The ideas on the building site and the work in the design

RESUMEN: Presentamos los presupuestos de investigación nombrada : « La obra como texto». Con ella pretendemos componer una estrategia metodológica para una lectura crítica del edificio, buscando extraer de él las cuestiones que estuvieron sobre la mesa del arquitecto durante el desarrollo de su proyecto y en el cantero de obras durante su construcción. Pero es cierto que debemos partir del edificio y no del proyecto, de la obra y no del discurso teórico sobre la obra, creyendo ser este el territorio donde podemos considerar con más claridad la naturaleza de un proyecto y la consistencia de las ideas y operaciones que les dan materialidad. Investigar edificios y obras que se presenten como ejemplos que resaltan el relieve de las relaciones y operaciones de producción, como cuerpo y máquina abiertos que exiben sin restricciones el necesario diálogo, cuotidiano y sencillo, entre las ideas en el cantero de obras y el trabajo en el diseño, entre el pensar y el hacer arquitectura.
PALABRAS CLAVE: Edificio, Proyecto de Arquitectura, Diseño, Obra

ABSTRACT. We present here the presuppositions of our research "The Work as Text", with which we intend to formulate a methodological strategy to read buildings critically and extract from them the questions that have been on the architect's desk during project development and on the building site during construction. We believe we should start from the building and not from the project, from the work and not from the theoretical discourse about it, for this is a territory where we can consider more clearly the nature of a project and the consistency of the ideas and operations behind the materiality of a building. Our proposal is to investigate buildings and constructions that come out as examples that highlight the relief of production relationships and operations, as open bodies and machines that display the everyday, commonplace, and necessary dialogue between the ideas on the building site and the work in the design, between the thinking and the making of architecture.
KEYWORDS: Building, Architecture Project, Design, Construction.

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Introduction

Architecture is not a product from a private world. It cannot be reduced to the dimensions of a personal expression: we, architects, do not work under the same conditions as it seems possible to work in the other arts. The work of architecture is a deeply shared operation, intrinsically performed by many. It does not belong to a single agent or, at least, it should not be approached as if it was closely related to a single subject – to that subject who appears as the author of a project – thus subjugating its true dimension of belonging to the public world.

Architecture is, by nature, a shared language, both in its construction and in its fruition. In most of the analyses, a focus directed to a single and personal relationship reduces its dimension of an object collectively recognizable, bearer of the vestiges of its shared production, reducing also its understanding as a discipline. It suffices to take a quick look at the most frequent editorial production on the subject: in an essentially authorial approach, when the results of the *thinking* and *making* of architecture remain restricted to their most formal and tectonic aspects, architectonic objects are addressed in only one of their aspects, which does not allow us to catch a sight of the process that, in fact, has produced them. As for the opposite approach, the architectonic objects remain limited to the cold pragmatism of engineering and construction manuals, which transform them in mechanisms and schemes prone to indiscriminate reproducibility, removing and dissipating the social, economic, and cultural aspects that support them: hence, just any old architecture for any old place and time.

The problem is that, due to the animosity in the confrontation between what a language is and its material reality, architecture ends up transformed into an immediate reflection of drawing: the architect Rafael Moneo uses the term “immediateness” to characterize the architecture accomplished contemporarily as a simple and immediate dimensional extension of drawings. By the mid-1980s, in a lecture at the Department of Architecture of Harvard’s Graduate School of Design, Moneo pointed out that, on the previous fifteen years, the architects believed that construction was not worth the effort it required, and that the work of architecture, in its full sense,

should end on the drawing board to avoid any possibility of “contamination” between that kind of architecture and the construction.

