Digitalization *vs*. the spirit of place: sixty years after Venice - what is the role of digital technologies in the museum sector?

Digitalização *vs*. espírito do lugar: sessenta anos depois de Veneza - qual o papel das tecnologias digitais no setor dos museus?

ANTÓNIO PONTE [1,2]
VERA GONÇALVES [3*]

1. National Museum Soares dos Reis, Porto, Portugal
2. CITCEM – Center for Transdisciplinary Research Culture, Space and Memory, School of Arts of the University of Porto, Portugal
2. ARTIS – Institute of Art History, School of Arts and Humanities, University of Lisbon, Portugal

verag@edu.ulisboa.pt

Abstract

Digital technologies have emerged as important tools for the cultural heritage and for the museums sector. When the *Venice Charter* was published in 1964, technological tools were essentially used to collect and store data. Nowadays, with the advent of artificial intelligence, they cover more and more functional areas of work in cultural heritage. This also includes the possibility to visit exhibitions and museums without leaving our houses. But can these immersive experiences replace the direct contact with the spaces and the objects? Without denying the potentialities of digital technologies for the cultural heritage sector, we aim to analyse, through the case study of historic house museums, their impact on the perception of the spirit of place. This concept transforms the visit to the real place into a unique experience, capable of creating in the public a sense of identity, affection, belonging and memory.

KEYWORDS
Cultural heritage
Historic house museum
Sustainability
Management
Artificial intelligence
Genius loci

Resumo

As tecnologias digitais têm-se evidenciado como importantes ferramentas para o setor do Património Cultural e museológico. Quando se publicou a *Carta de Veneza*, em 1964, as ferramentas tecnológicas eram utilizadas essencialmente como meios auxiliares de recolha e armazenamento de dados. Atualmente, no advento da inteligência artificial, cobrem uma cada vez mais áreas funcionais do trabalho no Património Cultural. Bem assim, inclui-se aqui a possibilidade de visualização de exposições *online* ou de visitas imersivas. Mas substituirão estas experiências a visita ao espaço e o contacto direto com os objetos? Não descurando as suas potencialidades para o setor do património cultural, procuramos analisar, através do caso de estudo das casas-museu, o seu impacto na perceção do espírito do lugar. Este conceito, que congrega as vertentes tangíveis e intangíveis, transforma a visita ao lugar numa experiência única, capaz de criar nos públicos um verdadeiro sentido de identidade, afeto, pertença e memória.

PALAVRAS-CHAVE
Património cultural
Casa museu
Sustentabilidade
Gestão
Inteligência artificial
Genius loci

Introduction

Published in May 1964 during the second international congress of architects and technicians of historic monuments, the *Venice Charter on the Conservation and Restoration of Monuments and Sites* remains a foundational document for cultural heritage, emphasising and promoting "the common responsibility to safeguard [it] for future generations" [1].

To keep up with the times, this concept has evolved in recent decades, alongside socio-political debates and cultural needs, to encompass new areas of interest and intervention. These now range from natural heritage to intangible heritage and even include the so-called digital heritage, e.g. the *UNESCO Charter on the Preservation of the Digital Heritage* (2003) [2].

Digital technologies which are constantly and rapidly evolving have emerged as important tools for the Cultural Heritage and for the museums sector. However, the relationship between these domains has not always been consensual, sometimes blurring the boundaries between the real and the virtual.

When the *Venice Charter* was published, technological tools were essentially employed for data collection and storage.

Nowadays, with the advent of artificial intelligence, they cover more and more functional areas of work in Cultural Heritage. They play a critical role in preventive conservation, restoration, and the generation of new knowledge [3, p. 88]. Therefore, digital technologies enable the digital reconstruction of artistic objects and monuments, some of which have already disappeared, the deciphering of inscriptions and symbols, the identification of authorships and chronologies, the communication and heritage education, and many other functionalities supporting their value.

Furthermore, digital technologies support a range of functionalities that enhance the value of cultural heritage and make it possible to "anticipate, support, and extend the physical visit to museums" [4, pp. 17-19].

