

BUILDING AN INTRINSIC PROTECTION OF 20TH CENTURY ARCHITECTURAL HERITAGE IN MARSEILLE: A TOOLED METHODOLOGY FOR KNOWLEDGE ENRICHMENT

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ABSTRACT:

The French 20th century heritage is in a situation of obligatory change within the framework of a societal transition. However, this change must be accompanied by a careful and precise look at the building so as not to lead to a complete banalization of the specific architecture of the different trends of the 20th century. These transformations have already started and are not dependent on research or patrimonialization for implementation. Technical solutions alone pose significant risks of architectural missteps. Thus this paper introduces a tool-based method for the production of systematic knowledge on this fragile "heritage". By applying it to a corpus of seven collective housing operations of the 20th century, as a framework for observing the development of analysis criteria, shaping the tools and confronting the reproducibility of the method, this paper seeks to present the proposals of objectification of gaze and memory, in an approach of openness and diversity of the knowledge (interdisciplinary scientifically, but also profane). Whether through dedicated visual representation or the use of conceptual models such as CIDOC-CRM, the ultimate goal is to examine the emergence of intrinsic protection for 20th-century architectural heritage by providing inhabitants access to the architecture and the knowledge produced through its objective analysis and explicit qualities, thereby enabling their acculturation. The objective is to question the perceived appearance of such protection.

1. INTRODUCTION

The protection of 20th century heritage raises a number of questions that need to be answered urgently, prerogatives of adapting this building to contemporary requirements (whether they are technical, social, architectural, or environmental). In this sense, the building of the 20th century, due to its immense quantity, its variable quality, its particular historical context, and its theoretical and semantic rupture with earlier architecture, is positioned in a situation of significant vulnerability. By adding to this already complex reality, the problems of ageing of the building, due in particular to the use of materials (concrete and metal) without a precise knowledge of their implementation (Marie-Victoire and Quénée, 2013), and a lack of consideration of energy issues in the design, we arrive at the current situation: immense land pressure on a building that embodies the evils of a time. Whether by a strategy of trivialization with external thermal insulation, or by a rotting strategy, leaving the buildings accumulated a quantity of work (therefore a financial mass impossible to overcome) (Tiry-Ono et al., 2023), the state of the 20th century building, and the possibility of its legacy as heritage, is becoming more and more hypothetical. Our answer lies in a tooled and methodological production, which aims to be part of the filiation of institutional approaches by bringing valuation and mediation as a central point in the construction of intrinsic protection. Preservation stemming from the inhabitants may arise from their acculturation to architecture, awareness of heritage issues, recognition of building qualities, and ultimately, a shared understanding of whether an architectural object should be considered heritage or not.

In the first part of this paper, we will therefore review the French context of heritage, its specificities and the complexities

specific to the 20th century. Then we will approach the method itself with a point on the question of the corpus and its dual function as a "producer of knowledge" and "observation framework" for 20th century's specific questions. We will end with the relationship between methodology and tools, their detailed objectives and the current limits of the work.

2. THE FRENCH HERITAGE CONTEXT

In France, the State has long been in charge of the protection of the building, however a heritage remains in some kind of variable geometry protections: the heritage of the 20th century. A quick look back is required. The notion of heritage was founded after the French Revolution in 1790, in reaction to vandalism (Deloynes, 1790). It was therefore decided to protect the nation's property, to make an inventory and a description of it. It was from this foundation that the department of "monuments historiques" (1) was built, a central institution of French heritage with Prosper Mérimé as a figurehead (Antonia, 2003), who was at the origin of the first list of "monuments historiques" in France in 1840 (Auduc, 2008). It was from this initial list, and from the service of "monuments historiques" that the French model of heritage protection was built in layers and palimpsest. We will not go into detail, but Figure 1 shows a representation of and the evolution of heritage protection in France. Our approach is in line with two French services: the "inventaire général du patrimoine culturel" and the "label patrimoine du XXe siècle"(2). Although their objects of study

1 Which means: historical monuments

2 Which means respectively: "general inventory of cultural heritage" and "Xth century heritage label". We will call

differ, their objectives tend to converge. Indeed, "L'inventaire" aims (among other things) to make an inventory of all the heritage that was not interesting enough to be considered for a measure of protection of historical monuments:

