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Learning from works of architecture: discussion and propaedeutic

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ABSTRACT

As in any relationship involving communication, there are many implicit issues in the processes of teaching and learning about architecture which, for a variety of reasons, are not made explicit. In this regard, the intention here is to address a problem that initially concerns the teaching of architecture, focusing particularly on a recurrent activity in many of the practices dedicated to this discipline: that is the study of works of architecture. Initially, the purpose is to investigate the antecedents and discuss the implications that this approach entails, in order to establish a mode for the study of works of architecture through a series of questions and discussions. Thus, the idea is to successfully build a historical argument and provide assistance to projects whose references are the sectors of the city where the works of architecture – these micro-histories – are the focus. With this, we want to highlight the need to include everyday transactions between professors and students in the discussion of architecture. Although it can be said that these represent circumstantial operations – experimental at best – subject to change and the conditions imposed by each institutional context, it is also true that insofar as they allude to a method, they represent, in a direct manner, a philosophy, a pedagogical line of thought, a political stance, as well as an idea about architecture. Hence, it is not a minor issue, but to the contrary, involves relationships that would allow for a direct and, above all, fundamental substantiation in building the very foundation of knowledge in the discipline.

Keywords: Teaching the history of architecture; works of architecture, didactics of architecture.

Introduction

"The problem is not so much how to teach architectural history, architectural theory or architectural criticism: the problem is how to teach architecture"[1]

"Learning from all things"[2]

"Everything is comparable"[3]

With these three excerpts, I wish to launch an argument that will (once again) attempt to render intelligible the approach to architecture. That is, in propaedeutic terms, it is hoped that some of that conviction that once existed with regard to certainties in the teaching of architecture and, by extension, its history, can be recovered, by emphasizing architectural works as privileged objects of knowledge. It is worth clarifying: certainty does not suggest dogma or apriorism. It refers, above all, to the pedagogical possibility of establishing points of contact, benchmarks, learning experiences, through which it is possible to understand a constructed episode or, at least, its general meaning. It is assumed, therefore, that a part may supply the means to access the complexity of a whole, which is to say that the study of one work can serve as a gateway to the vast universe of architecture. In this sense, the following supposition is fitting:

"I carry a brick on my shoulder, in order that the world may know what my house was like."[4]

This article is divided into two parts: a theoretical basis and a teaching guide. The first part presents the concepts and antecedents that have delineated the methods of architectural history and its correlate, teaching. This will serve to attain a position from which a basic manual can be formulated, i.e., a teaching guide with suggestions that architecture students would receive when confronting a work. As such, it endeavors to make manifest a certain pedagogical orientation, which aims to be useful in its intent to arouse interest, admiration and compassion for works of architecture.

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1. Bruno Zevi. History as a Method of Teaching Architecture. In: AA.VV. WHIFFEN, Marcus (ed.) **History, Theory and Criticism. Papers from the 1964 AIA – ACSA Teacher Seminar.** Foreword by Budford L. Pickens. Cambridge, Massachusetts: MIT Press, 1965, p. 12

2. Title of book, published by Venturi and Scott Brown. Barcelona: Tusquets, in 1971. This book comes before *Learning from Las Vegas.*

3. Title of book by Oscar Tusquets, published by Anagrama, Barcelona, in 1998.

4. Title of book by Berthold Brecht. Cited by Mario Benedetti in: *La casa y el ladrillo,* 1977.

This teaching guide raises the need to put on the table the discussion about methods (or anti-methods) to make transparent the way we teach, learn, incite and invite students to explore the world of architecture. Cognitive processes must be made recognizable, which implies that these be incorporated into the literature, discourse and why not also, the epistemology (if it exists) of architecture. Thus, room needs to be made to discuss these almost domestic transactions that occur between teachers and students, since these, in a generally implicit manner (i.e., not explicit), comprise the teaching mechanism, philosophy and political stance that underlie teaching: in this case, the history of architecture.

Discussion

To start off, it can be said that within the teaching practice of architectural history, there are two structures through which the past was viewed and ordered, which gave rise to a large number of methods and specific methodological resources in the form of variations, approaches and conjectures that coincided in the way the past was viewed, understood and interpreted. In general terms, one is related to chronological structure, deriving from art history, based on the concern for associating styles with their regional relationship; and the other, based on thematic structure, which endeavors to view problems from a cross-sectional perspective.[5] This generates continual debate, regarding the relevance of chronological order based on an indisputable succession of events, or in adopting a line of teaching via themes such as biographies, construction principles, types or topics, as being more in harmony with the nature of architecture, which is what this article advocates.