As an area to which the museum sector has also been adapting, this includes the possibility of online exhibition viewing – a trend accelerated by the recent pandemic – as well as immersive virtual experiences. These developments have been widely explored, as evidenced by the growing number of experimental museum projects and the proliferation of seminars, conferences, and publications on the subject.

Yet can these immersive experiences truly replace the direct contact with the spaces and the objects?

Heritage involves processes of recognition, appropriation, and the cultivation of emotional attachment and belonging – concepts now widely acknowledged as essential to the valorisation, and safeguarding of monuments, sites, artifacts, and cultural expressions.

While recognizing the potential of digital technologies within the cultural heritage sector, we aim to analyse, through the case study of historic house museums, their impact on the perception of the spirit of place.

This concept, which encompasses both tangible and intangible dimensions – and whose significance was reinforced by the *Québec Declaration* (2008) [5] – transforms the visit to the real place into a unique experience, capable of creating in the public a sense of identity, affection, belonging and memory.

It is essential to assess technological and digital mechanisms can foster the sensory and affective relationship between individuals and their perceptions, while maintaining as a fundamental objective the valorisation of local communities and visitors and promoting the identification, safeguarding, and conservation of Cultural Heritage, as outlined by the *Venice Charter*.

This raises another question concerning the typological approach of Cultural Heritage, understood in a holistic manner, whereby it is not possible to dissociate the material and immaterial dimensions associated with other factors: people / communities, time, place / nature.

The meaning conveyed by the surroundings and context in which material heritage evolves is also a focal point of the *Venice Charter*. It emphasizes that "a monument is inseparable from the history to which it bears witness and from the setting in which it occurs" [6].

Historic house museums, with their diverse typologies, dimensions, and goals, offer unparalleled case studies. They merge the tangible nature of objects with intangible aspects, incorporating immaterial values which are embedded in their construction: affectivity, taste, the personality and discernment of the collector, interpersonal relationships.

However, the debate persists, even within these institutions, regarding their adaptability in an ever-changing world, their role in the twenty first century, and the potential impact that new technologies may have on the perception of their authenticity.

In a reflection that is deeply rooted in direct engagement with the public, and in our own experiences as part of that public, we selected the Fernando de Castro House Museum in Porto (Portugal), under the supervision of the Soares dos Reis National Museum, as a case study. Our goal is to foster discussion on the dichotomy between digital and physical spaces – the virtual and the real –, as well as on the role and impact of digital technologies in the museum sector.

Museums and digital technologies

In a continuous process of reinvention and according to their new definition, museums present themselves as institutions

> *[...] in the service of society that researches, collects, conserves, interprets, and exhibits tangible and intangible heritage. Open to the public, accessible and inclusive, museums foster diversity and sustainability. They operate and communicate ethically, professionally and with the participation of communities, offering varied experiences for education, enjoyment, reflection, and knowledge sharing.* [7]

The introduction of digital technologies in museums has proven valuable for its potential to communicate and connect, offering audiences new ways of enjoyment and interaction. Through interactive devices, mobile applications, or even augmented reality, visitors are offered the possibility to explore exhibitions in a more immersive and engaging way, enhancing their understanding and appreciation of Cultural Heritage while facilitating remote access to previously inaccessible collections, aiming for greater democratization and accessibility.

Exploring the collections of the Victoria & Albert Museum (London, United Kingdom), viewing high-quality reproductions of some of the most important works of art through *Google Arts & Culture* [8], discovering which painting resembles us most through a selfie uploaded to a mobile application, experiencing Vincent van Gogh's works in an immersive environment, or virtually visiting the Calouste Gulbenkian Museum (Lisbon, Portugal) [9] are just a few examples of the many possibilities now available to users (Figure 1 and Figure 2).

