

Representation in the teaching of heritage. A conceptual and methodological approach employed at the Goiabeiras Campus of the Universidade Federal do Espírito, Brasil*

Introduction

As addressed in contemporary academic teaching practices, heritage deals with a repertoire that according to paradigmatic theorists in the field, includes topics ranging from its etymology to conservation practices. The challenge is to advance the discipline by adding modern practices that are transcendent to the philosophical-architectural approach to heritage and that connect students in an interdisciplinary context of identification. The hypothesis is that by adopting new integrative pedagogical practices derived from different approaches and topics, the student moves from being a passive to an active figure, by acting in the cognitive areas of identification and debate. In this methodological advancement, the question is raised: Is it possible to take advantage of the cognitive and representative capacity of the student in the learning process for reflection and practice of heritage preservation?

In the Brazilian context, the history of the teaching of heritage began in the 1970s, based on an Instituto do Patrimônio Histórico e Artístico Nacional (IPHAN) initiative. Associated with the management of Renato Soeiro (1967-1979), the second stage of the institute's work focused on urban heritage, marked by the affirmation of the three-pronged definition of heritage assets: typological, chronological and geographical (Choay, 2000). This expansion fostered by urban development processes requires broader protection measures for the associated heritage in a way that reconciles conservation and development. Therefore, the period was marked by a revision of the scientific basis for the institution's actions. These were expressed in the request for international expert assistance, which began with the technical visit of Michel Parent (1966-67), Chief Inspector of French Monuments, and were put forth in the report "Proteção e valorização do patrimônio cultural brasileiro no âmbito do desenvolvimento turístico e econômico"¹ published by UNESCO in 1968.

At the same time, IPHAN established the process of institutional decentralization and integration of national policy in the states and municipalities in order to obtain support for the identification, guardianship and protection of locally and regionally important heritage assets. This initiative reaffirmed the need to expand the group of professionals trained in the field. Thus far, the training of IPHAN technicians was mainly imparted at project sites. Accordingly, the *Compromisso de Brasília* of April, 1970 (IPHAN, 2004, p. 137), drawn up at the 1º Encontro dos governadores de Estado, Secretários Estaduais na Área Cultural, Prefeitos de Municípios Interessados, Presidentes e Representantes de Instituições Culturais², recommended the training of restoration architects, conservators of paintings, sculptures and documents, archivists and museologists. In response, the first national specialization program for restoration architects was created in 1974 in connection with the University of São Paulo. Designed to be itinerant, the program was taught in 1976 at the Universidade Federal de Pernambuco, in 1978 at the Universidade Federal de Minas Gerais, and in 1980-81 at the Universidade Federal da Bahia, where it has remained until the present with the integration of a post-graduate program.

Espírito Santo was a pioneer in the training of architects as it requires the topic of heritage for graduation. It began in the Architecture and Urbanism degree program, which belongs to the Centro de Artes da Universidade Federal do Espírito Santo, created in 1978 and installed in 1979. Debate was incorporated into the Patrimônio Histórico, Artístico e Cultural subject, which became an elective subject worth 60 credits until 1994 when, in the context of the revision of the pedagogical project, the content became compulsory and worth 90 credits. Overall, in the period between 1991 and 2018, the teaching plan for heritage was consolidated in an approach supported by a guiding document focused on the following subtopics: a) conceptualization of cultural heritage, movable and immovable property; b) natural and urban heritage; c) notions of theoretical and legal principles (surveys, conservation, declaration and restoration) of natural and historical sites, and built elements; d) tools for the preservation of architecture, and natural and built landscape; e) focus on capixaba³ architectural and cultural heritage.

The specific objectives of the Patrimônio Histórico, Artístico e Cultural class are to carry out reflexive, empirical work in the practice of preservation, to highlight

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1 | Protection and valorization of Brazilian cultural heritage in the field of tourism and economic development.

2 | 1st Meeting of State Governors, State Secretaries in the Cultural Area, Mayors of Interested Municipalities, Presidents and Representatives of Cultural Institutions.