The study of architectural history based on the works themselves is one of the thematic approaches which, along with many others, is tied to the historiography of architecture and is applied in a diversity of ways in teaching practices[6]. It is clear that both the chronological and thematic structures emanate from discussions initiated in the realm of art history, and pertain to theories formulated for this purpose. The first is of a formal nature and is related to Hegel's theory of aesthetics; the second is hermeneutical in nature and is related to Kant; the third is materialist, corresponding to a Marxist concept to history; the fourth, structuralist-linguistic; and the fifth, post-structuralist.

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5. MORRIS, Ellen. Teaching History Typologically. **Journal of Architectural Education (JAE),** Vol. 34, n. 1, 1980, p.27.

6. See: MOHOLY-NAGY, Sibyl. The Canon of Architectural History. In: Whiffen, Marcus (ed). **History, Theory and Criticism. Papers from the 1964 AIA – ACSA Teacher Seminar.** Foreword by Budford L. Pickens. Cambridge, Massachusetts: MIT Press, 1965, pp. 37-46. In this remarkable article the author presents the thesis of "continuity in architecture" whose goal is to link the past with the future. The operation that it proposes is based on the determination of five "historical" aspects and one "non-historical" aspect contained in architecture. These are unique properties of architecture linked to the human condition: "verticality, spatial progression, modulation and modification, structural planning, art-space symbolism and lastly form-space continuity."

In a more circumscribed manner, in the essay "The four fundamental methodologies in art history studies" Giulio Carlo Argan defines the ways in which the study of art history was conducted, the influence of which pervades the field of architectural history, which is why it is appropriate to mention them.[7]

The *formalist* is related to an approach based on *pure visibility* established by Heinrich Wölfflin (1864-1945) in historical analysis. This theory is based upon observing a work of art and translating it into recognizable forms on a more abstract plane. The study and comparison of these operations is indicative of the specific ways in which it is possible to understand the procedure of artists. It then becomes a matter of its translation to the process of architecture.

The *sociological* is a theory that springs from the social history of art (H. Taine is the first and A. Hauser comes later on). Argan explains that it entails looking at the history of society on the basis of the art produced. This approach postulates that works of art have a close relationship with production processes and can therefore be understood as being determined by, or as determinants, of this process. The weakness pointed out by those who criticize this method refers to the possible lack of knowledge of the qualitative conditions and the quality of the work itself, given the interest in viewing it within the production and exchange process, and not as an object. This discussion is perfectly applicable to architecture, which due its proximity to the modes of art production manifests the same drawback.

The *iconological* method, according to Argan, was established by Aby Warburg and developed by Erwin Panovsky and Rudolf Wittkower. The basis of the theory is linked to the "deep impulses at the level of the individual and collective unconscious" – this, primarily in reference to the production of images which, according to how they are viewed, conform to a process that can be studied. Just as there is a history of forms, there can also be a history of images. Art functions on the basis of the imagination, and the latter, in turn, on the basis of images preserved in the memory. This subject is particularly relevant when considering that a large part of the knowledge about works is based, precisely, on beholding the images that represent them.

Semiological methodology, as Argan explains, is based on the belief that all the arts have a common factor. Thus, the minimum unit that underlies all artistic phenomena is the sign. The study of signs, in turn, is the basis of semiotics, i.e., the science through which it is possible to seek and provide explanations. As a result, any ambiguous interpretation is replaced by a rigorous method with which it is possible to decipher the signs using specific codes. In this sense, the goal of studying artistic works is to codify and interpret these signs and convert them into sign-phenomena, which means that this is understood as a communication problem. The difference can then be recognized between an aesthetic

7. See: ARGAN, Giulio Carlo. Las cuatro metodologías fundamentales en los estudios de la historia del arte. In: PATETTA, Luciano. **Historia de la arquitectura [Antología crítica].** Madrid: Celeste, 1997, pp. 18-20.

message and an informational message, a discussion that is based here on whether or not architecture is considered a language.[8]

For his part, Andrew Leach, in a recent work, argues that before talking about theories, it is necessary to address certain principles upon which the past was organized.[9] According to the author, to explain these principles requires going back to Heinrich Wölfflin, the first to propose a systematization of architectural history based on a general method proceeding from the visual-formal condition of the work – something that in architecture is evidenced in styles. Although this approach has been widely questioned, it is clear that it provided fundamental information (inputs) for all the methods that were subsequently developed, and which left an obvious trace in the language with which works of architecture are still approached.

