

CALL FOR BOOK CHAPTERS

Dear colleagues,

We invite you to submit a book chapter proposal to the forthcoming book “DECODING CULTURAL HERITAGE: a critical dissection and taxonomy of human creativity through digital tools”, to be published by Springer Nature in 2024. Proposal submission deadline is June 17th 2023.

• **DECODING CULTURAL HERITAGE: a critical dissection and taxonomy of human creativity through digital tools**

The concept of *cultural heritage* is one of the most complex, from the point of view of architecture, art, design and literature, to name a few leading disciplines, which contemporary times are trying to address within a convulsive and rapidly changing social context. The Krakow Charter (Unesco 2000), a key document for restoration, defined heritage as follows: “*It is the set of human works in which a community recognizes its specific and particular values and with which it identifies. The identification and specification of heritage is therefore a process related to the choice of values*”.

Undoubtedly, in this area, technology is relevant, both from a conceptual and instrumental perspective. The *digital tools* lead us to reflect, once again, on the triad “mythos, techne, logos”, addressed for example by Martin Heidegger (2017), which cement a possible way of understanding any produced reality. Ancestral dynamics reiterated destructive protocols of “the old”, without any brake, to erect new works, in accordance with the society of their time. At present, such dynamics are inconceivable. On the contrary, in Western Europe, consolidated criteria that show that the need to preserve the remains of collective memory, of creations from earlier times, is still valid. Certainly, cultural heritage has oscillated between the extreme of disappearance and that of generalized protection, which on certain occasions was only supported by chronological and not qualitative reasons. In this historical sequence, arbitrariness is a feature that must be considered. The fire at Notre Dame in Paris revived a recurring debate around the figure of the architect Viollet-le-Duc and his restoration processes that sought to redefine, in accordance with his interpretation of the genuine spirit of the time of the great medieval constructions, all sorts of monuments. This ideological vector cleaned of additions and true historical strata, cathedrals, monasteries, giving birth to a new Gothic in the 19th century. The heritage underwent projects of interpretation and authentic creation, and even recreation, which sacrificed its natural becoming, sequentially natural, for the sake of a mythologized, but vigorous reality, far removed from the spirit of consolidation works such as those carried out in the Cathedral of Segovia after the Lisbon earthquake of 1755. Viollet's maxim stating that “restoring a building is not maintaining, repairing or redoing it, it is restoring it to a complete state that may never have existed at a given time” [1] and unequivocally it is his conviction that no civilization, in times before his, would have tried to make restorations as they were understood in the second half of the 19th century [2]. The impossibility of “raising the dead” (Ruskin, 1889, p. 194) will support the scathing criticisms [3] with which his own contemporaries and his successors will attack him to the point of eclipsing his solid theoretical foundation.

The previous examples present us with a delicate panorama, which in the 20th century acquired a new dimension in the light of documents such as the Venice Charter (ICOMOS

1964) and the, already mentioned, Krakow Charter (UNESCO 2000), which delve into the understanding of modern architecture initiated in the Athens Charter of 1931 (CIAM 1954). Both texts are key to architectural restoration and to understanding how society could deal with inheritances received, dynamically, and from multiple spheres, covered with a series of values filtered by the eyes of contemporary times. It is at this point where we must point out some paragraphs of the Venetian text:

“Restoration is an operation that must be of an exceptional nature. Its purpose is to preserve and reveal the aesthetic and historical values of the monument and is based on respect for the ancient essence and authentic documents. Its limit is where the hypothesis begins: at the level of reconstructions based on conjectures, all complementary work recognized as essential for aesthetic or technical reasons emerges from the architectural composition and will bear the mark of our time. The restoration will always be preceded and accompanied by an archaeological and historical study of the monument. When traditional techniques prove inadequate, the consolidation of a monument can be secured using all modern techniques of conservation and construction whose effectiveness has been demonstrated on a scientific basis and guaranteed by experience.”

What happens to the restorative hypothesis if it can be developed, from contemporary times, in a precise and, at times, identical way, not only in the result, but also in the registration of temporary patinas? What happens when the techniques of Consolidation have not been guaranteed by direct experience, but by the laboratory model? These considerations can be extended to painting, sculpture, music... and many other disciplines that in their day articulated a new sensibility based on technological developments, such as optics at the time. Given the challenges posed about the intervention in the heritage of the past, it became necessary to expand knowledge about it to explore and identify the possibilities of action, or not, for its conservation and restoration.