3 | Demonym for people from the Espírito Santo region, Brazil.

the complexity of associated issues, especially based on the identification of the whole and its dimensions -economic, political, social, historical and artistic- to prepare methodological instruments for historical research and architectural characterization, and architectural analysis and proposals aimed at the development of project interventions in established structures. The program content is structured in five stages, dedicated to (i) the notions of monument and heritage; (ii) cultural heritage preservation policy in Brazil; (iii) the theory and practice of conservation and restoration; (iv) intervention in existing structures; and (v) intervention methodology in established structures.

With a view to project experimentation with these contents, in addition to lectures, at the same time the discipline is taught through two activities: 1) an intervention proposal for a pre-existing structure, developed in three stages: 1.1) historical interpretation and urban architectural characterization; 1.2) damage diagnosis; 1.3) project intervention at the preliminary study level, and 2) a case study, with a description and interpretation of the urban landscape and architectural intervention in critical pre-existence.

In short, the discipline is structured as a place with a theoretical, historical and project approach, with a flexible understanding of the topic of heritage as compared to architecture and urbanism regarding projects and planning. The following are assumed (Solà-Morales, 2006): 1) the recognition that the problems of intervention in historical architecture are first and foremost problems of architecture and in this sense, the lesson of architecture from the past is the result of a dialogue based on the architecture of the present and not on defensive and preservation positions; 2) the understanding that buildings have a capacity for expression and that the problems of intervention in historical architecture are neither abstract problems nor problems that can be formulated definitively, but that are presented as concrete problems on concrete structures. The resulting student work makes a triple contribution: architectural inventory, damage diagnosis, and project proposal. The first contribution fulfills historiographic gaps concerning the architecture in Espírito Santo, while the third recognizes the potential value of patrimonial legacies and facing the project in the planning.

Most of the empirical objects in the activities proposed in the class include the scale of the building, always enlarged to understand and coordinate the object of the activity with the urban or rural context where it is inserted, in accordance with the triple definition of heritage identified by Choay (2000). The areas incorporated into the study buildings are squares, parks, streets, landscape, and physical-geographical elements. They are also mostly buildings located in the Vitória metropolitan region and are public, in order to carry out survey activities such as measurements, photographic logs, and identification of pathologies.

In the second semester of 2018, the class, taught by the authors, proposed to extend the notion of heritage to the territorial scale, including an empirical methodology encouraged by reflection on preservation practice and using representation as an interpretative tool. From this perspective, the analytical phase leads the definition of the main characteristics of territory to be potentialized as elements of territorial valorization (Fanfani et al, 2014).

Then the proposal for the conceptual expansion of heritage to the territorial level is based on overcoming the object-context location connection in order to understand the process of building heritage value in space and time. In this sense, this expansion is justified by the breaking of two paradigms: the suppression of the conservation-development dichotomy, so as not to create islands of protection dissociated from the aging inherent in the historical process, isolated from the areas where development is permitted and conservation actions are 'sacrificed', as well as the evolution of their understanding of the object in the process, assimilating heritage as an anthropic environmental interaction, in its diachrony (Poli, 2015).

This perspective implies collective disciplinary creation focusing on new ways of learning. Thus, this article presents the experience of the Patrimônio Histórico, Artístico e Cultural discipline during the second semester of 2018, in the Architecture and Urbanism degree at the Universidade Federal do Espírito Santo, Brazil as an academic proposal centered on the interpretation of territorial heritage based on a system of representations.

Representation as an analytical capability is based on the methodology of the Italian Territorialist School, when it proposes representation directed at heritage

sediments: types and patterns, formation and transformation norms, territorial structures and figures, identity links, etc.

In this way, the morpho-typological interpretation of the relationships that make up heritage structure the Heritage Atlases (Magnaghi, 2017) used as a method of analysis. The experimental construction of the territorial concept maps intends to represent the complex elements (and describe their formation and historical reproduction norms) that are considered heritage assets (values) (therefore, common property) that can be treated as resources in the transformation projects, as long as they maintain or increase their value. To this end, the concept of the territory statute (Magnaghi, 2016) is used, which consists in the description, interpretation, and representation of territorial heritage and its transformation regulations.