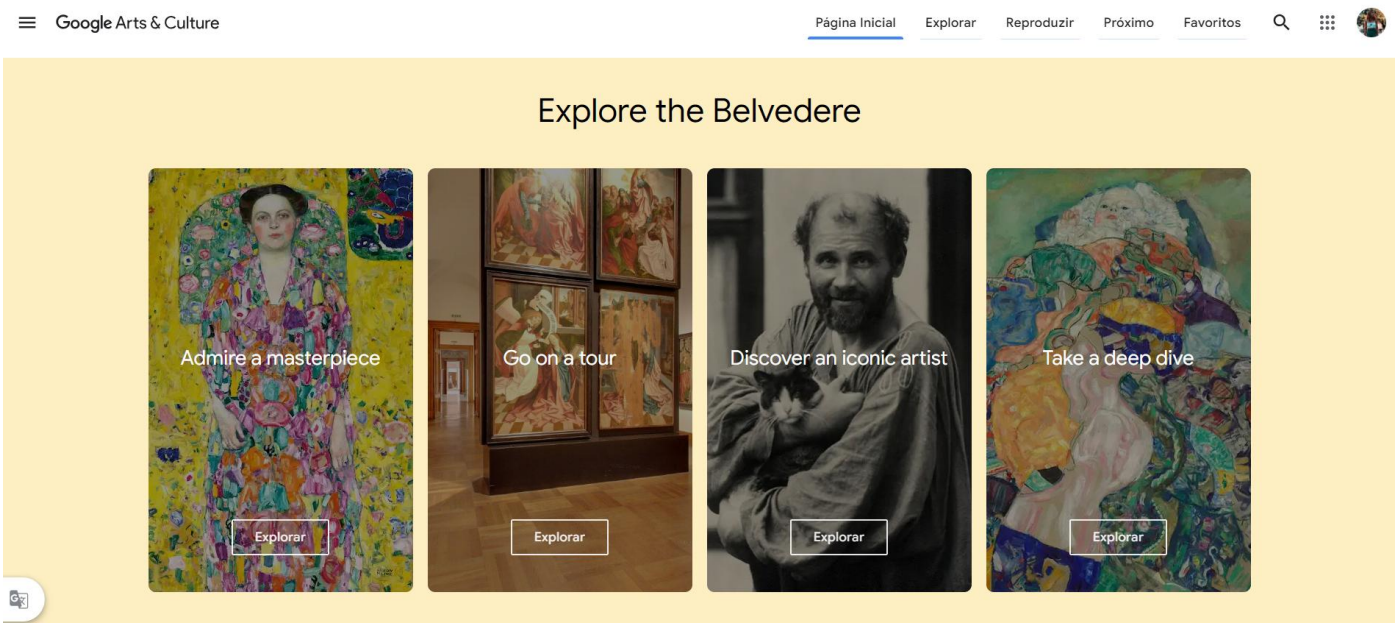

Figure 1. Google Arts & Culture homepage [8] (2024-05-15).

Figure 2. Calouste Gulbenkian Museum virtual tour. View of the East Islamic Art gallery [9] (2024-05-15).

This debate between reality and its reproduction (or reproducibility) is not, however, a new one. Walter Benjamin, in his seminal essay *The work of art in the age of mechanical reproduction* (1935) [10, p. 79], offers a foundational critique of how technological reproducibility modifies the status of art and, more broadly, of the real: "[...] what withers in the age of mechanical reproduction of the work of art is its aura".

Benjamin anticipates the destabilization of authenticity that now finds an intensified expression in the digital age. Today, it is not merely artworks that can be reproduced; entire realities can be simulated, enhanced, and manipulated, blurring the lines between the original and the copy. What Benjamin identified as the loss of aura in art has evolved into a broader cultural condition, where simulated experiences often rival and sometimes surpass the real, reshaping how individuals perceive and engage with heritage, memory, and presence.

Aligning with this thought, in *Travels in hyperreality* (1973) [11, pp. 7-55], Umberto Eco reflects on and critiques the (specifically American) obsession with simulation, replication, and what he terms hyperreality, a version of reality that is more convincing or desirable than reality itself.

Eco argues, through some examples such as Disneyland or wax museums, that in the United States (and this may equally be applied to the Chinese context) there exists a cultural tendency to produce copies so meticulously crafted that they ultimately surpass the original. The objective is not merely to imitate reality, but to create an enhanced version – something more real than the real.

In this paradigm, the false is preferred over the authentic not out of ignorance, but by deliberate choice, because it is geographically closer, more convenient, or more spectacular.

