

Archeology of the future and the simulacrum for heritage As-Becoming solutions

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Abstract - The article presents experiments in inventorying cultural heritage carried out in Cuiabá (Largo do Rosário) and Vila Bela da Santíssima Trindade (ruins of the Igreja Matriz) for the author's doctoral thesis. It integrates Deleuze's concept of simulacrum with the procedural concept of As-Becoming, linked to the ideas of *Becoming* and the Archaeology of the Future. As-Becoming complements the As-Built, As-Is, and As-Designed methodologies by addressing data gaps and enabling prospective readings of future memories. The study updates and expands the As-Is model of Largo do Rosário using photogrammetry and 3D scanning. These records support conservation assessments and multidisciplinary projects, anticipating creative, ongoing solutions for heritage requalification. In Vila Bela, the proposal focuses on protecting the ruins and urban drainage; in Cuiabá, on landscaping and accessibility.

Keywords: As- Becoming; Inventory; Historical heritage; Simulacrum; Archaeology of the Future

I. INTRODUCTION

This paper presents research conducted for the author's doctoral thesis, involving an analytical observation of two experiments applying "As-Becoming" - a concept formulated within the thesis [9] - for inventory purposes. These two heritage sites are located in the state of Mato Grosso, Brazil: the first is Largo do Rosário, the central point of the foundation and development of the city of Cuiabá, the state capital since 1835 (founded in 1719); and the second is the ruins of the old Igreja Matriz in the city of Vila Bela [8] [11], the first capital of the Mato Grosso territory, planned by the Portuguese crown and established in 1752 (Fig. 1).

To complement the inventory of the first case, the research was supported by the Technological Extension Project "Canteiro Modelo de Conservação de Cuiabá" (CMCC-UFMT-IPHAN) [13] to address a gap in the region's reliable topographic data. The absence of this data

made it imperative to generate an independent, high-precision topographic survey. For this purpose, the project employs photogrammetry to simultaneously document the built cultural heritage and generate a point cloud and a textured 3D model to serve as a new reference base.

This work focuses on updating and expanding the digital "As-Is" model of Largo do Rosário, with emphasis on the block containing the area's earliest dwellings. This database provides fundamental support for multidisciplinary site intervention projects, aiding initiatives ranging from improved drainage solutions for the steep terrain to landscape and accessibility redevelopment.

Through a theoretical-methodological elaboration between the concepts of Becoming [4] and the archaeology of the future [14], the concept of "As-Becoming" is developed. This concept constitutes a prospective, continuous, and creative approach for design proposals. The inventory survey and careful observations at heritage sites, following the framework established for As-Built [6], As-Is [6], and, in some cases, As-Designed [8] actions, infer possibilities that go beyond the documentation of the present or the past. Instead, they support continuous design propositions - that is, the "As-Becoming" with its respective "archaeology of the future," guided by "memories of the future" that are read and interpreted based on the characteristics of their locus [14].

As they deal with heritage-based experimentation, the quality, acuity, and completeness of the data representing reality in multi-scalar contexts are of great importance. However, due to predictable circumstances, it is never possible to generate completely reliable data.

Recent digital archaeology treatises, such as the London Charter [15] for example, deal with presumed canonical recomposition, whether through "As-Is" or "As-Designed." Although they use "As-Is" and "As-Designed" strictly for textural recomposition, in a creative and imaginative manner, for the Lines of Force [18] relating to the scansions [4] that are best identifiable in the inventoried sites. But they make little use of the possibilities foreseen in the prospective reading of the

latent "memories of the future" within the locus.



Fig. 1. Largo do Rosário and the Vila Bela church ruins.

When the inventory action sets thus enable it - whether due to the imminence of collapse or technical-economic feasibility related to the scansioned framework [4]- the relative "As-Becoming" is constructed from the respective "memories of the future" of the place. Conceived as a continuous process of environmental and constructive requalification, "As-Becoming" adopts a creative approach whenever the data from previous surveys ("As-Built," "As-Is," and "As-Designed") do not allow inferring which Lines of Force should be assigned the textural relationship proper to the archaeology of the future.

In the two experiments presented here, this compositional difficulty of traditional methods was observed. In the Vila Bela experiment [8], this limitation motivated the use of the updated Platonic concept of simulacrum [2] as a tool to address data incompleteness and guide creative interventions in the prospective and *continuaactivity* its As-Becoming (derived from its "As-Designed").