Methodology

The conceptual approach is founded on the incorporation of the multidisciplinary thinking of the Italian Territorialist School, especially with the recognition of the territory as heritage, understood in a procedural way (Poli, 2015) and as a social construction (Magnaghi, 2010). The territory is understood as “a complex structure strongly linked in its material and immaterial components” (Magnaghi, 2005), components that are recognizable in a diachronic reading through the identification of successive addition and subtraction processes, the acts of territorialization that transform space into inhabited space (Santos, 2008). Hence, it is not only about a reduction or a geographic scale, but it is also temporal:

The different scales of the geographical region and the singular place require the deciphering of the processes of formation of the territory in its long duration, to reinterpret invariants, permanent, material and cognitive sediments for which to produce new acts of territorialization. (Magnaghi, 2010, p. 62)

The territory is revealed as a product of “a relationship between living entities, man and nature, in the long time of history” (Magnaghi, 2010) and, from this definition, one learns to recognize the contrast of the transformation of the generic norms of development and to use the characters of identity, justified based on the processes of identification, as territorial resources, giving utility to the good, and fundamentally connecting to the local context (Poli, 2015).

In the Territorialist methodology, territorial heritage is a system of synergetic relationships between peculiar qualities of the physical environment (climate, flora, fauna, geohydromorphology, environmental systems and neo-ecosystems), of the built environment (long-term urban permanence and resistance, urban and territorial built types, techniques, materials, quality of territorial mass, characteristics of the environment). (Magnaghi, 2005, p. 10)

To this effect, priority is given to the production of territorial knowledge by means of representation, arranged in analytical descriptions of layers and sediments of the object of study, which afterwards are confronted in interpretative actions. Thus, they enable a synthetic-descriptive reading, where components, relationships, critical points and potentiality are made clear and the structuring elements of the territorial heritage studied are identified.

The Atlas is intended for the description and interpretation of the identity characteristics of the territory, with the aim of identifying the modes of operation of the structural invariants, evaluating their state of conservation and establishing norms for reproducing the identity structures. (Carta, 2011)

In this sense, representation is a method aimed at building the Heritage Atlas, which is not only a documentary instrument, but also an interpretative one, since it highlights assorted levels of information. Atlas representations are coordinated in three levels: (i) information, where a database about the territory of study is obtained and/or produced; (ii) knowledge, where the data obtained are compared and calibrated, according to specific objectives; and (iii) interpretation, which consists in the description and complex representation of territorial and landscape identities, from which the guidelines and decisions about heritage properties are shaped (Poli, 2012). Therefore, it is an analytical-descriptive-project contribution used methodologically in all stages of the discipline.

With the active participation of the students, the experiences in the discipline occur in field work, followed by participatory representations, which are intended to promote dialogue, facilitate discussion and engagement in the search for a more horizontal process.

The coordination is divided into three stages: a) analysis, carried out through an initial inventory, where the valuable campus assets are identified, classified and categorized; b) synthesis, where the preliminary maps are examined and the layers of the territorial heritage are identified (physical, built and anthropic), which serve as a basis for the definition of landscape units, under which the potential values and resources of the territorial heritage are interpreted diachronically; and c) project experience, substantiated with a critical interpretation.

The object of study, the Goiabeiras Campus of the Universidade Federal do Espírito Santo, Brazil, was selected because it was the university's first campus and it has a territorial character with a smaller geographical scale, easy student access, and diverse environments (physical, built and anthropic). In addition, it has a recent historical perspective and is embedded in a development logic regulated by the University Campus Administration and standardized by the University Master Plan, which promotes a broad internal critical discussion. Another premise for its selection was the applicability of the teaching methodology, ease of use, and feedback in subsequent academic periods.

Even so, sense of place emanates from experiences lived directly (Bates, 2019), shaped consciously or unconsciously over time (Bates, 2018; Chawla, 2004). From a phenomenological point of view, this suggests a person-place connection as experiences are lived (Gendlin, 2004). Building connections like this not only benefits the sense of self and others, but also promotes a sense of respect and direction for the protection of the territory (Mannion & Lynch, 2016). From this perspective, the representation of the university's territorial heritage, from the student's position, promotes the empowerment of a pre-existing person-place relationship, since it implies a communion and contrast with two representations: a functional-qualitative one of the place's extrinsic characteristics spread throughout the program, and an abstract-cognitive one, capable of identifying identity characteristics.

