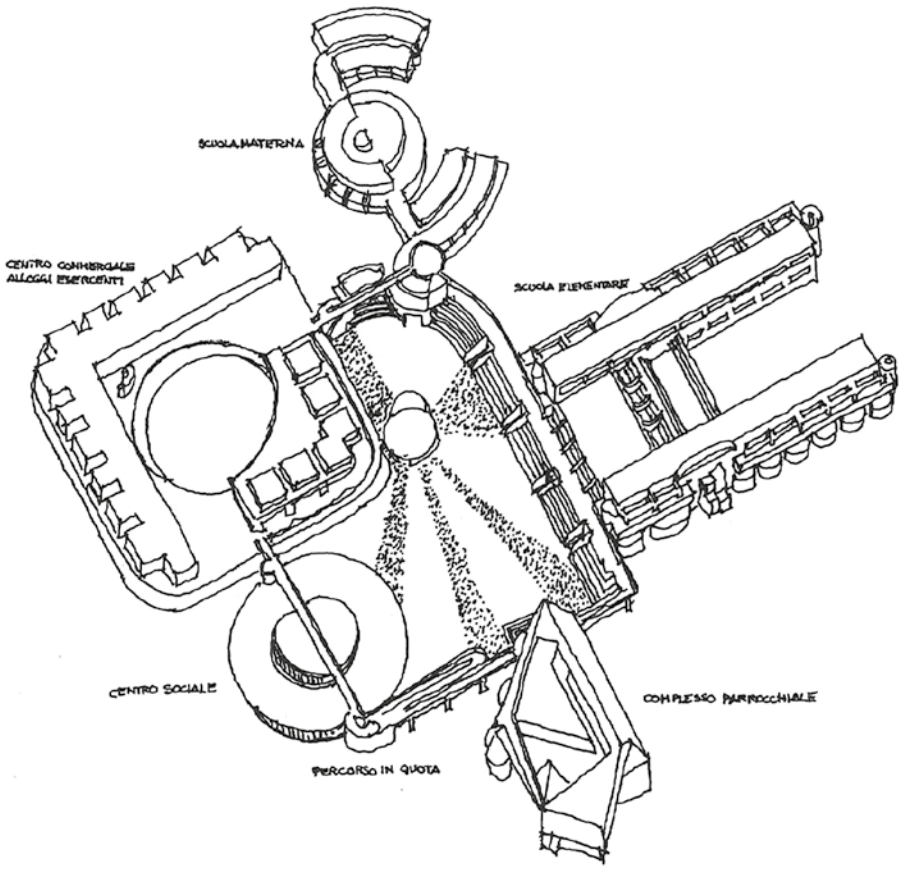

Fig. 4
Guido Canella, Square in the Service Centre at the INCIS Village, Pieve Emanuele, Milan, 1968-91. Sketch by Guido Canella. Guido Canella Archive, Milan.

with the destination context. In one of his essays from some years later, Canella would identify examples of invariants in Milanese architecture, fundamental tools which would go on to find a practical confirmation in built works, such as *polycentrism*, *discontinuity* (in the sense of lack of hierarchy and a crescendo by sequences), *introversion*, *promiscuity* and *contamination* and finally *anachronism*; all invariant elements which he himself defined as unquestionably «morphologically incoherent – but – structurally organic since they typically highlight the frequency, intensity, and polarity of exchanges which a frontier culture and an archipelago-style settlement configuration have established in the long term» (Canella 1989, p. 59). Consequently, the choice of the invariant – which arises from an intuitive-interpretative inclination, finds its application in the real world through the passage from an «abstractly delivered figuration», as happens for example in literary, pictorial, and musical compositions, «to a historically and collectively constituted context», such as that of the city[4] and its suburbs, a place where architecture has no need to blend in, but has room to deepen the institutional task it must perform. Thus, the city understood as a historical and structural fact from which it is possible to extract and reconfigure those functional, typological, and above all formal potentialities according to words of "conformity" or "discrepancy", but always implicit in a hypothesis of transformation. «Because it is precisely in the physical body of the city that the structural dynamics and cultural superstructures are translated into spatial arrangements, in other words, blocks, squares, new neighbourhoods, infrastructures, until the specific architectural work has been determined» (Manganaro 2013, p. 108). History, the city and its physical context, and the formal-functional invariants, would lead Canella to develop a new concept of architectural typology which, as we shall see later, would be implemented especially in his school buildings. The study of typology became an operational tool geared directly to design, «that

specific invariant relative to the spatial arrangements assumed by a specific intended use or function, within a historical succession» (Manganaro 2013, p. 111), research characterized by a constant questioning of the typology, arriving, through the project, at a constitutive and subjective form and an idea of architecture aware of the functional task which architecture cannot eschew[5]. The typological conception therefore represents that capacity for synthesis which the architect – but also the learner – must possess in order to achieve a "conceptual" but also "physical" place in a design which promotes «disciplinary progress, thus guaranteeing full scientific legitimacy» (Canella 1989, p. 57). On this matter, Canella wrote: «[...] By typology I do not mean a taxonomic, distributional classification – in the sense used by linguists – but research aimed at recovering (in a critical-historical analysis) and re-expressing (in a compositional-planning synthesis) those primary characteristics, of a longer duration […] which distinguish the singularity of an anthropic landscape. The degree of rationality of a work of architecture cannot therefore be deduced from a formal and construction logic, but from its complex way of corresponding in time and space, by coherence or by contradiction, to that whole of which urban individuality has assumed the function and meaning» (Canella 1989, p. 57).

School. Between theory and practice

The themes which distinguished his courses concerned those formal cornerstones of architecture that Canella himself would relegate to "mausoleums" in his important 1968 essay entitled *Mausolei contro computers* ["Mausoleums against computers" t/n]. These issues were related to the kinds of behaviour and functions of social life: behaviour capable of changing a city's underlying bone structure. Thus the school, the theatre, and even such marginalized functions as the prison, the university or the trade fair are seen as urban "ganglia", «cornerstones on which a new image of the city should be organized, built and qualified, as a link, to a time, a phenomenal horizon, a 'vision of the world'»[6] (Canella 1968b), mausoleums endowed with their own "autonomy of meaning" and a "visual hierarchy within the surrounding environment". However, it is on the theme of the School[7], the subject of this issue of FAM, on which I would like to dwell in this second part, a theme in which the most up-to-date pedagogical models would be used as an expression of a social fabric, while the school organism would be set up and deciphered starting from its pedagogical-didactic components and how these research projects would then find a physical concretization in the works built and realized by Canella, in particular in the Milanese hinterland. The primary school theme was the first one addressed in the "foundational research" of the 1960s, in a two-year period from 1962 to 1964. At the time, Canella was assistant to Ernesto Nathan Rogers at the Faculty of Architecture of the Polytechnic University of Milan for the course, *Elements of Composition*[8], and a part of the works done with the students would be published in the famous book *Utopia della Realtà*, which ended up as a slogan in the «meaning of a kind of research capable of transcending contingency in the name of a reality that is never static but always on the go» (Rogers 1965). This course was in antithesis to all the contemporary manuals which conventionally assigned to teaching notions given as definitive, a methodology which in those years often prevailed in the various Faculties of Architecture, one which attempted to involve different problems simultaneously, with continuity, through an attempt to attribute less automaticity and immediacy to the architectural

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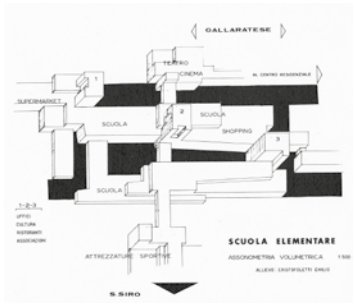

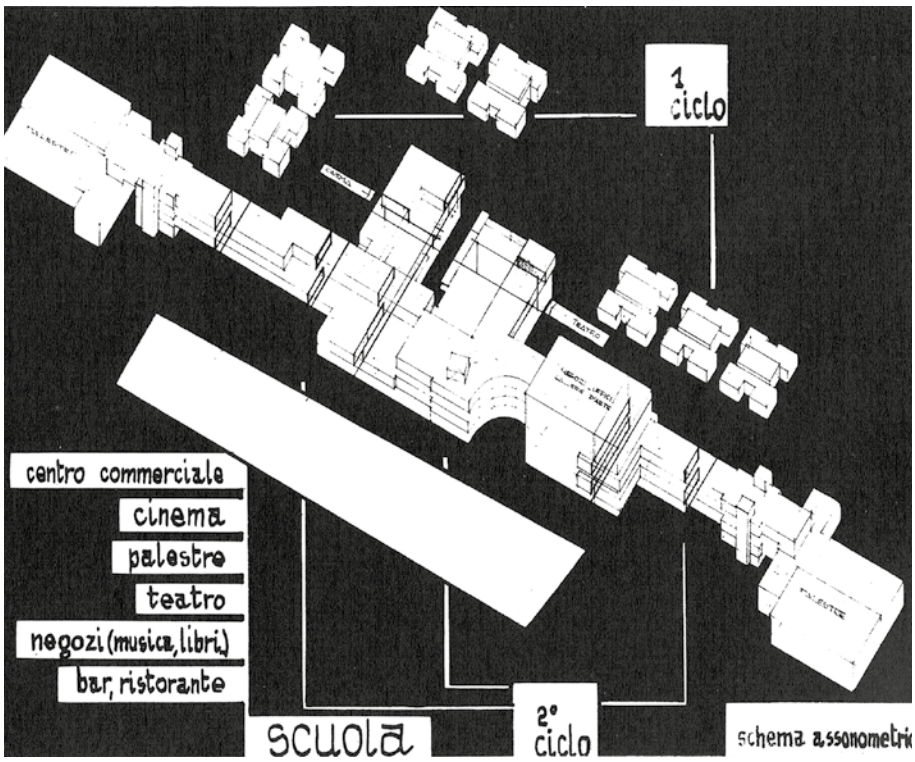

Figg. 5 a-b
Projects carried out during the Elements of Composition course at the Faculty of Architecture of the Polytechnic of Milan under the guidance of Ernesto N. Rogers. Teaching projects for Primary Schools, academic year 1962-63. Assistant Guido Canella. Consultancy for the dynamic structure of the territory, Lucio Stellario d'Angiolini. Axonometric projections of secondary-level services: projects by the students E. Cristofoletti (above), V. Paci (on the right).

composition, but to focus on the intrinsic properties of its specific technique and its uninterrupted relationship with the history of architecture. The theme of the primary school typology was addressed as a research methodology, so not "pragmatic-professional" but one which could «take on the task of anticipating, by means of verification models, the functional evolutions into which society tends to organize itself in its expressions» (Rogers et al. 1965, p. 134). The study was mainly aimed at the social content of the school, where the pedagogical choice was a given as a logical consequence of research. The school thus became an opportunity to study the relationship between people and city, and the problem – still present today – of adapting the structures of society to the needs of the citizen: «Knowledge of present-day society implies knowledge of history, of which the present is a moment of development: without this knowledge the consideration of any phenomenon remains indeterminate, and objects cannot be located within the coordinates of space and time» (Rogers 1962). As can be seen in the works that were published, the projects were not geared to architectural detail, to a search for materials or linguistic aspects; the figures remained neutral forms, composed one with the other up to a "cognitively founded" choice, in which the student could «indulge, to the point of binding, respect for a precise programme and a decisive transformation» (Canella 1972, p. 99) arriving at a synthesis consistent with a formal or construction logic. All of which can be clearly seen in the works published in the book *L'utopia della realtà*, in particular by the groups which Canella himself coordinated) and would subsequently also find confirmation in the famous didactic prototypes where those "formal embryos" would be created in which the «dictation of society became more incisive», and which contained the «seal of the architectural idea» (Canella 1966, p. 165). The formal embryo would be the decisive element of his design research in the 1960s; works of architecture capable of representing the potential for transforming behaviour in social life and the study of typological issues, the result of an assembly of integrated functions, which could only find formal completeness in their union. Works of architecture, arranged typo-

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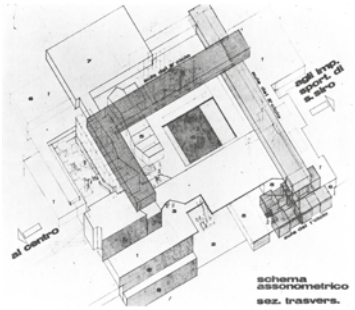

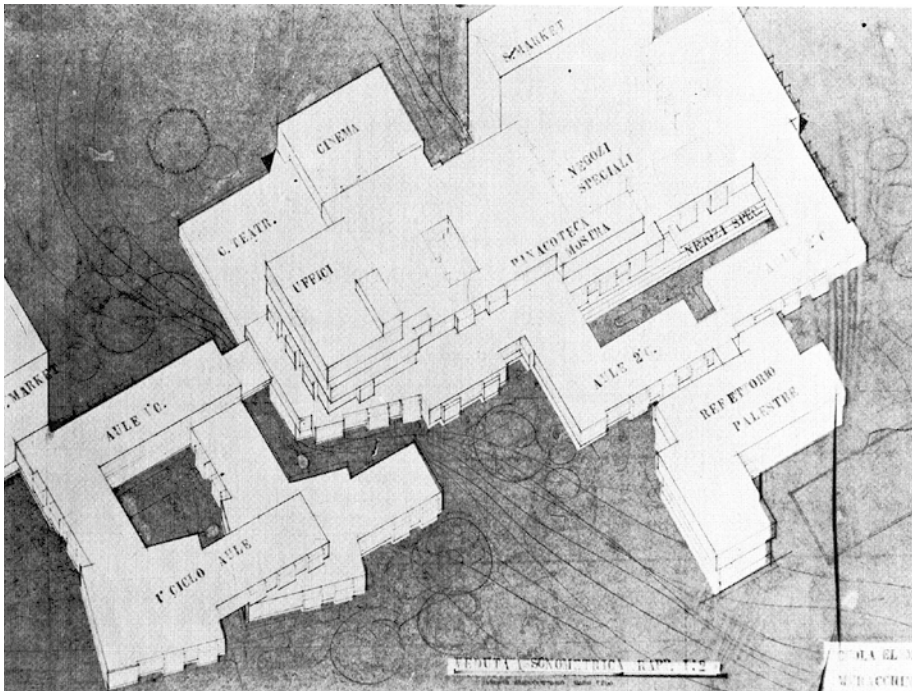

Figg. 6 a-b
Projects carried out during the Elements of Composition course at the Faculty of Architecture of the Polytechnic University of Milan under the guidance of Ernesto N. Rogers. Teaching projects for Primary Schools, academic year 1962-63. Assistant Guido Canella. Consultancy for the dynamic structure of the territory, Lucio Stellario d'Angiolini. Axonometric projections of secondary-level services: projects by the students A. Cominazzini (on the right), E. Muracchini (above).

logically, but made up of neutral volumetric masses, devoid of detail, in which the invariant would become something real and concluded, physically verifiable and identifiable through a well-defined functional system seen «as an inseparable heritage from the history of architecture […] which cannot be reduced to the particularistic meaning of function inherited from nineteenth-century manuals and exasperated by the Taylorist component of the modern movement» (Bordogna 1987, p. 16). These works show how even work on the form would assume extraordinary importance, a form which therefore did not arise from a systematic deduction, from predetermined rules and repeatable typologies, but from the very essence of the means employed, from an analysis, therefore, and from a careful selection of the chosen means: «Therefore, in this work, the presuppositions of a tendency in the choice of similar figures valid everywhere need not be found, but must be verified in common intentions and directions of knowledge, capable of recognizing and conquering a new context for architecture – a form – capable of involving the behaviour required by it together with the emblem. Only in this way, by promoting the choice of the figure as one with the choice of the type (that is, with the actual geometry of the function), is it able to constitute itself as a programme against separation, for a different and new kind of behaviour, for a different and new kind of relationship between public and private, collective and individual, and so on» (Canella 1972, p. 99). It is undeniable that these research projects on the theme of the Primary School, these "formal embryos", contributed to the development in Canella of a precise idea of architecture that would find its maximum achievement in his realized works, in which would be clearly impressed, as Bordogna has stated, «the influence of studies on functional integration and consolidation processes, interpreted as structural trends which characterize the typological and settlement configurations of highly developed contexts; tendencies in themselves neutral, but which, in the planning stage, need a forcing of positive virtuality through a strong intentionality of distinction and the prefiguration of a new mass behaviour». In these projects, the scholastic activity was always integrated into a multifaceted functional regime, transforming the school building into an au-

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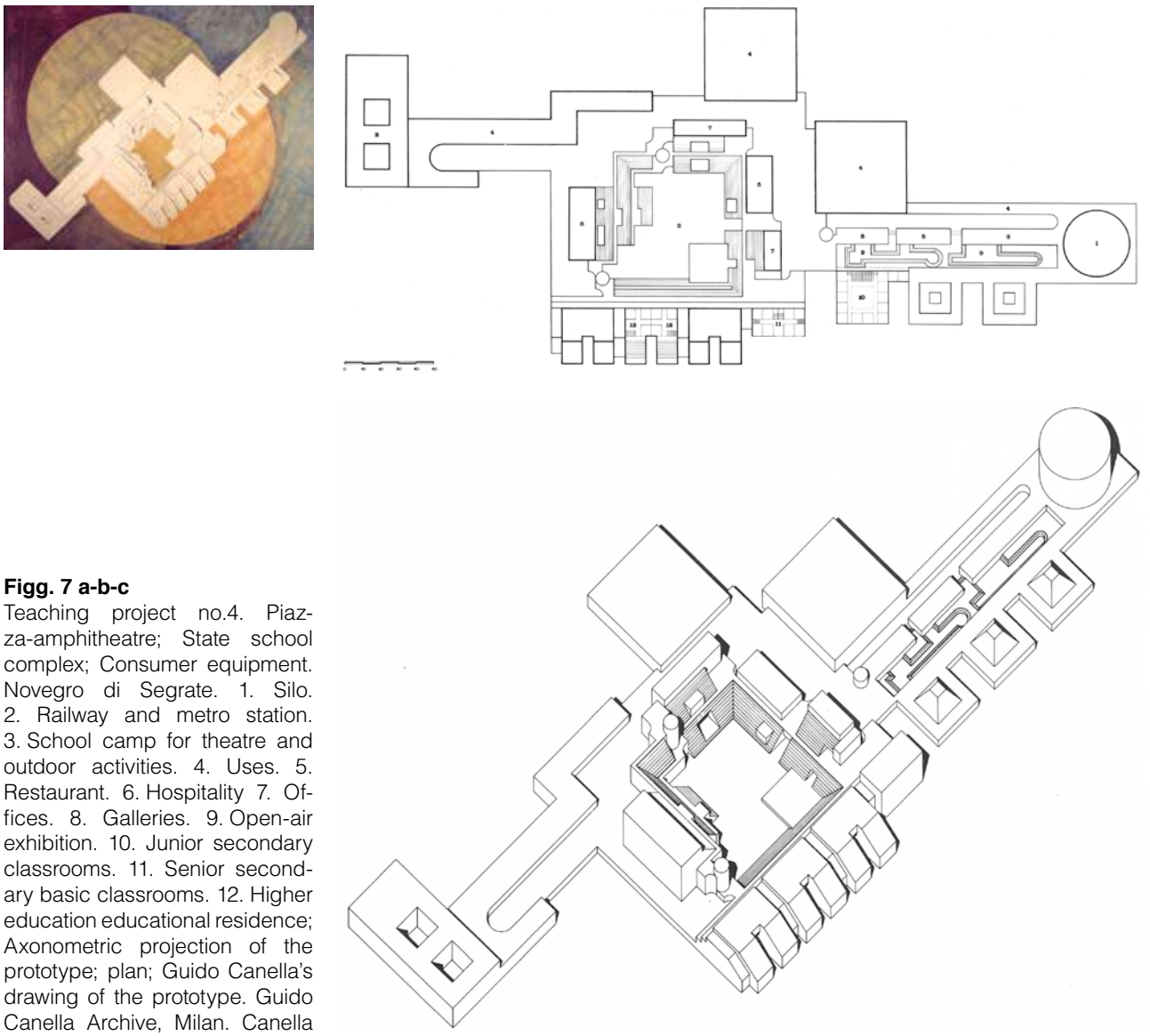

Figg. 7 a-b-c
Teaching project no.4. Piazza-amphitheatre; State school complex; Consumer equipment. Novegro di Segrate. 1. Silo. 2. Railway and metro station. 3. School camp for theatre and outdoor activities. 4. Uses. 5. Restaurant. 6. Hospitality 7. Offices. 8. Galleries. 9. Open-air exhibition. 10. Junior secondary classrooms. 11. Senior secondary basic classrooms. 12. Higher education educational residence; Axonometric projection of the prototype; plan; Guido Canella's drawing of the prototype. Guido Canella Archive, Milan. Canella Archive, Milan.

thentic public building which, like a secular basilica, through a skilful linguistic characterization full of citations coming from that historical awareness described initially, «becomes a moment of cultural identification and self-representation of the communities for which it is intended» (Bordogna 1981, p. 78). I will mention only four cases, in my opinion among the most emblematic schools designed by Canella[9]. The Elementary School in the INCIS Village of Pieve Emanuele (1968-73), a building which helped construct a public square in the company of several constructions with different functions (Elementary School, Nursery School, parish complex, shopping centre, a multi-purpose building), is divided into three blocks. Two of these are parallel, with classrooms and a unit interposed orthogonally between them containing the entrance hall, open directly onto the lower gym, the refectory, the secretaries offices, but above all characterized by a large flight of steps, formed from the roof of the changing rooms of the gym below, which outlines the short elevation of the entire school overlooking the public square (terraces now unfortunately replaced by a green embankment). The elementary school at Noverasco with a nursery section and a sports field (1971) adopts the form of a basilica with three naves. In the side aisles are classrooms and services while in the central one Canella inserted a gym, overlooked by a flight of steps which serve as both a grandstand and a small theatre/lecture hall available to stu-

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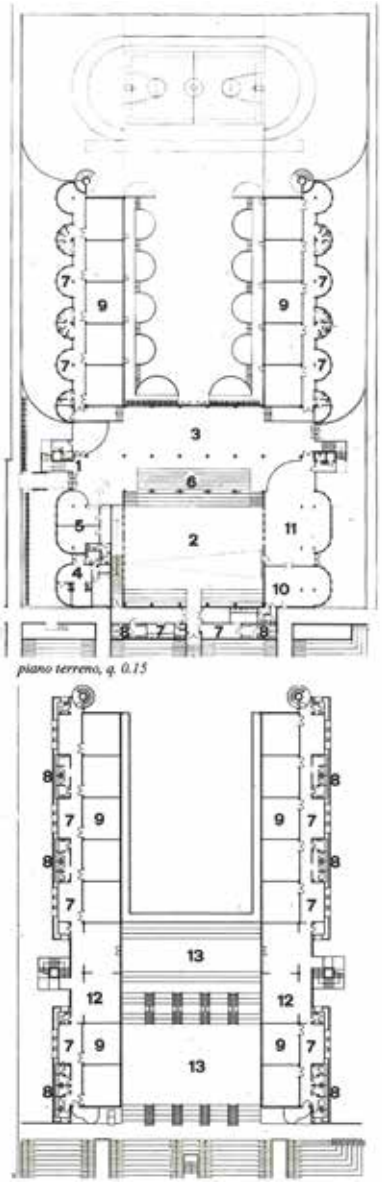
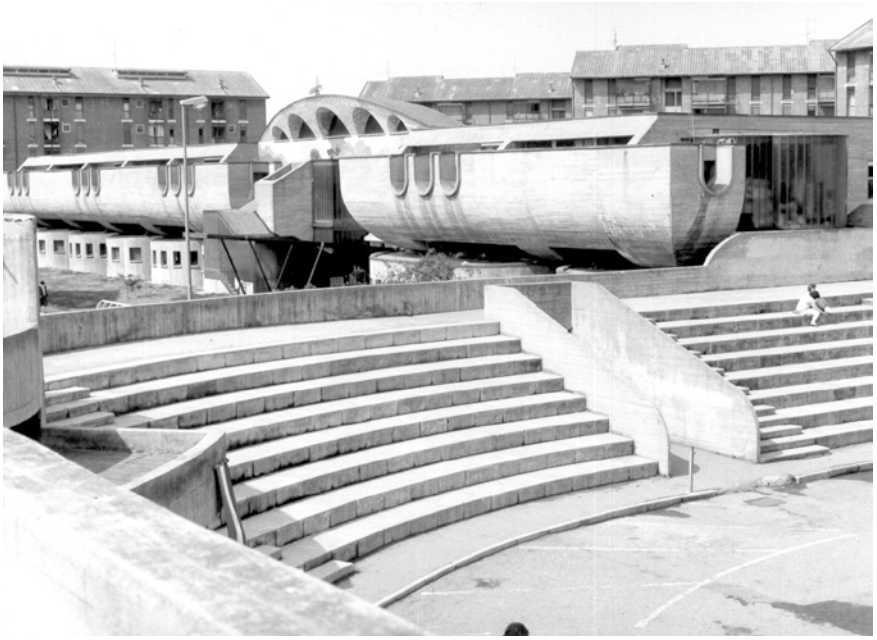
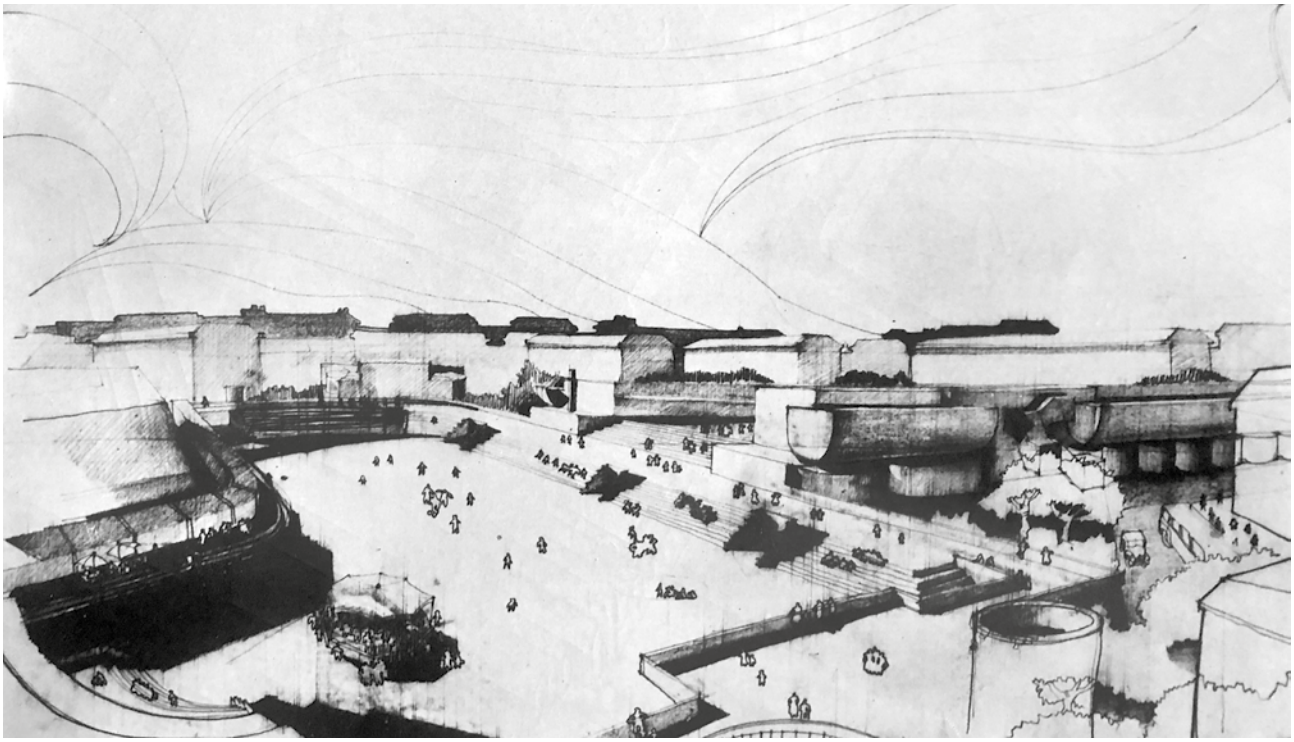
Figg. 8 a-b-c-d
Guido Canella with Michele Achilli and Daniele Brigidini. Square in the service centre at the INCIS village of Pieve Emanuele, Milan, 1968-82. South-west view of the courtyard (photo by E. Ghiringhelli); project plan; view towards the square with the steps (photo by E. Ghiringhelli); view of the square. Guido Canella Archive, Milan.