The digital realities of the 20th century gave birth, among other events, to high-precision cartography or exhaustive material analysis, a precursor, in turn, to other technological horizons. The development of Artificial Intelligence (AI) opens up, among other options, new ways to propose possibilities for finishing all kinds of unfinished creations. Specifically, with the recent appearance of tools such as DALL-E, capable of completing images guided by a textual description, you can count on the help of AI for recreation tasks. However, as was the case in the 19th century, when architects believed they were capable of deducing the right solution for unfinished projects, today, the expectations created by image completion tools seem to be leading us down paths of similar enthusiasm. The nineteenth-century conviction that it was possible to propose the correct solution to the enigma of an unfinished project (Mangone, 2018, p. 10) seems to have a second chance with Artificial Intelligence. However, the very approach of “the correct solution” presupposes an unequivocal result, alien to the natural processes of creativity, in which *pentimenti* and rectifications have always been the order of the day.

Today, different sensors collect indicators of temperature, humidity, and a long etcetera of conditions that determine the needs for preventive conservation of all kinds of artistic works. Systems that also have actuators that create atmospheres of protection that avoid the natural evolution of time are being used. A reality that today scales to all kinds of events and that effectively generates multiple data that are processed and analyzed to understand cultural heritage, from its genesis to its possible new controlled future. Point clouds, photogrammetries, reflectographies, stylistic analysis, become models, even prototypes, articulated by algorithms. Artificial Intelligence, inexorably present in our society, is colonizing all areas, from the economy to entertainment. Cultural heritage is a new enclave where critical progress is made in the knowledge of these tools and all its

derivatives. The use of digital tools and techniques for cultural heritage is an emerging area in computer science that is expected to enable many new developments and applications. The book aims to cover existing tools that have been extensively used for cultural heritage preservation, such as image processing, advanced sensing, or geomatics and for recreation such as virtual and augmented reality. The use of newer tools such as generative artificial intelligence for images and 3D or advanced natural language processing systems is also considered including the Internet of Things for monitoring cultural heritage and the use of digital twins. The book is also open to new applications of digital tools and techniques that can be useful to better understand and preserve cultural heritage.

References:

[1] “Restaurer un édifice, ce n'est pas l'entretenir, le réparer ou le refaire, c'est le rétablir dans un état complet qui peut n'avoir jamais existé à un moment donné”. (Viollet-le-Duc, 1866, p. 14)

[2] “aucune civilisation, aucun peuple, dans les temps écoulés, n'a entendu faire des restaurations comme nous les comprenons aujourd'hui”. (Viollet-le-Duc, 1866, p. 14)

[3] “Do not let us deceive ourselves in this important matter; it is impossible, as impossible as to raise the dead, to restore anything that has ever been great or beautiful in architecture.” (Ruskin, 1889, p. 194).

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Important dates:

- Chapter proposals submission deadline: June 17th, 2023.
- Notification of acceptance: June 31st, 2023.
- Full chapters due: September 30th, 2023.
- Final submission due: January 29th, 2024.
- Book publication (expected): 2024.

Editors:

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Potential topics related to cultural heritage include (but are not limited to):

- Artificial Intelligence.
- Devices, monitoring and preventive systems.
- Image and computer vision.
- Geomatics.
- Internet of Things (IoT).
- Data processing.
- Mapping, cartography, data visualization.
- Predictive analytics.
- Stylistics, attribution, and authorship.
- Conservation, reconstruction, and replicas.
- Industry and new materials
- Digital networks and cultural heritage.
- Virtual and augmented reality and digital Twins.
- Natural language processing.
- Digital training for heritage.
- Mediation and dissemination.
- Analysis of case studies and good practices.

Publisher

This book will be published by Springer Nature, a highly reputable academic publisher. For detailed information on Springer Nature, please visit: <https://www.springernature.com/la>

Target audience:

This book aims at being useful to researchers and other members of the academic community and students in the fields of Architecture, Conservation and Restoration, Visual Arts, Urban Studies, Historians, Design, Computer Science, Building, Engineering, Economics, Sociology, Linguists, practitioners in these fields are also expected to benefit from this book.

Language:

Chapters should be in English.

Submission Guidelines:

- Chapter proposals (350-500 words) are due before June 17th, 2023.
- Proposals should include a brief background, objective, contribution and potential implications.
- There are no submission or acceptance fees for manuscripts submitted to this book.
- All manuscripts go through a double-blind peer review by a scientific committee.
- Final chapters will contain between 7,000 and 8,000 words each.

Submit your chapter proposal by email to fmoral@nebrija.es.

If you have any question, please use the same email to contact Fernando Moral.