The methods, explained by Leach, represent directions that are not totally demarcated or enclosed in a specific theory, since many of these result from a permanent and necessary combination of theories. The fact they are considered in this manner is a clear indication of disagreement on procedures, even if, in another sense, certain problems and an object of study for the history of architecture can be identified. Although the explanation given by Leach is related to research in the field of architectural history, its application to teaching can be considered as perfectly feasible. Following are the six "approaches" proposed by Leach:

The first corresponds to style and period. This stems from art history and addresses the relationship between the period and its artistic production referring to styles as the synthesis wherein the aspirations, longings and thus the spirit of each era can be observed. The eloquence of this approach is still rich in significance and makes common sense in that visible references are found in the works and objects of use.

A second approach relates to biographies. It seems that a close look at the lives of the authors of art and architecture may provide sufficient clues for a full understanding of their work. This idea, put forth by Vasari, is still accepted today and is rooted in the assumption that an artist is, above all, the interpreter of his time. He captures the essence of a particular condition, evoking a certain sensibility through his response to that circumstance.[10]

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8. Although the consideration of architecture as a semiotic problem was taken as a possible way to understand its "meaning", it is clear that this possibility has also been met with resistance by those who claim that the complexity implicit in constructed forms are not the same as a text that can be read and/or written. See: MARTI ARIS, Carlos. **Las variaciones de la identidad: Ensayo sobre el tipo en arquitectura.** Demarcación de Barcelona del Colegio de Arquitectos de Cataluña, Barcelona: Ediciones el Serbal, 1993. In: Chapter 3, Part 3.1 there is a "Criticism of the semiotic approach".

9. See: LEACH, Andrew. **What is Architectural History?** Polity Press: Cambridge, UK, 2010. In the second chapter, entitled "Organizing the past", Leach establishes the categories that have been used in the history of architecture. He insists on the term "approach", since they are not closed theories, but possible paths that can be followed.

10. The biographical approach to the history of architecture was resumed in one of the lines of research of the ACS Laboratory, École Nationale Supérieure d'Architecture Paris-Malaquais. See, in particular, the work of Clement Orillard related to the interchange map which occurred during the emergence and development of Town Study and Urban Design, which took place in Britain and the United States from the 1960s to the 1980s. Figures featured in this map include: Gordon Cullen, Kevin Lynch, Ivor de Wolfe.

The third approach is related to geography and culture. This assumes that external conditions determine artistic and architectural production. This means that certain geographical and cultural determinism exists that explains the production processes of the forms as well as the logical-technical reasoning that follows, in each case, in order to achieve them. Geography, therefore, imposes certain conditions, and in response to them, appropriate solutions arise for each location or culture.

A fourth approach relates to type. It is based on the view that there are identifiable forms that repeat themselves, formal operations that are similar, which in turn can be traced in certain archetypes. This premise opens up a wide range of possibilities for the study of history and its teaching in that it creates recognizable classifications and categories, while also allowing one to think of architecture as language, and via this path discuss its relationship with the manifestations of culture.

The fifth approach relates to technique, which leads to considering the construction process as a historical specificity. There have been several approaches to the history of construction. In this case, the ordering of themes corresponds to construction principles. An example of this thematic-chronological ordering is that which resulted in Joan Antoni Tinet i Maquet establishing the following chapters: "1) Underground construction; 2) Buildings with large masses and volumes; 3) System of pillars and lintels; 4) System of arches and vaults; 5) System of ribs and lines of force; 6) New systems. New technologies." [11]

Theme and analogy constitute the sixth approach to the history of architecture that we would like to consider. It is an approach that is based on a prior interpretation in which examples taken from the historical repertoire serve to emphasize particular tones of this form of narration.