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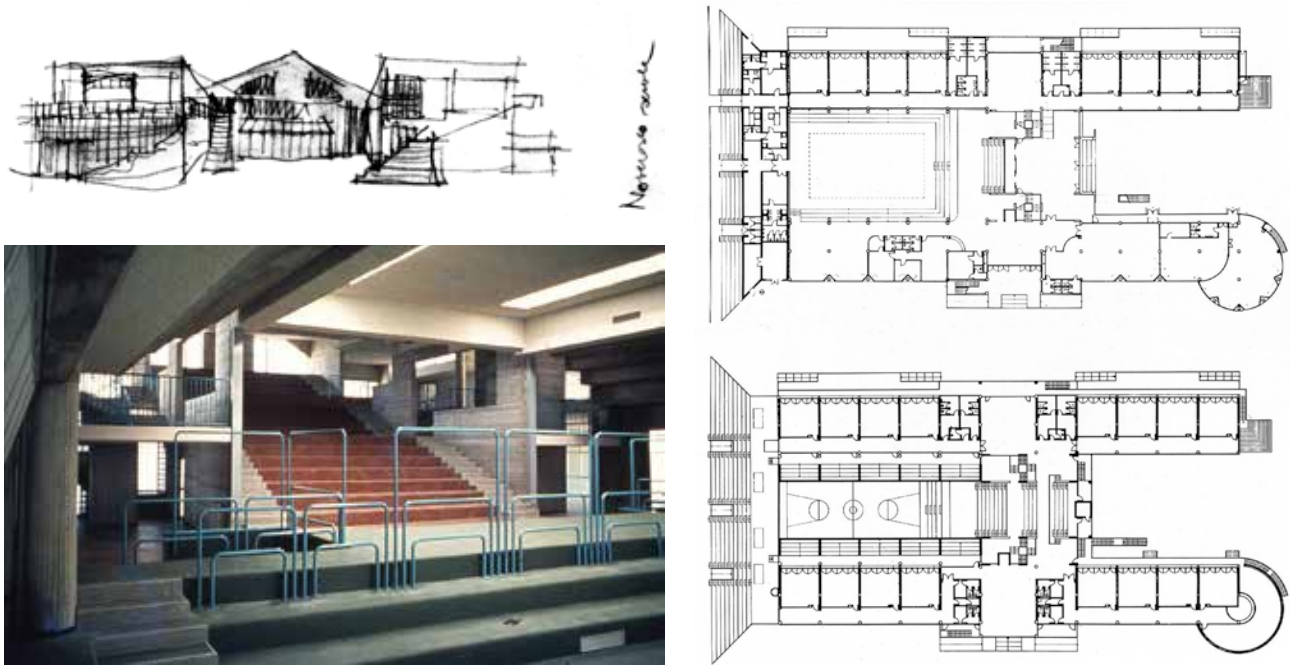

Figg. 9 a-b-c
Guido Canella with Michele Achilli and Dante Brigidini, Elementary school with nursery and sports field at Noverasco, Opera, 1974-76. Project sketch; Ground floor and first floor plans; Internal view of the steps overlooking the sports field which become a small theatre.

dents and the community, and covered in turn by a stepped roof which becomes a small outdoor terrace for the classrooms of the north building. In the middle school annexed to the municipal complex of Pieve Emanuele (1972), the school functions are physically integrated with the activities of the local community, ranging from municipal and administrative amenities to cultural and sporting ones: the school gym becomes a sports hall and its terraces a waiting room for those visiting the town hall; the aula magna becomes a council chamber, auditorium and theatre, hosting major theatre companies for several years; the school library becomes a municipal library; the refectory a canteen for municipal employees and local workers, the roof of the gym a large elevated plaza with a view of the surrounding landscape. Finally, the Monaca middle school with municipal social facilities in Cesano Boscone (1975-1982), which represents one of the most emblematic cases of Canella's work due to its assumption of being able to transform civil behaviour. The complex consists of a large cylindrical block, acting as a hinge between two in-line school buildings, which contains a large gym, topped, through a supporting structure of reinforced concrete columns and transverse steel trusses, by an auditorium/theatre containing around 500 seats with adjoining dressing rooms, a library, and special classrooms. This cylindrical block, which would become a theatre, cinema, sports hall for an entire expansion area of West Milan, would alternate city life with school life, becoming in fact «the visual and civil fulcrum, thus assuming the characteristics of a 'foundation architecture', a driving force of urbanization and social re-aggregation of highly degraded settlement contexts» (Bordogna 1981, p. 78). In conclusion, it is necessary to bring the question back to today and ask ourselves what the legacy of this research and these works is, and why it is important to continue studying them, showing them to students, questioning them. In the first place, the main reflection focuses on a certain way of understanding schools, teaching, and research for Canella, and how this research then found confirmation in built works. With regard to research on schools, Rogers wrote that it should remain «free from those compromises of a practical and contingent nature which weigh down the explanation (and even the formulation) of the programmes of a society in the making» (Rog-

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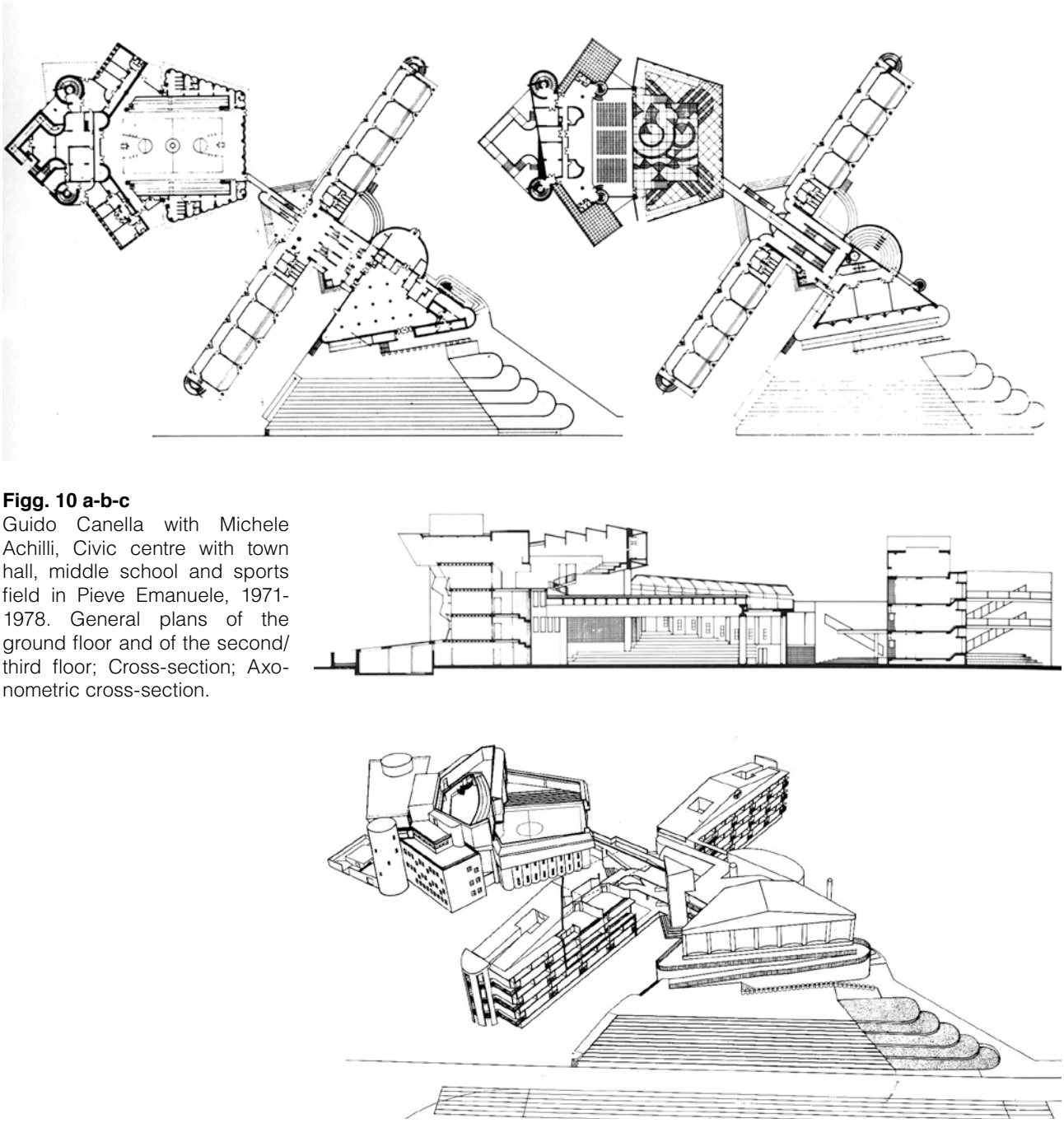

Figg. 10 a-b-c
Guido Canella with Michele Achilli, Civic centre with town hall, middle school and sports field in Pieve Emanuele, 1971-1978. General plans of the ground floor and of the second/third floor; Cross-section; Axonometric cross-section.

ers 1965, p. 14). This aspect, which is gradually crumbling today, ought to be an indisputable point within our universities. Then there is the importance of certain theoretical aspects, which for Canella, concerned «more the object and the means of transmitting knowledge than the ultimate definition of architecture in keeping with any style»[10] (Fiori, Boidi 1984. p. 17) a noble ambition, which does not remain just a utopia but finds real verification in the project, moving away from those works of architecture conditioned by a dominance of the image, by consumerist needs, by the illusory motives of technology and fashion. Finally, the last aspect is related to a certain way of understanding architecture, not merely as a representation, but as a desire for transformation which contemplates a conception of the world, an attempt to construct a new identity, a place in which to transmit a knowledge base to develop expression, with autonomy and rigour. All fundamental aspects which need to be constantly discussed and to remain at the very core of our discipline.

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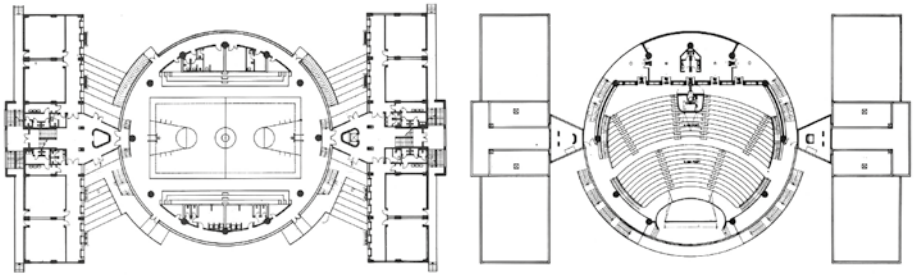
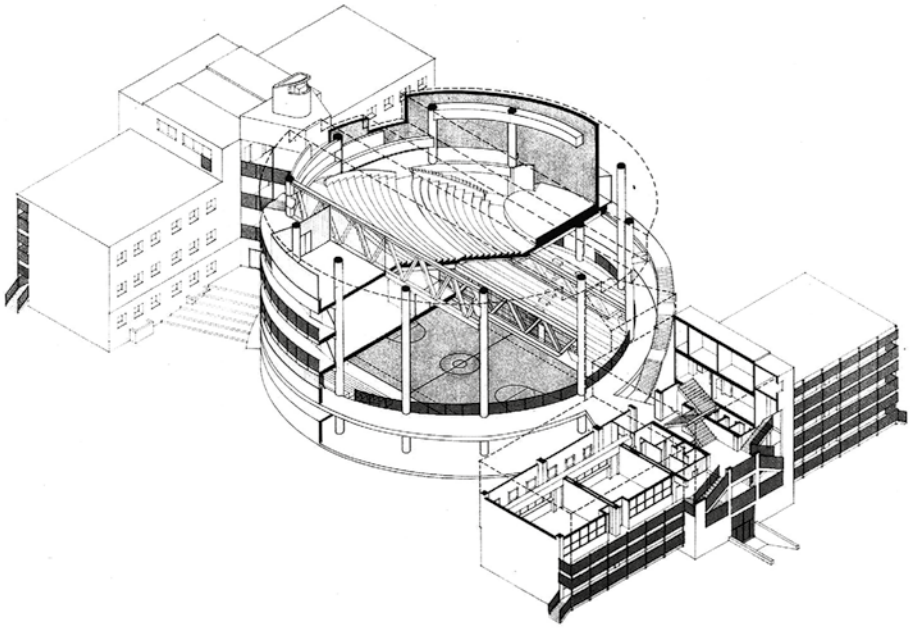
Figg. 11 a-b-c
Guido Canella with Michele Achilli and Dante Brigidini, Middle school with municipal social facilities at Monaca di Cesano Boscone, Milan, 1975-82. View of the entrance and external paths, (Photo by Carla De Benedetti); plans of the ground floor and third/fourth floor; axonometric cross-section.





Notes

[1] Of these experiences, the two-year duration of the research work should be emphasized first off, in which a preliminary analysis assumed a decisive role, in many cases venturing beyond the strictly disciplinary bounds thanks also to different skill sets transmitted by teachers from various disciplines, to then be implemented by Rogers and his students. This approach, characterized by a firm stance, focused on the centrality of the architectural project against the tendency to marginalize or even exclude its educational role in the Faculty of Architecture in the period of contestations from 1963 to 1968. The volumes published by Canella regarding these research projects include: *L'utopia della realtà*, published together with Rogers, edited by Canella himself; *Il sistema teatrale a Milano* which, in 1966, launched the series *Architettura e Città* edited by Canella and published by Dedalo for which, in 1975, Canella along with D'Angiolini also published the book *Università ragione contesto tipo*.

[2] This first phase would end in 1971, with the suspension which the Christian Democrat Minister Misasi brought against the Faculty Council consisting of seven members of several generations of masters, including Albini, Bottoni, Belgioioso, De Carli, Viganò and, among the younger members, Rossi, Canella and Portoghesi. This suspension was to last for the best part of three years and had far-reaching consequences since Albini and Bottoni were never reinstated and Rossi would no longer return to teach in Milan because of moving to Zurich and subsequently to Venice. Regarding the years of training, see the text by Bordogna E. (1987) – "Gli anni della formazione". In: Id., *Guido Canella. Architetture 1957-1987*. Electa, Milan, 7-12.

[3] From 1974 to 1979, Guido Canella would direct the Institute of Composition, from 1979 to 1981 the Department of Architectural Design of the Polytechnic University of Milan, and in 1977 would found the quarterly journal *Hinterland. Disegno e contesto dell'architettura per la gestione degli interventi sul territorio*.

[4] As Elvio Manganaro wrote in his book on the concept of building typology in Italy: "In reality, the search for invariants is not only a reflective and descriptive mechanism, good in the analytic phase, but is reversible, since it sorts knowledge into formal and functional categories which can be used immediately by an architect. Canella also speaks, with regard to invariants, of functional and physical embryos in which the architect can control architectural processes". In: Manganaro E. (2013) – *Funzione del concetto di tipologia edilizia in Italia*. Mondadori, Milan, 110.

[5] See Canella G. (1985) – "Dieci opinioni sul tipo. [with contributions by] Oswald Ungers, Oriol Bohigas, Carlo Aymonino, Anton Schweighofer, Aldo Rossi, Manuel de Solà-Morales Rubiò, Ludovico Quaroni, Rob Krier, Guido Canella, Aldo van Eyck". Casabella, 509-510, (January-February), 108.

[6] Canella G. (1968) – "Mausolei contro computers". Il Confronto, 1, (IV), 39-43. Republished in French under the title "Mausolées contre computers". L'Architecture d'Aujourd'hui, 139, (September 1968), 4-7; and in the journals L'architetto, 1-2, (XIV 1969), 8-11; and Hinterland, 18 (September 1981), 4-9; and finally republished in Idem (2011) – *Un ruolo per l'architettura*, Monica L. (ed.). Clean, Naples, 6-45.

[7] Canella G. (1965) – "Relazioni tra morfologia, tipologia dell'organismo architettonico e ambiente fisico". in: AA. VV., *L'utopia della realtà. Un esperimento didattico sulla tipologia della Scuola Primaria*. Leonardo da Vinci, Bari, 66-81.

[8] E. N. Rogers was appointed to the *Elements of Composition* course held at the Faculty of Architecture of the Polytechnic University of Milan in the two academic years 1962-1963 and 1963-1964 (the latter the year when Rogers became holder of the chair).

[9] With regard to the school buildings designed by Guido Canella, see in particular the monographs: Suzuki K. (ed.) (1983) – *Guido Canella*. Zanichelli, Bologna; Bordogna E. (1987), *Guido Canella. Architetture 1957-1987*. op. cit.; Bordogna E. (2002) – *Guido Canella. Opere e progetti*. Electa, Milan. See also the contribution in the volume: Prandi E. (2014) – "Nel gran teatro dell'Hinterland e non solo". In: Bordogna E., Canella Ge., Manganaro E. (ed.) (2014) – *Guido Canella 1931-2009*. Franco Angeli, Milan, 231-237.

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Lucia Pennati

Architecture making school. Dolf Schnebli and the school in Locarno

Abstract
The article investigates the idea of school, based on the duality of pedagogy and space through a case study: the secondary school in Locarno, built by the Swiss architect Dolf Schnebli between 1959 and 1964. Considering the influence that the school environment has on children's education, the paper discusses the architect's design in a context in which teaching and architecture serve the community and its moral development, which is fundamental for defining a new society. The contribution illustrates how the case study employs analogies with archetypical elements, like village, environment and home, to define space and initiate a pedagogical reform. Some of these elements belong to the historical educational discourse, confirming how both the pedagogical and the architectural domains are interrelated. Moreover, the building's didactic value is completed by constructive and aesthetic details, making the architecture of the school in Locarno a reflection of its educational principle: to provide children with the tools to educate themselves.

Keywords
School — Pedagogy — Architecture

Architecture that educates

Since the beginning of the 20th century, the architectural debate in Switzerland ties with the pedagogical and scholastic reform[1]. Modern architecture consolidates the idea that good education cannot be detached from the environment in which it occurs. Similarly, architecture embodies instructional values and acquires an educative role[2] (Reichlin 2008). Spatial solutions and experimental buildings anticipate institutional reforms, making architecture a driving force for pedagogical change and consequent social renewal. With his manual for school design, Swiss architect and professor Alfred Roth testifies modern architects' desire to implement reform ideas in learning environments. The widely circulated book provides evidence of the cultural background, based on a reinterpretation of a Swiss pedagogical tradition and an awareness of recent teaching experiments[3] (Roth 1950).
An emblematic architecture that educates is the *Scuola* in Locarno[4], where architect Dolf Schnebli (1928-2009) proposes avant-garde pedagogical solutions, thanks to the support and close collaboration with public institutions. He takes care of children's learning through several architectural devices, thinking up new ways of inhabiting school space based on flexibility and social commitment. Taking advantage of the educational potential of architecture, Schnebli provided spatial tools that bring children closer to innovative processes like lifelong learning and self-study, as he expressed in his idea of school once he became a professor (1994).

The school-village approach

In Schnebli's school, the analogy with the village is the «design concept»[5] of the entire project. This idea promotes a community spirit and engages

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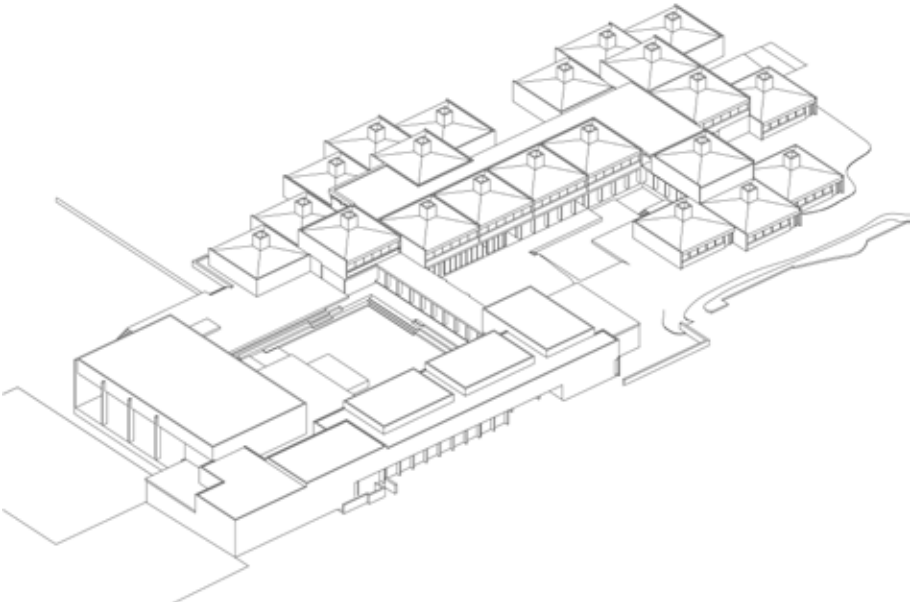

Fig. 1
The school in Locarno: axonometric scheme of its parts. The village.
© Drawing: Lucia Pennati

with the afterwar pedagogical reform that considers the child as a community member[6]. Located on the edge of the orthogonal 19th-century urbanisation grid of Locarno and in the heart of the uncontrolled building development of the 1960s, the new school fits into the urban context as a functional and formal educational village.
Comparing a building with an urban structure belongs to the architectural discourse: it recurs in the 15th century Alberti's treatise[7] and regained relevance from the 1950s onwards as Bruno Zevi points out (2018). Applied to education, it is similar to the notion of the school as a «micro-city», one of the cornerstones of Hermann Hertzberger's concept of learning space (2010). The same cultural context also applies to Aldo Van Eyck's orphanage in Amsterdam, to which the example in Locarno is similar in terms of formal development[8]. If Van Eyck's orphanage materialises the social relations of the children who live there to reinforce an identity, Schnebli's school recalls a familiarity with the traditional urban structure and thus becomes a testing ground for future social interactions. In analogy with the school's vision as a village within the city, the square is the ensemble's core and, with its amphitheatre layout, accommodates and divides the public and didactical areas. This urban device stages children's social life, teaching them "by osmosis" to take their place inside the community. By evoking traditional schemes and simulating an urban model, it encourages relationships, promotes encounters and welcomes community life.
In the architect's intention the school square is planned not only to welcome children's life, but also to host external events, performing an educational function for the neighbourhood. Schnebli refers to the principle of «school as an open house»[9], spreading in the post-war Swiss school debate. The idea is to reject the duality of everyday life and school life and propose a new continuity, welcoming other cultural and sport activities outside school hours and reflecting the collective ambitions of the time. In this way, the school becomes an infrastructure at the city's service and encourages multi-generational encounters, providing the space necessary for the growing demand for leisure facilities. The structure gains a democratic character reflected in the desire to open education by providing courses and activities for adults, planned in the gym, in the main hall and special classrooms (for drawing and natural sciences), places that gain an "open

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Fig. 2
View of the square.
© Photo: Lucia Pennati

house"[10] value. Child-friendly space becomes an «object of affection» (Reichlin 2008), allowing adults to remember their childhood and rediscover the child within themselves (Schnebli 1972). Finally, to confirm the community dimension of the school building, the basement is arranged as an emergency shelter, which can accommodate up to five hundred citizens in case of need.

The school-environment

The construction of «a more open, anti-authoritarian school in which the child is happy to enter» defines the educational milieu. According to this intention, Schnebli designs «environments» for future schools, creating the best conditions in which «pupils, teachers and services are called upon to live»[11] and, above all, establishing relationships with the open space and artwork.

In Switzerland, commissions for schools are usually assigned through competitions, providing an ideal testing ground for young architects who can successfully propose innovative solutions, thanks to enthusiastic juries (Reichlin 2008). In 1959, 30-year-old Schnebli won the competition organised by the cantonal education department with a project entitled "Ambiente". The term refers to the contemporary architectural discourse and especially to the Montessori pedagogy, according to which every built environment actively influences a child's growth[12]. In the case of Locarno, the connecting zones play an essential role in defining the quality and different identities of the educational environment[13]. They are a network of routes that expand, compose, join and retreat to create spaces of different identities and recall an almost urban movement analogous to the Lünen school by Hans Scharoun[14]. With their generous dimensions and wide range of perspective views, the circulation areas are not merely functional but hold an instructional value. They are interstitial places dedicated to meeting and developing children's social skills, fostering relationships, and still preserving the possibility of remaining apart.

Walking through this distributive network of rooms becomes a learning experience in itself, because of the contact with the different classes and

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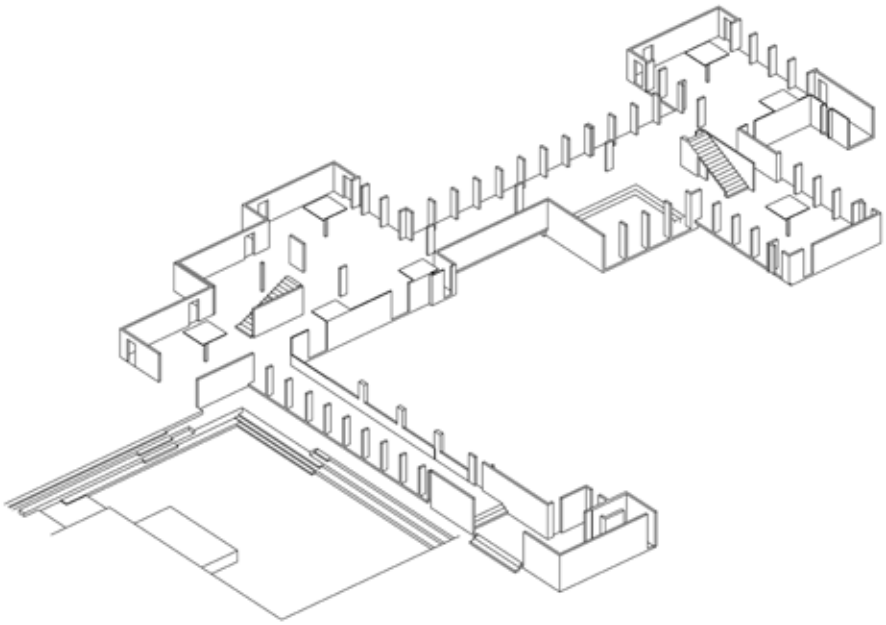

Fig. 3
The school in Locarno: axonometric scheme of its parts. The environment.
© Drawing: Lucia Pennati

the substantial presence of works of art, which complete the space, making the school in Locarno a unique case (Martinoli 2015). Schnebli works with numerous artists toward an aesthetic educative programme, stating that «perhaps in no building is the presence of art as important as in schools. Children are the most likely to perceive its value» (1966a). In the Locarno one, artists enjoy total freedom, both in terms of subject matter and means of expression, which allows them to intervene with their creations. According to the architect, the art arrangement is reminiscent of a promenade through a typical Ticino village where various works can be encountered (Schnebli 1966a).

The importance of art and the aesthetic environment for moral education is a general theme in the post-war period, which focused on the debate of the synthesis of arts[15] and its scholastic declination, based on British philosopher Herbert Read (Roth 1950). Read states that children should enjoy artistic works in an appropriate environment, without confusing the school with a museum, but emphasising its laboratory character (1958) and thus associating the form of art with the formative act. Furthermore, artistic didactic principles can be traced back to Pestalozzi, who proposes geometric representation into his pedagogy as an introduction to writing and art in general[16].

The creative works are also arranged outside, in the school garden, complementing the indoor learning environment. For the green spaces, Schnebli's design includes a field for outdoor sports activities and a natural topography of hills enclosing and delimiting the site towards the edge of the road[17], with open collective areas and private courtyards suitable for gathering. Following the principle of «green classrooms»[18], all ground-floor classrooms have direct access outside, allowing lessons and breaks to be held outdoors, thus reaping the benefits of pure air and sunlight, which are healthy for growth[19].

Classroom as home

In the Locarno school, classrooms are the heart of the project both as teaching units or places of teacher-pupil interaction and as primary elements of the village system or homes. A cluster of classrooms defines the pavilion typology, each unit is covered with a pyramidal roof whose pe-

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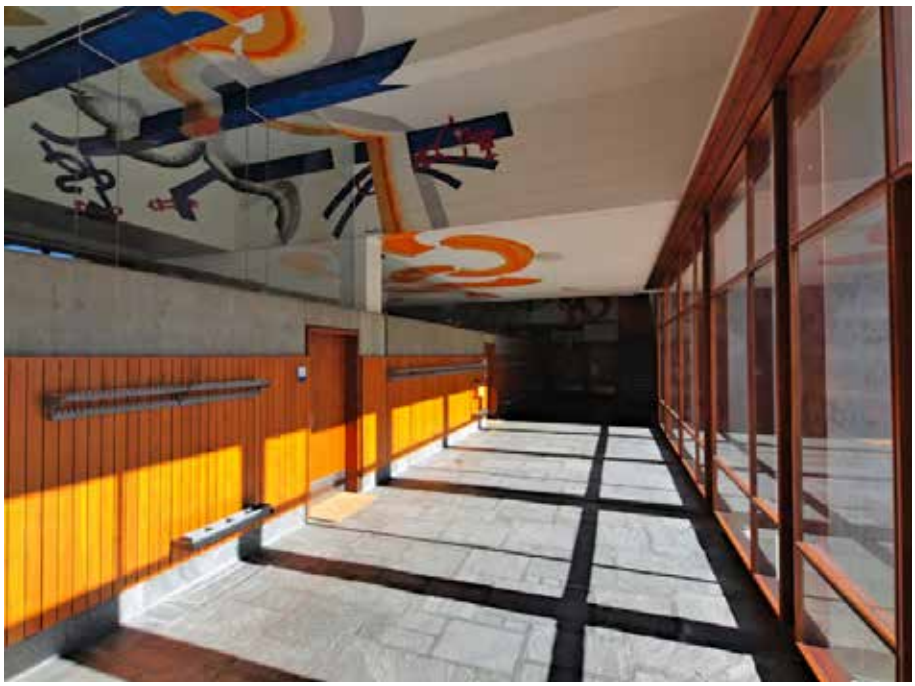

Fig. 4
Work of art by Peter Travaglini, situated at the entrance.
© Photo: Bardelli Architetti Associati

Fig. 5
Art painting by Flavio Paolucci situated in the internal street.
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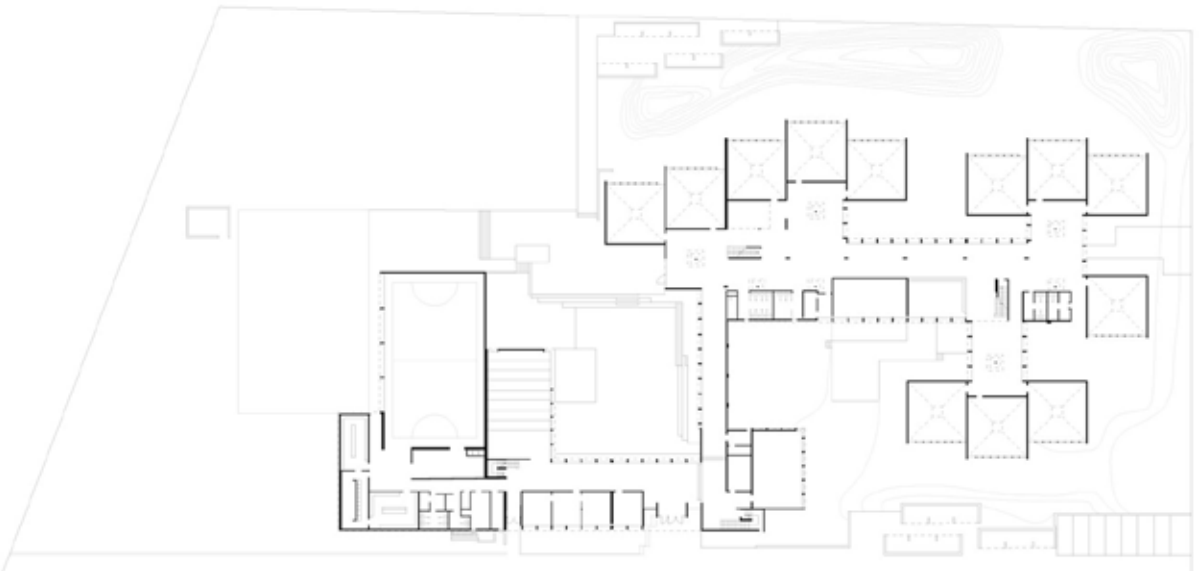

Fig. 6
Plan of the project as it was realised. © Drawing: Lucia Pennati

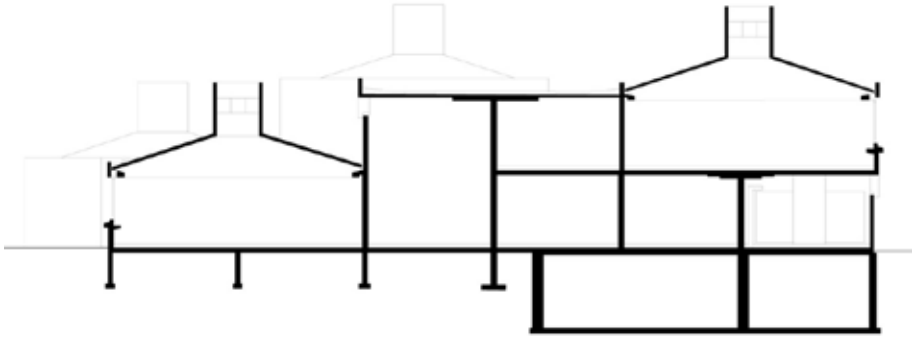

Fig. 7
Cross section through the classrooms. © Drawing: Lucia Pennati

culiarity allows its volumetric identification. In the logic of school as a village, classrooms recall individual houses, the focus of the village and every educational activity.