In this way, the experience occurs by means of alternating collective and individual processes, including analysis activities, through assessment, identification and characterization actions. In short, it defines the Landscape Unit (LU), lists its relevant elements, and finally, defines strategic-project scenarios and intervention priority paths related to four directives for prevailing measures: conservation, assessment, re-qualification, and transformation.

The first stage, analysis, is subdivided into two parts: the collective (discussions) and the individual (assessment). Collective field studies are carried out to obtain graphic, cartographic and historical material to support a cognitive analysis of the characteristics of the territory under study: the Goiabeiras Campus beginning with a comprehensive analysis. The method used is the pre-inventory, whose objective is to produce a general map of the campus according to the assessment, identification, and characterization of the assets in accordance with: name; type (isolated, group); project (author, date, current use); location; value category; architectural description; geographical, historical, and urban contextualization; state of conservation (of the individual asset, the architectural group, the environment); lack of preservation (urgent, short term, medium term); potential or imminent risks; existence of protection; graphic documentation and maps.

In the second stage, synthesis, the information obtained in the previous stage is compared, and it is related to certain analytical levels to describe the structural characteristics of the study context, thus highlighting the interaction between the components related to the environmental dimension and the ordering of the anthropic dimension information, its morphotypology, diachrony and functioning (Carta, 2011).

A concept-mapping procedure was adopted to identify the Landscape Unit. The product of this analysis is a sheet that includes: the delimitation and mapping of the Landscape Unit characterized by its relevant elements, such as built area; roads; access; geomorphology; and modification trends; as well as the contextualization of the unit based on the physical, built and anthropic layers, which identify the relevance for the LU; and the verification of the direct or indirect relationships with other units.

In the landscape sheet, each reading of the long-term structure of the invariant is accompanied by the individualization of the transformation dynamics, of values and of critical issues, ending up as the normative apparatus of the "political guidelines": (Magnaghi, 2014, p. 116)

The reading and delimitation of the landscape units by the students and their ranges of values, are critical matters and transformation dynamics that lead to a way of thinking about the trend scenarios of those environments. The devaluation, exploitation or utilization of elements with value in favor of each corresponding landscape unit can be identified or not.

The representation proposes the coordination of territorial structures so that at the project level, invariants are defined. They refer to long-term identity in the studied territory's formation processes, territorial figures that are recognizable by their specificities, and a normative statute where action strategies are defined with a view to creating added territorial value (Gisotti, 2016; Magnaghi, 2016).

Thus, and finally, in the last stage, the strategic-project scenarios are defined, in which all the collected data are summarized in a single analytical-interpretative structure by means of the development of an architectural concept. This begins by indicating the directions for intervention priority, with reference to four predominant kinds of measures; in these, the reason conservation cannot forego valorization, such as transformation and re-qualification, prevails. They are broken down below. The project directions include: conservation, valorization, requalification, and transformation (Paolineli and Valentini, 2009). They are the predominant reference measures for heritage values to be safeguarded, for historical permanence and for areas with particular naturalistic value, for those with different levels of wholeness. The aforementioned categories, but with a greater degree of fragility, with demanding commitments to take actions, are at the same time aimed at safeguarding according to the valorization of the unexpressed potential; the compromised and degraded landscapes are intended for new areas of settlement, generally unrelated to the pre-existing environmental and built context, to uses of generally less importance; to the categories mentioned above, in which profound alterations have occurred over time and severe qualitative deficiencies are observed, and require not only re-qualification, but also transformation interventions.