"again, and perhaps above all, to gather a serious documentation on the innumerable buildings, fragments of buildings, or groups of buildings, which have never been and will never be the subject of an administrative measure, which are more or less legitimately doomed to disappear, and for which it is inadmissible that a file is not compiled, when it is still time."
 (Chastel and Malraux, 1964, p. 14)

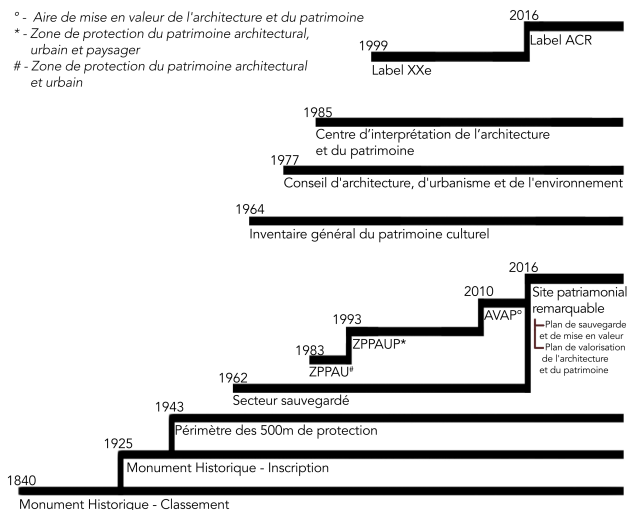


Figure 1. Chronology of French heritage protection

"Label XXe" (3) also aimed at providing information about the forgotten heritage of historical monuments but produced during the XXth century (Hottin, 2018). It is indeed the time period that distinguishes the two entities, since "l'Inventaire" has broad limits (from the 5th century to 30 years prior to the study) Ministère de la Culture, 2023a whereas the "Label XXe" focused exclusively on the heritage produced during the 20th century (4). Moreover, unlike "monuments historiques", the position of the "Label XXe" was a non-coercive one to accompany an evolution and not to put it under a bell. However, the building of the 20th century treated in a non-coercive way, by the filiation of the 20th century label with the "label ACR"(5), does not, in any way, present a sufficient guarantee as to the parentage of this heritage to future generations (Duhau, 2018). Because of the transformation of the "Label XXe" into the "label ACR", it is the disappearance of the recognition of a pivotal period in the history of architecture with the appearance of a historical milestone of 100 years ("Label Architecture contemporaine remarquable," 2022) (between the construction and the end of the recognition by the label) before they can be hypothetically considered for protection by "monuments

them respectively "l'inventaire" and "label XXe" in the rest of this article.

- 3 The "label XXe" has been transformed into "label ACR" in 2016, which we will come back to
- 4 Another point of separation is the function of the two institutions. "L'inventaire" ignores an administrative approach, where the "Label XXe" brought the complexity of institutional recognition
- 5 Which means: "Remarkable Contemporary Architecture"

historiques" (Hottin, 2018). This concept of a buffer period certainly allows a flexibility of evolution to the objects but takes an extremely risky bet that aims to hope that the simple recognition coupled with an obligation to notify the works to the prefect, will be enough to prevent the trivialization, degradation, or destruction of the building. For the trivialization and destruction, we can hope that the compulsory process of declaration of the works will allow to save some buildings from clumsiness or disappearance. However, for the degradation, letting a building rot will never be impossible for a commonholding, even though the building is labelled (6). not to mention the buildings for which the label is refused or not proposed / not validated. These remain off the radar, even if, in Marseille alone, our work has highlighted a large number of buildings which could very well be considered as meeting the criteria for the "label ACR" (7).

3. ONE CORPUS: TWO OBJECTIVES

3.1 The corpus as producer of knowledge

Our corpus of objects therefore aims first of all at producing knowledge about the "invisible" heritage of the 20th century. This building presents a diversity of styles often stifled by the overrepresentation of the modern movement, and it therefore seemed necessary to us to present the diversity of 20th century architecture that can be found scattered throughout the territory and embodied by a multitude of "regional" architects, across the entire century. It is thus, on this double foundation (of styles and people) that our work rises. Our first approach to the production of knowledge is really based on a broad approach, to be seen as a range of the production of the 20th century, with very little information on Marseille (8). In contrast to a method of historiographic observation or monographic production on a defined architect, our method of observation and analysis is part of an inventory process that allows us to bring out different types of problems. Thus, the corpus is both an object of study in itself and an object at the service of the study. The redrawing and the analysis are not pretexts to the elaboration of the method, because it is from the architectural look and the graphic production that the architecture and its analysis take shape (Bafna, 2008; Celis et al., 2011), relying on the particular case of the heritage of the 20th century.