The reference between classroom and house refers to the writings of the pedagogue Pestalozzi, for whom the *Wohnstube*, i.e. the living room or meeting place of the family unit, is the theoretical prototype of the schoolroom and children's education (Perlick 1969). Building a classroom like a home, also guarantees the familiar space necessary for learning, especially in the post-war context when families are slowly losing their role as primary educators[20]. Under these circumstances, in 1955, the American magazine Collier commissioned Walter Gropius and TAC[21] to carry out a pilot project for a universal school, whose individual classes anticipated the project by Schnebli, who had worked with TAC after graduation.

According to the new pedagogical ideas, a frontal interaction between teacher and pupils cannot be the only teaching method: different possibilities must be guaranteed, such as work in small groups or discussion in plenum. The rigid hierarchy must be forgotten (Gross 1962). Even though these new pedagogical approaches are not part of the brief or the institutional request, Schnebli considers it the architect's task to design according to the most avant-garde ideas, "schooling the idea of school". He proposes a square shape for classrooms, which, given its regular proportions, guarantees free positioning of desks and allows three walls for teaching, one with a fixed blackboard and two sides with vertical mobile blackboards, on cupboards' doors. Following the principle of flexibility in teaching, a skylight, or central lighting chimney, provides a diffuse and neutral light source that does not interfere with possible arrangements within the class-

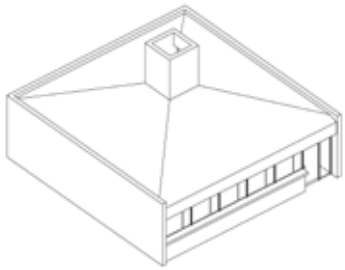

Fig. 8
The school in Locarno: axonometric scheme of its parts. The house. © Drawing: Lucia Pennati

room. The classroom's central symmetry allows teachers the freedom to use the spatial arrangement that fits their curricula. Moreover, pedagogical theories consider zenith light to be the best source of daylight for children, the most neutral and least glaring, which creates an atmosphere of security and concentration (Schnebli 1966b). A band of side windows enhances the light source and provide children with an undisturbed view, to enjoy the benefits of the green surroundings. The double lighting sources represent one of the hygienic and physical needs propagated in modern schools; together with cross-ventilation, guaranteed by windows and skylight chimney, reminiscent in form and function of an Iraqi vernacular village which Schnebli approached during his journey on the land route to India[22] (2009).

Walls that teach

The pedagogical perspective of the Locarno infrastructure is also reflected in the construction and materials, which are visible, in order to stimulate a cognitive tension in children by explaining to them the principles of the building. In its construction, the Locarno school plays an instructional role. Following Rousseau's pedagogical principle that all learning takes place in contact with things (1963) the facility shows the concreteness of its materiality. Furthermore it surprises and educates through living, as according to Pestalozzi, children approach education through experience and their point of view. Similarly, Schnebli considers it crucial to show the rainwater's course since once the water has fallen on the roof and collected, it flows down to the ground. Reinforced concrete rain gutters are an example: open on one side and remembering Le Corbusier's work, they illustrate their practical function.

Equally important is the instructive role of the materials chosen: untreated surfaces and elements with a raw corporeity and fragility[23]. For example, the stones in the school's square are the same used in Locarno's central meeting place – the Piazza Grande – and their use in the school environment evokes a familiar image with a symbolic value. This analogy combines the everyday school square with the town's. Furthermore, pathways are out of Valle Maggia granite, which is a resistant and emblematic material of the Ticino tradition, used for floors in historic houses, thus familiar to many children. In fact, the use of stone goes beyond its visual and tactile features to include auditory ones: according to Schnebli, hard surfaces, due to their sound-reflecting properties, create an acoustic environment that persuades children not to generate further noise (1972). Inside the school, elements such as wood or bricks are evident in their construction and layering; the joints are not covered but become part of the aesthetic expression of the building and define its morality.

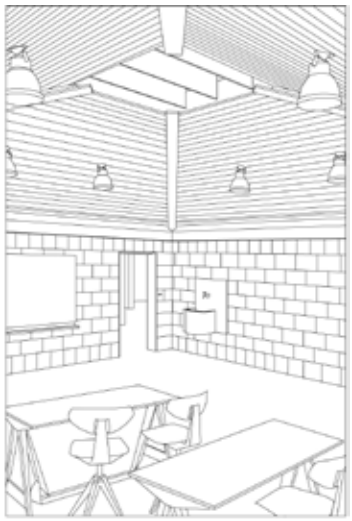

Fig. 9
Classroom, interior representation. © Drawing: Lucia Pennati

The school as a primer of moral education

The example shows how the building is not merely a spatial response, but it constructs an overall educational environment that guarantees man's moral formation. The educational design theme and implementation are measured and applied at different scales, from volume to detail. The coherence between the architectural and pedagogical domains unfolds inside the school construction.

From this point of view, the school demonstrates the intention to educate towards social engagement by re-proposing the cardinal principles of urban life in its built space. The analogy between the school and the village, which articulates through the square and the public functions, the streets

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Fig. 10
Construction detail, rain gutter.
© Photo: Lucia Pennati

and internal connections, the familiarity of the classroom-home environment and finally the construction details, allows children to approach the meaning of urban community life, determining the contribution of the physical environment to their moral growth.
The model demonstrates how the architect takes advantage of the educational scope of the architectural body, assuming an active role and designing a flexible, anti-authoritarian school environment, which in every part provides tools for didactic and self-learning, like an instruction booklet or a primer. Using key elements of the discipline of architecture and composition the architect defines the school project and consolidates its educational function based on the re-enactment of a city's typical connections and interactions. The intention is to outline a new society, of which the child will learn to be a member thanks to the stimulating environment and the educational role of architecture, played by the spatial distribution and technological choices and ensured by the presence of numerous works of art.
By exploring pedagogical and social ideas in a built environment, the school in Locarno embodies an avant-garde project that anticipates a renewal of Ticino's educational institutions and serves as a typological model for other projects in the region.

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Notes

[1] Consider the Zurich exhibition *Das Kind und sein Schulhaus* (1933) and its manifesto, in which architects, pedagogues and hygienists proposed a new concept of the school in terms of programme and space.

[2] This vision was generated within a positivistic attitude towards modern architecture, of the so-called *Neues Bauens*, for which the new architecture has the power to influence people's lives and educate them, to create a new society. Therefore, reform pedagogy can only be effectively achieved in modern buildings, thus creating a solid relationship between pedagogical reforms and the built environment. Wichert F. (1928) – "Die neue Baukunst als Erzieher". Das neue Frankfurt: internationale Monatsschrift für die Probleme kultureller Neugestaltung, 2, 321-324. Reichlin (2008) translates Wichert's paradigm into Italian as «architettura educatrice», educative architecture.

[3] The link between educational reform and social reform, or foundation of a new society, goes back to Jean-Jacques Rousseau, who belongs to the Swiss tradition of pedagogues, also including Johann Heinrich Pestalozzi, Stefano Franscini, and later personalities such as Pierre Bovet, Eduard Claparède, Jean Piaget. Note the continuous citation of Pestalozzi (Roth 1950) and the standard pedagogical literature quoted by Schnebli (2010).

[4] The school in Locarno has initially been a *ginnasio*, i.e. a school in preparation for high school for children aged between 11 and 15 years. With the reform of secondary schools in Ticino in 1974, it became a middle school.

[5] Term extracted from the article Fumagalli P. (2009) – "Un maestro costruttore. Dolf Schnebli 1928-2009". Archi: rivista svizzera di architettura, ingegneria e urbanistica, 5/6, 60-61.

[6] During the 1920s and 1930s, public opinion regarded the child as an isolated individual, and it was only concerned with providing him or her with the best environmental and climatic conditions. On the other hand, in the post-war context, community considers the child as one of its members, part of a group and foundation of the future society (Becker 1961).

[7] «And if the word of philosophers is true, that the city is like a large house, and the house is a small city, one will not be wrong in claiming that the parts of a house are themselves small houses [...] In the house, the atrium, the hall and similar rooms must be in the same way as in a city, forum, or great avenues». Alberti L.B. (1966) i *De re aedificatoria*. Il Polifilo, Milan (Zevi 2018), translation by the author.

[8] This consideration is by the author. No evidence of mutual influence has been found so far.

[9] The topic of *Schule als offenes Haus* is explained by Gustav Mugglin's contribution, both in the pages of Werk, Bauen + Wohnen (1960) and in the booklet published by the Pro Juventute foundation (1960). The topic is related tot he case study in: 1966) "Swiss High School. A Cluster of Huts". Architectural Forum, (January/February), 86-91.

[10] A more successful implementation of the principle of «school as an open house» can be seen in another early project by Schnebli: the school complex in Wohlen. In this case, a public path crosses the school, and, unlike in Locarno, no walls close the school grounds.

[11] Quotations from an interview with Schnebli, Guidicelli P., 1970 "La scuola deve essere una comunità di lavoro e di ricerca". Corriere del Ticino, 30.10.1970, 11.

[12] Maria Montessori writes that the child learns through his activity, absorbing culture from the environment and not from the teacher. In addition, she believes that the child creates himself and that the adult can only become his assistant in the learning process (1970).

[13] In the project text, Schnebli writes of «verschiedener räumlicher Stimmungen», i.e. different moods linked to different spaces. (1960) – "Kantonale Mittelschule in Locarno". Schweizerische Bauzeitung, 78 (21), 246-247.

[14] For the link between the two works, check Di Nallo M. (2017) – "The Balance between Intimacy and Interchange. Swiss School Buildings in the 1960s". In: Darian-Smith K., Wilis J. (edited by) *Designing Schools. Space, place and pedagogy.* Routledge, New York, 101.

[15] At the 6th CIAM in Bridgewater (1947) and the following one in Bergamo (1949), the debate around the synthesis of the arts was vivid. For further information consider the reports written by Sigfried Giedion.

[16] The relationship between Pestalozzi's theories, art education and education through art can be found in the book by Skladny (2009).

[17] The landscape got destroyed with no traces left, except for the trees.

[18] Schnebli's long-time collaborator Ernst Engeler mentioned this topic. Thanks to Prof. Roberta Grignolo for sharing the interview she conducted with Engeler.

[19] See the written manifesto *Das Kind und sein Schulhaus* (1933).

[20] The school takes over many functions that until recently had been performed exclusively by the family. The term *Schlüsselkinder* describes children whose parents work full-time and are sent to school with keys hanging around their necks so that they can return home independently after school. For these children, after-school occupations are planned (Gross 1962). The subject is also in Becker's essay (1961).

[21] Gropius W. (1966) *TAC. The Architects Collaborative 1945-1965*. Arthur Niggli Ltd., Teufen, 84-87.

[22] Thanks to a Wheelwright scholarship from Harvard, Schnebli drove his car from Venice to Chandigarh in 1956. A Schnebli's publication collects all the photos of the journey (2009).

[23] (1966) "Swiss High School. A Cluster of Huts". Architectural Forum (January/February), 86-91.

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Andrea Ronzino

Alison and Peter Smithson for the extension of the University of Sheffield. A language of architecture in between, drawings and words

Abstract
The project for the University of Sheffield extension delivered by Alison and Peter Smithson in 1953 – the first in a long series developed by the British couple on the subject – represents a significant clue to interpret the basics of a rethinking in the language of architecture. The fervent period of post-war British reconstruction – and especially in the university building sector – afforded a rich opportunity for British architects to question themselves on the role and meanings to be sought and attributed to architecture. Through a crossover study involving both the plans and the written descriptions proposed by the authors themselves, the competition entry provides a lens through which to interrogate, decode, and interpret the formulation of an architectural language for the Smithsons with an unremitting antagonism between formal choice and theoretical intention.

Keywords
Smithson — University — Language of Architecture

Introduction

By the end of the Second World War, Great Britain had recorded extensive damage to over 20% of existing school buildings (of all types and levels) largely due to German aerial bombings (1940-'43), making school buildings a priority chapter in subsequent national reconstruction policies and operations (Harwood 2010, pp. 63-73).
Specifically, public spending and the interventions promoted by Whitehall for the restoration and construction *ex-novo* of universities, which began in the 1940s and lasted well into the 1970s, contributed to fuelling a season of remarkable and particularly significant architectural production. As Nicholas Bullock recalls, the architectural historian John Summerson was to recognize this season as an extraordinary spirit of ferment, capable of identifying "a tendency to go in search of principles", principles which, to some extent, could be "announced as buildings", and which James M. Richards would later define, among the pages of *Architectural Review*, as the face of a new, all-British architecture (Bullock 2003, p. 48).
Studied, categorized and partly historicized (- 1963; Webb 1969 pp. 7-63; Brawne 1970; Muthesius 2000, pp. 59-186), the many examples that make up the extensive taxonomy of postwar English university buildings must be observed attentively as a profound change that was both programmatic – within the universities themselves – and social (Historic England 2017, pp. 6-15). On the one hand, the university institutions were beginning to feel the need to rethink their traditional structures, involving above all the functional programme and consequently the birth of new sectors of specialization within the faculties that constituted them, and on the other, a substantial increase in enrolments in tertiary-level education – which more

than doubled between 1961 and '77, thanks especially to the new tools of public economic assistance (in fact the first University Grants Committees as well as Maintenance Grants were set up in the early 1940s) and spatial solutions to be offered to the larger university communities (Id.).
A year before completing construction of the *Hunstanton Secondary School* (1949-54) – later to enjoy international fame – and while they were busy developing the project for the *Golden Lane Competition* (1952-53) and the installations for the *Parallel of Life and Art Exhibition* (1953), Alison and Peter Smithson formulated the first of a series of works around the theme of university architecture: the project for an extension to the University of Sheffield[1].

The competition and Alison and Peter Smithson's project for Sheffield
The 'redbrick' university of the city of Sheffield – in South Yorkshire – was formally founded in May 1905 when, by concession of a Royal Charter, three pre-existing local institutions were merged. The oldest, the School of Medicine founded in 1828, was incorporated at the end of the 19th century into Firth College, opened on the initiative of a steelmaker Mark Firth, and Sheffield Technical School, originally founded in 1884. While the first two, housed in the Firth Court complex in the Western Bank area of the city, brought together the arts and medical-scientific disciplines, the third – which occupied an old grammar school in St. George's Square, one kilometre further east – was designated as a centre for teaching applied technical sciences. The characteristic of being born from the merger of three independent, pre-existing Colleges had a particular impact on the university's physical growth as separate teaching centres, and over time, these would come to identify two main academic poles. During World War II, many of the school's available rooms were converted into research laboratories to develop new cartographic surveying techniques, novel technologies such as radar and innovative chemical products, and therefore required initial adaptations and expansions, without a recognizable, coherent overall project, however. Come the end of the war, the increase in the number of students enrolled in courses – as well as those expected for the years to come – forced the institution to organically rethink both its administrative system and its premises, which were scattered throughout the city. In 1947, a specialist committee was set up with the aim of guiding this rethinking and identifying possible areas of the city to be acquired for future transformations. As a result, the main spatial and functional needs would also be outlined by this same committee in the early 1950s: new departments of Chemistry and Physics were deemed necessary; the Western Bank Art Centre was to be completed; a new School of Medicine built, along with a Library, a public centre dedicated to the Student Union, a new Great Hall and an administrative building, all of which led the university to hold a public competition to collect ideas and build the winning project[2].

«The older universities are textbook examples to show that human organisation can realise itself in built-form as a 'thing'. That is, they are comprehensible as a whole, more than the sum of their parts built up through a clear language of form, and potentially capable of endless renewal [...]. But in this century they have failed to renew themselves physically. [...] New buildings should show by their 'scale in change' the 'size in change' of the whole complex; yet still indicate limits. And their aesthetic should be an 'aesthetic of change' [...]. The project we made in 1953 for the University of Sheffield show the new aesthetic technique in action» (Smithson 1957, p. 17; republished in Smithson 1970, *Aesthetic of Change*, pp. 154-157, p. 157).

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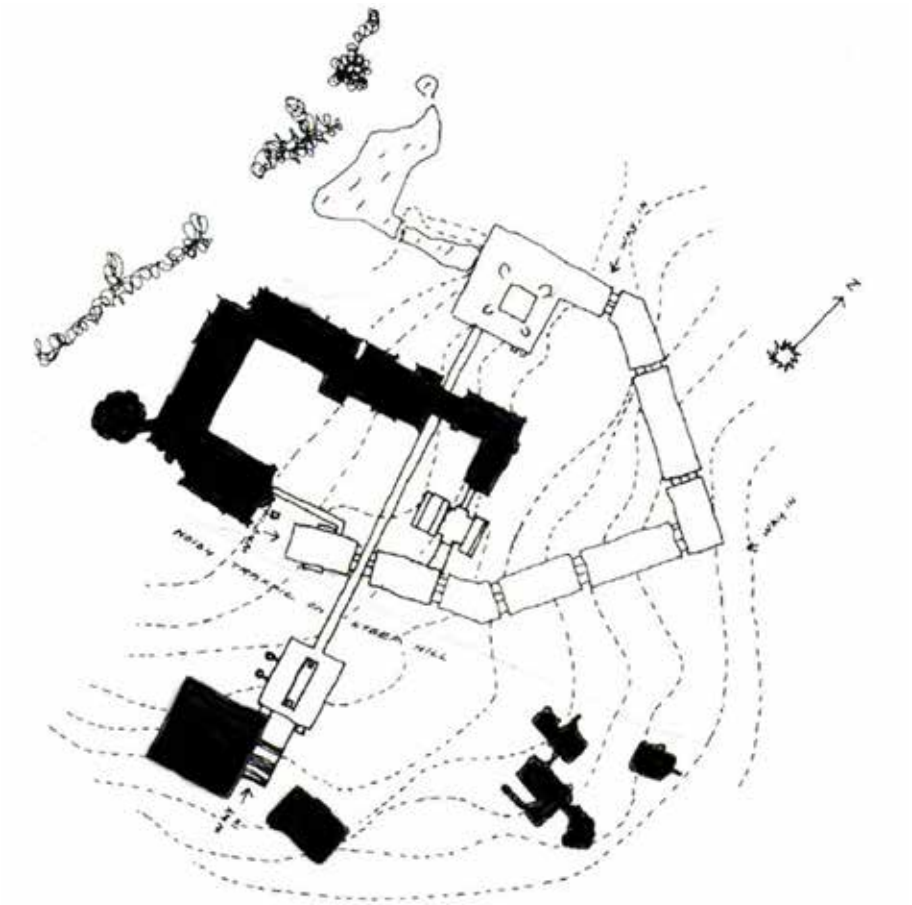

Fig. 1
Sketch of the general layout for the 1953 competition entry (reworking of a drawing by Alison Smithson – 1978 – for the publication of the 1979 book Alison and Peter Smithson. Due progetti). Blacked in (by the author), are the Firth Court structures to the north and other minor University buildings to the south; in white, the additions of the Smithsons' project [Source: Smithson 1979, p. 7].

In an article published four years after delivering their competition entry, the Smithsons presented the general objectives underlying their proposal thus[3].
The overall area made available, and described by the brief, consisted of free land to the east of the Firth Court building (between the current Brook Hill / A57 and Bolsover St. further north), and another smaller lot on the other side of the artery (Brook Hill itself) further south.
The Smithsons' general layout included a wing divided into three parts along the profile of the available area, ending in a square-plan building at the furthest point north. The latter, positioned behind the existing wing (the most recent extension of the same university), was connected – via a straight suspension bridge in a southerly direction – to the planned block across the road. All the functions and activities indicated in the development plan drawn up by the university found a specific location in the project. Those characterized by highly specialized functions such as the theatre, the library, the art rooms, the communal areas for students and the entrance hall, were formally distinguished and characterized. The more conventional spaces, such as the administration offices, departments, laboratories, and study rooms, were instead placed along the modular development of the long C-shaped wing which closed off the lot towards the east.
The project envisaged keeping the main access near the original entrance – but now via a grand staircase – which would resolve the differences in height between the street level, the innermost one of the open space, and the height of the suspended public walkway – the so-called 'deck' – higher up.
Distribution throughout the entire complex was organized and guaranteed through the horizontal development of a continuous open pathway – the deck again – which horizontally and physically connected all the parts included in the general scheme: after the entrance came the administration offices, then, passing through the departments of Chemistry and Medicine

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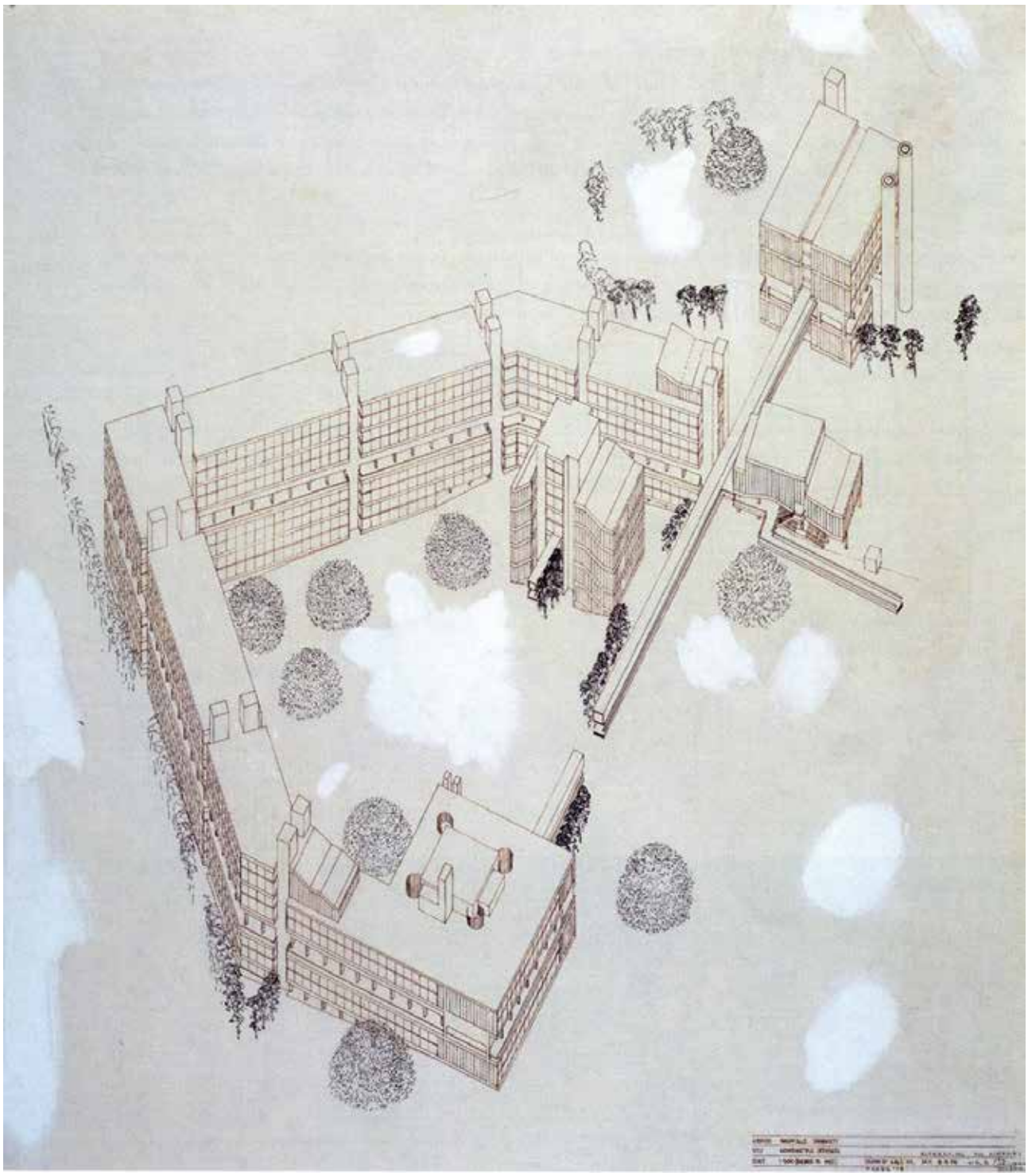

Fig. 2
Axonometric projection of the complex for the University of Sheffield extension (reworking of a drawing by Alison Smithson and Wally Banks, 1978). Remodelling of the university quadrangle and relationship of the project with the orographic and physical aspects of the context.
[Source: Smithson 2001, p. 109].

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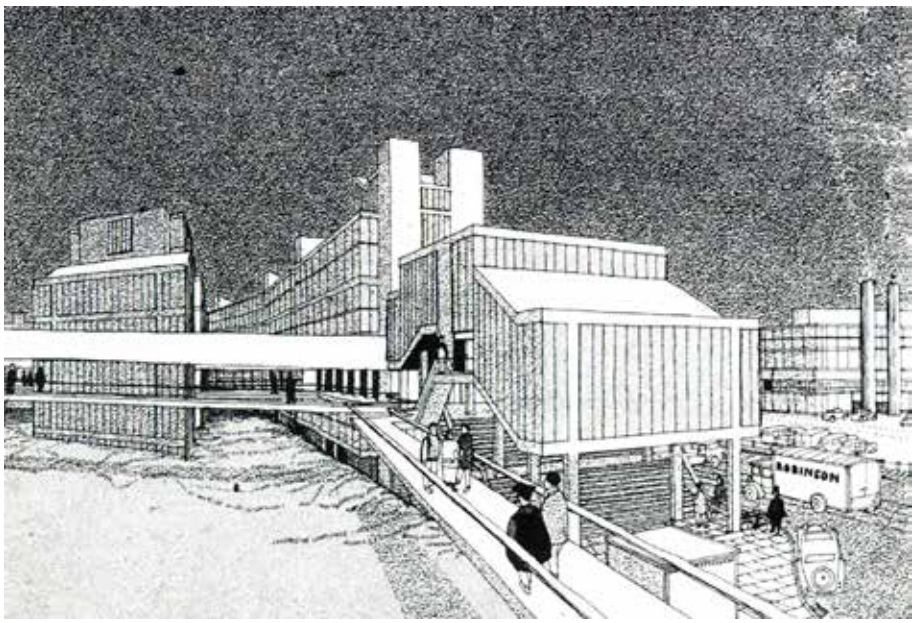

Fig. 3
Perspective view of the new entrance stairway, surmounted by the Arts Theatre, seen from the lateral pedestrian ramp connected to the older Firth Court structure. In the background, the long line of offices and departments that 'unfolds' from the entrance and is connected to the block of terraced classrooms, while the suspension bridge in front of the Library leads – across the road – to the Student Union on the left (drawing from 1953).
[Source: Smithson 1997, p. 36].

(in the eastern corner), there was the northernmost section with areas dedicated to the School of Architecture and ending with the Library building, to then meet the suspension bridge which closed off the route with the Student Union block across the road to the south.

«This idea looks forward to the inevitable 'growth and change' of an expanding university: the ring of high-level circulation and service in a continuous building complex makes it possible to satisfy the university's desire to extend horizontally rather than vertically, in spite of the huge volume of building» (Smithson 2001, p. 108).

