



Sine Glossa: the Coded Drawing for the Recovery with the Help of the IPDB

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ABSTRACT

The use of Descriptive Geometry constituted the *modus operandi* referred to the scientific unit for the development of the representation of multiscale building models relating to the investigation concerning the theme of the recovery of listed and unlisted historic buildings. The procedure used and necessary to implement the comparison useful for digitally reconstructing the artefacts involved the different classes of manuals, treatises and professional practice also inherent to the organization for the descriptions of the techniques essential to the recognisability of the building. With the definition of *sine glossa* we intend to consider the codified drawing as a regulated practice; that is, without alterations and ambiguities for the purpose of understanding models drawn according to graphic and geometric rules aimed at the recovery of a building organism. In this way, the lexical debate that has involved scholars, researchers and established thinkers over the last forty years in relation to the terminological question relating to the definitions of recovery, reuse, redevelopment, restoration within a vast and wide-ranging and erudite discussion between conservation and innovation. Of particular scientific interest are the essays, publications and theses in which experts have oriented the thought and jointly the action of how to investigate and analyze the issue of design and construction site interventions on buildings. At the same time, a specific and qualified observation report was introduced on a part of the architectural, building and engineering heritage considered to be very complex and articulated in both its diachronic and synchronic phases. In fact, the research study exposed in this essay is articulated through the technical aid of the Integrad Project Database, the acronym for BIM, and a comparison with building recovery. These aspects investigate, together with the exercise of redesigning the morphological models of the codified representation, the theme that concerns the housing of the Bolognese villa in the garden city between the years 1920 - 1950. The outcome reveals how the codified drawing first determines questions, then resolutions which tend to keep the theoretical basis of the research positively connected in terms and meanings in a specific and hinged context such as building recovery.

KEYWORDS

Building recovery and drawing, Drawing and BIM, Draw building recovery, IPDB - BIM building recovery and drawing

1. SINE GLOSSA

With the definition of *sine glossa*, that is literally, the expression of which indicates the textual meaning which leaves no space to misunderstandings or interpretations it was intended to involve the drawing in its constituent breadth, through the development of codified graphic-geometric models. They revealed through the clarity defined by the work approach deduced from the consequentiality of the parts with respect to the whole, how the unity of the building organism in all its components was constituted and subsequently defined. The graphic - geometric processing of the objects, the drawings of the details and the construction details articulated through the rules of Descriptive Geometry, in the specific case with the use of the Mongian projection, which thanks to digital morphological modeling highlights the duplicity of the relationships that they underlie the useful and necessary systems for representation. In the first instance there was the means of matching the structure of the object representation system (double Mongian projection and parallel projection) to forms of processing deemed appropriate for the different drawings, then, in a second moment, the observation referring to the different morphologies that have been defined by means of graphic-geometric modeling. In this way, the biunivocity of the relationships represented the set of steps relating to the image and the differentiated graphic-geometric descriptive phases that are intended to be revealed through specific research and investigation. Furthermore, the path relating

to the ranking of homes established by year of construction was clarified, noting their value and meaning considered such for the recovery relating to the construction heritage of the historic villa in the garden city of Bologna. This aspect considered the quality linked to the valorization for protection suitable for a functional recovery observed in the engineering culture. In conclusion, no model can be represented if its intimate graphic-geometric genesis which is the basis of its spatial and constructive configuration is not first understood; as the study also highlights the consideration due to the theme of virtuality, that is the rigorous relationship between reality - object of study - model. In fact, with the graphic-geometric processing of the digital models carried out through the AutoCAD software relating to the modeling of the engineering building work, the practice of the canonical representation acquired from the knowledge of Descriptive Geometry determined as the norm on which to fix the description itself of the models.