As soon as the corpus was selected, our work aimed to make the redefined criteria as clear as possible (9) and tends towards a neutral definition of our selection: one building per decade, one building per architect, one building per major collective housing type (10), one building per type of protection (11) and

- 6 Even if the refusal of the recommendations only entails the withdrawal of the "Label ACR".
- 7 Singularity of the work / Innovative or experimental nature of the architectural, urban, landscape design or technical realization / Notoriety of the work / Exemplary nature of the work in the participation in a public policy / Value of manifesto of the work because of its belonging to a recognized architectural movement or ideas / Belonging to a group or to a work whose author is the subject of national or local recognition
- 8 Two architectural guide-type works, a study of residences between 1955 and 1975 as a monographic document on the period.
- 9 Criteria that want to bring the least possible contamination of the gaze (by experience or bias) in the choice of the building.
- 10 Large reconstruction operation, apartment building, intermediate housing, workers' block, etc.

accessible archives. The objective was to avoid preconceived notions when examining the selected buildings by applying style and innovation criteria that are specific to the labeling process. Our only interest was to observe buildings from the 20th century. At first 14, the list of buildings from 1902 to 1996 fulfilled all the criteria with a question about the availability of archives (12). It is important to specify that at this time of the work, the knowledge about the building was almost nil: a location in the territory, a summary external observation (of the order of making contact with the building), sometimes a vague knowledge of the architects, and above all no idea of the quality or non-quality of the architecture developed (13). After analysing the archives, the list evolved to propose 7 buildings ranging from 1932 to 1996. The representativeness of each decade and the diversity of the protections were therefore impacted (14), but we were able to maintain a diversity of objects, architects and typologies of housing operations. This multiplicity of operations and their diversity led us to consider that the corpus was not only a simple issue of knowledge production.

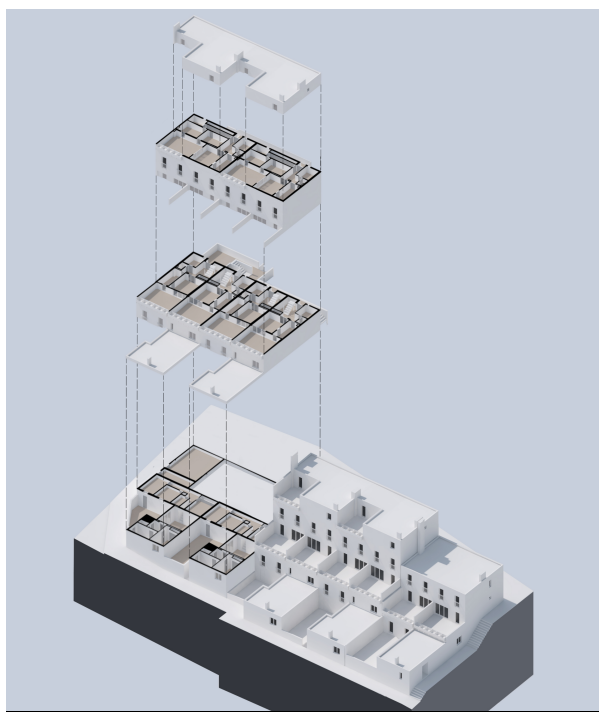


Figure 2. Exploded axonometry of Notre-Dame de la Garde, an intermediate housing house study

- 11 "Monument historique" or "label" or unprotected
- 12 The files exist but the information in the latter did not make it possible to know the content before opening them (and in particular the graphic backgrounds available)
- 13 We mean here by architectural quality: the question of the composition of the plan, the quality of life of the dwellings, etc. In short, so many points that require careful observation, redesign and analysis.
- 14 The case of 20th century residential buildings protected as Historic Monuments is a good illustration of the problem of protection for this heritage. Because in 2020, only 3 20th century housing buildings were concerned by this protection. One of the latter is the "Cité Radieuse" by Le Corbusier, and it seemed a shame to invest time on an overstudied building. The other two unfortunately presented no archives, which in the time frame of the study was too great a barrier to overcome.