The pedestrian walkway of the deck, open on the two longitudinal development fronts, gave access, both above and below, to all the functions envisaged by the project, representing a permeable, continuous, and common plane at about half the height of all the elevations of the buildings making up the scheme. Furthermore, by occupying (and emptying) an entire horizontality, through the deck it was possible to read the main load-bearing grid which uniquely characterized all the buildings planned, made further visible by means of the walkways and distribution towers which extended beyond the line of the flat roofs, and bringing rhythm by announcing the possible access points in repetition.
The reinforced concrete structure consisting of pillars – 40x75cm – arranged every 5.5 mt and the slabs (every 6m in height) made from transverse beams – 11 mt long – which protruded 1.8m from the edge of the columns, represented the main non-modifiable framework, called to host at the various levels a secondary system – light, and in steel, along the edge of the cantilever – which in turn arranged two levels for each floor identified by the concrete slabs. The façade infill panels, which made the double system clearly legible, could be transparent – identifying windows and other openings – or opaque – in wood or metal – depending on the functional needs of the interior spaces to be closed or screened off.
As the architects themselves would specify in the project report:

«The external and internal panel system can mesh in completely with the internal organisation of the building: when this organization alters, the façade panel system is also altered, thus continuing to give complete identity to the internal disposition» (Smithson 1979, p. 9).

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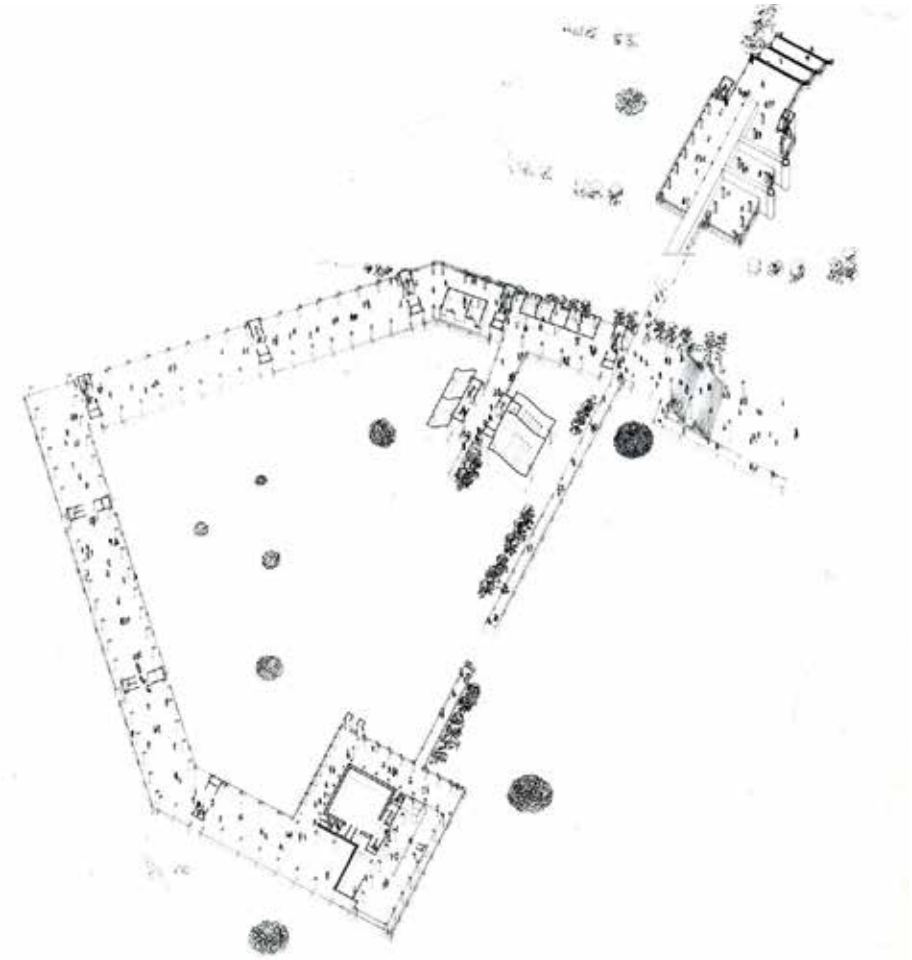

Fig. 4
Axonometric section of the deck distribution device (reworking of a drawing by Alison Smithson and Wally Banks, 1978). Raised above ground level, the deck unravels continuously from the stairway of the new entrance to the stairway of the southernmost Student Union block.
[Source: Smithson 2001, p. 113].

Resonance between drawings and words: Architecture as a language 'in between'

The broken horseshoe shape of the university project represented a brand-new innovative solution for the Smithsons: «Sheffield is the first of the 'encompassing' buildings whose slightly angled forms seemed at the time – and still seem – so much another invention from the twigs of Golden Lane» (Smithson 2001, p. 108). The C-shape, borrowing the introverted and traditional organization of the university quadrangle, renewed it by establishing a dialogue deemed necessary with the neighbouring pre-existing buildings.

While limiting and defining the available space, the complex chose not to end in itself but sought, through the permeability of the open deck, a relationship with both the historic Firth Court to the west and the city that surrounded it on the eastern front, in a conformation that was 'wrapped', yet open[4]. Looking back and expressing a sensitivity that we might define 'topographic', the wing was to be broken, conforming to the trend dictated by the two roads which surround the area and converge in the University Square – where the building is bent to form an angle – proposing itself at the same time as a physical limit of the project and a barrier to protect the flow, calm and free, not only of the students but of all those who, arriving from Weston Park to the west – passing beneath the overhead bridge – decided to traverse the green field by entering the university's open quadrangles.

The physical gesture, which simultaneously demonstrated an intention of protection (from the surrounding traffic) and openness (for the new university system), was further elaborated by including in the project (through an orographic study this time) a relationship of dependence with the sloping

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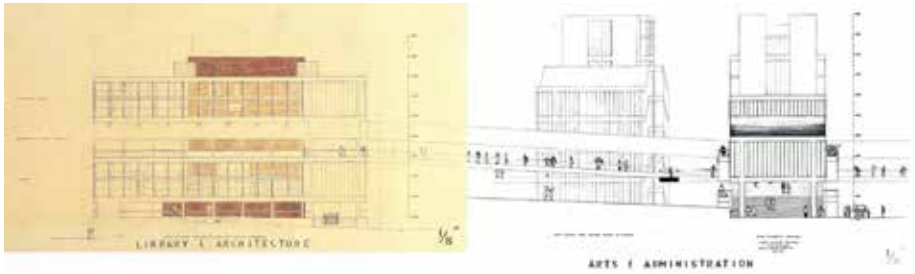

Fig. 5
Joining together (by the author) of the north-west elevations of the Library and School of Architecture (left) and the main access stairway surmounted by the Arts Theatre (right) by the connecting suspension bridge, populated by students and teachers in transit. The grid of the main structure (concrete slabs and pillars) is clearly legible, as are the intermediate modules which can be modified (made transparent, for the Library, or opaque, for the Arts Theatre) following and declaring, over time, the transformations of the uses of the internal spaces of the university.
[Source: Smithson 2001, p. 112].

curves of the land from which to begin. The natural reduction in height from west to east was emphasized by the contrast with the deck level, kept at a constant height, while the space left free by the ground was occupied by filling it with the modules of the main supporting structure. A sloping trend which, in essential collaboration with the built environment and the spaces left free by it, to some extent encouraged and ordered the movement from outside to inside, and vice versa.

«This gesture makes clear that the central space is no longer a traditional quadrangle of an English university. Sheffield is a piece of city unto itself: self-protective, energising, offering connection, and so on» (Smithson 2005, p. 175).

At the same time and in a substantial solution, the deck distribution device was imagined as a continuous system with the intention of connecting the different buildings and in so doing ensuring uninterrupted circulation throughout the system. As anticipated, it was essential for the architects that the 'elevated pedestrian street' was open on both sides, allowing maximum permeability onto both the city and the central green area, engaging further with the suspension bridge connecting the Library and the building for the students located across the road.
«To keep the connective route of the pedestrian deck always busy» – as much as that of the park which acted as its counterpoint – Alison and Peter identified and imagined four poles – distant and distinct from one another – in which to deploy the main activities of greater specialization, entrusting to them the specific objective of triggering, activating and reactivating over time – as if they were magnetic points – the chaotic and random movement of students, researchers and professors who would occupy and live them to keep the connective route of the pedestrian deck always busy. (Smithson 2001, p. 108).
In particular, along the west-east axis, the entrance point surmounted by the Arts Theatre acted as a counterbalance to the more frequented departments of Chemistry and Medicine located at the eastern corner, while at the extreme north and south, the large Library – beneath the School of Architecture – was counteracted by the Student Union building. The cross-shaped conformation of the four poles, as the architects themselves explained, was to set in motion the movement – continuous, differentiated and circular – which would have the continuity of the aerial deck as a privileged means of travel.

«The growth and change of Sheffield can be seen – in retrospect – as layers of strengths; of permanence and transience. Le Corbusier's earliest studies had the simplest regular concrete frame with free-form walls. […] [Hence] the need for another sort of language indicating possibilities of accretion or adaptability» (Smithson 2001, p. 110).

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Fig. 6
Axonometric section (reworking of a drawing by Alison Smithson and Wally Banks, 1978). The poles to steer the flows are shown in pink (from top to bottom: Student Union; access stairway surmounted by the Arts Theatre; the block of tiered classrooms; the departments of Chemistry and Medicine; the Library and the School of Architecture), in dark blue the route at the deck height, in pale blue the straight line of the suspension bridge connecting the buildings of the Library – below – and the Student Union – above – crossing the main entrance to the buildings (coloured by the author). The Smithsons describe the axonometry at the level of the deck, and the underlying scheme as if twenty years had passed since their creation: trees fully grown and spaces populated by students who are passing to and from the classrooms, between the Library and the recreational area of the Student Union. From beneath the buildings, Weston Park – following the natural swell of the land – flows into the areas enclosed by the old and new buildings. Looking from the top of the distribution ring towards the green centre, the circulation seems 'turned off', 'weakened', to fully appreciate the calm and protected position of a university immersed in the city.
[Source: Smithson 2001, p. 111].

For the University of Sheffield extension project, while looking at (but developing) the image of Le Corbusier's 'rack', the Smithsons' objective was the pursuit – and material construction – of a building capable of transmitting, albeit thanks to its physical presence, the ephemeral sense of a changing identity; that of a university in continuous modification, evolution and change. Therefore, the uses it would be put to and the variations it would inevitably undergo over time, represented a design opportunity which for the Smithsons had to become central and clearly legible by means of the changes that could be wrought by and to the buildings. By transforming and reconverting portions of the new blocks in the future, and consequently modifying the free modules of the façade included in the fixed concrete structure, the variations would be the physical sign – capable of going beyond the project itself – with which the structure and the façades of the university turned towards the city would be able to communicate their transitory and modifiable character. Consequently, for Alison and Peter it was «clear that the building's identity [in Sheffield would be given] by patterns of use and not [just] by 'design'» (Id.).

As we have seen, in order to understand – and penetrate – the meanings and intentions which the project for Sheffield incorporated and intended to rep-

resent, it is necessary to move – within a continuous comparison of explicit and implicit references – between the drawings that the Smithsons compiled for the competition and their writings which accompanied the project. A necessary circular, two-way 'movement' between drawings and words.
The new scheme for the University – the C-shaped structure in particular – clearly represented the expression of a renewed gesture in the field of a given, established and settled formal language: the closed quadrangle of British colleges. But that was not all. «Their shape must not only be able to 'take' change, but should imply change», representing as it did, for Alison and Peter, a transition, a more general change which the institution would be called to face at that time, which it must necessarily measure itself against and which therefore must – not only abstractly – favour and guide it (Smithson 1957, p. 15; Smithson 1970, p. 157).
The unitary and complete form of the old systems was now conceived as the collaboration of several distinct parts. A single building – the old college – must now deal with a polycentric structure, but in a coordinated and to some extent hierarchical system of flows. As Mark Crinson has pointed out, the Smithsons' project for Sheffield was based on the idea that space and constructed form «are given unexpected relations when generated by flows of people rather than as containers of functions», in a new «system of relationships and forces» activated by users and their movement (2018, p. 18).

Once again, the formal choice was counterpointed by meanings which pertained to the theoretical field of intentions. The question this time involved the concepts of *scale* and *city*. For the Smithsons, «In classical aesthetic theory the part and the whole were in a finite relationship one with the other, the aesthetic of each being 'closed'» (Smithson 1957, p. 17; Smithson 1970, p. 157). Indeed: «the original colleges were closed communities of individual rooms with a common hall and chapel» where the relationship between the individual and the community was reduced «by a complex of in-looking courts, with one point of contact between the rest of the world and the college» (Ibid., p. 16; Ibid., p. 155).
In Sheffield the intention was instead to open and expand this relationship, because «in modern times more and more teaching is done by the 'University' – by the various 'faculties', and the relationship with the town [sic] has become more open» (Id.). A polycentric structure therefore – like the city – which had the complex facing the world, both physically and conceptually, towards the city, and at the same time towards dialogue and internal confrontation, in a virtuous mutual exchange.
As observed for the general layout, also the system of flows imagined for the project and the structural solutions identified can be read according to a double interpretative key, between the formal results – provided by the drawings – and the conceptual and theoretical intentions – expressed by the words.
The conventional distribution scheme of corridors and passages inside the buildings was completely overturned, this time with a clear and always recognizable form. A continuous walkway – the deck – which, running both internally and externally, identified an uninterrupted path between the parts making up the new University. For the architects, the complex of buildings which characterized the proposal «must establish a 'flow' relationship to the whole pattern of movement of the university and town [sic]», and, «as a 'people-aqueduct' carrying both students and services to 'draw-off points'», represented by the formally characterized poles (Ibid., p. 157; also in Smithson 2001, p. 108). A movement displayed, exposed, to declare the

ferment and action that must represent an institution which is never still and is continuously questing. A movement which, in unbroken interdependence, involves both the university and the city of which it is a part.
In addition to renewing a distribution device, the deck is developed as a privileged tool for connecting the parts – the poles – which represent the new system offered by the project. An expanding university just like the city of Sheffield, while the «'separate' parts of the complex implies their ultimate linkage, and their detailed aesthetic is one of change» (Ibid., p. 157). A refined connection recalling the collaborative spirit which a place where knowledge and culture are generated must be able to demonstrate, a connection also expressed by the different parts of the city that must be able to collaborate and coexist in a harmonious and circular system.
The solid and durable built language of the old redbrick university in Sheffield is renewed through the introduction of a double construction system, as seen above, one in concrete, which cannot be modified and constitutes the backbone of the intervention, and one of a lighter order, made up of panels (in metal, wood or glass) which close – or open – the buildings as required. For the pair of architects, the «external and internal panel system can mesh in completely with the internal organization of the building», indeed, was expected to do so that the internal space and its own variability could help define the identity of the entire building (Ibid., p. 157; also in Smithson 2001, p. 110). A university identity recognized as constantly changing, according to the evolutions and needs dictated by contingent time. An identity which must offer itself 'transparently', declare itself explicitly and clearly, just as the institution it represented must be clear and limpid. A double system which, although based on a solid structure – a redbrick university – could at the same time convey a message of flexibility and transience at that point unavoidable.

Alison and Peter Smithson's language – as it is possible to observe in the Sheffield competition project – was one of an architecture that could not be fully decoded except in the whirling, mutually interdependent dualism which the formal language expressed by the *drawings* established with the intentional language expressly stated by the written *words*. However, the activity of *drawing* and *writing* about the architecture that the Smithsons imagined, should be considered as much a communication tool aimed at the world – and the possible interpretations deriving from it – as an essential, intimate tool for the architects, activities that they obsessively strove to merge throughout their careers; after all, as David Dunster pointed out, the «Smithsons are, as it were, always in the laboratory» (Smithson/Dunster 1982, Foreword, p. 7). Alison and Peter's drawings can exist without their words, certainly, but only partially, in otherwise impoverished and reduced meanings: it is the interference and mutual resonance that the two communicative registers are capable of offering – and therefore only if considered at the same time – which provide useful tools to read a complex language, the architectural one, whose understanding is offered to the reader's interpretation[5]. A 'linguistic relativity' which is perhaps useful – albeit simplistic – to take us back to Humboldt's theory according to which «language, understood in its true essence is not a work (*ergon*), but an activity (*energeia*)», thus suggestively recalling the concept encountered of 'aesthetics in action' to which the Smithsons referred in describing their project for Sheffield University (1974, p. 408). An active process, therefore, a language which the Smithsons themselves recognized as having the

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power to «set up a dialogue between object and users», that is, an exchange which cannot be resolved and concluded with time, but is always renewing itself, changing, because for Alison and Peter there «[existed] a secret and permanent life in things solidly established and intensely made, that come alive for other uses, other generations», in a process of unstoppable change that can only be assisted (Smithson 1973, p. 77).
The interpretation and attempt at decoding entrusted to those who intend to grasp the Smithsons' work – as Christine Boyer has illustrated – must begin from the awareness that the writings of Alison and Peter «speaking into the void in full acknowledgement of the indeterminacy of words released into the air» and that at the same time, «there is something about architecture that cannot be said, something that cannot be transmuted into the printed word, focused photograph, built form». An interpretation which «[requires] a flexible, associative, and many-layered form of reading», since all their works «were in essence architectural and architecture, in turn, was never just about buildings», works able to speak a language which is not said, something that is *not quite architecture* (2017, pp. xiv, xii, 389).
A *not-just-architecture* which Max Risselada briefly outlined – borrowing the Smithsons' own words – is capable of identifying and representing:

> «A 'space between' (…) present in more imaginative sense as a 'space that is left open for interpretation'. This space is often the result of the confrontation of seemingly different types of ideas and concepts, which are set in relation to one another practically unmediated and therefore arouse curiosity. (…) There is always a 'distance' between text and project - a space open to one's own interpretation» (Smithson/Risselada 2017, pp. 260-261).

The *space between*, open and fluid which – speaking personally – can be recognized in the virtuous antagonism between *drawing* and *word* appears to represent a 'field of action' within which we are called to move, decode and interpret the *language of architecture* of Alison and Peter Smithson. A suspended 'space' – but always and forever available – *in between*.

Notes

[1] The young couple of English architects were to work actively, and for a long time, around the theme of university architecture – thereby defining a personal rethinking – and developed numerous projects in just under forty years: from the competition for Langside College in Glasgow (November-December 1958) and Churchill College of Cambridge (1959) to the project – built – of the Garden Building for St. Hilda's College in Oxford (1967-'70), from the general scheme for Queen's College (October-November 1971) to the reticular structure of the extension to Magdalen College (June-October 1974) both for the University of Oxford, to then elaborate and carry out – over a period of more than twelve years – seven separate projects for the University of Bath (1978-'90).
[2] The Smithsons did not win the competition. The first prize went to a project by the GMW & Partners studio (Frank Gollins, James Melvin, Edmund Ward), founded in 1947, which was built and completed by the late 1950s (the Library, now Grade II* listed, was opened in 1959).
[3] The article, published in the pages of the periodical *Architects' Year Book* in '57, would then be republished in the second part of the famous volume *Ordinariness and Light* of 1970. More than twenty years after the competition, Alison and Peter would go back to the drawings for Sheffield and – together with their subsequent project for

Churchill College (1959) – would publish them again in the book *Due Progetti* ["Two Projects", t/n], published in Rome by Clear in 1979.

[4] As the Smithsons themselves would have the opportunity to clarify during the lessons held in Italy from 1977 at the ILAUD of their friend Giancarlo De Carlo – in describing the project of the Wokingham Infants School (1958) shortly afterwards – the careful choice of preferring an 'open' conformation in the architectural project could be the winning solution if the desire is to "create places" and not be limited to the construction of closed and characterless spaces (Smithson 1993, p. 43).

[5] The meaning referred to the term 'complex': from the Latin *cum-plexum*, "with knots", i.e., whatever presents knots – like a tangle of threads – is difficult to understand except in the complexity and interconnection of their own intertwining and in the relationships that they establish with respect to one another. The term 'complicated', from the Latin *cum-plicum*, "with folds" is different. Whatever has folds – like a sheet of paper – and which lends itself to a possible understanding through the opening of these folds when 'unfolded', allows us to perceive and grasp the entirety of what is being observed. That which is complicated (with folds) can therefore be linearly 'unfolded' (See Ottorino Pianigiani, Dizionario Etimologico della lingua italiana. Roma, Società editrice Dante Alighieri 1907 [republished online: etimo.it], s.v. 'complèsso'; s.v. 'complicá- re').

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Francesca Serrazanetti

One hundred ways of playing with space. The educational architectures of Giancarlo Mazzanti

Abstract
Giancarlo Mazzanti sees architecture as a game, in the broadest and most versatile sense of the term, as something that one plays. It is a space that can be shaped and transformed, and the more it is open to manipulation, the more fully it can be understood by its inhabitants. Mazzanti "plays" with composition as an open and participatory process. If this term cuts right across all the work of the Colombian office, it receives its particular application in the creation of educational spaces. Malaguzzi's pedagogical approach guides the project: the space is a "third teacher" that forms a relationship with the children's activities and their "hundred languages", sharing in the educational processes. Drawing on the projects for some kindergartens built by the office, the article deals with the theme of educational spaces conceived as devices fostering growth. The value of educational spaces, especially in emergency contexts such as that of Colombia's outer cities, leads to the conception of architecture itself as a discipline that seeks to create environments that are educational in themselves.
Keywords

Play — Co-creation — Performativity — Modularity — Relational architecture

Relational architecture

«ART [...] Art is an activity that consists in producing relationships with the world through signs, forms, gestures or objects.
[…]
CO-EXISTENCE CRITERION. All works of art produce a model of sociability, which transposes reality or might be conveyed in it. So there is a question we are entitled to ask in front of any aesthetic production: 'Does this work permit me to enter into dialogue. Could I exist, and how, in the space it defines? A form is more or less democratic. May I simply remind you, for the record, that the forms produced by the art of totalitarian regimes are peremptory and closed in on themselves (particularly through their stress on symmetry). Otherwise put, they do not give the viewer a chance to complement them.
[…]
RELATIONAL (AESTHETICS). Aesthetic theory consisting in judging artworks on the basis of the inter-human relations which they represent, produce or prompt» (Bourriaud 1998).

The theories systematized by Nicolas Bourriaud in his "relational aesthetics" have become, in the first two decades of the 21st century, a reference point for many artistic and design practices[1]. In their openness between art and design, between aesthetics and society, Bourriaud's principles effectively introduce the commitment of El Equipo Mazzanti in the design of educational spaces, both in its theoretical premises and its design manifestations[2].
Architecture understood as "action" guides the work of Giancarlo Mazzanti, who considers architecture itself as a form of learning, and the project as a tool that aims to promote and facilitate socialization. The "performativity" of space is then a fundamental principle: a performativity that denies

the *performance* in terms of performance, to instead enhance its primary meaning of "activity".
Architecture is, therefore, also play: in the broadest and most versatile meaning of the term *play*, it is something that is enacted[3]. It is a space that can be shaped and transformed, and the more it is open to manipulation, the more it can be understood by its inhabitants. Giancarlo Mazzanti "plays" with composition as an open and participatory process. Play becomes a device structured by an immediate (but at the same time complex) set of rules that have the capacity to control the evolution of spatial systems and the interaction between them and people. It is a tool for composing and expressing the project, for presenting it and modifying it, based on open-ended systems and relationships between the parts. Architecture, like play, is made up of elements that, when mixed and reorganized, can function differently, within predefined parameters.
The principal tool of play consists of modular systems which, in the compositional practice of the Equipo, become a veritable means of design. These are open and flexible systems, made up of single elements that can be composed and adapted to different external conditions. In architecture, they give rise to projects capable of growing, changing and being shaped in keeping with topographical, programmatic and urban parameters, based on particular circumstances or evolutions that occur over time. These are strategies conceived more in terms of method than in relation to a permanent formal outcome: they exist only by virtue of their ability to change. The architecture that arises from this approach is therefore based on versatile systems and unfinished elements, which evolve as molecular aggregates. Once again play can be a tool for controlling them. By adding one piece after another, the system can grow even outside the architect's control.
If this approach traverses all the work of the Colombian office, it finds its particular application and importance in the creation of educational spaces. It is important to add that, for Giancarlo Mazzanti, educational spaces have been a field of experimentation that is useful for defining his way of thinking and practising architecture, apart from their specific function. The opportunity to work on many projects of educational spaces[4], especially for day-care centres and kindergartens, have led him to experiment with the fundamental principles of the firm's work in this sector, principles which then proved valid for the broader areas of the project.

Co-creation: educational spaces beyond their function

Underlying the projects for educational spaces by El Equipo Mazzanti is a radical criticism both of functionalism and the idea of surveillance derived from the space of the factory as a model.
A fundamental reference in this regard is the concept of *device* proposed by Michel Foucault, and even more the models and mechanisms of control and surveillance identified in his *Discipline and Punish* (Foucault 1975). Mazzanti distances himself from a traditional approach to the design of educational spaces based on functional efficiency: a trend that has implemented strategies of control and discipline by using typological systems common to schools, prisons and hospitals.
Mazzanti opposes the *homo faber* of the industrial era with the *homo ludens*. Hence play becomes a tool for using space in an unexpected way and establishing an active relationship with it, going beyond functional efficiency. Apart from the function of the educational program, the spaces therefore become educational in themselves, and their impact becomes much wider.

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Fig. 1
Toys exemplifying the compositional systems of the Equipo Mazzanti projects.

Schools and kindergartens become part of a broad socio-educational project that comprises children, teachers and families. The influence of play is still very clear. Mazzanti sees playful culture as a useful tool for delivering to communities an architecture that is an instrument for learning and open to transformation.
The users' active participation renders them creative and active subjects, capable of transforming, modifying and occupying space in different and unexpected ways. The architect and the users are both responsible for the creation of the architecture.
Starting from the premises outlined so far, the Equipo has built dozens of schools, especially in Colombia, identifying modular growth models and creating architectures that have as a requisite the potential to be modified by their users.
The value of educational spaces, especially in emergency contexts such as urban peripheries in Colombia, leads to the conception of architecture itself as a discipline that seeks to create spaces that are themselves educational. The role of play is not linked so much to compositional principles intrinsic to the architectural language, as to a participatory and inclusive relationship with society and its users.
A particularly significant project in this respect is the Atlantico Kindergartens (2016), a series of thirty-one kindergartens designed following the flooding of the Atlantico region, due to the breaching of the Canal del Dique. After the flood, the need to build various structures rapidly led El Equipo Mazzanti to define an open and participatory system. Thus three typologies were defined (elongated, open and star-shaped) by which, through co-planning seminars, the communities were able to define the configuration of the individual kindergartens to meet the needs of their specific contexts.
The project was guided by a modular system, where the enclosed spaces were independent and autonomous and could be built to a simple and rapid

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Fig. 2
Atlantico Kindergartens: aerial views of some kindergartens made according to the three types (open, elongated, star).

construction process. The individual modules were connected by a circulation system that went beyond its distributive function, introducing another key aspect of Mazzanti's work: it is a space that can be used for community activities supplementing educational ones.

Space as a third teacher

Going beyond the physicality of the project and its formal execution, architecture plays a leading role in the transformation of the city and the construction of citizenship. In Giancarlo Mazzanti's design methodology, the architectural space becomes, we can say, a learning mechanism in itself.
Again starting by superseding a concept of space controlled by the logic of function and surveillance, the design intentions of El Equipo Mazzanti are translated mainly into two strategies. The first is the importance of empty space, linked to the cancellation of the corridor understood as a tool for organization and control. The relationship between spaces is not conceived only in functional terms of circulation, but is mediated by the void. The empty space is of central importance because it can be filled with meanings, adding the more important sense of discovery to the sense of connection.
The second is the flexibility of the environments, the ability to shape and modify them according to the needs of pupils and teachers. The pupils thus become the constructors of the space, because they are free to choose what type of relationship to establish with it. The possibility of looking and being looked at, the transparency, spatial continuity and the permeability of the interiors are other consequences of these principles.
The centrality of the relationship and the freedom left to users (in this case children) to move in space highlights a concept of "relational" space that brings us back to the principles, mentioned at the beginning, associated with "relational" aesthetics: «When we speak of relational spaces, we understand the place as an integrated space. The place is not made up of functional areas, but rather of teaching environments capable of defining atmospheres and relationships of play and learning»[5].
The relational space is the cornerstone of the Baby Gym project (Barranquilla, 2013), which involves the dissolution of the idea of the limit between

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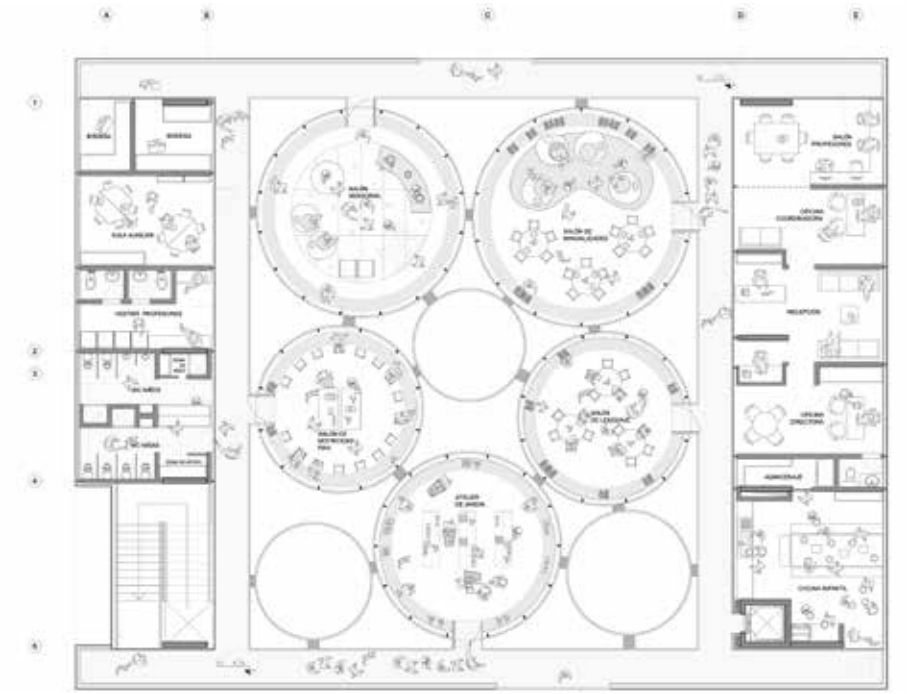

Fig. 3
Baby Gym Barranquilla, plan of the main level.

the classroom and the distribution space, which enter into relationship and continuity. The classrooms are glazed elements with circular bases, which remain as if floating and suspended in a broader connecting environment, which unites them without separating them. Eliminating the limits between interior and exterior thanks to the transparency of the walls and making the circulation space a void that favours contacts between children stimulates their freedom to move in space and form relationships with each other.
In all these projects, before defining the compositional and functional aspects, it is important to understand the teaching method. The pedagogical frame of reference seems to be more important to Giancarlo Mazzanti than the architectural reference. Loris Malaguzzi's pedagogical approach is the one that most often guides the project[6], as in the case of the Baby Gym in Barranquilla: the space is a "third teacher", a formative agent that enters into a relationship with the children's activities and participates in the educational processes.
The space has to foster relationships and behaviours and open up new forms of use of space through the dissolution of the limit. The recent La Ilusión kindergarten project (Cajica, Cundinamarca, 2020-), whose construction has been slowed down by the suspension of the start of work due to the spread of COVID, is another important step for Mazzanti's research into these issues. Here as elsewhere, we find a rhizomatic concept of growth that has no end or beginning and that will enable the project to be replicated in a similar way to the Atlantico kindergartens. The project works as an open-ended modular structure capable of growing. The corridor is also reinvented here, and becomes a "millipede" device, which allows children to move and enter into relationships with each other. On an oriented path that makes for a quick and efficient connection are superimposed other more tortuous circulations, which enable them to traverse the space not functionally but experientially, as a form of discovery. Outside the classroom, conceived as flexible, open and indeterminate, various thematic and cognitive spaces are articulated, which offer different interpretations of the space as a "third teacher" capable of stimulating interaction, experience and growth.