1.1. CODED DRAWING AND THE IPDB

The representation codes inherent to figuration for technical drawing constitute a system of rules that orders and regulates constructive graphic geometric "communication" referring to meanings and signifiers of signs and direct physical and material contents. Through the multiple and differentiated values integrated and explained with strokes, conventions, hatching, backgrounds, textures, the use of quotas, texts, and the aid of tables, the drawing takes on the relationships existing between the construction of the signs and the object (what you intend to draw), the specific place of the formal experience and the description of the objective contents relating to the models which in turn obey the morphology of the graphic-geometric images. In this specific geometric and technical modality the UNI regulation has been integrated in such a way as to provide an understanding aimed at the graphic-geometric reading referring both to the same positions of the images as for the different and necessary numerical ratio scales, and to articulate and control the execution relating to the modeling relating to the same technical drawings. The use and functionality of the AutoCad software for representation, used for both basic and more complex functions, has made it possible to develop models necessary for a series of representations within the CAD environment, thus taking advantage of the possibility of arrange the tools to guarantee the understanding and recognition within the work of those facts that contribute to the understanding of the material, physical and construction values aimed at the building recovery of the housing organism examined. In fact, the use and development of the IPDB Integrad Project Database system for construction as a "parametric building study model" was able to "automatically" propagate the effects of a modification throughout the model and provide a valuable effect resulting from the action due to a "feedback" relating to the implications of the possible variations on the space, on the construction systems, on the selected products and on any cost of the constructions not reported here. These technical operational aspects which belong to the operational method (remembering that BIM is not a software, but rather a systematic organization of processes in a meta-design key) are decisive especially for the new building, encountering some or particular inconveniences in the specific area of recovery and of the restoration of artefacts. The recovery of buildings (usually these are non-restricted historical constructions) requires extensive thematic and disciplinary planning, which considers diagnostics through the different sectors of knowledge and structure, construction, for example (eco-compatible materials), of the systems, that is the control of the microclimate and the thermal nature. In summary, it is the study of the state of the art in accordance with the legislation to provide a cultural and technical response also from a perspective not covered in the essay due to an economic evaluation relating to costs and benefits.

1.2. RESEARCH METHODS AND OBJECTIVES

The method relating to the study conducted on the historic town (unconstrained) investigated through the development of graphic-geometric models the correlation of the facts that characterized the *modus operandi* of the construction equipment with the building characteristics of the houses relating to the case studies analyzed. The morphological modeling obtained through parametric models relating to the buildings observed and re-drawn and reproduced at different ratio scales through the AutoCAD software system, intended to consider multiple information due to the useful and necessary representations both for the communication of the drawing and its contents, both for the study aimed at the realization and demonstration of a building work. This result it allowed us to understand the construction system of the artefacts, the character of the building, as well as the settlement system, considered as a whole and in unity, understanding how they were created and ordered within a consolidated context recognized in the culture of city. The study and research work also integrated and developed the use of the IPDB (Integrad Project Databas) method commercially known as BIM (Building Information

Modelling). In this way it was possible to associate the phases of the work process with the elements, including temporal ones, to visualize and verify the control of the research - project according to the different phases or steps determined. This defined the evaluation objectives as the set of technologies that allowed information to be processed and communicated through digital means within the study process for building recovery; specifically, the contribution of Building Information Modeling (BIM) applications for the technical control and understanding of building construction characteristics was investigated. The IPDB (Integrated Project Database) represents a method of interest in the process and development of research and computer-aided design. In conclusion, the method and objectives were based on the technique referring to the parametric morphological modeling of the building which used a database of relationships «combining graphic-geometric models to process and represent the characteristics of the construction and structural elements» [1], the size of the components relating to the building characteristics of the artefacts observed. The historical analysis with references to the literature, the building and detailed survey, the mapping of materials and processes, the geometry of the construction details are the general items that have outlined the study and the deductive and inductive objectives of the knowledge of a building system characterizing.

2. CULTURAL MODELS FOR BUILDING RECOVERY

The apodictic formal and constitutive confirmation of the building heritage of the Emilian "garden city" defines the very character of the building. This aspect is of particular interest and is worthy of observation even if through a brief discussion. At the same time, knowledge of the historical heritage, both restricted and non-restricted, is another topic to which attention should be paid at different levels. Currently, the concentration on the recognizability of the characteristics of buildings is an old and scarce topic interest. In the same way, the historical-cultural recognition of the vast urban-building heritage is postponed to a building and architectural debate without conviction, in other ways set aside for questions historical – educational. The character of a building is first and foremost a practical technical question. Essentially when observing a building such as in the case study shown here, one finds in the building construction tradition the orderly sequence of solid brick walls, wooden floors and concrete brick floors, roofs with wooden trusses. The unity of the construction tradition constitutes a drawing and design outlined by a simple static scheme. Further considerations investigate and analyze additional construction issues of greater complexity. For example, the connection of flat elements connected by successive one-dimensional elements such as floors or arches or spatial elements such as vaults, define a box-type construction and structural system characterized by significant rigidity. Two terms agree and open the discussion. The first concerns the adequacy, that is conformity, the second structural and consequently constructive regularity. The character of the building must also be considered and based on the dual relationship that is established between technique and practice. On these terms it is possible to establish a sequence of investigations based on the recognisability of the construction system of an artefact. On the basis of this, three aspects can be indicated which are considered levels of assessment and evaluation: the first is given by the consideration of adequacy - conformity which presupposes a direct relationship, specifically following the sense and meaning referred to the construction system; the second considers the structural regularity, which establishes a relationship defined by continuity, in the first instance it is considered through the analytical calculation of the structures, in the second aspect the direct steps for the transmission of actions are made explicit (vertical loads or horizontal actions), from the point where they are applied to the foundation, through the different resistant elements that make up the building; the third case concerns the synthesis it establishes the grade of structural simplicity, which allows for ease of sizing, modeling of the structure, definition of loads and explicit consideration of all construction details. In this path, drawing is essential and the survey determine the knowledge of the problems and the state of the art, anticipating the general questions relating to the possibilities of recovering the structures in light of the dependence on the character of the building. The graphic-geometric models return the dimensions, the "hierarchies" providing a first classification on the conditions of the artefact obtained from cross-readings relating to its constitution. A further clarification aimed at acknowledging the legislation on the "recovery of brick-cementic floors is set by the D.M. of 17 January 2018 in § 7.2.6. indicates that: «... the flat horizontal structures can be considered infinitely rigid in their average plane provided that they are made of reinforced concrete, or in brick-cement with a reinforced concrete slab of at least 40 mm thick, or in a mixed structure with a reinforced concrete slab reinforced concrete of at least 50 mm thickness connected to the steel or wooden structural elements by appropriately sized shear connectors..." depending on the overall geometries of the building, it is immediate to note that, at least theoretically, completely leveled floors or in any case with a slab less than 5 cm and not reinforced cannot be considered infinitely rigid with significant consequences in the distribution, for example for horizontal seismic actions on the vertical seismic-