The reflection of this position has cast a shadow on Brazil: more and more the discipline of construction – the building site – and the theoretical discussion on architecture and its design deepened the chasm they have created for themselves. Today, most of the architects we educate ignore how the buildings they project will *actually* be constructed: a gap in the teaching of architecture that is certainly a consequence of the refusal to see a building beyond its formal and functional aspects – or the other way around. It is evident the systematic absence of a discussion on the – mechanical, economic (in a political sense), and anthropological – construction aspect, in which the discipline of construction would be revealed and presented to the architect and to the architecture student as a rich territory to be explored, and not as a boring prescription of preconceived solutions to be adopted or merely set aside as something that “is not worth the effort” – or that does not even have enough dignity to be part of the making of architecture.

It can be argued that it happened in the past as well, and that some constructions have been carried out without the architect ever visiting them, entrusting project execution to drawings and detailed written descriptions. However, we should see this hypertrophied trust in the drawing, which has subsisted for a long time, in a relative way, remembering that architects used to take advantage of a certain “coherence” between the drawing and the social and economic contradictions and consonances of a period, which does not exist anymore – today this “coherence” is given by another order of contradictions. Then, the drawing was not neutral, but it would still bow to construction conventions. Maybe the breaking of ties between graphical expression and built knowledge started to consolidate only after the Enlightenment – a rupture that had already been outlined between the courses of a Renaissance better identified with Brunelleschi. It would have been in the cracks of this rupture that the construction and the constructed moved away from each other, opening a privileged spot for a demiurgic position for the architect.

We imagined we could work inside this conflict – a language before the reality of its production – in the context of a reading in which the building, as central object, would be critically analyzed in its multiple aspects. Adopting as sources the various sketches that record the conception process, the first ideas that come out on the drawing board, the references in the history of architecture and in the construction culture, the foundations of form and structure summoned up, the several drawings and re-drawings of the project, and also the testimony of all those involved in the development and construction of a building – estimators, workers, construction foremen, and users themselves –, we consider possible to identify the signs that better tell

us of each stage of the individuation of this building, which is its construction. Each of these elements and testimonies is seen as a new flash that reveals especially the uncertainties of a shared work process.

From the drawing board to the building site, our intention is to illuminate different options and choices, the various aspects of a work carried out amidst a diversity of contributions. The idea is to expand the meaning of a building, recovering those "contamination" focuses where design and construction confront each other to solve them, freeing the building from its "complete solitude".

Starting from the building

We start from the presupposition that the ideation and the production of a building, as well as those of a city, involve a wide range of questions and agents at different times with different dynamics. As warned by Moneo, the building *stricto sensu* would not be the result of an autochthonous process or the immediate materialization of a drawing; consequently, the building is not the architect's exclusive property. The architect is one of the participants of the constitution of a building as a technical object, and sometimes, when coordinating most of the works, the architect gets much closer to the individuation process than the other agents involved. Topologically in a different and wide-ranging position, the architects sustain – even legitimately in some circumstances – many of the questions and problems inherent to construction: buildings – which in principle can be imagined – may reflect intentions, express wishes, represent problems discussed at school; they are technical objects that acquire a certain aura as they become individualized. This is a condition that can, for a while, make us look at our buildings as *mirrors*, in whose reflection we recognize who we are and even who we were. Thus, we are tempted to think of buildings as personal statements; statements of a "self" particularized within what is to come in history. But, as soon as the construction is finished, and the buildings assume their own reality and their own role, all worries that followed the architects and their possible efforts disappear. In the end, just the events remain, as records and allusions that will allow critics and historians to know the buildings and explain to others how they have reached their final form. As Rafael Moneo states, the building isolatedly raises its shadow in "complete solitude", far from all statements and controversies, with no more worries or uncertainties. The vestiges of the architect's presence become relative until they, too, disappear. And, as soon as it is finished, the building takes a life of its own, as a technical individual that extends itself beyond the individuals who have produced it.

And what could be said about the hands that built it? Obviously, it is not the case of romanticizing the work of construction. However, the often

overshadowed mechanisms employed in the construction effort gather in themselves the characters of a grammar that also gets blurred as time conceals their vestiges. The whole social framework implied in the work, the types of labor association, the relations of production, the limits and the reach of learning, the application of handicraft skills, the knowledge and intention of the individuals who took part in the construction act are also vestiges steadily worn out by time, more rapidly than those left by the architect.