3.2 The corpus as producer of questioning

Thus, the corpus is to be conceived as a "metacorpus", an observatory of scientific questioning specific to 20th century housing. Each building is an opportunity for questioning. To put it simply, the physical (15), documentary (16), or architectural (17) realities are as many singularities specific to the study of a building and are therefore as many opportunities for questioning / new analysis criteria to be integrated into a method. It is crucial to have an open and adaptable method that considers the unique characteristics of each object. The study of a building should not be viewed as an end in itself but rather as a framework for observing and refining the method, tools, criteria, and questions as they evolve over time.

Currently, it is deemed unrealistic to believe that a strict and universal method, comprising unalterable criteria and a single tool to address all situations, can be established for analyzing the built environment of the French 20th century.

We are much more interested in setting up a framework, with immutable, common, and shared bases, on which we will invite other architects, engineers, geographers, historians, to come, observe and analyse the built environment of the 20th century. Thus, it is thanks to this meta-corpus and the practical reality of field investigation that an object has revealed criteria for analysis specific to its case only, or that another one has offered the possibility of observing the inspection plans (18) to be compared to the version of the licence, thus pushing us to question ourselves on what we should redraw. These are only examples but this meta-corpus, this framework for observing the implementation of our method, calls for constant questioning which must be an issue of updating and emerging a posteriori of our analysis, as a fundamental part of a method which remains evolving. Another example is that we only observe housing and consequently our criteria, far from being exhaustive, were well impoverished to deal with equipment (19) for example. The method must therefore be a flexible, evolving, open-ended process that can be reproduced in other cases, whether they concern housing or other programmes.

4. METHODOLOGY AND TOOLS

4.1 Objectify the gaze

The first reflection on the tools and methods to apply in order to observe and analyse is to understand the quality or lack thereof of a 20th century building. It might seem obvious that it is necessary to analyse a building graphically from every angle before being able to define its quality. In reality this obviousness for an architect is not fundamentally obvious for an historian or an engineer and is not reflected in the communication that is made by the protection institution (Ministère de la Culture, 2023b). In fact, we think that this attention, necessary, to the decomposition of the architectural

- 15 Its state of degradation / maintenance, and its state of modification
- 16 The quantity and quality of archives (dimensioned or unlisted plans, different versions of plans: permits, execution, etc.)
- 17 The specificities of the architecture (housing with servants, the urban form of the operation, etc.)
- 18 Plan of the building drawn after delivery
- 19 Each type of equipment can in turn apply our method to develop its criteria, with the same dialectic around the meta-corpus, specific to the equipment in question.

whole into several pieces based on various analysis criteria, is not only obligatory, but indeed a working method specific to architects because it cannot be expressed only by the mother tongue of its practitioners: the representation (Fasse, 1998).

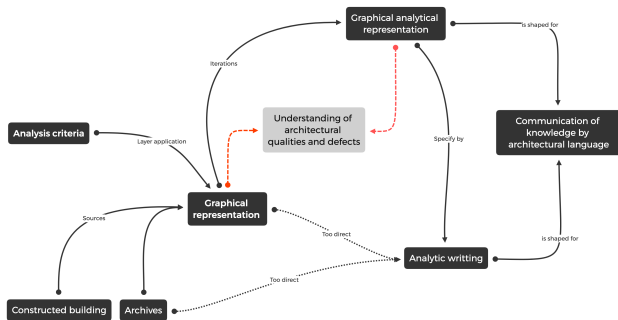


Figure 3. Methodological diagram of the analysis process through representation

By considering an absurd scenario, it becomes apparent that determining the quality and heritage value of a modern building, whose primary architectural component lies in its plan composition, would not be feasible without analyzing its plan composition (20). Furthermore, failing to integrate and communicate the analysis results to the inhabitants of such heritage buildings would also be inadequate. This reality, absurd, is however, more or less present depending on: the services, the agents available, the notoriety of the work or the availability of documentation, among others (Chastel and Malraux, 1964). It is then by the expertise of the people in the services that the selection will be made. Without going into the administrative complexity of the process of selecting objects by field agents and selection commissions (Guilmeau et al., 2022), it is at this precise moment that the notion of 20th century heritage is constructed on a national scale. It is here that those who deserve and who do not deserve to be heritage will be chosen. However, this selection time remains perfectly opaque. If the numbers are accessible (Direction générale des patrimoines et de l'architecture, 2021), if the criteria are available ("Label Architecture contemporaine remarquable," 2022), it is indeed the arbitration of the choice between one building and another which remains globally impossible to know (21), while leaving aside the question of the provision of documentation and analysis about the selected heritage (22) (Ministère de la Culture, 2023c). Thus, our method of observation and analysis aims to develop this process by positioning ourselves no longer in a dynamic of selection but in an exhaustive and plural perspective. We know it is a chimera, a utopia that is part of