resistant elements of the calculation model. Consequently, the investigation solutions for the consolidation of a floor (Fig. 1) must consider whether and how the hypothesis of infinite stiffness in the plane or, on the contrary, of absence of stiffness is varied in order to take it into account in the overall calculation of the building. The observation is clear in relation to the fact that in historic buildings there are many brick-concrete floors built in the period between the 1930s and up to the 1960s-70s of the last century without an upper slab or with a slab of a few centimeters " [2].

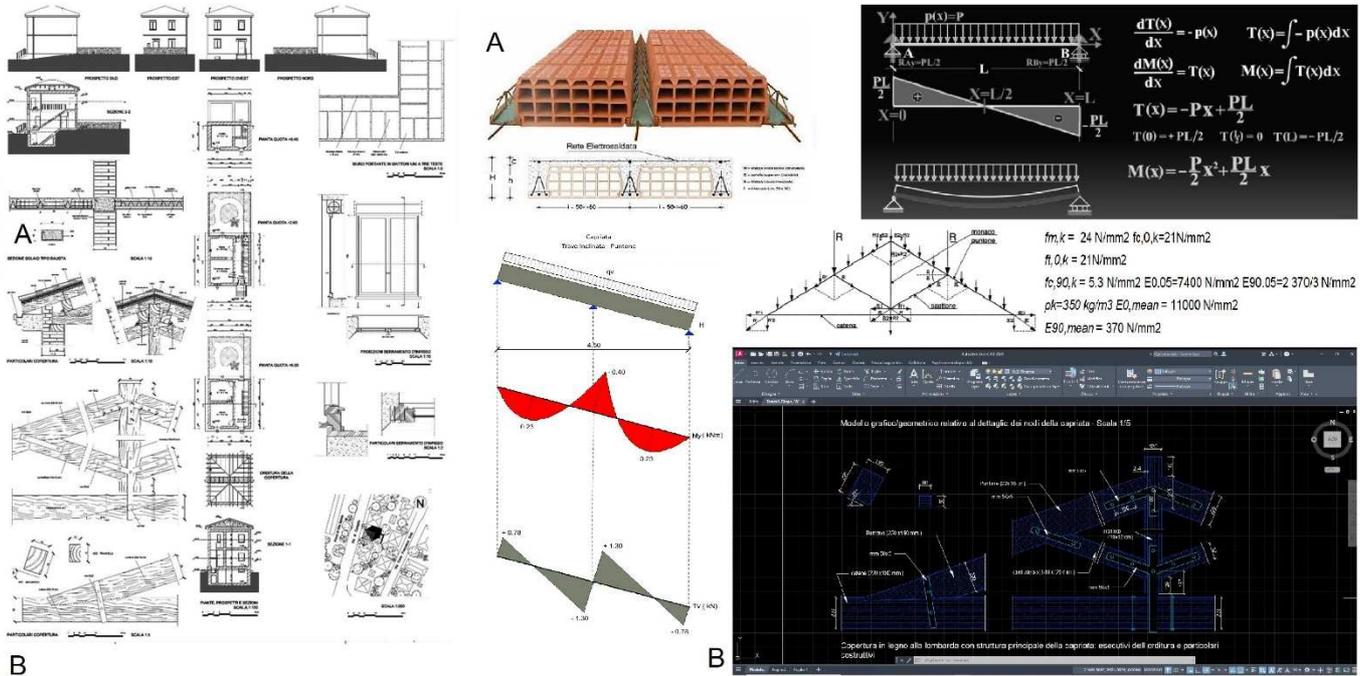


Fig. 1 (return relating to the morphological modeling referring to the Bolognese villa in 1950. Graphic drawings of construction elements for a functional recovery of the brick-concrete floor. © 2023, Author/Owner. AutoCAD drawings, operators: xxxxxxxxxxxxxxxxxxxxxxxx. Others: xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx. Top right: q,T,M relations with static scheme. Beam supported with uniform distributed load; with the application of the cardinal equations of statics. Down on the right executive drawing of the wooden truss and static diagram.