II. METHODOLOGY

The study began with a bibliographic review concerning the theoretical-methodological elaboration among the concepts of Becoming [4]; the archaeology of the future [14]; the Simulacrum [2]; and the auxiliary concepts of "As-Built," "As-Is," and "As-Designed" (Fig. 2). Based on this theoretical foundation, a comparative analysis of the case studies was conducted, developed through the metamodel Workflow [19] of Historic District Information Modeling (HDIM) by Dezen-Kempter et al. (2021) [3], and its deliverables DSM+GIS+BIM+CAD [3], which are transversal to the interpretation and analysis of the experiments, illustrated through additional tables and

images.

To develop a conceptual framework articulating key notions from philosophy, preservation theory, digital archaeology, and metrology, based on the references studied, Table 1 was elaborated. This table serves as an interpretive lens for the collected data and for the design of continuaactivity inventory.

Table 1. Theoretical-Conceptual Reference Framework

Becoming	Palimpsest	Simulacrum
A "permanent metamorphosis" of architectural forms and their meanings over time (DORFLES, 1959, p.13). This perspective understands that heritage buildings and spaces are not static entities, but rather phenomena in constant evolution, which accumulate layers of history, uses, and interpretations.	In architecture and urbanism, the palimpsest manifests itself as a continuous process of superimpositions, where traces of the past coexist with present and future transformations, creating a multifaceted spatial narrative (MOREIRA, 2021). [12]	The simulacrum is a "simulation constructed upon dissimilarity" (DELEUZE, 1974, p.263) [2]. In heritage preservation, it suggests digital reconstructions that articulate multiple interpretations from fragments, incomplete data, and creative hypotheses.
Canonical Model	Slow Fire	London Charter
The word canonical originates from the Greek kanonikós (from kánon, "rule" or "standard"), consolidating in Latin as Canonius-that which conforms to an established canon. A canonical model is therefore an idealized and normative representation, elevated to the status of a supreme reference or uncontested "truth" in a given field.	In the context of this article, "Slow Fire" is the gradual and inevitable deterioration of documents over time, caused by intrinsic (material composition) and extrinsic (environmental conditions and handling) factors. This continuous process of degradation results in the progressive loss of the physical integrity and legibility of documentary information. (NUNES, Luís, 2012)	The London Charter is an international document that aims to establish a set of principles for the use of the methods and results of computer-based visualization in the research and dissemination of cultural heritage. (THE LONDON CHARTER, 2009) [15]
Digital Archaeology	Archaeology of the Future	Lines of Force
Digital archaeology is an integrative practice that uses computational technologies to	A design methodology proposed by architect Tsuyoshi Tane, which seeks to "build	In the context of this article, "Lines of Force" refer to structural, formal elements (heights,

strengthen the connection between theory, method, and dissemination, with the aim of enriching the understanding of the past. The authors state that "Digital archaeology should exist to assist us in the performance of archaeology as a whole. It should not be a secret knowledge, nor a distinct school of thought, but rather simply seen as archaeology done well, using all of the tools available". (EVANS, DALY, 2006, p. 25) [5]	the future" by excavating the memory of a place, going beyond physical documentation to also seek its invisible memories (TANE, 2018) [14]. It is a contemporary reinterpretation of these memories. It connects the past to the future.	alignments, textures, solids and voids, etc.) and symbolic ones (modes of occupation, festivals, habits, uses, etc.) that define the identity and logic of a built heritage. They represent both the constitutive physical logic of the place and the cultural meanings that guide its interpretation and design interventions [18].
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Fig. 2. Solid model of Largo do Rosário in progress by CMCC-UFMT-IPHAN [13]

In Vila Bela [8], the study focused on the architectural scale with a recompositive approach. Photogrammetry captured the current state (As-Is) of the ruins, which served as the basis for detailed historical research in archives. This resulted in a conjectural As-Designed model of the original project. The richness of the documentary evidence restricted creative freedom, guiding a recomposition close to the canonical. The simulacrum was applied punctually to fill gaps, aiming for an As-Becoming that would reestablish the formal and symbolic Lines of Force of the building.

Tabela 2- Conceptual scheme about continuativity between inventory survey actions (As Built, As-Is, As-Designed and As-Becoming).