The recent and unprecedented COVID-19 pandemic crisis compelled museums to reevaluate their operational frameworks, hastening their shift towards the digital realm. This transition was vital for maintaining relevance and continuing to serve communities while striving to retain audiences. Consequently, it required a transformation in how individuals engage with museums, marking a significant evolution in their relationship with these institutions [12, p. 7].

Quoting Rosali Henriques and Lucas Ferreira de Lara, Moraes [13, p. 315] highlights that one of the main cultural challenges for museums is the need to rethink their activities and structures in ways that allow them to continue engaging with the public – even when the doors are closed.

However, embracing digital transformation extends beyond the mere implementation of mobile applications or the digitisation of collections; it entails a comprehensive, end-to-end process that looks at the entire association between the museum and its audiences [14, p. 3].

In her analysis of social media, Wong [15, p. 281] observes that "their myriad forms and promising reach may help expand and diversify audiences, make museums more responsive and transparent, and acknowledge and incorporate the knowledge of audiences into practice"; a reality opposed to the intimidating (and outdated) perception of museums as spaces designated for silent contemplation exclusively tailored to intellectual elites [16, pp. 158-159].

In a context where communities are in constant transformation – driven by large-scale movements of people, goods, ideas, and economies – new forms of communication continually emerge. These are often marked by tensions and contradictions, including moments of opposition and conflict [17, p. 7].

As museums have evolved to embrace inclusivity, expansiveness, and sustainability in response to the contemporary needs of the communities they serve [18], it is crucial to acknowledge that while new technologies have undoubtedly played a significant role in this transformation, there are other aspects often unnoticed in these discourses that worth consideration.

Within a theme that has been receiving increasing practical and theoretical interest and not overlooking its potentialities we are also interested in reflecting on the challenges associated with the integration of digital technologies in the museum sector.

Indeed, it is important to note from the outset that the adoption of digital technologies in museums demands a substantial financial investment. This expense can pose a significant obstacle for many institutions, particularly smaller ones, or those with limited resources, such as historic house museums.

The integration of digital components into a museum's overarching strategy is more likely to occur when there is a clearly articulated vision, well-defined institutional priorities, and adequate investment conditions, including financial, logistical, and human resources [19, p. 21].

More than the initial acquisition, it is in the maintenance that the main costs are concentrated since the rapid obsolescence of software and devices requires ongoing planning and updates. This concern is reinforced by the *Charter for the preservation of digital heritage*, which states: 'Digital materials […] are frequently ephemeral, and require purposeful production, maintenance and management to be retained' [20].

Simultaneously, the integration of digital technologies requires training for museum professionals, as one of the essential elements for their proficient utilization in these environments [21, p. 3]. As highlighted, "[…] weaknesses in the museum sector were identified at the level of digital and transversal competences" [22]. However, whether due to constraints in time or resources, there tends to be a general oversight regarding this aspect, creating limitations that manifest in the communication and mediation processes within museums.

While Generations Y, Z, and Alpha – often labelled digital natives – navigate digital platforms with ease, there are individuals for whom new technologies pose a significant challenge. These groups include the elderly and those with limited access to technology. As noted, "The dizzying pace of a world in constant digitalization is increasingly breaking the bonds between those who stay within and those who are left out, between those who move ahead and those who fall behind" [23, p. 156]. It is imperative for heritage professionals to address the needs of these individuals as well.

Nevertheless, the central concern of this reflection lies in the increasing reliance on technology and its potential impact on the direct experience of cultural heritage:

> *Digital is making us less physically active, less private, more exposed to new information, more globally connected, and more active in choosing, creating and contributing to content, Digital is massively impacting how we shop, design new products, collaborate on projects, do science, consume music and film, use libraries and museums, manage our education, join clubs, learn new skills, meet people and plan our travel. There is more to come […].* [24, p. 96]

As Maurizio Felicori, former director of the Reggia di Caserta (Italy), aptly emphasizes [19, p. 18], before fostering a digital culture, it is essential to first establish a culture of communication.