20 What is more in the case of a heritage resulting from modernism where the facade, stripped of its ornamentation, is a place of expression much less "rich" than in the 19th century for example.

21 Except for having attended meetings or being part of the agents who make the pre-selections of the objects before the commissions.

22 The available information is compiled in a written summary sheet with a photograph of the building. The dimension of representation is very often absent, except in the case of an external study which can serve as a working basis for labeling (Bauer and Klein, 2021; Dourousseau, 2009). In the examples cited, the research work is carried out by architects and/or historian who constitute a redesign work, which gives access to communicable funds, but who rarely go beyond this stage to go to the analysis.

the long line of that of the Inventory (Heinich, 2013), but who would like to impose a more conceivable limit: the 20th century. It is by seeking to decompartmentalize the question of the production of knowledge of the status of researcher (of his gaze, his expertise, his biases) and by building a method accessible to the greatest number (and therefore by multiplying the forces), common, evolving, and interoperable that we subscribe to the traces of the inventory for the safeguard, not of the whole of the built stock of the 20th century, but at least of its memory.

Therefore, we wish to insist on the process of observation. Obviously, archives or publications are essential materials for understanding the building, but the visit to the building, the first archive of the object, is essential. It is above all by the aggregation of information, on buildings that are very little or never published, that the subsequent analysis work is based. It must see the light of day on an updated background, a readable background, and which then calls for redrawing. It must be born on an updated background, a readable background, and which then calls for "redrawing". Professional and pedagogical experiences overtime have shown that architects begin their analysis work by laboriously understanding the archive and its transcription. The act of looking can lead to mental comprehension of the plan's composition and scheduling, thereby providing insights into the associated issues.

It is not a systematic but it is clear that when the redrawing step disappears in favour of an analysis on the backgrounds, the understanding is more laborious, because often parasitized by a graphic expression which is not its own, superfluous information within the framework of an analysis, and a degradation of the archives (23) which can each lead to a confusion of understanding.

Then comes the time of analysis built on a basis of architectural criteria, reproducible from one object to another, and which is applied as a layer on the redesigned geometric backgrounds. Some are specific to the plans, others to the section, or the facade, while providing a game of analysis scale: at the scale of the master plan, the floor plan, the apartment, etc.



Figure 4. Floor plan diagram showing the apartment interlocking of 46 BD du Dr Rodocanachi



Figure 5. Night & day diagram of one of its apartments

23 Folding and photography can cause problems with proportions

The search for criteria and their application was built on an aggregation: works presenting similar approaches (Clark and Pause, 2005), lessons learned at the school of architecture, research into quality criteria (Girometti and Leclercq, 2021) and text mining work. This last step was an opportunity to compare the existing production (24), to scientific observation. This text mining (done by Gargantext) then allowed us to obtain graphs of words (Fig6), which offered us the verification of criteria that may be missing in the analysis, due to their high occurrences. In addition, the production of graphs with conditional distance allows us to see the probability that a term will be used to one another in terms of their spatial proximity and therefore to begin to build an organisation of our criteria.

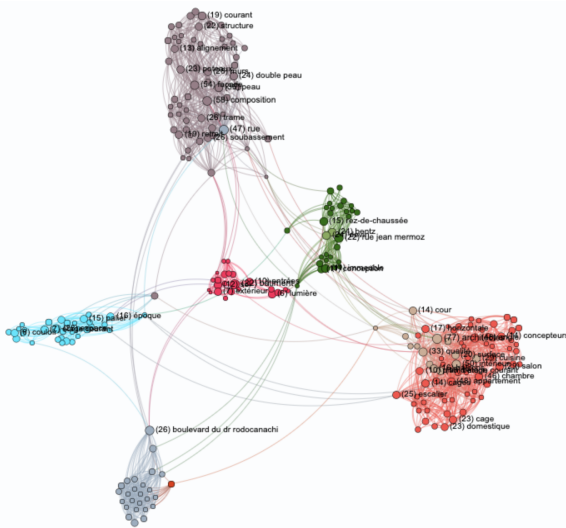


Figure 6. Word graph from Gargantext showing the links and recurrence of terms in the word corpus