As-Built	As-Is	As-Designed	As-Becoming
Atividade de levantamento das medidas existentes do espaço/edifício inventariado, que posteriormente é transformado em desenhos técnicos [1] [6]	Se emprega para uma observação multi fases, nos levantamentos, podendo se inferir posteriormente modificações e/ou aperfeiçoamentos necessários [6]	Se usa dados históricos para confecção de levantamentos cadastrais recompositivos e imaginativos, mas com parâmetros reais de referência [8]	Inventariação criativa, continuativa e sensível, em função da interpretação das "Linhas de Força" observadas nos processos anteriores. (BIRELLO, Fernando, 2025) [9]

The first study conducted at Largo do Rosário established the foundations of the initial "As-Is" model, applying photogrammetry and 3D digitization for a preliminary landscape reading and identification of the site's contractual and symbolic Lines of Force. Subsequently, the continuation and metrological expansion of this study is underway by CMCC-UFMT-IPHAN [13], which also uses photogrammetry to generate a dense point cloud, a Digital Terrain Model, and orthomosaics. The inventory strategy integrates interviews with residents, oral history, research in specialized institutions, and on-site observation.

III. RESULTS

Although this research continually follows the processes of inventory survey (As-Built, As-Is, As-Designed, and As-Becoming), the artefactualities of the HDIM metamodel deliverables do not always allow for a nuanced reading of the Lines of Force latent in the palimpsest of each site. This limitation hinders more accurate and detailed digressions, preventing the production of inventory datasets from enabling the prospection of the scenic textures related to the potential "Memories of the future" concerning the inventoried site. Naturally, several gaps emerged in the experimental metamodel inventory processes.

Most of these gaps were predictable, considering the nature of historical surveys and the uncertainties regarding both the completeness of historiographic data and the level of accuracy and detail of the generated deliverables. Due to the inevitable action of "slow fire" the observation of the scansioned process-forms [4] applied to the aforementioned palimpsests did not always achieve the metrological reliability [12] that was expected.

Consequently, significant gaps in the completeness of historiographic data and the metrological precision of the deliverables are invariably observed. This is especially true in contexts where the "reading of the latent Lines of Force" of these gaps proved ambiguous and/or imprecise.

Conversely, in the study of Largo do Rosário conducted by CMCC-UFMT-IPHAN [13], the application of photogrammetry aims to transcend volumetric representation. The ongoing, more precise analysis of the ground's topography aims to enable the projection of technically grounded scenarios (As Becoming) for hydro-

sanitary infrastructure and accessibility. Partial results reinforce how metrological accuracy can reduce interpretive ambiguity, guiding interventions that strengthen the Lines of Force of the place, such as pathways, modes of use, and historical flows.

For these and other issues, the technical and canonical permissiveness foreseen in recent treatises on Digital Archaeology - such as the London Charter [15] - and aligned with the debate initiated by Dorfles [4] (and enriched by Tane [14], Koolhaas & Otero-Palacios [7], Vigliecca et al. [16], and Mannisi [10]) allows for the development of more creative and continuative strategies. These strategies consider inventory and protective actions capable of carrying out conservative interventions without relinquishing their condition of contemporaneity.

To address the absence of a canonical model and the fragmentation of data - which prevent traditional recompositions in heritage sites- the "As-Becoming" approaches in the two cases presented here relied on creative and inventive inventory methods. Supported by prevailing technical permissiveness, these processes applied the logic of the simulacrum in their design solutions, at varying levels of inventiveness, ensuring the protective continuativity envisaged in "As-Is" actions.

Thus, it was in the augmentation and prospective quality of the implemented "As-Designed" models that certain constraints on freedom, or canonical specificity, were imposed on their respective Lines of Force. Among the implemented "As-Designed" models, the one for Vila Bela [8], due to the richness of historiographic documentation and the constraint of its scansion to the building scale, achieved the highest degree of detail in its process-forms, paradoxically restricting its "creative freedom" [15].

The "As-Designed" model developed for Largo do Rosário, primarily due to its landscape scale and the lower availability of precise data readings related to its Lines of Force, allowed for greater creative variation in the continuativity of its process-forms. This underscores the natural adaptability of the simulacrum concept under these terms.