In fact, all these challenges can be a particularly pertinent issue within the area of historic house museums. In many cases, these spaces are arranged as *bona fide* theatres of memory [25, pp. 25-26], representing a person, their lifestyle, and their sociocultural context.

Genius loci and the experience of space in historic house museums

Whereas collections stand for themselves in museums, they gain an intangible dimension as part of in-house-museum, one that is established in the dialogue between building, collection, collector, and society. Container and content merge into a cohesive whole, driven by its patron.

To understand what a historic house museum is, we use the definition provided by Giovanni Pinna, former Chair of the ICOM Committee for Historic House Museums, DEMHIST from 1999 to 2001:

> *[…] the power of these museums, more than any others, [is] to evoke history and put the visitor into direct contact with it. This aspect of the historic house takes on special importance against the background of another exclusive characteristic of the historic house, that is, its immutable significance and the impossibility of manipulating that meaning with the same ease with which objects can be made to tell different stories in other museums* [26, p. 4]

The principles underlying the creation of historic house museums include paying homage to a particular personality, bearing witness to a specific era, and sometimes commemorating a historical milestone. In these museums, objects are not merely curated for display; rather, they serve to reenact experiences, enriching the visitor's understanding and immersion in the historical context.

The significance of the house museum lies not in the value of isolated objects, but in their interaction with the reality they seek to recreate and / or with the personalities they aim to honour. This aspect brings challenges in terms of presentation and communication with the public.

Given the concepts of authenticity and integrity inherent to the essence of historic house museums, the integration of digital technologies has the potential to compromise the unique character of these spaces.

The interplay between history and memory, the private and the public, as well as the tangible and the intangible, can find its fullest expression within the spaces that are organised as historic house museums.

These spaces are idiosyncratic structures in the museum scene, since they contribute both to micro-history, through the actions of those who constituted their collections, and to macro-history, by offering insights into specific historical periods and their living conditions.

House museums add an intangible dimension to the tangible nature of their buildings and collections, thanks to the emotional connections embedded in their construction, which are further enriched by the layers of narrative they contain.

As such, they are deeply ingrained in the past, which can lead to challenges in interpreting or relating to them in the present. As noted by Butler III, "[…] there is a sense that the house-museum lacks a relationship to the modern world" [27, p. 41].

Museums today must focus on building a sustainable future. This involves not only preserving their core assets and collections but also ensuring that the museum remains relevant and valuable to future generations [14, p. 3].

In a society marked by a swift and constant change, it becomes imperative to reflect on the role and impact of historic house museums for future generations, who may perceive these institutions as distant relics of the past.

These spaces – through the diverse scenarios and activities they can promote, and the multiple layers of interpretation they offer regarding collections, stories, and memories – have the power to evoke emotions and forge meaningful bonds with communities, emerging as a constructive element of their collective identity: "Because cultural objects provide evidence of our affinities, associations, values, and tastes, they are inevitably associated with our own sense of identity" [16, p. 138].

Hence, it becomes necessary to strike a balance between past and present, between the tangible and the intangible, by adopting appropriate tools and narratives that engage new audiences through a continuous, interdisciplinary, and collaborative effort.

Acknowledging the inherently social nature of humanity – a concept often emphasized in philosophical discourse – and embracing Mike Murawski's assertion that "museums are us" [28, p. 59], it becomes evident that museums, including historic house museums, serve as privileged spaces for communication, promoting dialogues, confrontations, and even discomforts between the public and cultural manifestations.

The concepts of heritage and memory are intertwined from an early age, shaping our perception of the present through our understanding of the past. Memory, which can be described as "lived, oral, normative, and plural" [29, p. 57], is profoundly influenced by emotions and affections. These aspects frequently shape our historical perspective on events, highlighting the subjective nature of historical interpretation.

It is therefore clear that digital and physical realities can, and should, operate closely, in order to complement one another. Digital platforms are not intended to replace physical visits; rather, they should enrich the visitor experience by serving as tools for updating narratives and communication. These elements ought to amplify the potential of historic house museums without altering or overshadowing their intrinsic configuration [30, p. 315].

Several historic house museums have integrated digital strategies to enhance the visitor experiences. These include audio guides, mobile applications offering insights into specific objects' stories [30-31], and interactive screens integrated into exhibition galleries [32].