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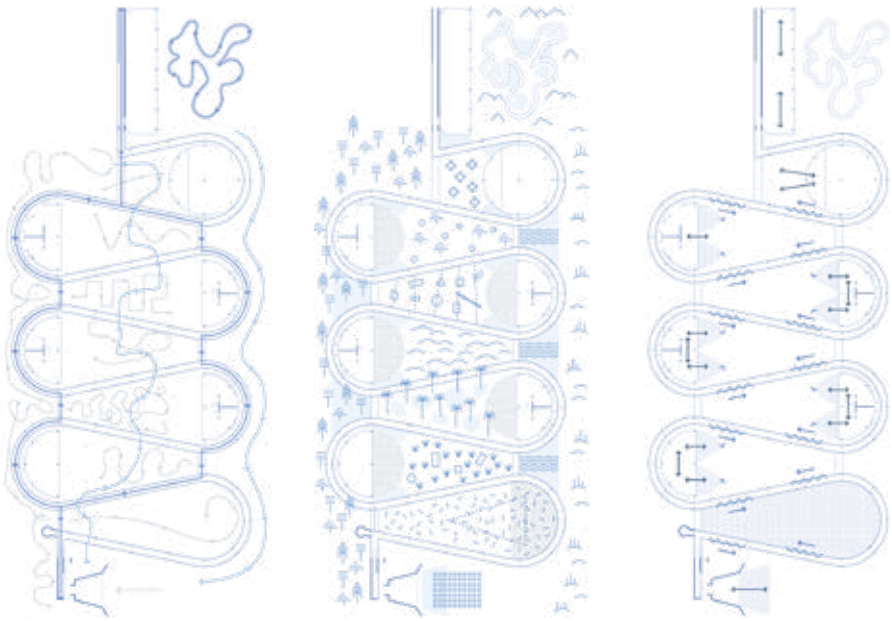

Fig. 4
La Ilusión kindergarten: open circulation systems, thematic and cognitive spaces, flexibility and diversity.

The educational space as an open work

We have already seen that modularity is the basis of a design strategy resting on growth, which is fundamental to the El Equipo's design practice. Rather than a finished and closed architecture, Mazzanti's architecture is a practice open[7] to the development of adaptive systems, consisting of modules and models of aggregation, capable of adapting to the most diverse situations, whether they are topographic, urban or programmatic.
The diagram as the DNA of the project, together with the adaptive modules and systems, is the fundamental strategy of this operational practice. Particularly significant in this regard are the materials that document the design process, the maquettes used, the sketches, the *juguetes* used to construct and represent the project, and which demonstrate the flexibility of the geometric systems from which it developed. While the project for Pies Descalzos (Cartagena, 2014) is based on a sequence of three intersecting hexagons, the perimeter of which defines the circulation and contains the functional program, in the case of the Porvenir kindergarten (Bogotá, 2009) the oval building-enclosure intersects with square-based volumes that are grafted onto it, inside and out, flexibly reworking the typological figure of the courtyard as an archetype of school architecture. Both projects are examples of the way educational structures can offer opportunities for urban and social regeneration, being defined as veritable social condensers. The Pies Descalzos school seeks to consolidate the neighbourhood and improve the lives of the residents by generating alternatives for personal and community development as well as an environmental transformation of the area. The Porvenir kindergarten is also a visible structure and reference point for the neighbourhood, and its function goes far beyond the educational, extending to take in a much broader social sphere. Interaction here becomes a compositional and social principle, defining a reference that returns in various other projects by El Equipo Mazzanti[8].
A final example that strikes me as fundamental to cite as an example of Mazzanti's modular and open strategy is the Timayui kindergarten in Santa Marta (2011). This project was created with the aim of improving the conditions of early childhood and access to education for the most vulnerable groups of the population living in the outer perimeter of the city. An open and adaptive architectural system, made up of flower-shaped modules adaptable to

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Fig. 5
Pies Descalzos School, aggregative models.

Fig. 6
El Porvenir, project simulation toys.

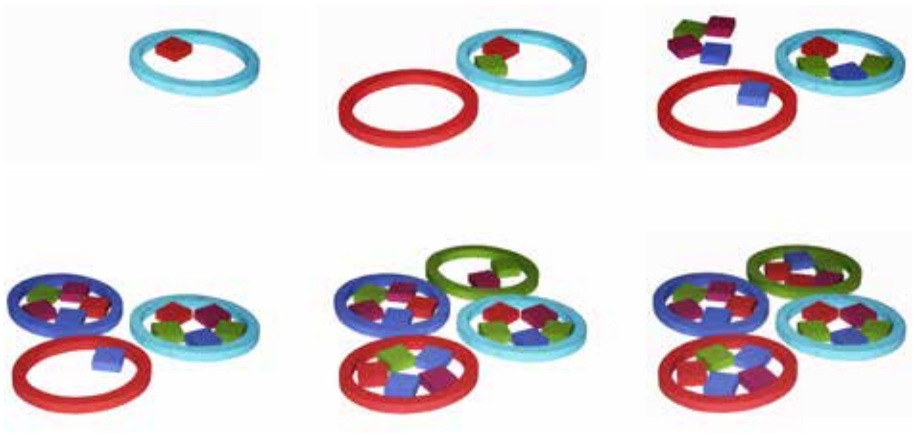
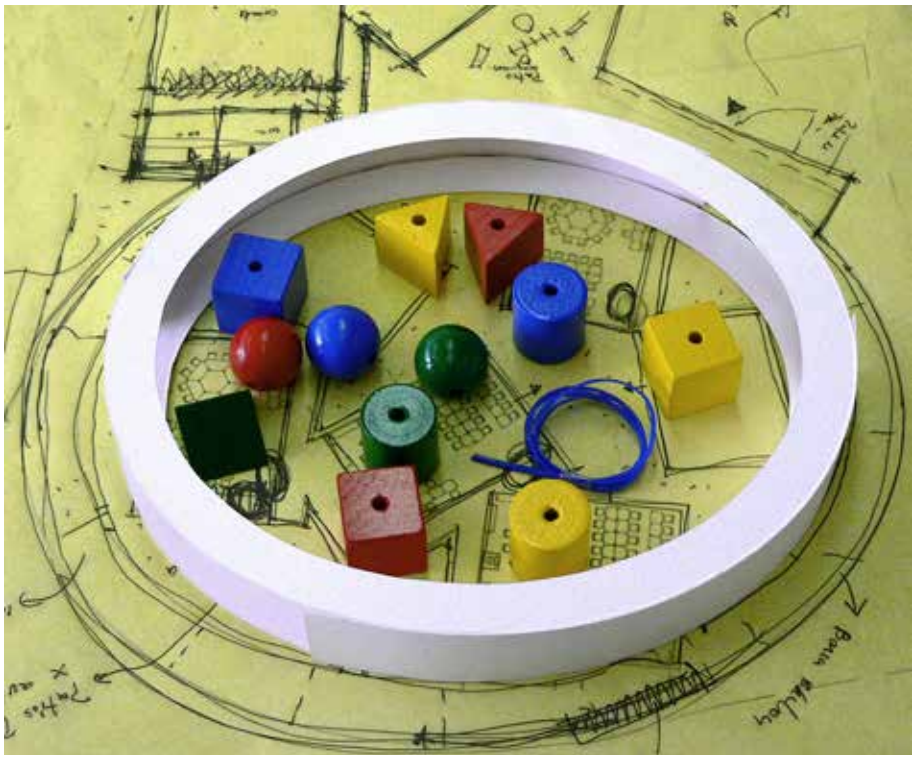


Fig. 7
El Porvenir, design process.



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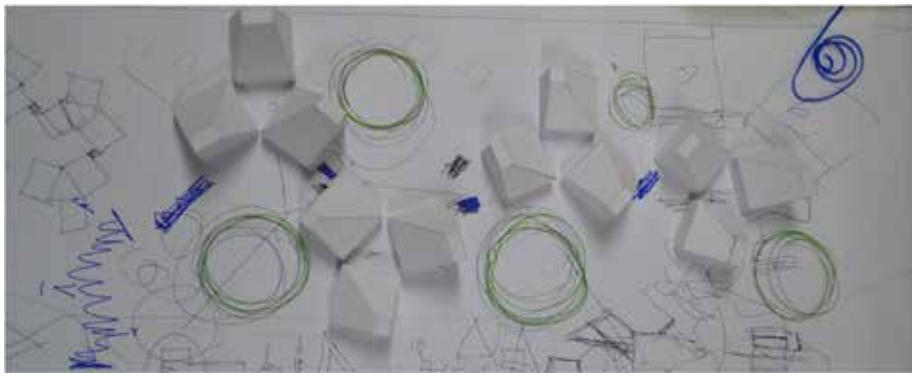

Fig. 8
Timayui Kindergarten, design process.

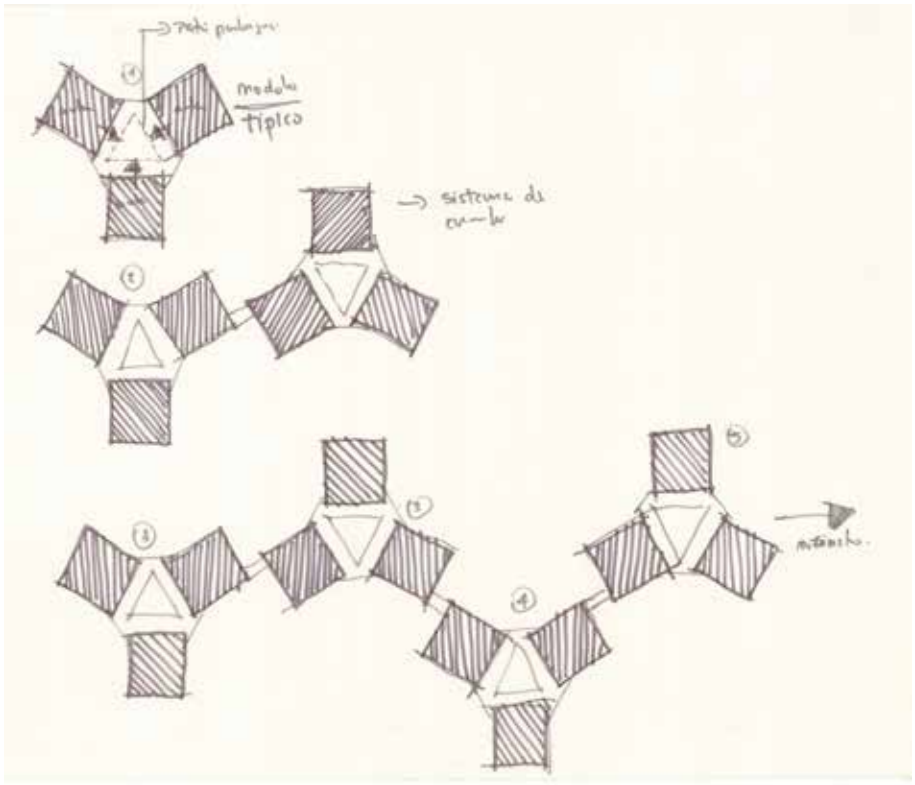

Fig. 9
Timayui Kindergarten, growth system sketch.

different situations, generates buildings capable of growing and transforming to suit particular or temporary circumstances. The project consists, as we have now seen in various cases, in a method strongly linked to its modifiability, rather than to a permanent form[9].
If Mazzanti's work is undoubtedly influenced by those design approaches that work by modules and growth devices, the most marked influence is recognized in pedagogical and educational theories[10]. In keeping with the concept Loris Malaguzzi expressed in speaking of «children's hundred languages», space has to be capable of expressing their hundred ways of thinking, playing, speaking, listening and discovering.
Reflecting this intention, the design principles embodied in the work of El Equipo Mazzanti aim to mark a transition that, starting from research into educational spaces, can be applied to all areas of the project. A transition that marks the fundamental passage from the device of disciplining to the device of freedom.

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Notes

[1] The criteria for the quality of public space and the encounter between bodies have been drastically questioned by the spread of the COVID pandemic in 2020: but if the means and terms of this relationship (porosity, fusion, interaction, contact) will probably require, at least temporarily, to be recodified, the ultimate goals of these aesthetic theories do not seem to change.

[2] Many of the contents formalized in this article derive from my personal conversations with Giancarlo Mazzanti in particular in 2017, when I edited the volume with Matteo Schubert, *Giancarlo Mazzanti. Inspiration and process in architecture* and in February 2021, for the preparation of this essay.

[3] For an in-depth analysis of the subject, in terms close and partly complementary to that is dealt with in this article, the reader is referred to number 51 of FAMagazine "Del 'gioco' e del 'montaggio' nella composizione" (2020).

[4] One of the first projects that the practice worked on, and which later became exemplary and referential for many others, was the El Porvenir project (2009). Between completed projects and competitions, the office has dealt with dozens of projects of educational spaces for children, primary education and universities.

[5] From a conversation of mine with Giancarlo Mazzanti, February 2021.

[6] Also particularly significant, for comparison with this pedagogical theory, was the project for the competition of the Loris Malaguzzi international centre (Reggio Emilia, 2012), an opportunity to explore anomaly, play and heterotopy as opportunity to multiply use and encourage diversity in the use of space.

[7] Another important reference for this approach is Umberto Eco's *L'Opera Aperta* (1962; English translation *The Open Work*, 1989).

[8] In the competition La Enseñanza in Bogotà (2020), the device was applied with the reverse strategy, the modules of the classrooms and other functional spaces being inserted externally to the distribution ring.

[9] Again in this case the spatial configuration starts from the understanding of Loris Malaguzzi's educational philosophy, which led to the idea of creating an element that suggests three interrelated centralities, and that creates situations and experiences between children, teachers and families.

[10] In recent years, Giancarlo Mazzanti has been interested particularly in the work of the educationist Beate Weyland.

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Viola Bertini

Learning, building, imagining. The schools of Hassan Fathy

Abstract
In Egypt, the middle of the last century saw several experiments in the field of traditional craftsmanship. Handing down this knowledge and encouraging creative spontaneity in the applied arts assumed a fundamental value in the process of reinventing national identity. The work of Hassan Fathy fits within this context. The villages he designed always included one or more schools, considered essential for these villages' birth and growth. They were flanked by other buildings dedicated to training in craftwork. The presence of such facilities in his villages highlights the meaningful social and cultural role which Fathy attributed to education and training in such contexts. This essay describes some of these experiences which, although now appearing deeply rooted in a precise historical and cultural moment, still retain a topical value thanks to the underlying ideas.

Keywords
Hassan Fathy — Education — Construction

Along the Saqqara road that leads from Cairo to the archaeological site of Giza, not far from the Pyramids, stands the village of Ḥarrāniyyah. Here, among the houses that have become more closely-packed over time, a polygonal fence delimits a space containing some buildings which make up the Ramses Wissa Wassef Art Centre. This architectural ensemble is the work of the Egyptian architect Ramses Wissa Wassef (1911-1974), its creator and designer. Trained at the École des Beaux-Arts in Paris, from 1936 he taught art and history of architecture at the Faculty of Fine Arts in Cairo, where he met Hassan Fathy and became a colleague and friend of his. Both worked on an attempt to build a language that would be the appropriate expression of a reborn national identity[1].
Wissa Wassef is Habib Gorgui's brother-in-law[2] and shares his pedagogical theory, according to which each individual has an inherent creative potential which, if properly encouraged from a very young age, can lead to excellent results in the artistic field. Even without any formal constraints and, above all, irrespective of the academic teaching models used. Wissa Wassef wrote about this:

«I had this vague belief that every human being was born an artist, but that this gift could only be brought to light by encouraging artistic creation through the practice of craftwork from early childhood» (Wassef 1972).

Spurred by these ideas, in 1951 he founded the Ramses Wissa Wassef Art Centre, with the aim of providing the children of nearby villages with preliminary knowledge on the technique of weaving, so that through this means and without any external conditioning, they could bring works of art to life.

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Fig. 1
Ramses Wissa Wassef Art Centre, 1951-1974.
© photo by V. Bertini

Over time, other activities were added to the weaving school, such as the production of ceramics and batik, as well as a small museum, also designed by Wissa Wassef and intended to house the sculptures produced by Gorgui's students. The Ḥarrāniyyah Art Centre is conceived as a village, and is laid out as such. The settlement has been built up over time by adding parts which respond, from time to time, to the needs of the moment[3]. The buildings have been constructed using raw earth as the main building material. Covered with practicable flat roofs, domes and catenary vaults, they have been planned as experiments in the use of shapes and materials and have arisen from the skilful assembly of architectural elements derived from tradition. Many of the exhibition spaces, houses, and workshops that make up the village have been built directly by the students at the school under the architect's supervision[4]. As a result, the architecture itself has become the outcome of an artisan production process in which – wrote Wissa Wassef (Picone 2009) – beauty and utility, form and matter, work and function, people and creativity are inextricably linked.
Overall, the Art Centre of Ḥarrāniyyah not only summarizes the thinking of Wissa Wassef, but brilliantly expresses a cultural context, the same one in which Fathy operates, where the transmission of knowledge, also in the field of applied arts, is attributed a founding value in the process of reinventing national identity. Fathy cites the experiment conducted by Wissa

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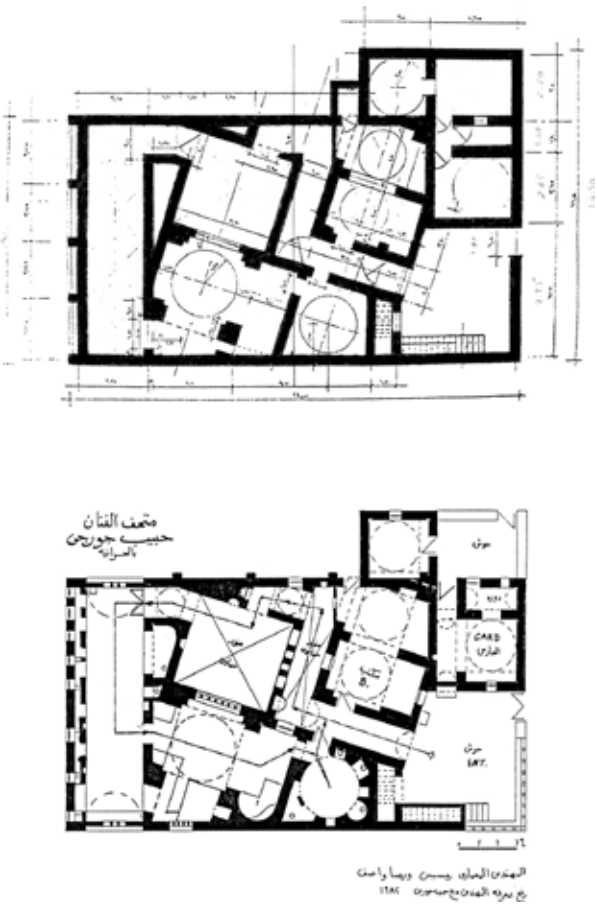

Fig. 2
Habib Gorgui Sculpture Museum, plans, 1972.
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The plan of the Museum, laid out on the Golden Section, is arranged following a double footprint: inside the perimeter envelope, oriented north-south, is a rotated system composed of a courtyard with a shape close to a square, by a Qa'a placed in line with it and the entrance. The latter takes the form of a partially vaulted and partially open-air path, whose non-rectilinear course recalls the bayonet entrance of the traditional Arab house. An exhibition room with a circular plan functions as a pivot of the rotation; aligned with it are two rooms covered by domes which refer to the spatial structure of the Qa'a. Meanwhile, the actual exhibition gallery follows the position of the perimeter envelope, defining its western boundary. This is a large, vaulted room, entirely illuminated by natural light, like the rest of the museum.

Wassef and Gorgui in his book *Architecture for the poor. An experiment in rural Egypt* (2008) and for the village of Ḥarrāniyyah he too created an urban project, which would remain on paper, however.

What Wissa Wassef did in Ḥarrāniyyah, and the pedagogical methods promoted by Gorgui find an echo in Fathy's work. In fact, the villages the latter created highlight the meaningful role attributed to education in these contexts, whether scholastic or professional.
First and foremost, Fathy's villages always feature one or more schools which, sized according to the size of the villages[5], represent an institution deemed necessary for the birth and development of these small foundation towns. As Fathy wrote:

«[the architect] must approach the design of his school as he does the design of a church or a mosque, for it is the same sort of building. In the school it is the children's soul that will grow, and the building must invite them to fly [...]. With a few fateful lines on his drawing board, the architect decrees the boundaries of imagination, the peace of mind, the human stature of generations to come» (Fathy 2008, p. 127).

The example of New Gourna (1945) is significant, since the architect created two schools there, one for boys and one for girls, which did not exist in the old village. The choice to introduce this kind of facility in a rural village destined to accommodate around 900 inhabitants was the result of an invention, therefore. The New Gourna schools were among the first projects in which Fathy tackled the theme of the school building. Here he developed several lines of reasoning that would be brought to fruition a few years later in the project of a school for Fares (1956). Both in the schools at New Gourna and in some drawings from 1949 for a school that was

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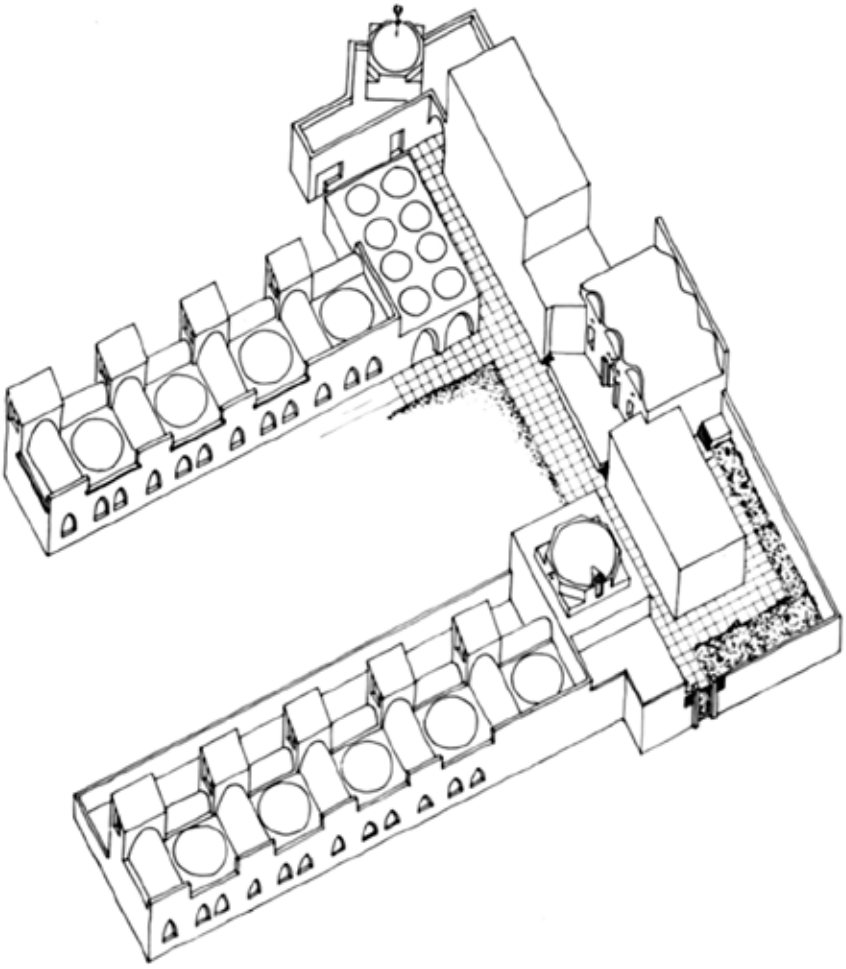

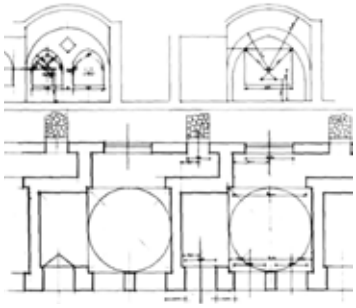

Figg. 3 a-b
Fares School, axonometric view, study of a plan and section of the classrooms, 1956.

never built[6], a courtyard plan was used, open on one side and structured by a repetition of classroom modules, each equipped with a windcatcher. These modules represent the main compositional unit and the space which, before anything else, «should be a home to the children» (Fathy 2008, p. 128). A similar system was used again in the Fares school, where the administrative and collective spaces, such as the mosque, library and meeting room, occupy the eastern side of the enclosure, while the classrooms are arranged north and south of the courtyard. The design of the classrooms is as an assembly, according to a new order, of the constituent elements of the *Qa'a*[7]. A square space roofed with a dome houses the students' desks; this is flanked by a second rectangular vaulted space for the teaching, which was meant to contain a *salsabil*[8]. This climatic device aimed to increase the effectiveness of the natural ventilation which, in the first versions of the project, was made possible by the presence of *malkaf* shafts. These shafts, oriented northwards in the direction of the prevailing wind, were placed at the end of the vaulted space and connected to one another through the entrance areas to the classrooms. This led to a complex ground plan, given by an interlocking linear sequence, rather than a simple juxtaposition of classrooms. Although in the final version, the *salsabil* and the windcatchers were not built, the presence of *claustra* and a series of suitably directed openings still ensures cooling inside the building. The part of the school dedicated to teaching is therefore based on the recurrence of classrooms along two sides of the rectangular courtyard, representing the organizing element of the whole layout, which is open towards the urban landscape. The theme of assembling spatial units on the basis of an orthogonal grid and around one or more courtyards is one of the recurring composition-

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Fig. 4
New Gourna Boys' School, plan, 1945.
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Fig. 5
New Gourna boys' school shortly after construction, 1945.
© Photo by H. Fathy, from the private collection of S. S. Damluji

al principles in Fathy's architecture. In the case of the Fares school, this principle, expressed in relation to the functional programme, allows for a communal open space which the classrooms overlook. Finally, there are the collective spaces, each with its own individuality and recognizably autonomous. Prominent among these is the small mosque, which represents the only element rotated with respect to the orthogonal layout.
The school at Fares codified in Fathy's architecture a possible type for the school building which, already present in New Gourna, was to recur in different ways in other urban projects of his. The courtyard layout, the repetition of classroom modules characterized in their plan and elevation, the use of an orthogonal grid on which the assembly of spatial units is laid out, the presence of collective spaces, among which the mosque emerges as a differently oriented figure, are all elements found in numerous school buildings designed by Fathy and in many of his other works of architecture.