In sequence, for each landscape unit the criticality, heritage values, objectives, and project directions are established, considering that it is possible to compare more than one project direction in the same landscape unit. At this stage a methodological element of representation is the mapping of the landscape unit with project directions included. For isolated heritage objects, the project proposal is presented by means of a descriptive report and a graphic representation (on a specific scale). The activity stages are developed to contribute to the construction of a database, following the Heritage Atlas' logic of production and serve to subsidize maintenance interventions and/or increase the value of the object studied. For the report, a description of the work process is requested that indicates the methodological procedure adopted (previous stages), presents the heritage asset based on its values, characterizes the intervention: physical and functional restoration and/or a proposal for new architecture. In the latter, the foundation of the relationship between the old and the new (inclusion, intersection, or exclusion) and the intervention criterion (congruence of form, stylistic and figurative renovation, typological homologation) must be established -specification of aspects of the urban environment adopted as determining factors in the proposal, whether they are of a physical-historical, geographical-environmental or socio-cultural nature. Examples include: the morphological relationship (implementation, visibility, scale, volumetry, texture, color) and the functional relationship (continuity or a break in relation to the dominant uses); indication and defense of the proposed use, explaining its continuity, discontinuity and/or complementarity with respect to the original and/or current use; justified indication of the project directions: conservation, valorization, re-qualification, and transformation. For the representation, the following graphic pieces are requested: implantation, volumetry, plans, elevations, sections, and coverage plan. In addition, the student must discuss their understanding of the architectural concept adopted, as proposed by Lauro Corona and Carlos Lemos (as cited in Silva, 1983):

(...) formal consequence of a series of determinants, such as the building program, the topographic configuration of the land, the orientation, the structural system adopted, the local conditions, the available funds, the conditions of the positions that regulate the constructions and mainly, the plastic intention of the architect.
 (p. 97)

To conclude, as a method, a diagram was created of the methodological path in the discipline (Figure 2), with the analytical, synthetic and project activities and their respective content, subdivided into representation and planning stages.

It should be pointed out that standardized representation tools are not proposed for use by the students, in order not to impede their cognitive and communicative power. Therefore, the perception of the unusual characteristics of the territory could be transformed into a representation of identity, detached from traditional maps. The only criterion is the use of the University Master Plan's cartographic base, which is aimed at objectively providing scale and geographical location references. From a teaching point of view, this strategy does not relate to drawing as a work method, thus establishing a reflexive-critical attitude. It also proposes the absence of hierarchy between teacher-apprentice-student, given that the construction of a disciplinary methodology occurs simultaneously with the discipline, according to the demands and needs of the participants. In this sense, the experiment seeks to promote a reciprocal rupture of the modernization of techniques common in the current teaching of architecture, when instead of an advanced representation tool or technique from traditional teaching, a horizontal, integrated methodology is proposed.

Results and discussion

For this stage, as described previously, sheets, maps and projects were obtained as a result. Thus, the results linked to the three stages of the experience are presented. After field work, in the analysis stage, the cognitive framework was constructed. A concept map of the process was created by projecting the cartographic base integrated into the Plano Físico do Campus de Goiabeiras (Anexo 4 - Resolução nº 43/2017, p.18). According to COCULTURA (2012), the following values are adopted: 1. architectural value; 2. age value; 3. historical value; 4. technological value; 5. urban value; 6. associative value; 7. authenticity value.

According to class debates, the following are listed by interns as fundamental to inventory cataloging: 8a. memory value; 8b. reference value; 8c. environmental value; and 8d. artistic value. This categorization is not exclusive, and therefore, the same asset may have one or more values assigned to it. Each student individually marked the table with their assigned values and participated in the in-class debate with the reasons for these choices, and, the possibility was given to cancel the previous categorization.

The result of this categorization is shown in the image below (Figure 3). In summary, of the 159 built assets mentioned in the University Master Plan, 7 groups and 7 isolated assets were identified, in addition to areas of environmental value such as mangroves, ponds, rock formations, rivers, cultural public use areas, and the beltway, considered inseparable from the analysis.

Together with the discussion, the pre-inventory cataloging sheets were produced for each building identified as having heritage value, according to the model below (Figure 3). At this point, the information on the property is listed in three categories: the first, on the project, historical and contextual information; the second, on the state of conservation of the asset, to understand if it is subject to any imminent risk, or if it is linked to any protection process given by the Master Plan or a restoration project underway, etc.; and lastly, the available graphic documentation on the property is reviewed, such as plans, elevations, sections, maps, or historical photographs. These serve to provide a system of information on the buildings, thereby seeking an integrated analysis of the whole, understood in a diachronic way. In this sense, the representation creates:

A visual repertoire of graphic morphemes whose interweaving, as in a story, frames the heritage consistency of the territorial structure, demarcates its state of health and identifies strategies to rehabilitate and open a new stage of coherent development of the territory (Magnaghi, 2014, p. 116).