What could the common denominator be between these theories and/or approaches? If one existed it would certainly be linked to the definition of the object of study. It can be said that the history of architecture and its teaching practice share the same object of study, in both cases based on an interest in the past: the past in reference to cities, buildings, objects, their authors, as seen in their available manifestations. The complexity arises when it is understood that all this is related to economic, cultural, philosophical and ideological systems, as well as the mentalities, institutions, technical-construction processes and ways of dwelling[12]. That is, the constructed is tied to themes that can be viewed across all periods (synchrony) and are necessary if the purpose is to understand the changes and continuities evidenced in the past (diachrony). This

11. TINEO I MARQUET, J. Antoni. **Historia de la construcción, de la caverna a la civilización.** Barcelona: Montesinos, Biblioteca de divulgación temática, n. 29, 1984.

12. The question regarding dwelling permits the formulation of a theory that considers this principle as a way to unify problems of a distinct nature. Thus, dwelling can maintain a relationship with the past, but also with more contingent matters such as technique, form, politics, etc. See: SZTULWARK, Pablo. **Ficciones de Lo Habitar**. Buenos Aires: Nobuko, 2009.

establishes a wide field of knowledge that is constantly shared, comprised of both facts originating or derived from architecture, cities and material culture, as well as from aspects, so to speak, outside the discipline. Thus, the definition of the object of study can be understood as the result of the interaction of intrinsic aspects and others that are external.

Propaedeutic. Learning from a work of architecture

An architectural work goes beyond itself in one single direction. It is determined both by the objective it needs to serve as well as the place it will occupy within the whole of a given spatial context. Every architect must rely on both factors. The design itself will be determined by the fact that the work should serve a given vital behavior and submit to previous conditions, both natural and architectural. This is why it can be said that a work represents a happy medium, meaning by this that it perfectly fulfills the determination of its purpose, and provides, with its construction, something new to the spatial context of the urban setting and landscape.[13]

Works of architecture have within them a potential significance for verifying and associating both the general forms of knowledge and the problems that are inherent to architecture. This, which appears quite obvious, requires however, certain considerations that are presented here through general questions whose purpose can contribute toward understanding both the formal configuration and the possible relationships that are established with a larger portion of the reality, in which the works are necessarily immersed – hereby affirming that a work of architecture is, at the same time, an object and an event. [14]

The condition of object refers to material configuration, in other words, the building as such, which leads to knowing its dimensions, materials, construction-structural system and typological arrangement. On the other hand, the condition of event refers to the vicissitudes surrounding each work: the particular "story" marked by the circumstances dating back to its origin and that marked its transformations. It can be said then, that although some basic principles exist, each work is unique. This means that it emerges in a particular place, within a social, cultural and economic context, which requires examining the events surrounding it during its construction as well as the subsequent stages of transformation that occurred over time and affected its spatial configuration.

As mentioned above, a work of architecture has two types of sources for its study. On the one hand, there is the building itself, considered a primary source. In it, the construction operations can be recognized and successive changes are

13. GADAMER, Hans – Georg. **Verdad y método**. Toledo: Sígueme, 1991.

14. MORGENTHALER, Hans. Chronology vs. System: Unleashing the Creative Potential of Architectural History. **Journal of Architectural Education (JAE),** Vol. 48, n. 4, May 1995, pp. 218-226.

recorded. However, this does not prove to be sufficient. Besides this, it is necessary to avail oneself of other types of sources, such as written, literary or legal documents; drawings, plans and photographs, as well as testimonies of people who were connected with the work in some way. [15]

Although the two facets (object and event) can be understood separately, it is clear that they are reciprocal, even more so when the objective is to treat architectural works as integral facts that represent and symbolize ways of dwelling. It is a close relationship that in space has its ultimate substantiation. So, to look at a work and its corresponding effect in space presumes taking into account three fundamental categories that appear implicitly in that it constitutes a complex phenomenon. On the one hand, it is an ontological investigation since it bears in itself the definition regarding its precise description. It also supposes hermeneutical aspects, since it results in an interpretation, and ultimately leads to an enhanced value, with which aspects of an axiological nature appear that impart value to the forms and conditions of dwelling.

From here, we move on to the questions that lead to what have been called *discussions*, understood here as venues in which it is possible to make contributions and arguments aimed at building a conclusion or closing the argumentation. There is a broad range of themes which must be selected so that its development responds to a particular emphasis. The second part is dedicated to presenting certain instruments for developing the work, as well as its general conditions. It seeks, above all, that the development of the work take into account the complexity of architectural works, permitting at the same time that an emphasis is defined according to the interests each one wishes to convey.[16] The sum of the distinct proposed operations is aimed at establishing a basic method for students venturing into the realm of architecture.