In addition to the schools, in Fathy's villages there are always additional buildings dedicated to education, but of a professional nature. Similar in concept to the Ḥarrāniyyah Centre, these are places where he imagined that the inhabitants could learn to make mud bricks for the construction of villages, or acquire the skills necessary to produce local handicrafts.
In New Baris (1965), one of the first (and the few) buildings built is an Auto Construction Centre, considered a prerequisite for the development of the entire village. This is located on the southern perimeter of the settlement, in an isolated position and adjacent to a stretch of land dedicated to the extraction of mud and the drying of unfired bricks. This is an essential architecture, an enclosure defined on two sides by walls and, on the other two sides by a sequence of vaulted spaces, to which, to the east, a portico has been added that looks out over the abstract space of the desert. A poetic building, like the other buildings at Baris, thanks to being built of the same material as the ground, in which the intense light of the desert collaborates with the architecture to define its spaces. However, in this case, the interest lies not so much in the built work, as in the idea that its function underlies. Auto construction is in fact a recurring theme in Fathy's work. The direct involvement of inhabitants in the construction of villages is not merely a gimmick to obtain low-cost housing, but a means to restore the ancient *trinity* of *architect, craftsman, client*[9]. This cooperation, which has

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Fig. 6
The self-construction centre in the village of New Baris, 1965.
© Photo by V. Bertini

largely been lost, is, in the architect's mind, essential to affirm the «role of architecture in the cultural growth and development of the whole people» (Fathy 2008, p. 78). If, wrote Fathy, «a peasant never talks about art, he makes it» (*ibidem*), it is necessary to transmit to the *fellahin* the knowledge to make mud bricks, build vaults and domes in unfired earth, conceive and construct their own homes. In Fathy's vision (which is not without its utopian aspects), this will make it possible to have houses similar to the inhabitants, villages that grow harmoniously from the landscape and works of architecture rooted in the place; an expression of an «Arab feeling» (Fathy 1968). In Fathy's relentless search for an authentically Egyptian architectural language, the involvement of artisans and inhabitants in the construction process becomes one of the tools through which to hand down (and betray) tradition.

Emblematic in this light is the project for the Islamic community of Dar al-Islam in New Mexico (1981). Here, in fact, the process to build the entire village was conceived as a large open-air school. Fathy designed both the urban project and the individual pieces of architecture, then, together with the master builder Alāʾ al Dīn Muṣṭafa[10], he taught the local community the necessary techniques to use unfired earth to complete the construction of the village. Although only a few buildings have been built so far, the experiment is interesting since it reaffirms the importance attributed by the architect to the teaching of traditional knowledge, also outside the borders of Egypt. This importance can be traced back to what Fathy defines as a «humanistic attitude» (Fathy 1977), or better, an anthropocentric vision in which his architecture always begins from the people to whom the architecture is addressed.

Often stepping outside his role, Fathy steers every urban project towards a possible economic and social model. This explains the idea of cooperation and self-construction and, at the same time, the reasons which guide the architect in designing not only the built forms for his villages, but also a potential economic and social structure. This approach is particularly evident at New Gourna, where the need to relocate a village also led Fathy to imagine possible new vocations for it. Among these, craftwork played a key role. In fact, facing the main square of the village is the *khān* of the trades, which is partially outlined as a typological rewriting of a caravan-

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Fig. 7
The construction of the village of Dar al-Islam, 1981. In the centre of the image, dressed in white, the master builder Alāʾ al Dīn Muṣṭafa.
© Photo by Nicole Toutoungi, Aga Khan Trust for Culture

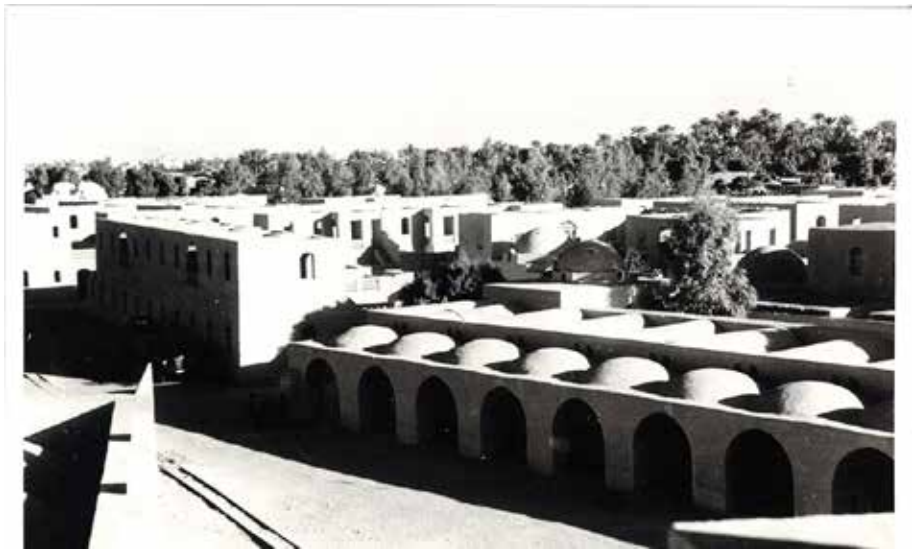

Fig. 8
The village of New Gourna, 1945. On the right, the khan of the trades, whose portico overlooks the main square of the village.
© Photo by H. Fathy, from the private collection of S. S. Damluji.

serai, whose name it has borrowed – and also its function, to some extent. The building consists of two parts: a rectangular courtyard, bordered by a portico, which houses two types of classrooms and a sequence of four residences that draw a polygonal figure, each of them representing a rewriting of the traditional Arab house. Fathy imagined that some master artisans could temporarily reside in the *khān*, teaching their trades to the local population and selling their products. This was to continue until the knowledge had been handed down and then their place would be left to new artisans with different skills. In addition to the *khān*, Fathy finally designed a professional school dedicated to the weaving and dyeing of fabrics.

The craft schools which Fathy imagined for New Gourna underlay an idea similar to the one that would guide the Ḥarrāniyyah project six years later. In Egypt, which at that moment was moving towards liberation from a colonial past, education became key. The presence of at least one school and a vocational training centre in every village designed by Fathy was therefore essential, even in rural contexts where they had never had any. Educating and training the young inhabitants, teaching traditional craft and construction techniques, and encouraging spontaneity in the applied arts

were all actions which took on a social and cultural significance. Social, because a possible development model was envisaged which, despite being far from reality at times, staked a claim for a civil value for architecture. Cultural, because the handing down of ancient knowledge to the new generations was an attempt to build a renewed identity.
Even if, in hindsight, the experiences described appear deeply rooted in a precise historical-geographical context, the underlying ideas nonetheless retain a topical value. The fact is that the learning spaces designed by Fathy have the ability to embrace multiple issues, coagulating content, form and place. The court type appears in various forms and is constantly rewritten, both in relation to the context in which it is inserted, and to its educational function. The classroom and the workshop are the minimum compositional units sized according to usership – children or young artisans – which, when repeated and assembled, together with the collective spaces can configure a part of a town. And it is in the public and urban role of these buildings that perhaps the most significant contribution of these experiences to the contemporary architectural debate lies. In fact, Fathy's schools propose a sociocultural model and contextually define the parts of the city for which they have been designed. By deforming, reaching into the fabric through arcades, opening up courtyards, defining public spaces, or drawing a sign on the horizon, these buildings have the ability to compose whole urban areas, to the point of transforming the entire construction of the settlement into a school, as in the case of Dar al-Islam. There is a continuous exchange between the internal landscape of the schools and the urban landscape that they help to build, both in its material aspects and in its social and cultural components. The formal response to a functional program, which is as generic as it is specific, thus escapes from a self-referential logic to «aspiring to be architecture. Educational architecture» (Pezzetti 2012).

Notes

[1] Regarding his relationship with Wissa Wassef at the Faculty of Fine Arts in Cairo, Fathy said: «When I became director of the Architecture department, I did not allow the students to work on designing any projects except those that were on Egypt. And I stopped any foreign magazines or journals they used as sources to copy from. The French professors left, and only Egyptian teachers remained, but they were all 'Franco-Arab', except for Ramses Wissa Wassef. Only he supported me in the discussions on the importance of culture, identity, philosophy, architecture and education. No one else was interested, and the rest of the professors would walk away from our discussions. They were not aware of the problem, in architecture or in education then. As far as they were concerned there was no problem». In: Damluji S.S.D. and Bertini V. (2018) – *Hassan Fathy. Earth & Utopia*. Laurence King Publishing, London.

[2] Habib Gorgui (1892-1965), pedagogue and chief inspector of the Art department of the Ministry of Education, founded the Folk Art School in 1938. A staunch supporter of Jung's theories, he experimented in his school with a method aimed at encouraging free expression among the students who were entrusted with materials, clay or fabrics, to be worked on without the imposition of any technique, letting each child spontaneously develop his or her own creativity. The experiment conducted by Gourgi was not an isolated case, but one shared by other educators of the time, including Husayn

Yusuf Amin (1904-1984). Both rejected the canonical rules of art teaching to develop their line of reasoning regarding the relationship between the national identity issue and creative freedom, finding in the latter a tool to create authentically Egyptian art. See Karnouk L. (2005) – *Modern Egyptian Art 1910-2003*. The American University Cairo Press, Cairo-New York.

[3] Construction of the Ramses Wissa Wassef Art Centre ended in 1974, when the complex had more or less reached its current conformation. Some other buildings have been added over time, including a museum dedicated to textiles designed by Badye Habib Gorgui. In 1983, the project was awarded the Aga Khan Award for Architecture. The Centre is still in use today.

[4] On this project see Cantacuzino S. (1985) – "Ramses Wissa Wasser Arts Centre". In: S. Cantacuzino (edited by), *Architecture in Continuity.* Aperture, New York.

[5] See Fathy H. (1974) – "Planning and Building in the Arab Tradition: The Village Experiment at Gourna". In: M. Berger (edited by), *The New Metropolis in the Arab World*. Octagon Books, New York.

[6] The drawings are kept at the Rare Books and Special Collection Library, Hassan Fathy Architectural Archives, American University of Cairo. Ref. 49.04.

[7] The *Qa'a* was originally a reception room for guests in Cairo's medieval palaces. It consists of two parts and has a precise ground plan, matched by a codified section. It is one of the main elements of the tradition which Fathy transposed, rewriting it in his own language. On the use of the *Qa'a* layout in Fathy's architecture, see Fathy H. (1972) – "The Qa'a of the Cairene Arab House, Its Development and Some New Usages For its Design Concepts". In: *Colloque international sur l'histoire du Caire, 27 mars- 5 avril 1969*. Ministry of Culture of the Arab Republic of Egypt, Cairo.

[8] «The *salsabil* is a vertical fountain [...] consisting of an inlaid marble slab worked in bas-relief, with ornamental motifs which evoke water and wind. This slab is placed in a slightly oblique position, in order to facilitate the flow of water across the surface». In: Picone A. (2009), Op. cit., 129.

[9] See, on the concept, Fathy H. (1973), Op. cit. and Fathy H. (1974), Op. cit.

[10] Alāʾ al Dīn Muṣṭafa first worked with Fathy in 1945 on the construction of the village of New Gourna. From then on, he would collaborate regularly with the Egyptian architect. An interview with Alāʾ al Dīn Muṣṭafa can be found in Damluji S. S. D. and Bertini V. (2018), Op. cit.

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Camillo Magni

School architecture in the Global South. Opportunities and experiments within the processes of International Cooperation

Abstract
The contexts of the Global South offer, in many ways, a rich and fertile field of experimentation full of new opportunities. The reduction of regulatory constraints, for example, stimulates a renewed investigation of the relationship between space and function; economic constraints are a means of avoiding the most commonplace construction models; and the encounter between different cultures facilitates expressive contamination. Among these projects, the school building plays a significant role, representing the most important infrastructure carried out in the framework of International Cooperation. In the following paper, I will try to explain the reasons for this leading role by highlighting the most significant aspects that recent school buildings have highlighted.

Keywords
Global South — International Cooperation — School

Many people believe that planning in international cooperation in the context of the "South of the World" (the Global South) is based solely on humanitarian and social values. This view is short-sighted and limited. A great effort must be made to escape the «rhetorical attrition that accompanies the ways in which these places are described, analysed, experienced and, above all, communicated by the media. For architects working in the different countries of the Global South, where it is not easy to know both the present conditions and the past, traditions and cultures, rhetoric is a serious danger from every perspective. It is particularly so when architecture uses it to demonstrate its ability to adhere to the celebration of the other, turning diversity into a simulacrum, a rhetorical device»[1] (AA. VV. 2020). But if this is the risk, what antidote can be put in place? Perhaps one way to begin to work on it would be to start studying the places, processes and contexts in which we operate. The aim would be to understand the opportunities, recurrences, and most significant design challenges within a process that is, by its very nature, complicated and contradictory and which sees architecture as one of the privileged means of promoting the development of local communities. The goal is to dissolve the rhetoric in order to learn what the most significant implications are for those working in the context of the Global South. At the same time, as architects, the objective is to question ourselves on the value of architecture in relation to these places, the consequences of our work, the opportunities and the challenges that these projects offer to disciplinary reflection.
In the following lines, I will try to focus on a specific type of building that characterises a large number of projects carried out in the sphere of International Cooperation: architecture for schools. I will try to argue the

reasons for this choice by highlighting the most innovative and significant aspects that recent school buildings have revealed.

Architecture vs. local development

The main objective of any action promoted by International Cooperation is the development of the beneficiary communities. For this reason, the first question to be tackled concerns the type of development that architecture is capable of facilitating. To answer this question it is necessary to weigh, with witty intellectual honesty, the differences between promoters and beneficiaries, measure the relevant economic and social difficulties and consider the different points of view. When you build a school in an informal or remote context, what idea of development are you promoting for local communities?

This issue characterises an open and evolving debate that has involved international actors and politicians for about seventy years as well as architects since the 1956 CIAM of Dubrovnick[2] when the theme of decolonisation and "modernisation" of African cities became central.

«Think, for example, of Portuguese architects and their experiences in Angola and Mozambique during the years of dictatorship between 1926 and 1974, which were prevented to them in their homeland; or the work of Otto Königsberger who, after leaving Nazi Germany, studied in Cairo, worked in India and then directed the Department of Tropical Architecture at the Architectural Association in London; or people such as Maxwell Fry, Jane Drew and Ernst May, the designer of the Siedlungen in Frankfurt» (AA. VV. 2020). Among the many other architects that could be mentioned, it is particularly interesting to return to the words of Egyptian architect Hassan Fathy who, in a 1963 letter[3] addressed to Gamal Abdel Nasser, President of his country, claimed in extraordinarily contemporary tones the value of architecture as a tool for promoting community development.

More than half a century has passed since Fathy wrote to Nasser.

It would be appropriate to keep this in mind when reading his pages, so bitter in their in dealing with the theme of the 'African city' and post-colonial development.

«Forgive me, Your Excellency, for leaving my field, architecture, and entering the field of politics. If I have done so, it is because development is intimately linked to politics and because it is my firm belief that the challenges for rural Egypt are identical to those faced by other parts of the world in Asia and Latin America. [...] There are currently no cities on our continent that can be called African in the true sense of the word, whereas there are European cities located in Africa [...]. Nubian houses and mosques are far more beautiful and architecturally more harmonious than any residential complex built by any government or international organisation in the world [...]. The miserable state of most Egyptian villages is due to the widespread ignorance and poverty that afflicts the buildings in the countryside, produced by the feudal system of land ownership, and has nothing to do with whether the buildings are made of earthen bricks or reinforced concrete. [...] the decline of traditional building methods, which made it easy for many people to build their own houses and at the same time ensured the preservation of ancient artistic values. The widespread imposition of Western building styles and methods in the Egyptian countryside, as a prerequisite for development, led to the extinction of old techniques before new skills took their place. Many planners and architects consider the fastest possible construction of towns and villages as a nec-

essary evil. To take this approach to its logical conclusion, let us imagine that villages and towns could be prepared overnight and offered to the population. That would be the worst thing we could do for them: we would be destroying the culture and civilisation that come from mobilising the local populations' inventiveness, creativity, and craftsmanship. By building things, people build a sense of self: forging a citizen with skills and the ability to build is more important than erecting a building».
These words, seventy years later, strike a chord with the most adverse problem: how does architecture promote the development of its inhabitants? How does a school, in our case, generate growth that involves not only the students who attend it, but also the inhabitants who live there?

The relevance of the role of schools: identity and civic value

Despite the many rhetorical statements, there has been an undeniable interest in architecture from the "South of the World" in recent years. This interest is confirmed by a swirling critical debate on the subject, one of the most significant moments of which was the 15th Venice Biennale in 2016, "Reporting from the Front", curated by Alejandro Aravena[4]. The reasons for this interest are found in a number of factors, including: the originality of the solutions adopted; the research product, in which the culture of the project finds the answers rather than absolute faith in technology; freedom of expression, where the design constraints are part of the disciplinary sphere in which we work, rather than a system of often anachronistic rules; and a way of searching for meaning in the profession of architecture which finds immediate confirmation in these places in terms of social sustainability. The idea that the projects realised in these contexts contain aspects of relevance thrives for the entire architectural community. Among these, the school function plays a leading role, representing the most important building promoted by international cooperation. Figures such as Francis Kere[5], for example, have built their notoriety on the careful production of schools, which, in their various forms, have explored multiple typological variations.
The reasons for this prominence can be traced back to several factors. First of all, the financial aspects: both the major international players and the smaller, independent voluntary associations see (with farsightedness) educational projects as one of the primary sectors for promoting local development. This approach has led to considerable financial resources of various kinds being channeled into educational projects, which have in turn led, among other things, to the construction of numerous school buildings. This growing demand has involved both local and international architects, encouraging a flourishing disciplinary reflection around this specific building type. A second reason can be found in the symbolic value of the school: in many cases, the educational building takes on a significance that goes beyond its functional purpose. They are located in poor places where practically everything is missing: roads, water, electricity, houses, sewers. In other cases they are to be found in remote areas where the desolation and remoteness from urbanised areas make any construction particularly complex. In these places, the school building takes on a remarkable civic value. As well as housing the teaching activities, the school becomes, by definition, the public building. It testifies the presence of the state, represents the civic value of the community and interprets them in one place. It is much more than an educational building; it is the space in which the physical, social and economic efforts of its inhabitants are concentrated.

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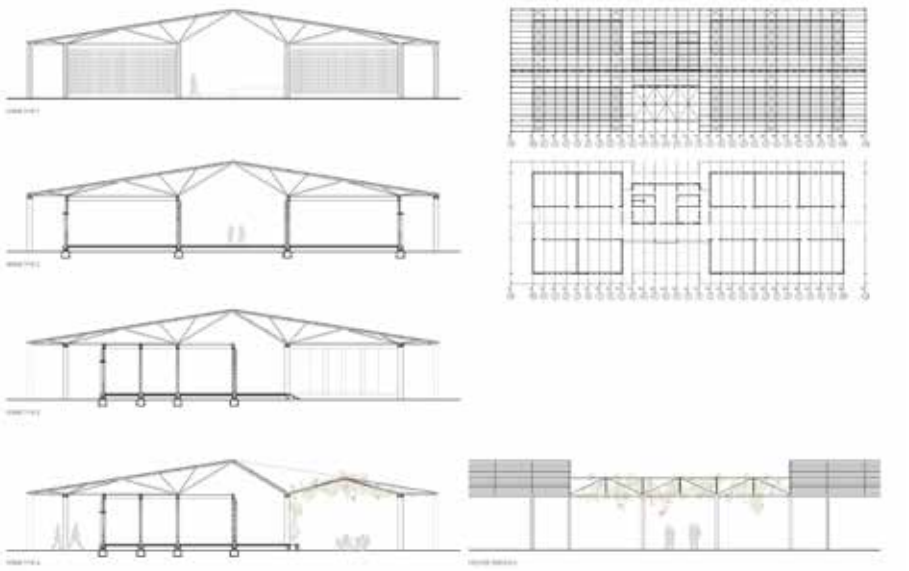
Fig. 1
Secondary school and service buildings of the Bangre Veenem school complex, Koudougou, Burkina Faso. Frontal view with the double-pitched metal roof.

Fig. 2
Secondary school and service buildings of the Bangre Veenem school complex, Koudougou, Burkina Faso. Ground floor plan.

Fig. 3
Secondary school and service buildings of the Bangre Veenem school complex, Koudougou, Burkina Faso. Diagram of the metal structure of the roof.



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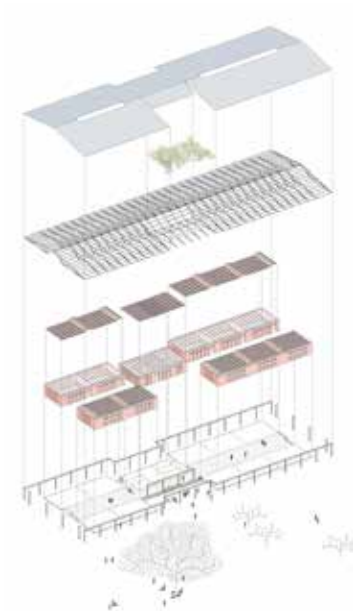

Fig. 4
Secondary school and service buildings of the Bangre Veenem school complex, Koudougou, Burkina Faso. The axonometric cross-section shows the different construction components.

Fig. 5
Secondary school and service buildings of the Bangre Veenem school complex, Koudougou, Burkina Faso. Interior view of classrooms.

A few examples I draw from experiences in the field and which I take the liberty of sharing in this scientific paper in order to evoke the social conditions that characterise these places: the school is the place where at least one full meal a day is offered, where people take refuge during tornadoes, where students' uniforms are always clean, ironed and in good order even in the most desperate contexts, where teachers sleep on the ground at night because they are too far from home. It is the place where humanitarian aid is concentrated; it is the tallest, largest, most visible building, with the most trees and shade, where pets do not enter and where community festivals are organised and where, of course, people (occasionally) vote. From this perspective, the school takes on a symbolic priority value within the community, the importance of which can be found both in the functions it performs and in the virtues it evokes.

A third reason is related to identity aspects. As occured, for example, in nineteenth-century Milan, when the large school complexes, occupying entire blocks, were able to hinge on the urban plan for the development of the city drawn up first by Beruto and then by Albertini[6], contributing to the identity of the new nineteenth-century bourgeois Milan. So too can the schools in the countries of the South of the World participate in the construction of a national identity. These are relatively young nations, the result of colonial legacies that too often ignored the real boundaries of pre-existing cultures. They are nations where school architecture contributes to the construction of a national identity. This is why typological research, settlement principles, materials, shapes and colours can contribute to defining a national identity through the systematic organisation of one of its most representative buildings. A few examples are proof of this: in recent decades, a fervent proliferation of manuals dedicated to school construction has characterised the projects of actors such as UNICEF[7] in collaboration with local governments. This approach reflects a broader political design aimed at overcoming the repetition of individual local actions in favour of a more complex vision of identity capable of incorporating pedagogical reflections, typology, building systems, settlement principles, use of materials, with the ambition of training technicians and local offices responsible for governing the process.

A second example concerns the relationship with vernacular architecture.

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Figg. 6 a-b-c
Architetti senza Frontiere Italia, Rong Village Secondary School, Cambodia. View of the internal corridor with the bamboo panels separating the classroom from the outside, detail of the external façade and front view.

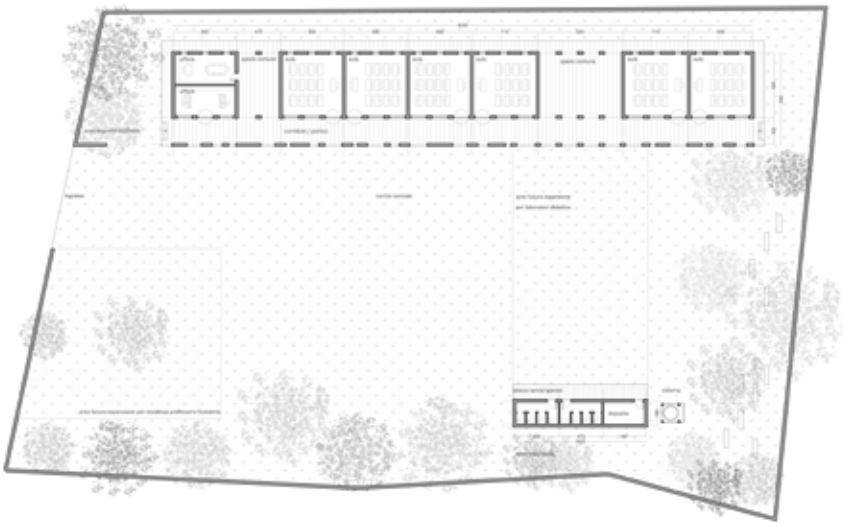
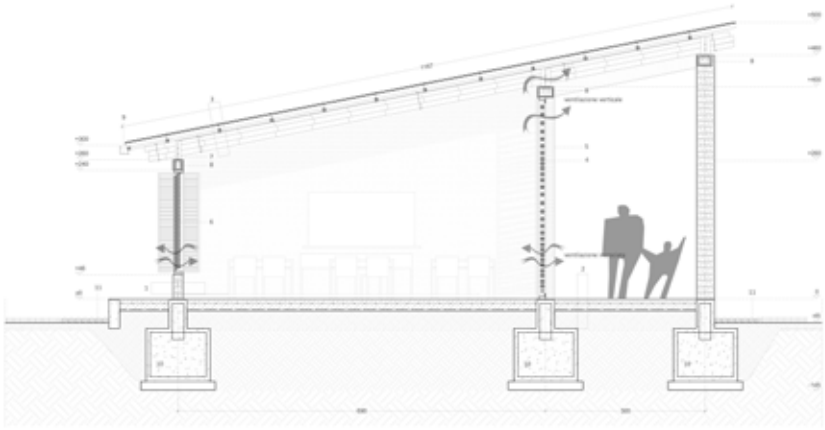


Fig. 7 a-b-c
Architetti senza Frontiere Italia, Rong Village Secondary School, Cambodia.
Ground floor plan, cross section and elevations.



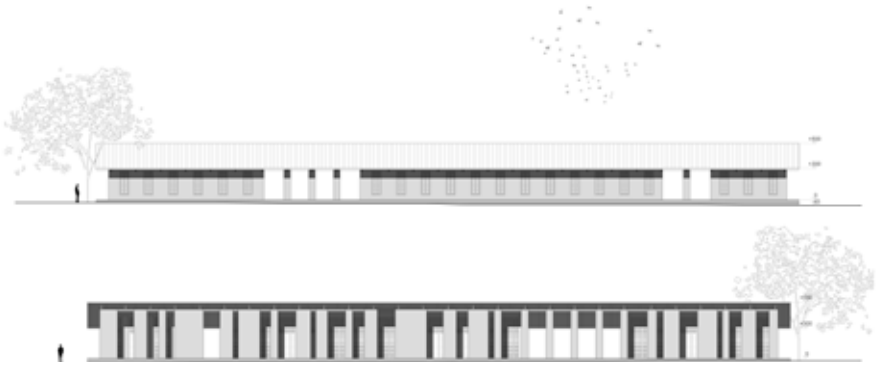


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Fig. 8
Architetti senza Frontiere Italia, secondary school in Rong village, Cambodia.
The construction phases highlight the use of raw earth block and natural plasters.

Many contemporary examples explore successful reinterpretations of traditional building systems and the use of local materials. These include the work of Francis Kerè or Albert Faus in Burkina Faso, the schools of the Caravatti studio in Mali, the works of Fabrizio Carola in the Sahel, and many others starting with the already mentioned Hassan Fathy. This sensitivity highlights, among other things, the successful attempt to build a link with the history of the people who inhabit these reasons, strengthening the identity aspects that characterise these places.
The civic value, the social contribution, and the identity aspects are some of the characteristics that make explicit the importance of the school building in these contexts. It cannot be assimilated with other services or buildings; it is the most representative and prominent building in any village or neighbourhood. The traditional relationship between signified and signifier goes beyond any hierarchy, highlighting how the latter (signifier), as well as the former (signified), is the instrument with which to govern the settlement and identity processes of these places.

Schools as instruments of innovation

The contexts of the Global South offer, in many ways, a rich and fertile field of experimentation and new opportunities. The reduction in regulatory constraints, for example, stimulates renewed investigation of the relationship between space and function; economic restrictions are a way of avoiding the most commonplace construction models in favour of new, more efficient forms; and finally the encounter between different cultures makes it easier for designers to listen more closely to local places and cultures.
In these contexts, the design of a school is freed from the many schematics induced by the various conventions (regulatory, economic and social) and can go back to investigating, with renewed creativity, the construction of space as a unique setting for learning. Natural light, local materials and spatial relations become the elements with which to organise teaching spaces. The abandonment of all unnecessary features, all forms of excess

and redundancy leads the project to express itself in its most natural simplicity. In the strength of this radical simplicity lies the value of this architecture, which does not limit itself to a Franciscan reduction of elements, but displays the Paulist sobriety of forms.
Observing the school buildings constructed in the last decade in the field of international cooperation (ASFItalia, E. Caravatti, E. Roswag / A. Heringer, Tyin architects, ...) one can see, despite the heterogeneity of the places and professionals, a common design matrix capable of combining contemporary languages and vernacular atmospheres. This approach evokes a postmodern root, emptied of the anti-modernist ideology that characterised the 1980s. In a somewhat chaotic form, these projects demonstrate an uninhibited way of drawing on very distinct formal repertoires, through which different cultures are brought together as a result of the encounter between beneficiaries and donors. The positivism that supported the Modern Movement and the various experiments it carried out in the young nations of the southern hemisphere between the 1950s and 1970s gives way to the pragmatic approach of those who aim to solve concrete problems through architecture and who are not afraid to contaminate the project in order to embrace all its contradictions.

For these various reasons, observing the design experiences carried out in these contexts from our perspective, without relegating them to critical specialisations or regionalisms, allows us to nurture a disciplinary debate on a specific type of building. It nourishes fertile reflections that help broaden the theme by recovering the essence of the problems as they are more evident where the problems are more urgent and the superstructures less oppressive.
It is with renewed interest, therefore, that we turn away from all romanticism and the many rhetorics in order to also apply the rigour of typological and morphological analysis to the contexts of the Global South with the ambition of discovering new and exciting architectures.