Even in the cartographic projection, the students define the long-term dimension of the examined buildings and, together with the perception obtained through the field studies and the debates, preliminary landscape units are defined, upon which other more precise limits are determined in the following stages.

In the second stage, synthesis: the givens acquired in the previous stage are confronted in specific representations made according to the landscape units

divided previously (Figure 4). One of the examples of representation proposed by the students is value qualification (on a high, medium and low scale), which crosses long-term information, assigned value, and conservation. This representation shows indications of the degree of intervention needed, its emergence, and what the most appropriate restoration theory is. Another student proposal segments the analysis of the physical and built layers, suggesting a hierarchy between them, considering the long duration and the degree of environmental degradation/restoration. In this sense, there is an effort to organize the predominant layers of the site into a hierarchy as an element of value. From this perspective, there is a perceived need to subdivide the landscape units to improve decision-making in the third stage, connecting the architectural intervention to the physical layer, which is predominant in the unit.

It serves to aid the third and last stage, the strategic scenario/project, the experimentation, in which the project directions for intervention are listed considering the critical points and values of each landscape unit; and, after the discussions in the working groups, the objectives for each landscape unit and their corresponding project directions are defined. These objectives direct the production of formal insertions, such as “to integrate the landscape sub-units”, “to unify and propose new functionalities”, “to improve the inter-relationship between full and empty areas, and to withdraw elements that interfere with the integrity of the sub-unit”, “to maintain and re-qualify pre-existing elements”, resulting in proposals for the buildings, the open spaces, and their connections.

As an example of these two stages, the two work processes of Landscape Unit B (proposed by the interns Daniele Ramos, Júlia Schunck and Mylla Sepulchro) and Landscape Unit E (proposed by the interns Juliana Calado, Kamila Salarini and Thabata Coelho) are illustrated (Figures 5 to 7).

Conclusion

The content presented is effectively used; it is demonstrated in the analysis, the valuation, and the list of interventions according to the preservation of the heritage of the Universidade do Espírito Santo; and the process as a whole generates readings, discussions and debates on the decisions and critical issues of the activity and object. The construction of theoretical-empirical knowledge integrated into the insertion of the student into action dynamics strengthens the object-subject relationship, thus generating an approach and consequently greater knowledge of the property to be preserved.

Consequently, by offering the development of a critical vision and awareness about the state of valuable assets and intervention possibilities, the discipline manifests the individual’s social commitment and their role in the preservation of what is intended to be maintained for posterity.

As the experience described is fundamentally empirical-qualitative, it can and should be subject to evaluation and change to guarantee its procedural character. Based on this condition, other criteria and analysis parameters, as well as description and interpretation categories may also be included. Therefore, depending on each identification element -degree of conservation, value typology, vulnerability, and risk-values can be attributed according to the criticality and potential of the site where the methodology is employed.

In addition, the topic of heritage introduced to final-year students and in a curriculum with 90 (ninety) hours in a single discipline, implies the rigorous selection of criteria to be adopted and which incorporate principal stages for the process, taking into account the scope of professional training with the ability to coordinate the various fields of architecture and urbanism.

In this sense, introducing the student to empowering models of knowledge immersion with a combination of history, theory and praxis improves how representation is covered, not as a documentation tool, but rather as a cognitive immersion process capable of revealing invisible qualities, that is, as a representation of identity.

The theoretical-methodological experimentation carried out in the discipline “Historical, Artistic and Cultural Heritage” is an operational procedure capable of forming an active attitude towards knowledge, as well as critical thinking, when faced with the processes of disqualification, degradation, breakdown and even the partial or complete loss of heritage references. In this sense, by using the heritage-training-project thematic triad, it contributes to the training of conscious collective-subject professionals educated to take action in the territory, with the sensitivity to forge links with the place.