Despite being fertile ground for digital experimentation in the museum sector, historic house museums must ensure that their digital interactions preserve the essence and atmosphere of the space, to avoid compromising their authenticity or even generating a form of constructed fiction.

Who dusts?: Fernando de Castro House Museum

Who dusts? Just a few minutes inside the Casa-Museu Fernando de Castro are enough for this question to be heard, voiced by those who are confronted for the first time with the overwhelming *horror vacui* of the construction designed by the Porto poet, caricaturist, and art collector (Figure 3 and Figure 4).

The integrity of the collection, particularly in its connection to the living space and its founder, imbues the museum with a documentary character [25, p. 125]. In addition to the maintenance of the historic house and its artifacts, questions often arise regarding the inclusion of functional spaces, such as bathrooms and kitchens, and whether these areas are also open for visitation.

Beyond what might be construed as a form of voyeuristic curiosity, such inquiries reveal a genuine interest in the domestic aspects and lived experiences, through which individuals often establish a personal sense of connection.

How did these individuals live? What comprised their daily routines? Which objects mirror or diverge from those found in our contemporary lives?

At the Fernando de Castro House Museum, such domestic and intimate spaces are not part of the visitor itinerary. In contrast, in other institutions it is possible to recreate those areas: the Anastácio Gonçalves Historic House Museum in Lisbon (Portugal) includes a fully equipped bathroom that was considered modern at the time of its installation, while the kitchens of the Sir John Soane's Museum in London (UK) showcase remarkable historic ovens.

As Hooper-Greenhill noted, it is essential to build a bridge between the narratives presented and the visitor's prior knowledge, promoting the creation of analogies and connections to familiar elements that can be easier to grasp and remember [33, p. 3].

Figure 3. Fernando de Castro House Museum. View of the second floor (photo: Museus e Monumentos de Portugal / Soares dos Reis National Museum).

Figure 4. Fernando de Castro House Museum. View of the stairs to the second floor (photo: Museus e Monumentos de Portugal / Soares dos Reis National Museum).

In this case, with the guide serving as a mediating element, it becomes crucial to perceive the public's reactions: from amazement and admiration to discomfort and even a sense of claustrophobia. When asked about their impressions, visitors often highlight the density and uniqueness of the collection:

> *One of a kind house museum dedicated to an exceptionally prolific collector of decorative arts. Between the late 19th and early 20th centuries, the former owner lined every surface of his house with materials and objects recovered from predominantly religious institutions – wood carvings, ironwork, paintings, sculptures, furniture, brocade curtains, gilt mirrors and so on –, adapting the objects to fit the space available, which at times meant cutting off parts of canvases or trimming away some acanthus leaves to make a carving fit over a doorway. Walls, ceilings, floors, doors, and windows are all encrusted with antique decorations including an ornate pulpit in the stairwell, a stained-glass window as a skylight, a gilt gate from a church altar, and a domestic scaled hall of mirrors in the main sitting room. You'll enjoy this one regardless of whether you think it's 'tasteful', so make the effort!* [34]

In a lavishly decorated space like the Fernando de Castro House Museum, the incorporation of technological equipment risks creating a kind of sensory interference that disrupts the carefully curated ambiance crafted by the collector. As Coelho emphasizes, any decision to implement new solutions must be carefully assessed to ensure that they do not distract visitors from what is truly unique and authentic in each museum [4, p. 17].

On the other hand, we know that participation in television programs, as well as communication on social media platforms such as Facebook, Instagram, and even TikTok (Figure 5) have significantly increased curiosity about the Fernando de Castro House Museum.

A recent study highlights that even "[Millennials] are almost equally as likely to attend an arts event because it was recommended on a site such as Yelp as they would if it was recommended by a critic or reviewer" [35], underscoring the growing influence of peer-driven digital platforms in shaping cultural engagement.

The publicity generated by these technologies excites an audience that typically does not visit museums or show interest in art. However, a new interest emerges due to the novelty of the medium, as it is a fascinating resource created by technology [36, p. 167; 13, p. 312].