Questions

How is it recognized? A work of architecture presents some basic data that enables it to be recognized within the vast universe of works that have either been built or imagined, even if not necessarily constructed, or that have disappeared or been transformed over time. This initial recognition makes it possible to establish relationships with other works by the same author, located in the same city or region, or constructed during the same period. The temporal location is linked to the *chronological* mode of organizing the past, as opposed to the type that is done according to its geographic or urban location[17]. It is essential,

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15. See: RAMÍREZ NIETO, Jorge. Documentos y fuentes gráficas en la historia de la arquitectura. In: **Textos. Documentos de historia y teoría.** No.15. Bogotá, Facultad de artes. Universidad Nacional de Colombia, 2006, pp.41-59

16. This aspect is fundamental. The process suggests the direction and emphasis in each case. Nevertheless, it defines the depth and order in which the work will evolve, since, in that each architectural work is unique, it is also the way in which it can be seen and explained.

17. This second form is that which architectural guides of certain cities or regions generally follow, which is sometimes supplemented with the chronological mode.

nevertheless, to know its name, or names, since it is a way to understand some-
thing about the institution that it houses and represents. In like manner, mak-
ing reference to the authors (when possible) is crucial in that it defines a part
of the intellectual, artistic and technical sphere within which it was conceived,
and it is clear that along with this a biographical approach can be regarded as a
means of explanation. Where possible, this is the data that should be gathered
in order to perform this initial identification:

Name(s) of the building:

Current use:

Other uses:

Architectural design:

Technical designs (structural, electrical, hydraulic, mechanical and others):

Promoter:

Dates: (design, construction – start and completion)

Location in the city: (streets, number, neighborhood)

Coordinates: (latitude and longitude)

At what time was it built? One of the ways to approach the explanation of ar-
chitecture is based on considering it as a product of the spirit of its time (Zeit-
geist). According to this argument, architecture (insofar as art and technique)
is produced from the circumstances surrounding its construction, whether
material or spiritual. Managing all these variations is certainly a complex task
that involves all fields of knowledge. However, it is necessary to understand the
impact of some of these circumstances on the work to draw closer to under-
standing it. Thus, we propose investigating the relationship the work has with
the following aspects:

Historical, social and economic events related to it.

**Related people or institutions, needs and (possible) intentions, as well
as their role in the building of the work.**

Later interventions and the reasons for them.

**Prevailing artistic and cultural paradigms at the time of construction of
the building.**

**Prevailing architectural paradigms (technical, spatial, functional or aes-
thetic) at the time and place of construction of the building, especially
related to buildings having the same use.**

Discussion 1: Addresses the possible relationships between the context, sector and work being studied. [18]

What are its surroundings? Another possible dimension for explaining a work entails examining the conditions of the site. This refers to the condition of an architectural work within its specific context, and it is this preeminence to which it responds. It can be supposed that every place, as a territorial, cultural and urban entity, has ways to build and give individualized responses within a broad universe of common forms. In this sense, it is necessary to try and understand the conditions surrounding the work. It is suggested to start with a perceptive approach. It must also be understood that the conditions of sites change. Transformation is continuous, both in the surroundings and in the work itself, which in turn defines units of measurement or temporalities of which they are part.

> **General description of the sector being studied in relation to the city and the environment (climate, natural resources available, etc.).**

> **Description (in images and words) of the main episodes and transformations that occurred before, during and after the completion of the work, commenting on the dynamics of the city's development and its relation to the sector and building being studied.**

> **Explanation of the ways of dwelling in the sector: what they are like, what they were like and to what extent the configuration affects or impacts upon these forms.**

Discussion 2: Addresses the possible relationships between the surroundings, sector and building being studied. [19]

What is it like? In this point, the building as the unit of analysis refers primarily to the condition of the architectural object. It seeks to establish the elements that characterize it and those which impact its spatial configuration. The question regarding spatial configuration is undoubtedly very complex, since there are many factors involved. The form of the space is a result of cultural, climatic and material conditions, etc. It can be said that an architectural work responds to the natural elements – water, fire, air and earth – and at the same time establishes different relationships between private and public, as well as between inside and outside. In this sense, a description of the architectural object arises from an investigation of the elements and their respective relationships. Thus, through comparison, it is possible to discover, in other works, different solutions to common problems.

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18. The visualization of concepts and relationships via a conceptual map helps to "spatially" understand the surroundings and hierarchies present. This feature enables recognizing possible points of emphasis to be followed.