The problem is precisely that all knowledge accumulated in the body of a building, aggregated as material (process) and as the built form, ends up consumed by time (and even by the distracted look), which takes away with it the possibility of learning based on the knowledge acquired.

Therefore, to do an archeology of the production process in architecture, we should adopt a plural approach to the building, summoning the other processes and individuals who took part in the individuation of this finished technical object, renouncing to the essentially authorial point of view that would restrict the results of the *thinking* and *making* in this field, as we have

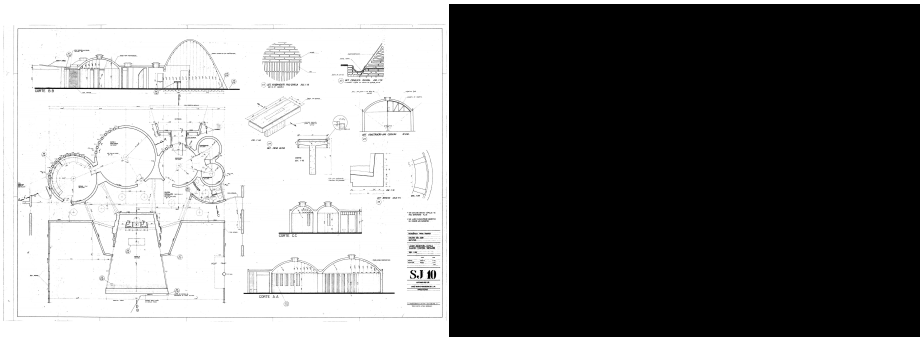


Fig.1 Design and analysis of Claretian Priests' Residence

already said, to their more formal and tectonic aspects, and that would preserve, in a certain way, the lonely isolation of the building, even if side by side with the author of its project. In our opinion, an isolation that causes deep pedagogical damages beyond the obscuration of the material reality that supports the making of a building. The magic involving architecture eventually sets a demiurgic position for the project's author as a learning goal: the author's biographical status seems to become the aim of a learning process, diverting us from the fact that it is exactly the knowledge of the work and of the context and reasons that determined the many decisions made before the work has concluded – which, by the way, is what makes its existence possible – that should be effectively apprehended. We believe that the approach centered on the authorial dimension and on the total control of the architect-individual over the finished work makes us miss precisely those essential aspects that would effectively teach us the dimensions of the

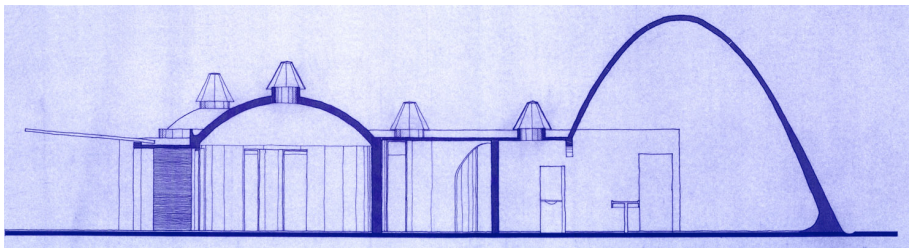


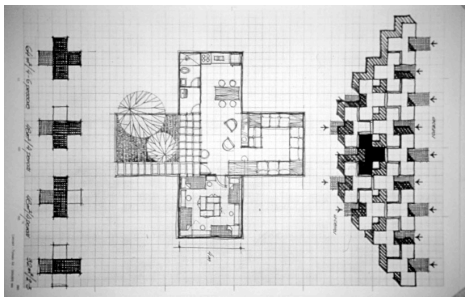
Figura 2 Design Claretian Priests' Residence

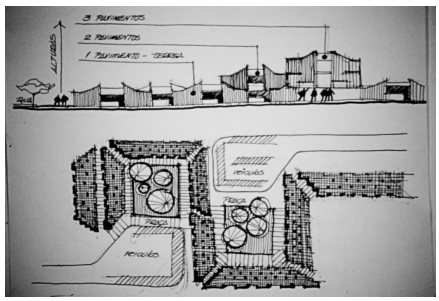
making. Paraphrasing the historian Adrian Forty[1], biographies of designers and architects are neither the only nor even the best way to explain activities that are social by nature, and not simply individual.