We were therefore able to consist of an ordering of our terms around a thesaurus of notions specific to the analysis of the built environment of the 20th century. The whole thesaurus organisation does not strictly respect the word graph, in particular because it was necessary to aggregate different graphs coming from different origins. However, text mining was one of the foundations of this thesaurus which stands as a cornerstone of the analysis and of its reproducibility on the one hand, because it is to be seen as a small manual of investigation of the heritage of the 20th century. But on the other hand, it is also part of the link around the question of the objectification of memory.

4.2 Objectifying the memory

One of our challenges is to manage to objectify the question of oral memories, all the stories, all the information that lives and dies with the inhabitants of buildings (Gosseye et al., 2019), and whose collection and intelligence remains arduous tasks today. In this sense, our work consisted in the fact that our method had to go beyond historical work and transcription through a book publication. Thus, our method tries to go beyond by building a web of tools allowing the inhabitants an access to "scientific" knowledge, while calling for the contribution and taking into account the oral knowledge of the inhabitants. Thus, the method continues in three steps: mapping, spatializing, and simplifying. The first time is that of cartography, the time when it is

necessary to give knowledge, to give access to knowledge (analyses, references, photographs, archival collections, geometrics, etc). The conceptual mapping work involves establishing a CIDOC-CRM architecture, which requires indexing various entities and mapping information using an information language. The objective is to create an information aggregation and connection background (Carboni and de Luca, 2016). The thesaurus serves as the organizing principle, with major notions being identified and indexed within the internal relational structure. This is how we want to make maps, the heart of the dialectic between material and immaterial, which our method wants as an expression on the one hand of access and the diversity of knowledge, but also as a safeguard of the built environment of the 20th century (Jouan and Hallot, 2020). The objective of the second stage of spatialization was to visualize analysis questions in conjunction with a digital model of the building. The aim is to establish a symbiotic relationship between the physical and the virtual, which is not limited to mapping and database work, but also extends to three-dimensional representation (Manuel et al., 2018). Firstly, for the sake of simplifying a sometimes complex enterprise of understanding buildings, then with the aim of being able to create bridges for other disciplines and trades (between companies and contractors for example), finally to keep a precise memory of the three-dimensionality of buildings in case of destruction. Finally, simplification is a fundamental step in the objective of opening up the platform to residents. We think it counterproductive to show the complexity of the information directly for fear of scaring the layman. It is therefore through various attempts that this simplification is embodied: Petcha Kutcha on a building, simplified cartography, augmented physical model (Hervy et al., 2017), or even augmented reality model (Laroche, 2021).

All this leads to the phase of experimentation and opening of the platform to the inhabitants to allow their knowledge to be collected, and therefore to allow the establishment of a recursive loop specific to each building, which should come to feed the base of general data via individual maps. We consider that it is necessary to structure the database of a building before opening it, so that the contribution of the inhabitants can be based on preliminary scientific research work.

The ultimate objective is not solely to produce knowledge for the sake of scientific advancement, but also to engage with the condominiums by facilitating mediation efforts. This includes introducing our tools and methods, inviting inhabitants to participate in the experiment, and eventually studying the impact of knowledge access on decision-making related to buildings. The goal is to foster a dynamic relationship between the buildings and their evolution, rather than maintaining a static posture (Latour and Yaneva, 2017).

These results, positive or not, can only be known over the long life of a condominium, but we hope to be able to bring out an intrinsic protection of the heritage of the 20th century. Protection is an integral part of the French labeling dialectic, which is achieved through mediation and enhancement by increasing the architectural awareness of inhabitants and promoting acculturation to architecture and heritage. The objective is to move beyond external preservation, solely supported by institutions, and instead cultivate "internal preservation" by enlisting allies within the commonhold. The objective is to move beyond protection & preservation "by designation", solely supported by institutions, and instead cultivate protection and preservation "by expertise" with the aim of enlisting allies within the commonhold and to develop a meaningful protection "by appropriation" (Djament-Tran, 2015).