2.1 THE DRAWING OF THE CHARACTER OF THE BUILDING

«For centuries new buildings have been built on the ruins and foundations of previous works, using their materials in various ways...» [3]. The character of the building is based on its form (morphology and typology), an expression of its permanence, that is, of the settlement, typological and construction relationships that underlie its constitution from which its constituent elements and its history arise. The drawing, the elaborations of models represented with different scales of numerical ratio reveal and attribute to the artefact an exhaustive articulation on which to investigate and analyze the general and specific conditions. Understanding the character of the building also allows us to grasp the aspects and space to observe its possible modification, a "transformation" that allows the building organism to maintain congruence with the original characters in the sense of bringing efficiency and recovering its functionality. This attitude which authorizes the necessary and useful modification must fully fall within the facts and history inherent to the compatibility of the nature of the artefact; to delve into the overall and detailed aspects, guaranteeing the unity of relationships and interventions for the purposes of protecting and safeguarding the building itself. The character of a building is inscribed in its history, in the knowledge of the process that inscribed it in its elements, in its morphology, in this meaning explicitly understood as form. Architectural form, construction and construction - structural, it is a unity that must establish the inseparability of relationships, relationships and permanence. For example, comparing the building metaphorically to a readable text, it represents what has been produced in a closed and definitive form; in this way this fact does not allow any possibility of moving on to other texts – buildings. On the contrary, the writable text is dynamic and transitive and allows this passage, opening up "creative" potential. This definition surrogate here is taken up by Roland Barthes also in the opposition between the two methods of analysis of the literary work which he defines as textual and structural. Considering a building as "dynamic and transitive" by comparing it with a text establishes further observations such as structural analysis.

This aspect presupposes for the text, as for the building, that space is left for interpretation (hermeneutics) through reference to other texts. In this, contrary to the text, the building cannot become continuous referents, as they would be scientifically labile and easily approachable without possessing precise control over the referent. The structural question of the artefact for engineering is part of a philological and comparative path, in which weights, measures, shapes and structures belong to the grammar and syntax of the building, whose form resides in its history, in its constant definition, also in 'adequacy, to the point of being necessary and indispensable as an integral part of form of the city (*forma urbis*). In summary, «the character of a building consists exclusively in its reality and that its spectacle is only a consequence of it, that is, a derivative or its by-product» [4].

2.2 THE TECHNICAL AND LEXICAL ISSUES ON THE RECOVERY OF BUILDINGS

A constant and broad discussion of a literary and cultural nature still involves the comparison regarding the technical and administrative aspects relating to the articulation of the interventions and the orientation of these in the context of the debate and applications relating to the space of operations relating to building recovery: specifically on the large and vast heritage historic building (unconstrained). The same regulatory sources characterized by the Urban Planning Law L.1150/42 (mother of all the regulations on houses and buildings) establish the methods of intervention and interpretation which have the task of regulating the formation of executive urban planning instruments through the drafting of maps which describe the city through the graphic codes of the technical urban drawing, as well as also considering the parts of the territory already built up. This has established, through the action of the Institutions, Regions and local authorities, the power to implement the disciplinary tasks of the interventions by applying the regulations contained therein. The forms relating to the categories of interventions concern a series of purposes and procedures which attest to their titling, specifically the direct recognition regarding the recovery of existing buildings. «The legislation referring to Law 457/78 and precisely the articles. 27; 28; 31, considers the general intervention procedures also involving the restoration of the buildings' works" [5]. To understand the meaning of the debate relating to intervention practices linked to the recovery of buildings, the description relating to the operational intervention items is reported in a succinct and very brief manner. Ordinary maintenance concerns the action aimed at preventing and overcoming degradation (Fig.2).