In broad terms, the general objective of this research is fundamentally didactic. The approach we propose intends to make "the construction teach for itself", show itself in its making, allowing us to see the different hands, interests, resources, stages, knowledges, and imaginations that have built it and that, consequently, define it as a technical product in all senses – social, cultural, historical, and material.

As for the specific objective of our research, it is to structure a methodological procedure to guide the production of instruments to teach the *making* of architecture: analyses, drawings, elements and references for reading a project, which can really promote the understanding of how a work is produced in all its details. Usually, the knowledge accumulated in the field seems to be irremediably dissipated, without finding adequate means or methods to spread in a critical manner. Architecture is part of the so-called "material culture", and should be understood as the technological and production instruments and processes that give physical materiality to a cultural object. The myth of creative autonomy makes us disregard the problem that architecture and urbanism mobilize knowledges, techniques, territories, capital, workers, and users in a large scale, differently from the fine arts – as Argan explained in his classic "Project and Destiny".

On the other hand, even when the reading of a project and its elements – interpretive and critical, graphic or iconographic – eventually open some paths for a clearer and more didactic relationship between the reader and the work, the "how it was made" escapes us, keeping in the obscurity the





alternatives presented initially, the doubts between formal, functional, and technical options, the meanders of legislation, the available economic

Fig. 1 Design Student Residence at the State University of Campinas

resources, the setbacks in production management, and especially the different characters – fully active subjects – who, in a certain way, informed the decision making process. Therefore, the *collective work* invested on the production of architecture and urbanism is often displaced to a sort of "utility room". Critical texts teach us how to "speak about" the construction or the author of a project, but so far they have not taught us the "how it was made", which seems irrevocably exiled to the obscure world of the initiated, who masters a supposedly atemporal technique and who knows the secrets of the mechanics of the matter. Consequently, another specific objective of this research is to organize the different "actors of the construction act"[2], who compose this *collective work* and the weaving of a dialogical web of the different discourses that orient building production.

Aspects of our approach

To develop our research we chose two emblematic buildings, not for the aspects or arguments related exclusively to a discursive attitude toward their projects, but because they favor a didactic and discursive approach of their *making*. Both buildings are located in the State of São Paulo: the Claretian Priests' Residence (built in 1982-1983, in the town of Batatais) and the Student Residence at the State University of Campinas (built in 1987-1990, in the town of Campinas).

Fig. 2. Claretian Priests' Residence

The first stands out for its fine solid brickwork. It is composed of a set of cupolas, domes, flat slabs, and structural masonry, which shelter the program and configure, in the scope of this research, what we call a result from "superior handicraft", from an elaborate manufacture based on a traditional site, but unexpectedly autochthonous in some aspects. The second building is the result of less-favored students' struggle for minimal living conditions on campus: a set of 250 dwellings arranged as articulated wings in permeable neighboring units, built according to a prefabricated system that uses red ceramic, developed in the beginning of the 1980s: a construction process that instructs itself based on a composition of panels

prefabricated on the building site, forming a site that, for the purposes of this research, we call “preindustrialized”.

On the one hand, the aspect of the “material” (baked clay or ceramic veneer – always having *earth* as origin) – not only as a physical element, but also as a reference to a process that joins conception, project, technique, production, and construction culture, as understood by Sérgio Ferro[3] – partially justifies the argument for our choice of these buildings, since we believe this “material” reaches the didactic significance we suggested.