19. The use of historical cartography, images, graphic representations of any kind and technique, literary descriptions and anything that sheds light on the surroundings in which the work is located represent information of interest for developing this question.

Perception of the building: external image, approach, access and also internal space.

Ways of dwelling: explain the different relationships that can be established on the basis of this general problem.

Main parts and elements:

Principles of order (geometric composition, modulation, etc.):

Typological description of the building. (Structural and functional):

Structural construction system:

Organization, distribution and hierarchization of spaces. (Function):

Visual relationships corresponding to external-internal, internal-external and between internal spaces:

Special details (decorative, etc.):

Glossary. (Those words or terms that have a particular meaning when referring to the building or sector being studied):

Discussion 3: Addresses the general concepts that define and characterize the work in terms of its physical configuration.

What does it mean? The question concerning the meaning of a work is perhaps the most far-reaching. It is a way of viewing it in more abstract terms, which brings into play an interpretation and, with it, an evaluation. In this regard, this question is intended to serve as a discussion that broadens the focus of the previous questions, even though it results from the relationship between the partial conclusions of the former items. An attempt will be made, therefore, to highlight and summarize the main findings and insights of the investigative process, for which reason the following questions are suggested:

Why is the work as it is? What is its response to the natural elements?

How does it respond, and at the same time, how does it affect the ways of dwelling?

What is its meaning within the context of the history of architecture?

What meaning and evaluation could be given to it?

What distinct temporalities are evident in the work?

Sources and tools

Identification sheet: It is helpful to record the basic data from the documentation on a sheet or file, as a tool that gathers information and basic data. In addition to the name or names of the work, dates (start, completion and modifications), authors' names and specific location, it could include a brief description,

some of the general plans and a small selection of images which would contribute toward this purpose, with which the research process begins and ends. [20]

Conceptual map: One of the tools for the work, which enables linking the themes, is a conceptual map. It is a visual support where aspects of all types are included as they arise during the research and that are related to the architectural work being studied. In this regard, it is recommended to place the work at the center of the map and from this point establish, on one side, the aspects that are related to context, that is, to its historical vicissitudes; on the other, to the surroundings, that is, with the transformations that have taken place in the vicinity; and in another place indicate the aspects that are specific to the building in its object-based condition. [21]

Timeline: A chronological visualization of different events establishes relationships that can explain the condition of the work in its context. Establishing precedents and correspondences provides a relative and comparable measurement of events on a timescale that is more convenient: eras, centuries, years. It is important as a research tool since it permits tracing a line of events – those considered most relevant according to each person, even if they do not have a more immediate or apparent relationship with the object of study. The main aspects that can be taken into account in this timeline are: facts related to the work, such as its start and completion; the incorporation of a certain technical device; the addition or demolition of any of its parts. Another parallel line could include aspects related to the political, economic, social and cultural life, and another one could also consist of biographical aspects of the author enabling one to see at what stage in his production the work appears.

Plans and models: Architectural conventions have a variety of ways to represent the spatial and constructive complexity that comprises a work. This basically refers to plans and models that are understood both as a source for research as well as a resource derived from it. They constitute calculated ways to represent spatial experience and in the scale there is a variable for demarcating it. Thus, each scale corresponds to a certain level of information and alludes to a particular problem. Nevertheless, it is clear that all these represented levels of knowledge are related to each other by the principle of similarity which corresponds, precisely, to the continuous notion of space. The gradation in looking at space refers to the following scales/plans: urban/sectoral plans (scale 1:2000 to 1:1000), site plans (scale 1:1000 to 1:500), architectural plans (scale: 1:200 to 1:50), architectural details (scale 1:50 to 1:10). Models: sectoral, volumetric, final, interpretive and details. A useful tool is based on producing an overall plan. This, as a graphic argument, summarizes the information of the building in

20. The documentation of architectural works in files is a process that many government, academic and professional organizations use, and thus there are many examples to suit each purpose.