Moreover, in addition to institutional publications, the photographs and videos shared by visitors themselves enrich the iconographic repository of this House Museum, while also providing clues about the details that most caught their eye.

Figure 5. Two examples of posts made by visitors about Fernando de Castro House Museum on TikTok: *a)* 2601; *b)* 4849.

Figure 6. Visitors in the Yellow Room of the Fernando de Castro House Museum during a guided tour, 2023 (photo: Lúcia Teixeira).

The dissemination of the House Museum's image plays a significant role, sparking the interest of viewers and users:

> *My visit to the Fernando de Castro House Museum in Porto was made possible solely through my engagement with RTP2's Visita Guiada program. However, the physical presence at the museum offers an experience that transcends the virtual realm. Exploring each room of this small museum, which serves as a preserved slice of time, immerses visitors in a sensory journey – encompassing smells, sights, stories, and objects. This tangible encounter cannot be replicated by watching the program or viewing images online.* [37]

The smells, lighting, and sounds of a space are vital components of its *genius loci*, or what Walter Benjamin referred to as the aura [10, p. 79]. These elements evoke impressions in visitors that are impossible to replicate virtually (Figure 6), becoming ingrained as memories of an experience that resonate in future encounters and interactions with other cultural artifacts.

Final remarks

There are numerous spaces that we only experience virtually, while others, due to their disappearance or inaccessibility, can only be accessed through this medium.

Digital technologies applied to cultural heritage, particularly within the museum sector, have the potential to enhance visitor experience by providing novel modes of interaction and perception. This technological enrichment enables a deeper understanding and appreciation of cultural artifacts, while also supporting the preservation and broader dissemination of information.

Acknowledging the significant contributions of digital tools to cultural heritage, it remains imperative to maintain a balanced and inclusive approach that integrates technological innovation with the preservation of the *genius loci*.

This ongoing debate – one that, as demonstrated, has raised deeper questions since the twentieth century by emphasizing the thin line that separates the real from the virtual – becomes even more pressing amid the rapid pace of technological advancement, especially in an era where accessibility seems ubiquitous, available at the mere touch of a screen.

Considering that heritage evolves through 'constant processes of interaction and renewal' inherent to the cultures, landscapes, and locales of each era [38, p. 13], it is imperative to ensure that museums can explore emerging technologies to their fullest potential while upholding their educational, social, and cultural mandates:

> *For those of us who do not think in terms of ones and zeros, we need to make the effort to understand and mine the technology for what it can do. For the technologically proficient, we must help create a community of digitally savvy staff in all sectors of the museum and foster a collaborative environment in which everyone thinks about both digital space and gallery space as venues for creating meaningful collections-based experiences with and for visitor.* [39, p. 177]

These institutions transcend the mere displays of accumulated objects; they function as spaces for the interaction of personal and collective identities, as well as for the exchange of memories and narratives.

Historic house museums unveil more than the history of their creators or the objects within them – though these elements are undoubtedly of considerable interest. They act as repositories of traditions, narratives, history, and what is commonly referred to as collective memory. It is in this capacity that their true strength lies, enabling them to (re)unite communities. Using Robert Stein's words, "[…] the evidence that museum participation can result in significant and tangible benefit to society is present and well-documented" [40, p. 69].

The Fernando de Castro House Museum exemplifies this concept by fostering connections to the history of its patron's family, the city of Porto, the broader history of Portugal, and the individual histories of the objects on display.

The comprehension of cultural heritage is inseparable from the intertwined concepts of past, present, and future, as well as the dynamic interplay between materiality and immateriality.

As António Ponte asserted, "[…] It is up to museums to promote internal reflection processes to review their positions with the public, with local communities […]" [41, p. 68].

In this regard, the historic house museums should not present themselves merely as static representations of the past. Instead, they should make it understandable in the present, serving as a platform for discussing contemporary issues through the intrinsic values of the house, its objects, and its patron.

It is essential to develop and implement a balanced and sustainable museum system, grounded in strategic programming that fosters and strengthens connections with communities through direct engagement with spaces and objects. This approach provides the foundation for each visitor to create a personalized and meaningful perceptual real experience.

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