24 Memoirs of students, personal memoirs and label's sheets (all about the building of the 20th century)

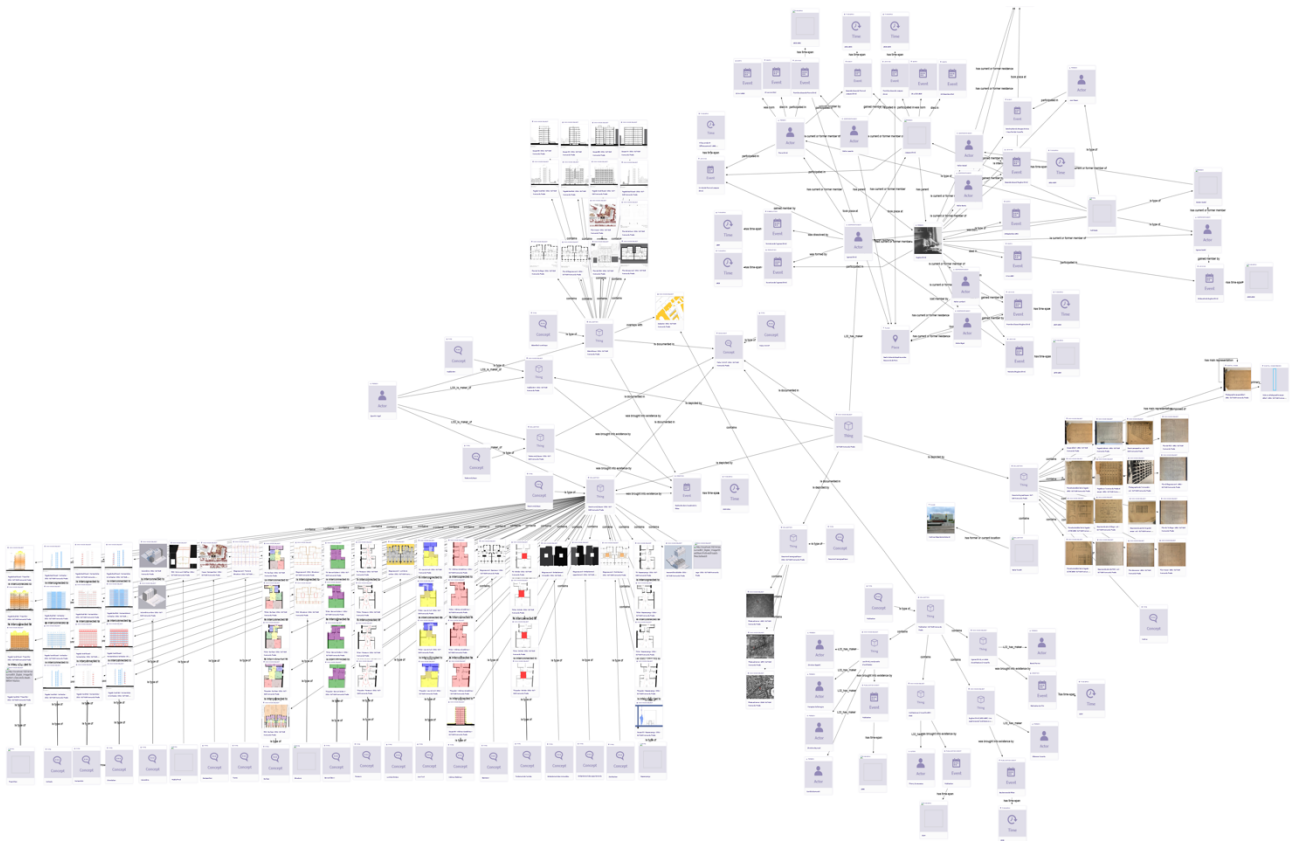


Figure 7. Data mapping of the 317-319 avenue du Prado in ResearchSpace, showing a CIDOC-CRM link between photographs, analysis, drawings, archives and history of the architects