21. 1) See: KULHAVY, Raymond W. and STOCK, William A. How Cognitive Maps are Learned and Remembered. In: **Annals of the Association of American Geographers**, Vol. 86, n. 1. Mar., 1996, pp. 123-145. 2) See: FERNÁNDEZ, Teresa. *Mapas conceptuales y diagramas uve: dos estrategias en la enseñanza-aprendizaje de la historia*. In: **Comunicación, educación y lenguaje**. N.16. 1992, pp. 7-24.

terms of architectural plans. It includes on a single sheet the plan(s), section(s), facade(s), perspective, details and explanatory text which provides a compact account of the building. [22]

Cartography, Iconography: The proof of the existence and changes that have occurred in a work are found in the realm of cartography and iconography. As sources, clues appear in them that attest to what there was and what there is in the place where the works were implanted. In a sense, it could be said that cartography addresses quantitative conditions, distances and proportions. Iconography, on the other hand, alludes to issues of a qualitative nature where symbolic, temporal relationships appear that require a perhaps more speculative reading and interpretation. In any case, both are interrelated and correspond closely to each other; they represent material of circumstantial interpretation and are thus essential sources for studying a work, which in order to become research tools often require redesign and intervention.

Drawings, diagrams: In addition to the content that written explanations are able to offer, it is also important to consider graphical explanations both as a source and resource. Through drawings and diagrams, it is possible to discover the intentions, the foundational gestures of the volumetric composition of a building, as well as the functional relationships, parts, elements and construction processes. As sources, they acquire value in contrasting them with the results or later stages of development. As resources, they illustrate aspects of the processes, states of partial synthesis.

Figure 1

Hypothetical location of the building for the newspaper *Pravna Leningraskia* (1924) **on the corner where the Francisco Camacho building stands**.

Figure 2

Hypothetical location of the **Francisco Camacho** building at the corner of Broadway with Times Square.
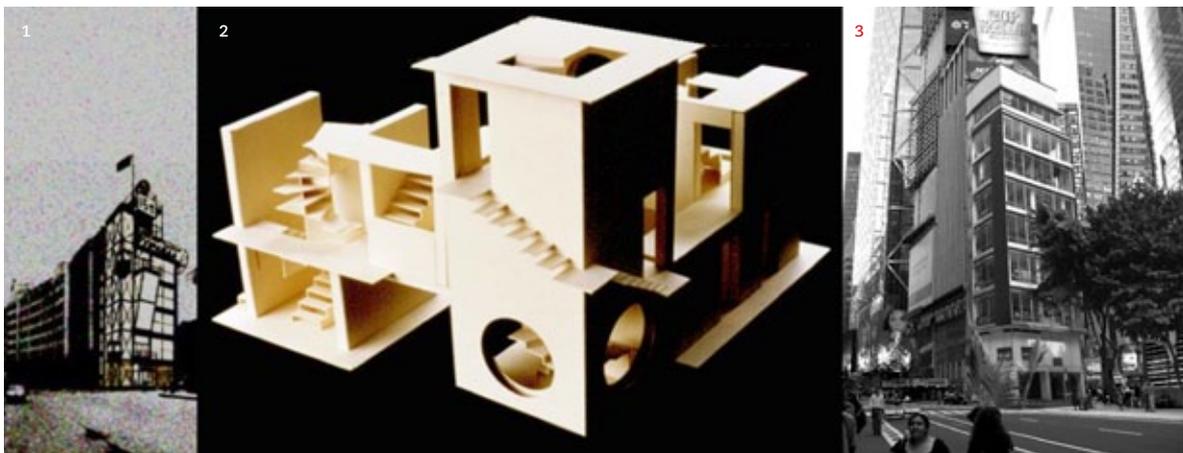
Figure 3

Variation of the stairway system of the Astronomical Observatory.

Source: All the works were done by students from the history workshops I and II of the architecture program at Universidade de los

Variations of the imagination: Up until this point, it could be said that the subject has focused on documentary and descriptive aspects. Although the operations of evaluation and interpretation have been considered, the imaginative dimension must be addressed in the study of a work of architecture, whenever it comes to a sphere of knowledge where creativity plays an essential role. In

22. The way in which the works are represented in the book **History of Architecture** by Sir Banister Fletcher is very eloquent: it includes plans, sections, views, details and perspectives.

addition to approaching the realm of the history of architecture, the question arises as to whether it would be possible to invert the terms in a purposeful direction: that is, for an architecture of history. As a result, possibilities open up for design thought, variations of historical forms, hypotheses arising from the modification of time, space and the supposedly stable conditions thereof and also the digressions and translations that this grandiose story contains. [23]

Project

The question that now arises is in regard to the continuity and range of the experience surrounding the study of architectural works. In which direction and for what purpose are works studied? Is it possible and desirable to transcend partial experiences through a larger project that brings together these micro-histories? What pedagogical possibilities would there be in putting into practice a project based on this activity?