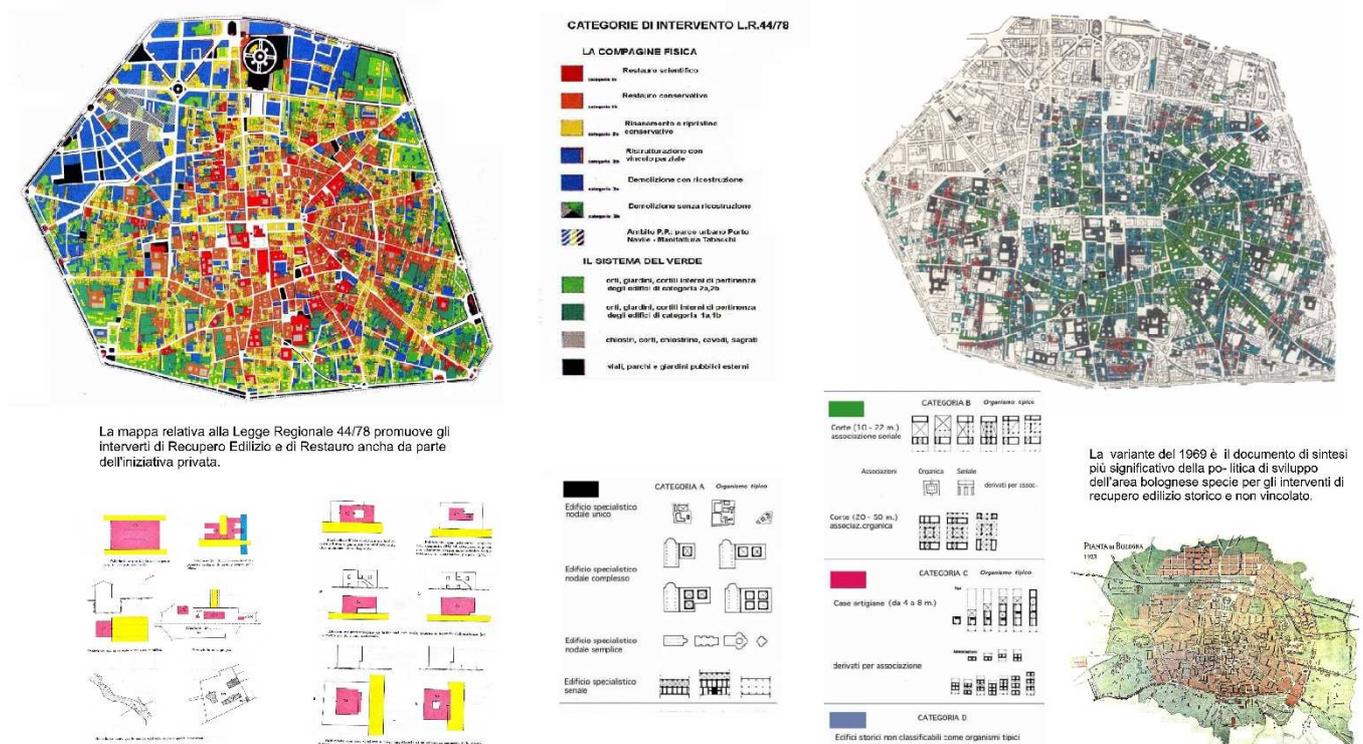


Fig. 2 (codified technical-urban planning drawing referring to the overall and study maps of the city of Bologna: on the left intervention categories for building recovery and restoration, year 1978. On the right, typology categories for the recovery of buildings in the ancient centre, 1969-70. Down on the left extracts and cadastral drawings of the buildings. Down on the right historical map of the city of Bologna from 1923. © 2023, Author/open source property: xxxxxxxxxxxxxxxxx).