Notes

[1] With these words the Casabella editorial staff opened a long article dedicated to two school buildings by Albert Faus in Burkina Faso and André Benaim in Ethiopia. Casabella 910, June 2020, 3.
[2] In 1956, the 10th CIAM congress took place in Dubrovnik. There, in addition to the famous generational rupture that gave rise to Team X (both Le Corbusier and Gropius did not participate in the event, limiting themselves to sending written reflections), new design attentions spread around the drafting of the "Charter of Habitat", associating the idea of the city with those of "cluster", "mobility", "growth and change". In particular, the British MARS group related urban development to social development by adding the terms 'identity', 'association'. Of the 35 case study panels, some were devoted to projects in countries in the South.
[3] The text in question is taken from Salma Samar Damluji and Viola Bertini's beautiful book, *Hassan Fathy. Earth & Utopia*, 2018, Laurence King Pub, London, 2018, 86.
[4] Alejandro Aravena – starting with the design experience of Elemental - is the most recognised interpreter of the relationship between architecture and social projects. Awarded the Prizker Price in 2016 with the curatorship of the XV Venice Biennale

"Reporting from the Front", he has been able to consolidate a field of disciplinary reflection in the contemporary debate.

[5] Francis Kerè, an architect originally from Burkina Faso, studied and currently works in Germany. At the beginning of the millennium, a number of his works in his home country of Gando attracted a great deal of international interest, also thanks to the visibility generated by the Aga kahn Award.

[6] Cesare Beruto, author of the first Milan City Plan in 1884-89 (AA. VV. (1992) – *La Milano del Piano Beruto. 1884-1889, Società, urbanistica e architettura nella seconda metà dell'Ottocento*. Edizioni Angelo Guerini e Associati, Milan). The Pavia Masera Plan of 1912 and the Albertini Plan of 1934 followed the same principles.

[7] Under the leadership of Unicef headquarters over the past 30 years, multiple national programmes have been initiated to support the education policies of various local governments.

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C. MAGNI (2016) – *Osservare l'abitare informale*. Maggioli, Milan.

S. SAMAR DAMLUJI, V. BERTINI (2018) – *Hassan Fathy. Earth & Utopia*. Laurence King Pub, London.

Camillo Magni, (1973) teaches Architectural Design as Adjunct Professor at Politecnico of Milan and is Director of the Master "Design for development in the Global South". He is author of more than 90 scientific papers, two books and co-editor for Casabella. In 2007 he founded "Operastudio" a design office in Milan and New York soon achieving notoriety and awards. He leads the NGO Architetti senza frontiere Italia, working in several countries around the word and winning in 2015 the honorable medal of "Medaglia d'oro all'architettura italiana" and Silver medal "Fassa Bortolo" for the school project in Cambodia.

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Elvio Manganaro

Language and abstraction

Abstract
There is a point where training of the architect and education of the child meet. Criticism has never questioned such a point that keeps Froebel and Bauhaus together: the contribution of these two moments to the construction of what we call language of modernity is clearly evident. The purpose of this essay is understanding how the pedagogic and progressive function of such convergence, which has its primary base point in geometric abstraction but its purpose in design and educational action, has finally removed the spiritual component inherent in abstraction. In other words, it is as though the linguistic combinatorial process, or the insistence on the configurational possibilities of a language reduced to few elementary signs whose sense lies in the world, had sterilized the mystical power of abstraction. Such considerations crossbreed with the issue of language understood in a speculative, figurative, verbal, as well as social, broad sense and justify the need to address language in an issue devoted to the relationships between school and architecture.

Keywords
Language — Abstraction — Combinatorial process — Mystic

«A human being speaks to human beings about the superhuman – the language of art»
Vasilij Kandinskij

«There was a time when language ceased to connect words according to simple relationships and became a tool so delicate that its use was forbidden to most men»
Maurice Blanchot

1.

Language has been conspicuously absent in these years of renewed interest in the school, and this in spite of the role it had in the meditations of Father Milani and Tullio De Mauro (Roghi 2017). Yet, as soon as we hear about two Egyptian children who put together a sort of Arab vocabulary for their teacher Antonella in an elementary school in Milan[1], we find ourselves again at the precise point where we had left *Lettera a una professoressa* and *Dieci tesi per l'educazione linguistica democratica* – in other words, where «the limits of my language mean the limits of my world».
This, however, is Wittgenstein (1964, § 5.6) and perhaps it is unsurprising that a quote from the Austrian philosopher appears in the first edition of De Mauro's *Storia linguistica dell'Italia unita*, which is an attempt at exploring the relations among income, school attendance and language in Italy. A famous quote, drawn from the *Philosophical Investigations*, in which extension of language and life coincide and language emerges as a constantly evolving process, not unlike a city where ancient layers exist alongside new conurbations.
Such coincidence between language and life is also at the origin of the classist use Father Lorenzo Milani made of language. Dealing with language means dealing with politics and, whereas the purpose of Barbiana was, on

one side, protecting a rural culture that progress was gradually erasing, on the other side Father Milani conducted a fierce battle against the «masters of language», against the words that «imply a previous culture» (Milani 1967, p. 195) and become weapons wielded by the so-called *Pierini del dottore* to constantly prevail over thousands of *Gianni*.

2.

I have little to add about this social, progressive and transitive dimension of language; that said, I miss a time when working on language in order to change the balance of power still appeared as a viable option.

Instead, I would rather go back to Wittgenstein who, as everybody knows, was himself a teacher in an elementary school for a time. However, the Wittgenstein I would like to go back to is not so much the one of the *Investigations* and of language games, the unwitting champion of Anglo-American analytic philosophy and precursor of the postmodern; it is rather the Wittgenstein of the *Tractatus*, which is, by the way, the only text, along with a Dictionary for elementary schools, the author sent to the press during his life.

In the *Tractatus*, the effort to superpose the logical structure of language to reality in ways that Wittgenstein considered as definitive does nothing but describe the limits of the linguistic structure itself, thereby showing precisely what escapes that armature, what language cannot *say* and in front of which propositional logic can only be silenced, in other words what Wittgenstein calls the Mystical.

It is Wittgenstein «the mystic, the aesthete, the Stalinist of spirituality», as described by Alain Badiou (2018), we are interested in here. All of Wittgenstein's construction underlies an aesthetic, *hyper-aesthetic* approach. In this, aesthetics and ethics are not different. Aesthetics and ethics come true in the act, which does not belong to language but is the only way through which a value shows itself – the sense of the world is unsayable, and can only be shown.

However, going down this road, language on one side and aesthetics and ethics on the other are bound not to meet. Having confined aesthetics and ethics to the transcendental level actually implies their exclusion from the realm of language.

This is how it is, at least in the *Tractatus*.

Yet, if we take the case of tautology, which – according to Wittgenstein – is a meaningless form of propositional logic, the authenticity of which cannot be ascertained although it belongs to the world, well, precisely in this extreme form, language shows itself in reflexive terms, and in so doing inevitably slides towards aesthetic realms.

In other words, if language can *say* reality, it cannot say itself – it can only show itself, and it is only when language reflects itself by showing its own structure that it accesses those «artistic paradigms of pure showing» (Ibidem, p. 22), which is also access to mystical life, as «ethics and aesthetics are one» (Wittgenstein 1975, § 6.421).

Therefore, the power of tautology lies in its being unbound to the trades of the world – this much, as argued by Stefano Agosti[2], was clear to both Wittgenstein and Mallarmé.

Besides, such an alignment of Wittgenstein and Mallarmé is not so unheard of. Badiou himself recognizes a formal homology between the *Tractatus* and the famous *A Throw of Dice* ... – a proximity made clear by a «massive» syntax and an «affirmative and hierarchical unfolding» that, as soon as it exhibits the logical-linguistic structure of the world in all its aphoristic

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Fig. 1
Vasilij Kandinskij, *Picture with a Circle*, 1911, private collection, Paris.

peremptoriness, also alludes to its overcoming, and shows it as inessential, as only the act is essential (Badiou 2018, p. 65).

3.

Now, the reflexivity of language quite naturally leads to the abstract avant-gardes of the early twentieth century. Giuseppe Di Giacomo already argued for this approach (1989, 1999). In the end, it is precisely when language ceases to represent something other than itself that we actually access the realm of abstraction. That realm is accessible either through color (Kandinskij) or the figure (Malevič), or the grammar structure (Mondrian). In any case, this access invariably implies an *analytical line*, if you know what I mean. And I use the expression *analytical line* on purpose, because Filiberto Menna (1975) explains these things very well, and it is precisely along this non-objective and non-iconic way that language, reduced to elementary, non-signifier units, shows itself as an autonomous formal structure.

Greenberg, Barr and the American formalist school take their cue precisely from this semantic zeroing. According to Greenberg, even avantgarde painting and sculpture, not unlike functionalist architecture and the machine, can only exist through «what they do», their purpose being exclusively the visual feeling produced by their formal structure. There is nothing else behind an abstract painting[3].

Yet, a few years before the *analytical line*, Menna himself (1982) had to admit a *metaphysical hypothesis about abstract art*, whereby the analytical and procedural component derived from the pure visibility theory, which is still present in the main exponents of abstract art and is the foundation of the formalism inspired by Greenberg, finds its counterpoint in a drive towards the *Geistige*, the mystical, which disregards the formal process and instead originates from symbolist culture. Abstract art itself would re-

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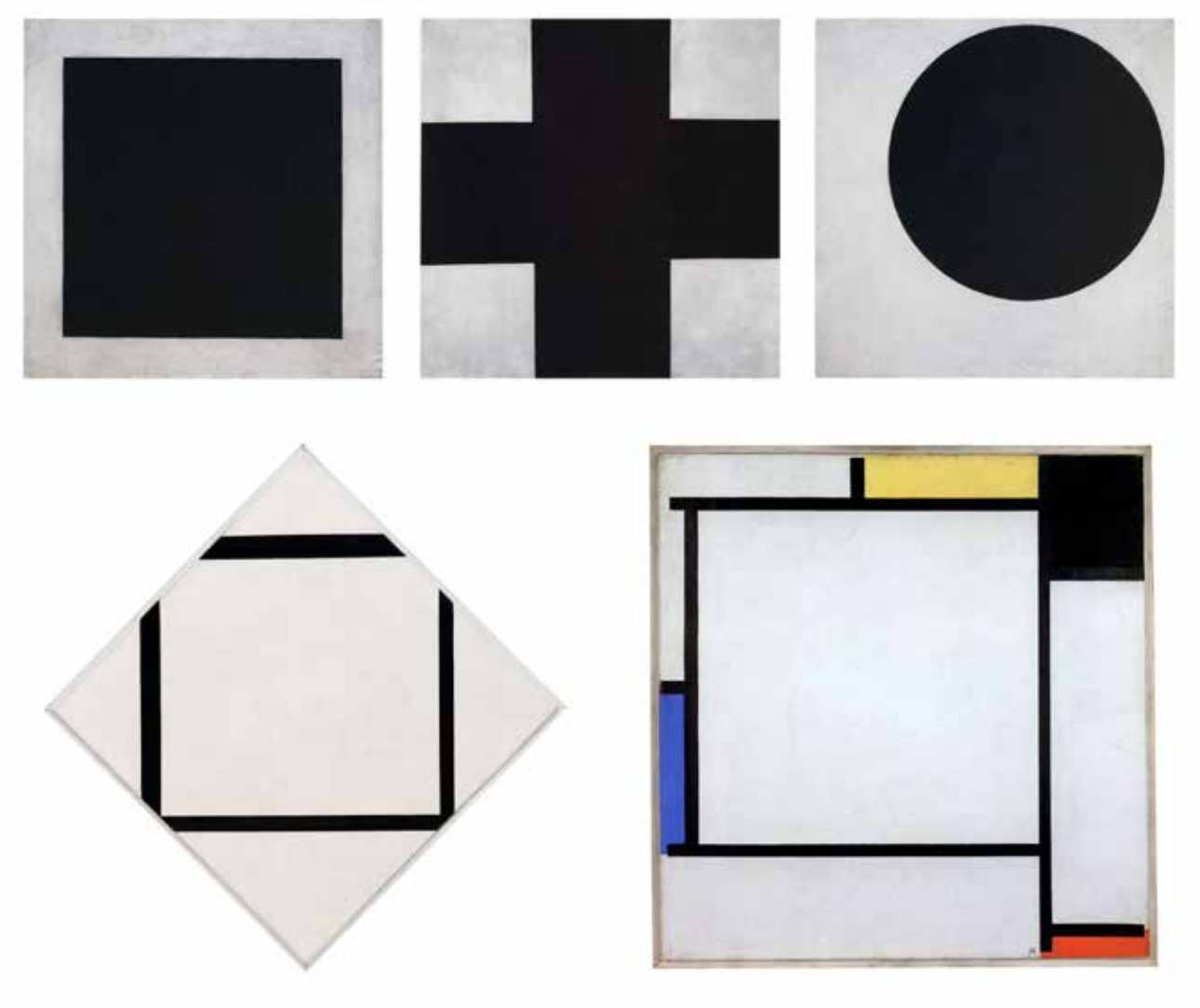

Fig. 2
Kazimir Malevič, *Black Square, Black Circle, Black Cross*, 1923, Russian Museum, Saint Petersburg.

Fig. 3
Piet Mondrian, *Composition 1A, Lozenge with Four Lines*, 1930; Composition (Tableau) 2, 1922, The Solomon R. Guggenheim Museum, New York; from Rosalind Krauss, Grids, in «October», Vol. 9, Summer 1979.

deem the symbolist culture from various forms of decadentism by offering the only viable alternative to the aesthetic deterioration of a repertory of archetypal images from which symbolism could not free itself, as Albino Galvano (1988, pp. 71-90; 111-133) argues.

In other words, abstract art does not issue exclusively from the process of mental abstraction applied to nature – in order to reach the self-sufficiency of its own means proposed by Cézanne and by Cubism –, but rather from «a need of Absolute, which cannot be satisfied if not by renouncing to phenomenal appearances» (Menna 1982, p. 43).

Now, considering abstract art from the spiritual rather than from the analytical point of view means that, precisely due to such non-objective reductionism, it is possible to access deeper, transcendent levels of signification, as argued by Tuchman (1986), and this approach is equally legitimate in historiographical terms.

Kandinskij published *Concerning the Spiritual in Art* in 1910, and if within a few years Malevič's Black Square would annihilate language once and for all by declaring the impossibility to represent the world, its apparent nihilism actually conceals the status of threshold towards the sacred dimension. Equating the Black Square with the icon of the Orthodox tradition is not an interpretative fact – it is what substantiated the Suprematist research since the beginning, in 1915, and differentiated it from Tatlin's Constructivist research.

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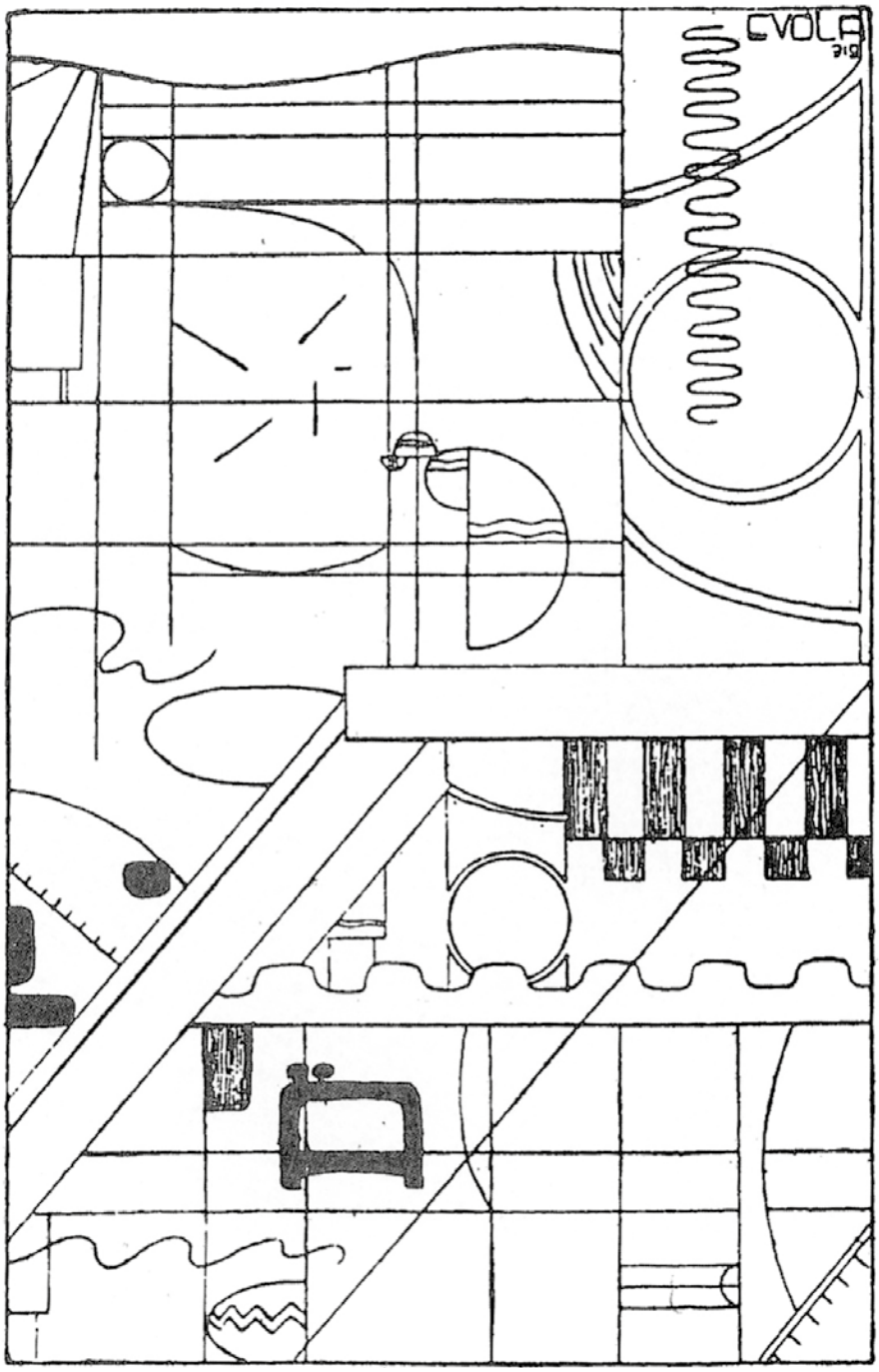

Fig. 4
Julius Evola, *Composizione n. 3*, 1919; from Julius Evola, *Arte Astratta*, Rome 1920.

Even in Mondrian, whose analytical reason is apparently free of irrational drives, there seem to be deep roots that draw inspiration from theosophical spiritualism.

The same argument explains the delay with which abstract art reached Italy: spiritual inspiration is the common denominator, albeit with obvious differences, of Evola, Belli and Ciliberti. And if for Evola, at least the Dadaist Evola of the small notebook *Arte astratta* (1920), the one of *mystical abstractionism*, stripping the expressive medium of any content in order to tap into its abstract potential is an alchemic (Valento 1984) and esoteric enterprise aimed at reaching a higher status of the being, not unlike the one pursued by mystics and clairvoyants, Carlo Belli's analytical and rational pursuits inspired by the theory of pure visibility tap into Rosmini's radical spiritualism. Being an expression of the spirit, art has nothing to do with the world and becomes abstract as the revelation of God, God being an innate concept in man. In *Kn* (1930), considered by Kandinskij with

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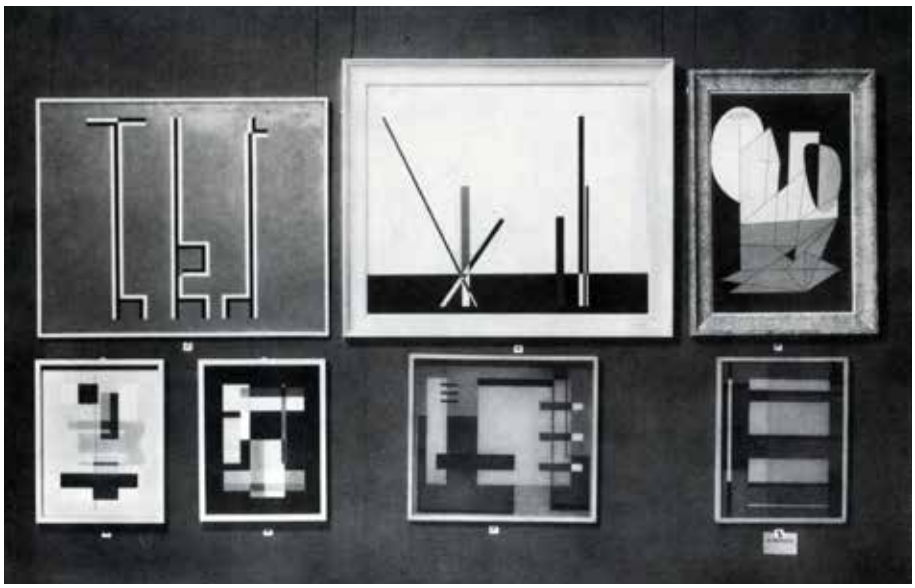

Fig. 5
Wall devoted to abstract painters at the III Quadriennale di Roma, 1939, top Osvaldo Licini and Atanasio Soldati, bottom Mario Radice and Manlio Rho.

good reason as the "Gospel of abstract art", the professions of aesthetic and religious faith coincide.
The same is true for Franco Ciliberti's *primordialism*, whereby primordium [the earliest stage] indicates a dimension hovering between mythical and spiritual, which concerns «our communion with the infinite» (Ciliberti 2003, p. 69) and is to be pursued in the origin of the creative act. For the purposes of our discussion, it is perhaps worth noting that, as a student of the history of religions in Rome, Ciliberti was acquainted with academics like Raffaele Pettazzoni, Ernesto Buonaiuti, Giuseppe Tucci, who were scholars of spiritualism and Oriental religions – Tucci, as Evola himself, was not even foreign to the world of theosophy – and that the first Italian edition of Kandinskij's *Concerning the Spiritual in Art* (1940) was promoted and translated by Colonna di Cesarò, an avowed supporter of Steinerian anthroposophy. After Laterza and Hoepli passed, the essay was published by Religio, a publishing house managed by Buonaiuti, a "modernist priest" who was in conflict with the Church's official line (Caramel 2011 and Di Raddo 2020).

4.

It is, however, at the level of *medium* that "formalist" and "absolutist" approaches (Roque 2004) finally coincide. If the renunciation of the perspectival representation and the assumption of the literal two-dimensionality of the painting surface are the main means used to shift the sense of painting from the phenomenal world to the formal structure, it is precisely through such flatness that access to the Mystical can be regained.
In this regard, I find the convergence of Wilhelm Worringer and Pavel Florenskij, two very different authors who belong to far away contexts, quite telling. And if the former is never absent in the arguments about the origins of abstract art, the role of the latter in the development of the avantgarde is more contradictory. Deep down, Florenskij was an enemy of the avantgarde. From the pages of «Lef», Father Florenskij and his protector, rector Favorsky, were openly accused of having corrupted the Vchutemas by filling the heads of students with issues of a symbolic and mystical nature (Misler 1990, pp. 3-51).
Yet, without Florenskij and his meditation about the icon, even Malevič would be impossible to understand, because it would be impossible to un-

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Fig. 6
Vladimir A. Favorskij, Cover for Pavel A. Florenskij's book, *Mnimosti v geometrii*, wood engraving, 1922.

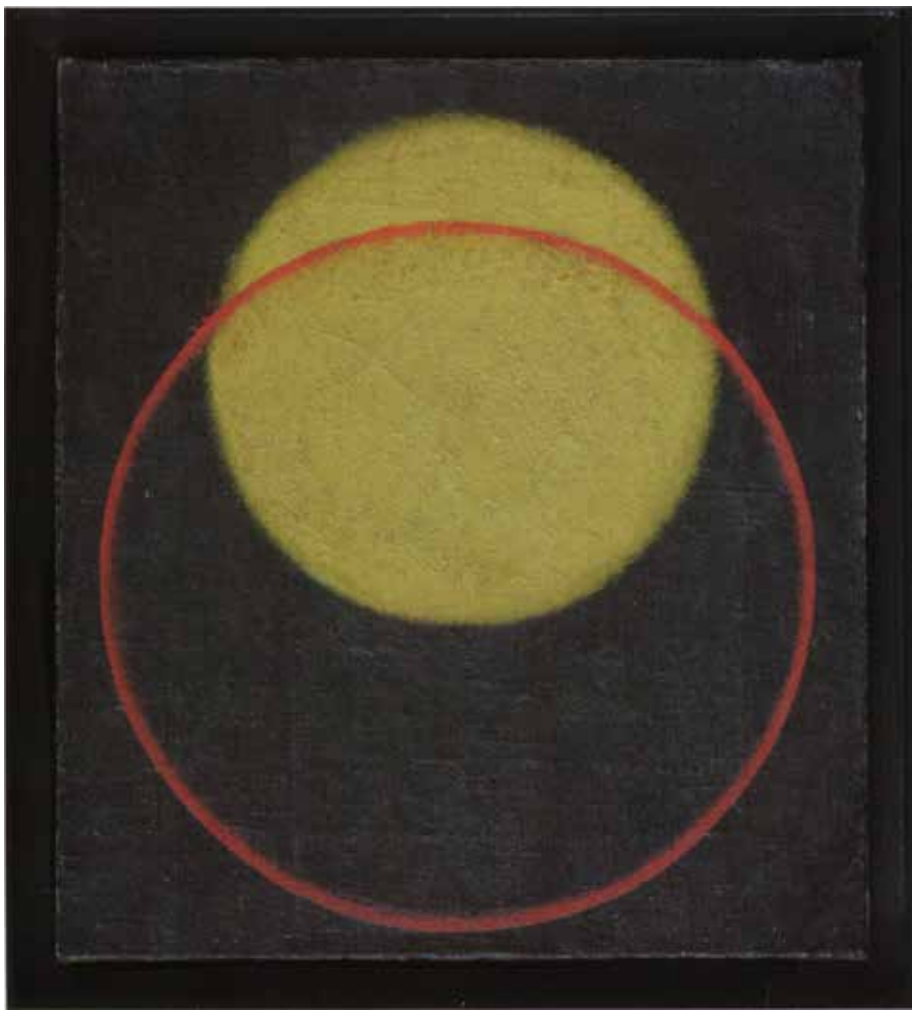

Fig. 7
Aleksandr Rodčenko, *Non-objective Composition n. 61*, 1918, Tula Museum of Fine Arts.

Fig. 8
Ivan Leonidov, Palace of Culture for the Proletarskij District, 1930.

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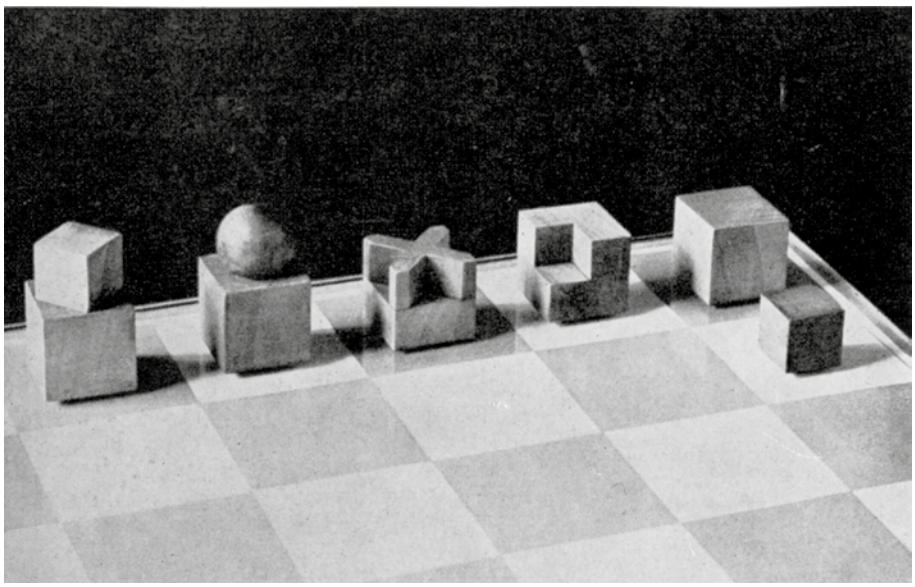

Fig. 9
Josef Hartwig, Bauhaus Chess Set, 1924.

derstand the value of the surface-plane as a medium to reach the absolute, its being a visible diaphragm of the Invisible. Only due to the opaque surface of the icon where, unlike the transparency of the Renaissance perspectival window, color is light and perspective is denied, is it possible to cross the border between earthly and spiritual.
Should one address, instead, Worringer and his concept of abstraction, the latter again emerges as deeply oppositional and transcendental to the world. *Abstraktion und Einfühlung* is a seminal text. The author imagines the history of art as a constant alternation of two opposing urges – the urge to abstraction and the urge to empathy. And if empathy is understood as the drive of man towards nature and the organic that leads to a naturalistic art, abstraction can only be understood as the opposite movement, or the will to wrest the object from the flow of phenomena in order to release it from any earthy substance and make it *absolute*. According to the author, the empathetic attitude corresponds to a «pantheistic relationship of confidence between man and the phenomena of the external world» (Worringer 1975, p. 36), while the urge to abstraction is the outcome of an inner unrest inspired by phenomenal mobility and, in a religious respect, corresponds to a transcendental attitude typical of all monotheistic religions.
In short, it is necessary to abolish any form of representation, and erase three-dimensionality, because, only by effacing «the last trace of connection with, and dependence on, life, that the highest absolute form, the purest abstraction has been achieved; here is law, here is necessity, while everywhere else the caprice of the organic prevails» (Worringer 1975, p. 41).

5.