A problem that is quite common in the teaching practices of architectural history is the lack of continuity. It seems that each new course initiates the program accepting once again changes that were settled at some prior time. In this regard, the formulation of a project could provide continuity for ongoing subjects, for questions and hypotheses with which research can be stimulated and renewed. Consequently, learning can become more meaningful, in addition to combining three fundamental spheres of knowledge: memory, as regards recording; documentation; and thought, referring to analysis and imagination, as a possibility for the inclusion of design thought.

Figure 4

The building of a map, where the works of the sectors being studied are inserted, makes it possible to visualize a project that can be extensive insofar as inducing new examples, or also intensive when it delves deeper into cases of particular interest. The map can be built with different layers of information, serve as an index and thus indicate changes and transformations.
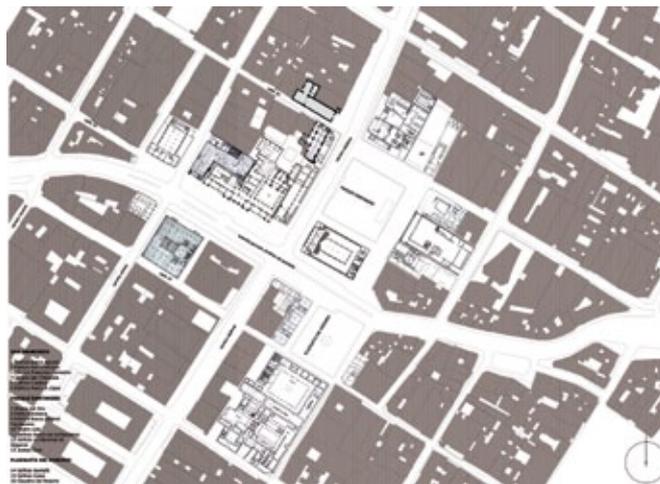
23. See: WHYTE William. How do buildings mean? Some issues of interpretation in the history of architecture. **History and Theory** , n. 45. May 2006, pp. 153 -177. Whyte explains architecture as a result of multiple translations. Ranging from conception to historical or critical interpretation, there are many languages and ways of interpreting, all of which constitutes a complex system.

Final considerations

Learning from architectural works is a means of fulfilling the atavistic urge as regards learning to learn. It is clear that in training architects there appears to be a consensus on this issue, as well as on the significance of studying the past. The exception, we might say, is the case of the Bauhaus where, according to Gropius' idea, history was avoided in the early years, in the belief that this could have a negative influence on architects in training. However, this supposed intention made analysis possible, a more direct and effective approach in which rather than copy forms of historical architecture, an effort was made to approach the problems and central concepts, which meant resorting to method[24]. Thus, in the words of Gropius, it could be said: "In an age of specialization, method is more important than information."

This legacy of modernity stems from the belief that history has certain constants that are repeated in the form of variations within each period, and what's important is to know that the task of analysis can manage these, as part of a historical continuity.

> *We do not need to figure out where the key to our current problem is, but what we must ask ourselves is whether there are phenomena that are clearly present throughout all historical evolution and upon which the history of architecture can be based, as is taught today. These phenomena – these notions – must be extracted from the innermost heart of architectural concepts.*[25]

The study of architectural works, their analysis, the discussion of their usefulness and drawbacks, their autonomy and active role (or not) in the teaching plan (planning) is an issue that should continue being discussed in order not to let habit and routine become responsible for its disappearance. The discipline of architecture, in the works, possesses a powerful tool of knowledge and in this sense, for relationships with other disciplines and forms of knowledge. This fosters relationships where, according to what we have already considered, works would act as both objects and events at the same time. This enables two general lines of thought: the emphasis being material, if based on the surroundings to explain the work in its condition of space. However, if the emphasis is placed instead on the condition of events, then its concern would be context and the question of dwelling. In any case, what would be important and pedagogical would be to maintain the work as the main reference.

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24. See: CHEWNING, J.A. In: The teaching of architectural history during the advent of modernism, 1920s – 1950s. In: **Journal of the Society of Architectural Historians**, vol. 61, n. 3, Sept 2002, pp. 346-354.

25. GIEDION, Sigfried . La Historia y el arquitecto. **Journal of Architectural Education (JAE)**, vol XII, n 2. , 1957, p. 239

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