This practice, in the administrative field, concerns the repair, renovation or partial replacement of finishing works, as long as the original (formal) characteristics of the building are preserved. Extraordinary maintenance, on the other hand, considers the ordinary operation in which they are modified, partly and not strictly, the original characteristics of the building. In this case it is necessary to verify compliance with building regulations. This also considers the renewal and/or replacement of parts, be they of a structural nature (art. 3 of the Consolidated Building Act, D.P.R. 380/2001). It is also specified that the interventions cannot alter the volume of the building, in reference to Legislative Decree 133/2014, known as the "Sblocca Italia" decree. The term "building recovery" refers to an attitude that involves a series of interventions aimed at ordinary and extraordinary maintenance, which in turn lead to considering the aspects of building renovation and restoration and rehabilitation interventions conservative. In this case a dichotomy is established. The question concerns whether building recovery, in addition to incorporating renovation, is also a field on which to act for restoration interventions. Certainly, building recovery includes among its intervention skills the cultural attitude of "conservative" rehabilitation, as a maintenance type action. With the term conservation it should be clarified what is the act of intervention confirming a state of fact, with the consequent arrest of the different transformation processes, in which culturally it is not permitted the morphological modification of the building organism. Furthermore the recovery of the existing building heritage also refers to the functional reuse of existing buildings as a whole across the territory, through diversified interventions depending on the state of conservation of the buildings. This is certainly a very general definition, which does not recognize a univocal classification of intervention. According to thought by Edoardo Benvenuto the word "recovery" «reconnects with memory, with remembrance, with welcome; it extends by analogy to the diverse and extensive fields of science... . In fact, recovering is nothing other than to say what has already been said and since to say means inserting a word into a context, deciding which meanings to attribute to it by eliminating many other possible ones» [6]. The theme of building recovery is therefore conceptually open to revelation and in this observation lies the dimension that refers to the particular interest investigated by the competence and cultural attitude of the building recovery itself. We cite, reporting the recent legislation relating to Law no. 34 of (27.04.2022), paragraph d) which specifies the "building renovation interventions", which are aimed at transforming the building organisms through a systematic set of works that can lead to a completely or partially different building organism from the previous one. These interventions include the restoration or substitution of some constituent elements of the building, the elimination, modification and insertion of new elements and systems. As part of building recovery or renovation interventions also included are the demolition and reconstruction operations of existing buildings with different form [7], elevations, grounds and planimetric and typological characteristics, with the innovations necessary for adaptation to anti-seismic regulations, for the application of accessibility regulations, for the installation of technological systems and for energy improvement. The intervention may also include, only in the cases expressly provided for by current legislation or municipal planning instruments, increases in volume also to promote urban regeneration interventions. They constitute furthermore building recovery or renovation means interventions aimed at restoring buildings, or parts of them, which may have collapsed or demolished, through their reconstruction, provided that it is possible to ascertain their pre-existing consistency. It remains understood that, with reference to properties subject to protection pursuant to the Cultural Heritage and Landscape Code referred to in Legislative Decree 22 January 2004, n. 42, with the exception of buildings located in protected areas pursuant to art. 142 of the same legislative decree, as well as, without prejudice to the legislative provisions and urban planning instruments, to those located in the homogeneous zones A referred to in the decree of the Minister for Public Works of 2 April 1968, n. 1444, or in areas similar to these based on regional legislation and municipal urban planning plans, in consolidated historical centers and nuclei and in further areas of particular historical and architectural value. Demolition and reconstruction interventions and restoration interventions on collapsed or demolished buildings, on the other hand, constitute building renovation operations only where the form, elevations, grounds and plan, volumetric and typological characteristics of the pre-existing building are maintained and no increases in volume are envisaged; the concept of "prevalence" of the definitions given by the State regarding the definition of building interventions.

3. GEOMETRIC MORPHOLOGICAL MODELS FOR BUILDING RECOVERY

The representation of the survey (acquisition operations), as well as the redesign (restitution operations), constitute a fundamental document for transmitting and communicating in an effective and adequate way the physical, mechanical and objective reality of the building organism. The graphic - geometric description of the models developed in the case study whose object concerned a "detection" which occurred through investigations and analyses, with a sequence of steps and operational processes. This resulted and determined some considerations