Then, it seems to me that the purpose of schools like the Bauhaus and Vchutemas was historically to restore a volumetric substance to an abstraction whose function as threshold to the Absolute was consubstantial to its condition of flatness.
Bringing the abstract experimentations back into the world, to the movement of light and shadows, meant bringing language back to its phenomenal verification, going back to where language *says*, thereby abandoning the aesthetic dimension of tautology.
In other words, it meant bringing the sense of language back to its use, as argued by Wittgenstein in his *Philosophical Investigations*. The principle

of abstraction becomes formal pedagogy for furniture, objects and buildings precisely to concur to the design purpose.
At the end, when many, in the post-war period, pointed their finger against that tradition, they would question precisely its clear linguistic status: International style as an average common language, elementary enough to be applied to the world, because «imagining a language means imagining a form of life» (Wittgenstein 1967, § 19).
Perhaps, the most historically important role of the Bauhaus was precisely taking Kandinskij, Mondrian and Malevič – the school devoted a Bauhausbücher to each of them – and subduing them to design, or to reality; exhausting the ancient power of the aesthetic and mystical act, detaching them from the walls, by turning their language from reflexive to transitive; and it was necessary to regain the third dimension in order to do that.
Interestingly, the very first elements of the Froebel gifts, whose pedagogic and progressive value, in spite of the symbolism they emerge from, is not questioned, are precisely the primary solids. The child immediately receives a sphere, a cube and a cylinder and, at a later stage, increasingly complex volumetric partitions of the cube: two-dimensional abstraction only intervenes with the seventh gift. There is a deep difference between the surface of a two-dimensional plane and the surface as the face of a solid. The function of *medium* is always denied to the face of a solid, regardless of how such function occurs, in an either objective or non-objective direction, while the two-dimensional plane is always a medium through which something happens, something whose phenomenal substance tends to disappear.

6.

Yet, the destiny of architecture is the phenomenal world, the *cubic*. Unless you opt for the treacherous road of the separation of drawing and built work, which would be worth discussing as a fascinating issue in itself; because, as argued by Hejduk (1980, pp. 9-11), our thinking architecture and therefore even our imagining architecture occurs through a sequencing of two-dimensional images.
However, if we accept that architecture is the play of volumes brought together in light, it remains to be seen how it is possible to preserve the plane, two-dimensionality.
According to Worringer, for the peoples whose artistic will was totally dominated by abstraction and the cubic had an agonizing quality, such as the Egyptians, even the architectures had do provide the impression of a plane surface and therefore the architectural ideal of this culture reached its most coherent expression in the pyramid, because whichever of the four sides the spectator stands, his eye always perceives the figure of the equilateral triangle: thus, «in so far as the cubic can be transmuted into abstraction» (Worringer 1975, p. 103), it was done in the pyramid. Worringer borrows these arguments from Riegl (1953, pp. 32-35) as well as from Hildebrand's *Problem der Form*; for Hildebrand, only when the sculptural figure has a flat appearance, although it is cubic, has it acquired artistic form.
Perhaps, even the dialectics between volumetric masses and two-dimensional power of the wall inherent in Romanic architecture echoes the primordial effort to exorcise the «haphazard and troubled state» in the cubic aspect of things mentioned by Hildebrand (1949, p. 84).
However, pursuing flatness is not the only way to reach the Mystical.

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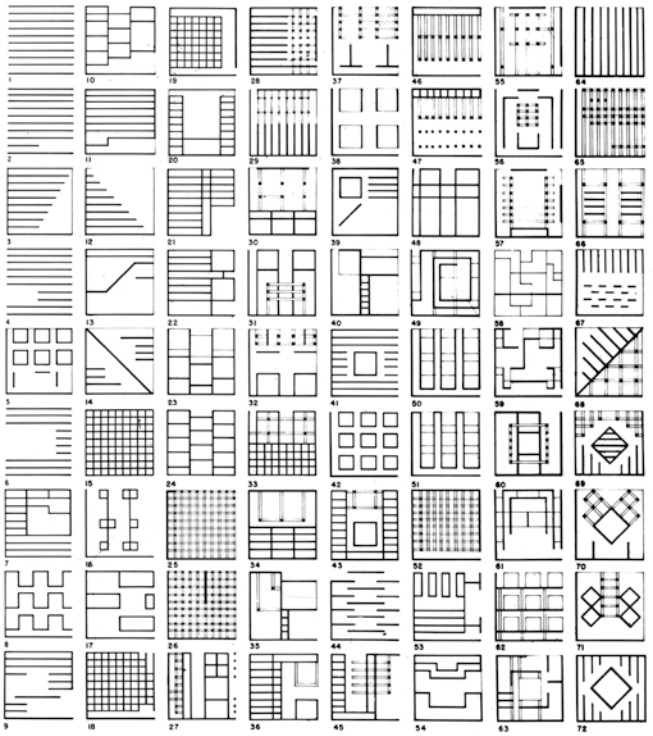

Fig. 10
Franco Purini, Classificazioni per sezioni di situazioni spaziali, 1966.

Fig. 11
Peter Eisenman, House VI, Frank Residence Cornwall, Connecticut, 1976.
Foto di Judith Turner.

Is it not enough for language to reacquire a conscience of its own structural autonomy, as in Wittgenstein's tautology, to regain a status of showing so as to reopen the gates of the unspeakable?
Down the way of a reflexive language that is propositionally sufficient unto itself, stripped of any phenomenal debris, one obviously encounters an author like Peter Eisenman who, as argued by Rizzi (1996, p. 23), considers formal abstraction as merely the esoteric face of a *writing* the hidden face of which is precisely the Mystical. Obviously, Rizzi relies on the tradition of the Jewish Kabbalah in his reading of Eisenman, but what emerges in the end is that the reflexivity of the artistic language is not a value in itself – only insofar as it opens to the unsayable.
Achieving the Absolute means presenting the elements that characterize the artistic language beyond any reference to reality. Reading abstraction as an overturned *Einfühlung* (Nigro Covre 1975, p. XIV) does not mean forcing the entire analytical tradition derived from the pure visibility theory, which is indeed a key component of the achievements of the abstract avantgardes, to make a twist towards the Cosmos? Isn't the autonomy of the linguistic structure a threshold to the Infinite? The *royal doors* mentioned by Florenskij?
It is here, on the edge of this precipice, that Menna stops, and perhaps even Franco Purini stops, although he pursues the *analytical line* to the end, with a logical radicalness, until he reveals language in its deepest grammar abstraction.

7.

However, what if, instead of pursuing propositionally the path of tautology, and of the structural exhibition of the laws that rule the linguistic process, one opted, again with Mallarmé, for the refusal of the ordinary language through the elision of the connection between the word and its object? Because, if the word *brut*, rough, is the one that defines all the circles, the one connected to the actions of narrating, teaching, describing, and shows us things in their presence, or rather in their most immediate

DOI: 10.12838/fam/issn2039-0491/n56-2021/861

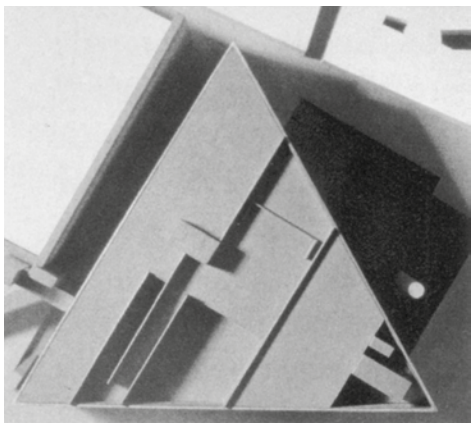

Fig. 12
Gianugo Polesello, Offices for the Chamber of Deputies, Rome, 1966.

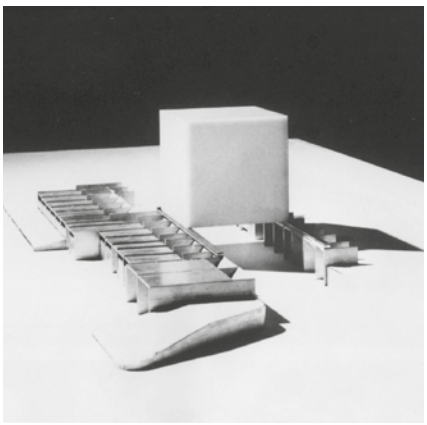

Fig. 13
Costantino Dardi, AGIP Gas station, 1968.

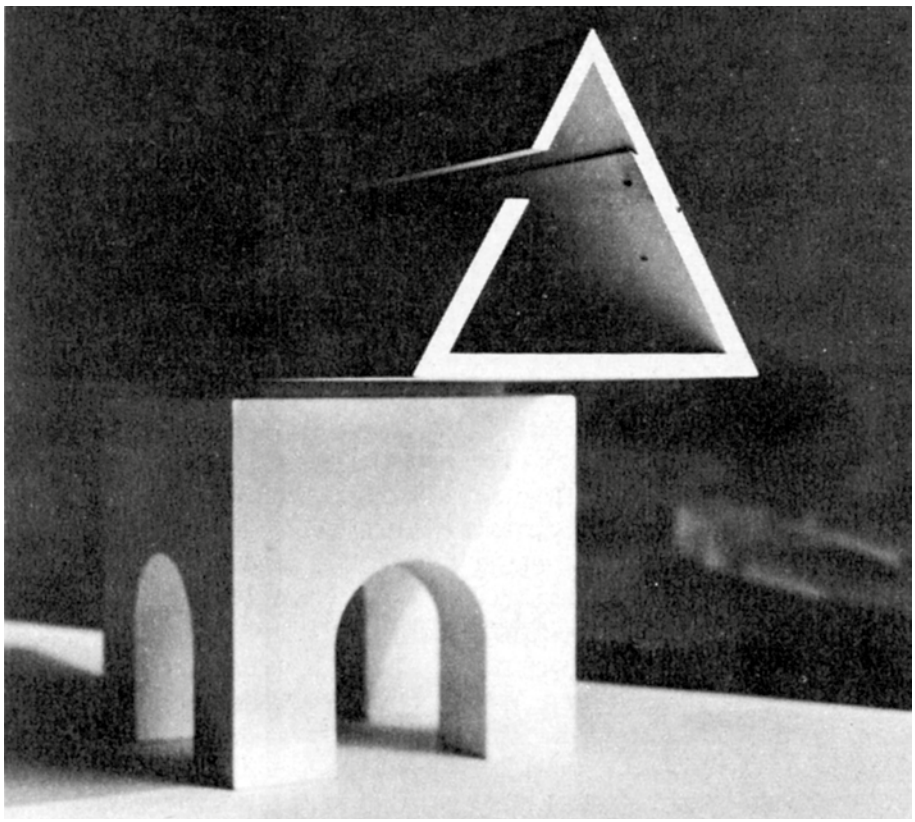

Fig. 14
Aldo Rossi with Luca Meda, Iron bridge over via Alemagna and landscape design of the park for the XIII Triennale di Milano, 1964.

representation, the word *essential*, on the other hand, repels things, pushes them out, in a new atmosphere. And, although we need the ordinary word in order to communicate with the world, to expand the boundaries of our world, it is only once the word is freed of the cages of meaning that it can fully develop its potential, and show itself as a *pure* rather than a merely mimetic *notion* (Mallarmé 1897, 1992, pp. 285-303).
Disparition vibratile is how Mallarmé defines the status of the word when it disengages from its referent, which is, by the way, the typical condition of poetry, the result of that sonic, rhythmic, figural process that keeps the poetic text in an independent space, where the word as a semantically closed entity opens up by acquiring meanings that are alien to daily occurrences: «Thus the poet produces a work of pure language, – Blanchot (2018) says – and language in this work is its return to its essence. He creates an object made of language».
I wonder, then, whether it is around this *object made of language* that we can recreate the thread of an entire other family of abstractions, which in the early 1906s arose in opposition to the ordinary language derived from the Bauhaus.

Gianugo Polesello as well as Costantino Dardi come to mind in this respect. For them, the architectural word regresses back to its even geometrical notion – for Polesello since the beginning and forever, for Dardi through several steps –, by isolating and separating itself from the comings and goings of reality and by producing a work of *pure language*[4].

I am probably out of line when I associate the work of these authors with the concept of Mystical. Also because, by the way, the Wittgenstein of Polesello can be found in the relationships between logic and sense, or rather, «in pursuing logic *through* empirics» (Polesello 1985, p. 9): in other words, the Wittgenstein of the *Investigations*, who considers the structure of language as the result of the influence of use, thereby denying language as something that is given once and for all.

However, who knows for what reason in 1964, when he presented Rossi's design for the Triennale in the magazine «Casabella» directed by Rogers, Polesello (1964), before recognizing the clearly mundane nature of the vocabulary of his friend, alluded to the category of the Mystical. Perhaps in order to correct any misleading category? Or in order to keep it for himself? Or because, all in all, even the rationalism celebrated by his friend, insofar as it expresses a faith that as soon as «enlightens the system while being outside it» (Rossi 1967), is part of that demonstrative dimension of language that is the highway for the Mystical? Whether it occurs as a logic-propositional process or through the semantic exhaustion of the word.

Notes

[1] See «la Repubblica», Milan, October 29, 2019.

[2] See «la Repubblica», Robinson, December 16, 2018.

[3] See Barr A. H. (edited by) (1936) – *Cubism and Abstract Art*. Exhibition catalogue, Museum of Modern Art, New York 1936; Greenberg C. (2011) – "Verso un nuovo Laocoonte" [1940]; "Arte astratta" [1944]. In: Id. (2011) – *L'avventura del modernismo. Antologia critica*, edited by Giuseppe Di Salvatore and Luigi Fassi, Johan & Levi Editore, Milan, 52-64; 65-69.

[4] Gianugo Polesello reaches not dissimilar conclusions in Valerio Paolo Mosco, see Id. (2019) – "Puro, purezza (Pur, pureté)". In: *Gianugo Polesello un maestro del Novecento*, edited by Grandinetti P., Dal Fabbro A., Cantarelli R., Lettera Ventidue, Siracusa, 33-41.

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Irene Romano

Inhabiting the prison. Design proposals for the female body

Authors: Francesca Giofrè and Pisana Posocco
Title: Donne in carcere
Subtitle: Ricerche e progetti per Rebibbia
Language: italian
Publisher: LetteraVentidue
Characteristic: 16,5x24cm, 288 pages, paperback, colours
ISBN: 9788862425056
Year: 2020

Prison is a place for living, rehabilitation and socialization: this is the assumption behind the proposal by Francesca Giofrè and Pisana Posocco, collected in "Women in prison. Research and projects for Rebibbia", a book published by LetteraVentidue in the series "Alleli", dedicated to research.
The book deals with the spaces dedicated to women prisoners. Women in prison are a minority within the minority underrepresented and often ignored[1] because, like most places, prison is historically thought and designed for men. In order to understand women prisoners, it is strictly necessary to physically access their spaces, just as in order to design them, it is necessary to understand their invisible world of rhythms and ways of life. The two authors entered the women's prison with the respect required when entering someone else's home and this volume guide us through it.

The publication is the result of a research funded by Sapienza University in 2018. The book's structure mirrors a clear methodological approach, aimed at verifying of the possibilities of intervention on existing spaces. The research does not offer further typological models. Instead, the architectural theme of the prison is originally approached as a project of analysis and recovery of the heritage in use. This concrete approach derives from the cooperation with the women's Casa Circondariale of the Rebibbia prison and from the constant collaboration with the Department of Penitentiary Administration. In the first part of the volume, the authors and Letizia Gorgo, Ph.D. and member of the working group, address the relationship between the prison's institution, its spaces and the lives of women prisoners. The study is led on three levels: through a historical and critical recognition of spatial models, through official data analysis and through the study of the interviews with prisoners.
These premises defines the design operational guidelines for the interventions at Rebibbia, illustrated in the second part of the book. Practice occupies, not by chance, half of the publication: from the arrangement, realized, of the Orchidea detention wing for working inmates, to the proposals of the thesis workshops, ranging from architectural redevelopment to product design, up to the construction of the M.A.MA., a small building for family gatherings built within a green area of the prison as part of Renzo Piano's G124 program[2].

This book proves that academic research can have important practical impact: it is possible by entering on tiptoe into an enclosed and complex cosmos, intervening on the built environment with humility and a considered lightness. This approach emerges even from the beautiful pastel pink book's cover, it's no coincidence if it resembles themes emerged in the interviews with the prisoners. It refers to the possibility of giving physical body to immaterial needs, such as recognizing a space as one's own. The research thus seems to work on the relationship between two bodies, that of the existing prison and that of the inmates, based on mutual care.
The direct involvement of the users, both in the process of investigation and of intervention is substantial in shifting the gaze on the cell from a punitive space to a space of life. If depersonalization is one of the strongest violence felt by the inmates and the deprivation of liberty is the only real punishment to be served, in this regard, in Italian prisons, there is still much work to be done. However, the book asserts an optimistic confidence that change can also come about through taking care of the little things. It is not a matter of finding extra square meters, but of making existing surfaces 'three-dimensional', responding to needs that might seem trivial but are often ignored. The material translation of these needs requires a specific and trained sensitivity of the interpreter-architect, who responds with light, air, sounds, colours, visuals. As it unfolds, space allows the prisoners-inhabitants to tame the places and to recognize their value, hence finding a home in them.

Notes

[1] Women form the 4% of all the italian prisoners. However, this percentage does not consider gender identity: being imprisoned in a male or female institute depends on wich sex is acknowledged by identity documents. For instance, trans women with male reproductive organs are directed in male prisons.
[2] Pisana Posocco worked at the project with the architects Tommaso Marenaci, Attilio Mazzetto and Martina Passeri, publicly selected for the 2019 edition of G124. For further information: "Diario delle periferie 2019. G124, Renzo Piano al Senato", edited by S. Pellizzari, LetteraVentidue, Siracusa 2020.

Paolo Barbaro

Luigi Ghirri and *Niente di antico sotto il sole*.

Author: *Luigi Ghirri*
Title: *Niente di antico sotto il sole*
Subtitle: *Scritti e interviste 1973-1991*
Language: *Italian*
Publisher: *Quodlibet*
Characteristic: *14x21cm, 354 pages, paperback, b/w*
ISBN: *978-8822906144*
Year: *2021*

Quodlibet, the publisher of highly selected and often dispersed books, continues his work of reconnaissance of the work and thought of Luigi Ghirri with the publication of *Niente di antico sotto il sole. Writings and interviews 1973-1991*. An indispensable tool to access one of the most important chapters of the reflection on images of the late twentieth century by Luigi Ghirri, photographer, but photographer who has relocated that particular figure of operator of images in an extremely complex function, between the season of conceptual research and the results of the postmodern. The book integrates the texts written by Ghirri that his friend and traveling companion Giovanni Chiaramonte, with the photography scholar Paolo Costantini, collected starting from the day after his death in 1992, and published for the SEI editions of Turin in 1997. The title of the collection was taken from the one that Ghirri used in 1988 for a dense article on the landscape published in "Gran Bazaar". In those years, the collaboration with Giulio Bizzarri, then Art Director of that periodical, was fundamental: with him the company of *Esplorazioni sulla Via Emilia* (1986), and, shortly before, *Fatto a Parma* (1984) had been designed and implemented. The first text, 1973, is *Paesaggi di cartone*: a short declaration of poetics that in a folder of 2000 characters clarifies the intentions and perspectives of a very conscious research. Paesaggi di cartone was a series of photographs, in color, on the contemporary landscape made up of fictions and artifices: «[...] I am especially interested in the urban landscape, the suburbs, because it is the reality that I have to live daily, that I know best and therefore I can best re-propose it as a -new landscape- for a critical and systematic analysis». From that series he then drew a portfolio, homemade binding, in hardboard, cover with the writings traced with the transferable characters Letraset, the ones that surveyors used - this was his job - for the inscriptions on the ink drawings on the glossy paper . On the cover, a composition of fake slides, actually the cardboard frames of the Ektachrome with tiny prints of images inside, both photos taken by himself and reproductions from illustrated magazines, postcards, etc. Composition perhaps inspired by Andy Warhol's cover for John Cale's *Academy in peril*: music has always been somehow inside his work. Ghirri then donated that portfolio, in the second half of the Seventies, to the CSAC of the University of Parma, founded and then directed by Arturo Carlo Quintavalle. Ghirri

assiduously brought updates of his work to Parma: other poor construction portfolios, hardboard, gummed paper, school stationery labels, and beautiful: *Km 0,250, Colazione sull'erba*, the *Atlante* series, other refined sequences of that unpublished photograph , of any space a few kilometers from home until, in 1979, in the Sala delle Scuderie della Pilotta the CSAC created its great anthology, *Vera Fotografia*, an exhibition and catalog curated by Massimo Mussini. It is in that period, in addition to what Ghirri wrote in 1978 for the volume *Kodachrome*, at the beginning that almost coincided with the end of the *Punto e Virgola* editions by Ghirri himself founded with Chiaramonte, Paola Borgonzoni and a few others, and above all with the texts that he spreads out for the catalog of the Parma exhibition, which begins his systematic practice of writing.
The texts that we now find in *Niente di antico…* from pag. 33 on page 63 are cards and minimal essays on the series that he had lined up for that occasion, and in the catalog, they were published alongside the historical-artistic framework cards written by Mussini, the introduction was by Quintavalle. Those series temporarily systematized research, a flow of photographs that in the first decade of his work perhaps intertwined with the work of artists such as Franco Guerzoni (do not miss the narration that he makes of it in *Nessun luogo da nessuna parte. Viaggi randagi con Luigi Ghirri*, curated by Giulio Bizzarri, Skira 2014) building a compact path and infinite combinatorial possibilities such as, to quote another of his works, and also one of his favorite forms of combinatorics, in a *Slot-machine*.
Then a different season opens: the first text is *Introduction*, 1981, published in a section of the catalog of the exhibition at the Gallery of Modern Art in Bologna Landscape image and reality, to which he was invited by Vittorio Savi. The architect and architectural theorist had seen the Parma exhibition, invited him to carry out the iconographic part of the research on the riparian landscapes of the Po. Ghirri for that occasion took pictures from his archive, uses reproductions of photos of others, even anonymous ones (postcards, then the first photo to illustrate her intervention is the reproduction of a famous photo by Paul Strand in Luzzara) and photos taken expressly for the occasion: these are to be considered, these made for Savi, her first commissioned landscape photographers, which was followed by those for Aldo Rossi at the instigation of Savi, and many others.
One continually wonders if there is more continuity or discontinuity between the Ghirri of the seventies and that of the following decade. The text *After ten years of photography* (on page 67, originally in "Photographic Progress", 1982) it seems to answer, as Luigi often did when faced with questions that are basically idle and above all of purely academic interest, in an elusive and clear way. It is a collage of quotations from Hoffmanstahl, Canetti, Novalis, Fieding, Kraus, Lichtenberg, Hobbes – as his readings were branched out but basically compact around a well-defined poetic! – which tells us that the work is made up of many rumors, that the author and his autarchic subjectivity are a laughable myth, just when he is asked to account for its supposed importance. I find it moving how much this posture resembles that of the Nobel Prize acceptance speech by that Bob Dylan so loved and continually cited by the great photographer, how much the lyrics of one of his most recent songs, I contain multitude, could have been written together. in Ghirri. Too bad that Luigi has lost it, but who knows ...
The Eighties for Ghirri will be years in which he writes assiduously, also to clarify his intentions, in particular to refute the idea that many had of

that not famous but very influential photographer who had filmed the geometric villas - from the beautiful neologism coined by his friend Gianni Celati- with the gypsum dwarves like a flogger and mocker of the rampant kitsch. He writes about Aldo Rossi, and then about music, spaces, other photographers, his models: Atget, Lartigue, Evans, Adams, Gossage, up to William Eggleston at the instigation of Christine Frisinghelli who invited him to Graz at Forum Stadtpark, the published on Camera Austria. Eggleston, the New American Topographers seemed to constitute an evident parallel to the research that Ghirri and, soon, his fellow travelers Barbieri, Castella, Chiaramonte, Cresci, Basilico, Leone, Jodice, Guidi, Ventura, had undertaken on the Italian landscape; and this too was a theme on which Ghirri defined paths that were never flattened on the uncritical repetition of models. We find it in his writings, he repeated it in the lectures he gave at the University of Parma and then at the University of the Project of Reggio Emilia where the creator of that strange institution, again Giulio Bizzarri, arranged for its recording, and from the transcription the *Lezioni di fotografia* also published by Quodlibet in 2010. Those conversations with the students proposed with disarming clarity an extremely simple way of confronting the outside to reveal new aspects of it because they are too worn, the how to photograph linked to the why to photograph: to establish a relationship with the world. The texts published now, returned to light - the SEI edition of *Niente di antico* ... sold out and practically disappeared, for years to read them it was necessary to translate the choice published in English by the Mack editions - return the mosaic of an unfortunately short reflection, not much more than ten years, which has changed many fields of seeing. The very notion of landscape and not only in photography, architectural photography which is no longer the image of objects but of relationships, the sense of place and city, without hierarchies between historical and contemporary, between natural and artificial: in fact, everything seen as for the first time, nothing is ancient under the sun.

Floriana Eterno

Become natives

Author: *Sébastien Marot*
Title: *Taking the Country's Side. Architecture and Agriculture*
Language: *English*
Publisher: *Polígrafa, Barcelona*
Characteristic: *dimension 21,2x13 cm, 215 pages, paperback, color*
ISBN: *9788434313897*
Year: *2019*

Redefining the limits of the relationship between architecture and agriculture undoubtedly holds a fundamental position between the emerging themes within the contemporary architectural and urban planning debate.
As proof of this, this topic is the protagonist of two important exhibitions held between 2019 and 2020. The first, entitled *Architecture and Agriculture: Taking the Country's Side*, took place from October 5th to 2th December at Garagem Sul within of the Lisbon Architecture Triennale and was curated by Sébastien Marot. The second, instead, is the highly-anticipated and much-debated *Countryside, The Future* curated by Rem Koolhaas and AMO, which opened in February 2020 at the Guggenheim Museum in New York.
Given the difficult environmental situation that the world is facing – climate change, oil peak, exhaustion of minerals and metals, soil erosion, freshwater scarcity, biodiversity collapse, etc. – both exhibitions share a common belief. If architecture has to play a role in addressing these issues, it will be necessary to focus on the countryside. Koolhaas' exhibition presents itself as a sampling of phenomena on a global scale, mostly contemporary, which would presumably provide some of the solutions to the enigma of a future that abandons cities to prepare new mutations. Marot's exhibition, on the other end, in an almost educational key, brings together ideas that allow us to appreciate the dynamics of the transformations brought about by the relationship between agriculture and architecture.

Taking the Country's Side. Architecture and Agriculture, is one of the five volumes which are as catalogs for the fifth edition of the Lisbon Architecture Triennale.
It is a kind of travel journal that collects the experiences of the exhibition exploring the complex relationship between architecture and agriculture.
The first part of the title is an invitation and an incentive for architects, and not only, to effectively side with the Countryside, to *become natives.*
To learn from those who committed themselves to building and managing the *Mundus*, such as the well-known personalities in the fields of environmentalism, social ecology, permaculture, agroecology and bioregionalism, widely referred to in the book.
The author is particularly careful to recall how intimately the history of the city is linked to that of the productive territories; it is a co-evolution that

took place during the Neolithic Revolution or first Agricultural Revolution. Marot, like many others, however, assumes that Agriculture and Architecture are twin practices and disciplines, whose split occurs mainly with the rural exodus caused by the Industrial Revolution, only two centuries ago. Therefore, the idea is to retrace their parallel histories in order to provide the means to examine possible future scenarios given by this relationship. The planning strategy proposed within the book, is the design of self-sufficient agricultural ecosystems around human dwellings, a viable territory, in one word, permaculture. The author deduces the concept of permaculture from the studies conducted by David Holmgren and Bill Mollison in the '70s. This practice is seen by the author, perhaps a little too optimistically, as a definitive solution that could profoundly inspire architecture and landscape design, directing them towards a new and necessary "Poetics of Reason", which is not by chance, the general title of the Lisbon Triennale.

The book is divided into seven sections that allow the reader to gain a general background on the thoughts, moments and figures to keep in mind when considering the link between agriculture and architecture and their evolution. The last part of the text, *Urbi et orbi*, is dedicated to the presentation of four opposing scenarios in the city-country relationship (Incorporation, Negotiation, Infiltration, and Secession) that might develop in the near future. The attitude of the text is intended to be participatory, inviting the reader to reflect and decide which of these, he or she would actively support. However, the author's position with respect to the four proposals is certainly not neutral, as he seems to support the most radical perspective, namely that of the Secession. In this view, the current hegemony of the metropolis and the ability of urban planning to organise resilient territories, is widely questioned; it, therefore, attempts to free himself from the city to develop places for dispersed and self-sufficient communities.
Since this is the volume of an exhibition, the iconographic apparatus is very rich, but the images are largely known, while the unpublished material is quite limited. The final drawings of the four future scenarios, made with blue pencil and coloured only in green, were commissioned from the French cartoonist Martin Étienne. His representations are intended as a reference to Clifford Harper's drawings made for the 1976 book *Radical Technology*, in which he depicted six work sites, proposing a new relationship between people, waste and energy consumption.

Reading the book, one realises, with regret, to what extent the environmental chaos we find ourselves in today, was documented and predicted almost 50 years ago; the difficult environmental situation the world is facing, seriously challenges a new way of thinking about how to manage the resources and how to inhabit and organise territories.
Compared to Koolhaas's exhibition, which nevertheless seems to maintain a certain continuity with the cynical technologism that characterises it, Marot assumes a different, almost ideological attitude, which focuses on the shortcomings that continue to remain unresolved in the discipline of architecture. *Taking the Country's Side. Architecture and Agriculture* in this sense, proposes itself as a book that certainly wants to provoke a reflection, both retrospective and prospective. It also, like a real educational tool, allows us to learn from agronomists, activists and designers who reflected on the hypothesis of energy reduction as well as on the recomposition and sustainability of territories.