Fig. 3. *As-Designed surveys, made by Largo do Rosário e Igreja matriz de Vila Bela.*

IV. DISCUSSION

Based on these experiences, the central discussion resides in the application of the concept of the simulacrum, as updated by Deleuze (1974, p.263) [2], treating it as a "simulation of the copy, constructed from dissimilarity, a

kind of 'hazy' image of the second copy, also called a phantom copy (...) built on the foundations of essence and appearance, similarity and difference" (IDEM.). Thus, the updated concept of the simulacrum is understood not as a merely imperfect copy, but as something that challenges the very notion of copy and resemblance of what is univocally considered "real." Even if the simulacrum distances itself to some degree from the resemblance of what would be the original real object, it asserts itself through difference and a multiplicity of continuous activities, provoking the destabilization of the primacy of essence and resemblance in any kind of idealized representative canonization.

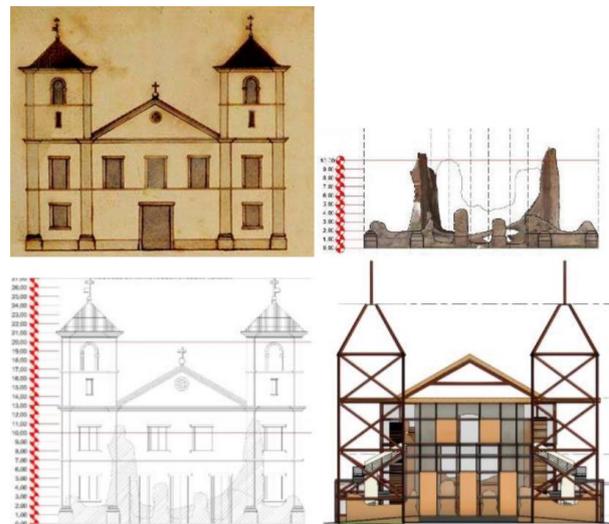


Fig. 4. - *Comparative juxtaposition between As-Designed and As-Is, which leads to the transition from the Vila Bela church As-Becoming study.*

By contemporaneously elevating the concept of the Simulacrum [2] -"from a degraded copy to the condition of a creative, multifaceted copy of the diverse truths of representational models of art, bearing varying levels of essences and, therefore, also art" (Ibid.) - the goal is not to seek the "truth" of a single model, but the "diverse truth" of multiple possible models and perspectives, naturally conditioned by the contemporary reality of data interoperability and inventory actions. This interoperability [18] - particularly in its complex Organizational, Intercommunity, and Technical dimensions (Vizioli et al., 2022, pp. 06-07) [17] - is crucial for enabling the practical application of the logic of the simulacrum to any "As-Becoming."

In the development of "As-Becoming," the influence of the simulacrum concept [2] guides the scanning and prospecting of the "memories of the future" contained within the process-forms of the palimpsest, generating meaning and reality from differences. This approach challenges the idea of an original, unique, and true heritable metamodel without abandoning the

continuativity of the "As-Built," "As-Is," and "As-Designed" surveys that underpin it.

V. CONCLUSÃO

This work conducted digital surveys through photogrammetry and 3D scanning with the aim of recording the conservation status of heritage assets at two historic sites in Mato Grosso: Largo do Rosário in Cuiabá and the ruins of the Main Church in Vila Bela da Santíssima Trindade. However, the research goes beyond simple documentation, exploring the potential of these records for assessing conservation status and, above all, for applying innovative theoretical interpretations.

Drawing on the concepts of "Lines of Force" and "Archaeology of the Future," we developed a prospective and creative approach that transcends the traditional canonical reconstruction, the As-Becoming. This methodology enables the development of culturally sensitive and technically grounded intervention projects that respect the identity and continuous evolution of heritage sites.

In the case of Vila Bela, the proposed intervention focuses on protecting the ruins and implementing drainage solutions for the city's central area. At Largo do Rosário in Cuiabá, the collected data will support a landscape requalification and universal accessibility project, as well as guide future studies for a drainage system that harmonizes with the region's original topography.

Thus, it is concluded that the digital inventory, when articulated with a theoretical perspective and a prospective methodology like As-Becoming, transforms from a mere recording instrument into a tool for ongoing heritage requalification, contributing to the preservation of memory and cultural identity in these locations.

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