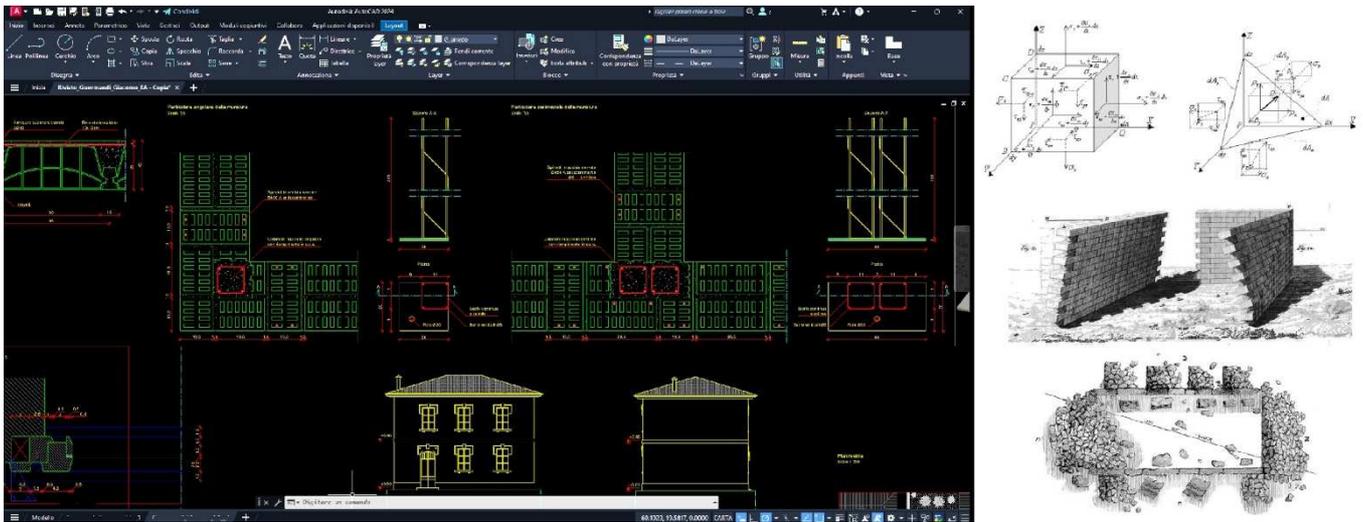


Fig. 4 (restitution relating to the morphological modeling referring to the consolidation masonry of the Bolognese villa in 1935. Graphic drawings of construction elements for a functional recovery of the brick-concrete masonry. © 2023, Author/Owner. AutoCAD drawings, operator: xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx. Others: xx. On the right: three-dimensional representation of the infinitesimal continuum in equilibrium due to the action of Cauchy's normal σ and tangential τ tensions; on the side, Cauchy tetrahedron. Down: representation of the mechanical behavior of wall facings (Rondelet, 1832, Vol. 2, tav. CLXXXII. Mallet, study on the effects of an earthquake with a diagonal direction with respect to a masonry building: Mallet, 1846, p. 54).

From this derives an attestation of the morphological models in which the form and content are recognised. In this way it is possible to grasp some analogies from linguistics. This concerns the consideration and reflection on the concept of morphology. The analogy concerns the referent and the mechanisms that regulate the internal structure of words, that is, the way in which the minimal elements with meaning combine with each other to form the words of a language. It examines the processes that intervene in the formation and transformation of the words themselves. The fundamental unit is therefore the morpheme: it is the minimal element endowed with meaning from which words are composed. The result is the "inflectional morphology" which determines the variation of a word in all its possible forms; on the other hand, "derivative morphology" includes the complex of rules and transformations through which we move from primitive words to derived words, through the addition of derivative morphemes. Perhaps see an analogy between linguistics and the drawing morphological models is a rather risky step, but not impossible. The passage relating to the representation of a building object undergoes "variations" in reference to the numerical representation scale in the way in which the representation codes are attested to specify the elements or the element described with the same ending (morpheme). Therefore it is made explicit and necessary to use the methods of representation in a careful manner, distinguishing the usefulness and penetrating the meaning of what is considered, in relation to expressiveness and in relevance to the communication referring to the particular context in which one is operating. The drawing is therefore objective. The method of double orthogonal projection (Mongian projection) with which the object is represented by projecting it onto two reference planes perpendicular to each other, defines the projected object from two points of view, placed infinitely according to the directions perpendicular to the planes themselves. This results in a complete and exhaustive representation in terms of measurement and sufficient, so that even the principles relating to perceptive organization restore recognisability to the graphic and geometric image. The structured method relating to the Integra Project Database (BIM) used to guarantee complete and organic systematicity (integrated design) is considered the experience of acquiring an appropriate, specified and detailed knowledge of the building organism, attributable to construction details. However, it must be clear that in building recovery - restoration some of the aspects, even important ones, that emerge during the phases come from problems that specifically require rapid solutions on site. In this case the "BIM model" allows the appropriate development and regularization of facts and events. This predisposition allows the interested actors to implement constant monitoring between causes and effects, avoiding interdisciplinary and professional conflicts, in such a way as to guarantee control between the virtual aspect (systematicity of the BIM program) with the multi-scale models and the knowledge aspects complementary (graphic - geometric) of competence (Fig.4).

4. SUMMARY AND CONCLUSIVE CONSIDERATIONS

The graphic and geometric restitution relating to the codified processing of the models designed both at different scales of numerical ratios and in space, developed in the disciplinary and study field aimed at building recovery constitutes, for civil engineering, a further reflection useful for control of the cognitive process in the context of technical representation. The theme relating to the essay presented also intended to discuss, above all to combine, the study relating to a topic relating to the hinge concerning the method relating to the Integral Project Database system commercially known as BIM. The BIM system is not software and consequently cannot ignore the use of specific applications, especially in the use of AutoCAD software capable of originating and controlling peculiar and appropriate virtual models and clearly attributable to the construction sector and at the same time communicating documents able to dialogue with all the figures and operators participating in the construction process of a work, especially in the particularities of the interventions connected to building recovery. The research was divided into checking knowledge relating to drawing and design of the work constructed-recovered for engineering, recognizing through drawing and surveying the material and construction facts that characterize and interest the organism examined. In fact, through investigation and analysis, the characteristics of the building, the specific materials were analysed, compared directly (surveys - assessments), and indirectly through literature, treatises, manuals with handbook publications and even historical recipe books (Fig.5).