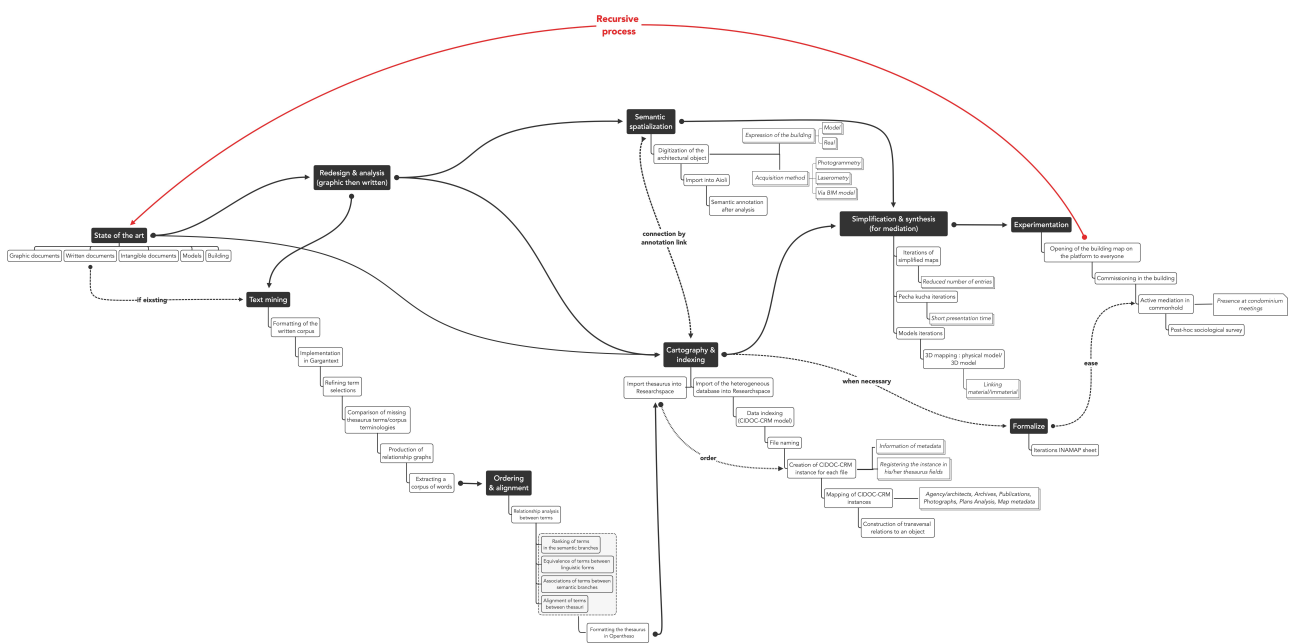


Figure 8. Diagram showing the axis of study and their interconnections in the applied methodology

5. CONCLUSION

In conclusion, we cannot comment on the final results of this methodology, its potentialities, or its shortcomings and this for many reasons. First, the research time specific to this work does not coincide with the time of urban renewal, or building renovation, which are part of the long term. In addition, the experimentation phase necessarily requires the support of a sociologist for monitoring and evaluation, through interviews, choices and their motivations. As architects we do not have this skill. We hope to be able to set up this phase of experimentation in the future, surrounded by an interdisciplinary team at the service of architectural mediation. But the fact remains that the evaluation of the method and the observation of its impact on the protection of heritage, represent a subject of research in its own right. However, we have experimented with the whole method until this meeting with the inhabitants, and we have set up a system with tools that allow reproducibility. The tools utilized are intended to mitigate the subjectivity of the method and promote a more objective approach. By aiming to multiply points of view, by bringing a method open to different disciplines (whose contribution is a necessity) and to a greater number of architects. It is also a method that aims to be a space for the interaction of types of knowledge, with a broader consideration. We call for a semantic reversal: from a recognition that comes only from an institution, from above, to a protection that emanates from its acculturated (by the expertise) inhabitants, from below.

If we are convinced of the validity of the work of acculturation to architecture, of the importance of the production of knowledge about the heritage of the 20th century, at least to keep a trace of it before its destruction, the digital will not be heritage savior. The societal changes implied by the awareness of heritage must be deployed more broadly, with new profiles of architects, of people who will be the armed wing of this innovative and plural production, which cannot be built without a real ambitious public policy for 20th century architecture, which affects those who live with, in, around this heritage. Unless human beings are at the center of change, the methods and tools employed will remain ineffective. It is through diversity that intrinsic protection of 20th-century heritage can be established. Such protection must be built on a foundation of understanding, rather than mere designation of the factors that determine the quality of heritage. Today's digital materiality presents an opportunity to disseminate sensitivities and knowledge that are necessary for building a sustainable approach to this fragile heritage preservation.

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