Our choices are based also on other criterion: the latent critical content of these buildings, when we look at them from the approach proposed. This content is undecipherable if the formal appearances that cover this “material” are kept: these are emblematic buildings, for they shelter different production processes that gather aspects of the dialogue between the *ideas on the building site* and the *work in the design*, usually pushed into the background. Considering the extension and the number of variables integrating the construction process, it would be a fallacy to state that a single individual could master all its particularities – which reaffirms its character of a shared action. The choice of buildings should allow us to highlight the relief of these more occluded aspects.

Fig. 3. Student Residence at the State University of Campinas

As a result, the chosen buildings are works that can be “opened” as a clock on the clockmaker’s workbench and examined in the history of its making and in refined analyses of the work in its making, more refined than those made when the work is finished. In this fresh look, the history of the architecture under study would be written against the grain: from the construction act to the production of an architectonic form and to the foundations of its conception – and not the reverse. As Sérgio Ferro states, “a history of architecture that, instead of been seen from the crest is seen from the bottom”[4].

Our choice of buildings tried to consider constructions with a pedagogical character (that are in themselves a vehicle for teaching) and that join different programs and materials, so that our research has a minimal scope and a composition that can be discussed: one of the buildings was

constructed according to an organic (homogeneous) manufacture and the other, according to the practical rules of the heterogeneous (serial) manufacture[5]. Our choice was also made to take advantage of the novelty of the production schedules of these buildings, which somewhat subvert the contemporary and systematic way of producing architecture in Brazil.

However, along both paths the expectation is that the approach proposed will always be conducted based on a common methodological procedure, that is, following the approach we enunciated, configured as fields of study that are specific, but connected to each other as arrangements presented to the architect not as "certainties", but as a field of possible alternatives that lead to the tension between doubt and choice – which is what actually teaches us.

Notes

1. FORTY, Adrian. **Objects of Desire**. London: Thames and Hudson, 1986.
2. Cf. FERRO, Sérgio. *Programa para o pólo de ensino, pesquisa e experimentação da construção*. **Arquitetura e trabalho livre**. São Paulo: Cosac Naify, 2006, pg. 222. First published in 1994.
3. "... matter in its broad sense, understood, at the same time, as a physical object (with pressures from form, force, and material) and as an economic object (with pressures from production, manipulation, environment, use)" (FERRO, Sérgio. *Op.cit.*, pg. 225). And further on: "In materials there is a 'cultural memory' whose diversity and stability largely overcome those of our habitual memory. This 'cultural memory' of materials bears traces of competencies, but crosses the conjunctural boundaries between work teams. The material, a synthesis of the condensed matter and history of production, carries in itself the potentials and contradictions of construction..." (*Idem*, pg. 227). See also, by the same author and in the same book, *Questões de método*, especially pgs. 239 and 240, and *O 'material' em Le Corbusier*, pg. 241. For the reference on Ferro, see ADORNO, Theodor. **Teoria estética**. Lisbon: Edições 70, 1993, pgs. 27 and 28; 48; 57 and 58; and 237 to 247.
4. FERRO, Sérgio. *Depoimento a um pesquisador* (interview given to Pedro Fiori Arantes in June 2000). **Arquitetura e trabalho livre**. São Paulo: Cosac Naify, 2006, pg. 288.
5. Karl Marx's formulation: "The organisation of manufacture has two fundamental forms which, in spite of occasional blending, are essentially different in kind, and, moreover, play very distinct parts in the subsequent transformation of manufacture into modern industry carried on by machinery. This double character arises from the nature of the article produced. The article either results from the mere mechanical fitting together of partial products made independently [heterogeneous or serial manufacture], or owes its completed shape to a series of connected processes and manipulations [homogeneous or organic manufacture]". (Available at http://www.marxists.org/archive/marx/works/1867-c1/ch14.htm, our additions between brackets).

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