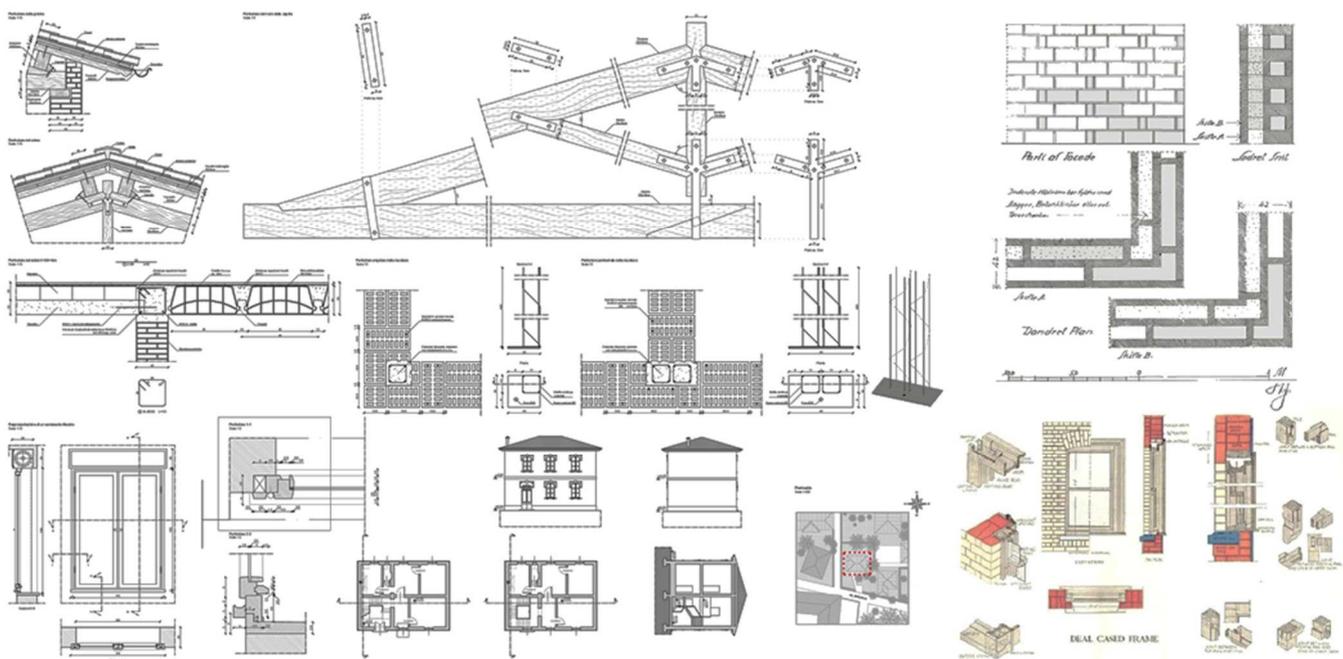


Fig. 5 (return relating to the morphological modeling referring to the Bolognese villa in 1950. Graphic drawings of construction elements and diagnostics for functional recovery. © 2023, Author/Owner. AutoCAD drawings, operator: xxxxxxxxxxxxxxxxxxxx. Others: xxxxxxxxxxxxxxxxxxxxxxxx. On the right, construction manual, masonry equipment; down: constructional details of double – hung sashes and frame).

With this we intend to promote and reconsider those aspects also referring to analysis techniques as well as to the use of tools since too often the latter have occupied the attention of workers and researchers with greater obstinacy, emphasizing in them a form of particular attachment and of expedient resolution on construction issues and beyond. It has been neglected to consider that even "practical" operations belong to those phases that allow constant acknowledgment and control of the finalized actions, especially in the drawings and construction site practices for building recovery. The codified drawing made it possible to understand the coincidence of units between work - survey - drawing. This report reproduces its strengthening in considering the sense and the final meaning whose objective was to represent the building recovery of housing organisms that made up an important part «of the culture and history of the site» [8] investigated. It is understood that drawing remains the most effective working principle in which the operations of measuring, describing, composing and repeating coincide. The intelligibility of building recovery lies in the intrinsic ability to understand by providing an answer, that is, to explain the rule, which deductively and inductively resides within the building. This observation constitutes a fact, that is the possibility of acquiring the constructive compatibilities of the past to "restore" and "preserve" the

present, and again, especially in drawing, there is a system capable of distinguishing and adequately delineating the variety of signs of which the factory itself is composed and organized in terms of character and structure. And it is through simplicity that we clearly understand that the essence of the building's constituent elements is arranged literally, *sine glossa*, that is, in a conception of knowledge, constructive wisdom, regularity and order of the unity of the founding relationships.

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