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Dematerializing Riegl's Modern Cult of Monuments

Abstract

This paper delves into the transformation of memory and heritage in the digital age, interpreting Alois Riegl's pivotal 1903 work, "The Modern Cult of Monuments," through the lens of today's digital technologies. Riegl's axiological examination, foundational in the field of heritage preservation, is reevaluated to explore how digital documentation reinterprets historical and age values of monuments, aligning with his philosophy of 'touchless' preservation. This research proposes a novel paradigm for representing and engaging with monuments within the digital sphere that I term "Cult Beyond the Digital."

Furthermore, the paper argues for the contemporary relevance of Riegl's methodologies in architecture, particularly those linked to non-contact recording methods that result in the creation of intangible heritage. The paper speculates on future preservation strategies, especially as emerging AI technologies promise the potential to reconstruct missing historical data and enhance monument preservation efforts.

By examining the interaction between technological advancements and monument preservation, the study revisits and expands Riegl's theory, offering a forward-looking perspective on the discipline in the digital and beyond the digital era, aligning with the theme "Beyond the Visible" by exploring how architectural processes such as aging are documented by contemporary digital tools to protect our heritage and memory. This invisible force of time leaves architecture with traces that can be seen as a continuous "unmaking" or dematerializing of its physical forms. The age value of monuments was considered the monument's most essential value of the twentieth century, according to Riegl. Extending his theory to our time, the age value is surpassed by what I call a "timeless" value that represents digitally documented monuments over time. They, as digital data, shift their properties from the material world to the digital realm. By doing so, the main protagonist of this architectural "unmaking" is not an architect but the environment itself.

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Introduction: The Modern Cult

The term 'cult' refers to a multiplicity of meanings. One of them points toward its religious characteristic as a 'particular system of religious belief'.[1] Beyond this aspect, it can also refer to something that receives immense popularity among certain individuals as a cultural phenomenon, or it can denote a specific set of beliefs or behaviors in a society. Concerning monuments, the cult can also be interpreted as a spiritual phenomenon present in the monument but which is kept invisible in its form, lasting beyond a particular generation; as an American historian Lewis Mumford writes: "Ordinary men must be content to fix their image in their children: retrospectively they may seek to ensure immortality by imposing the cult of the ancestor" (Mumford, 1937, 263). Austrian art historian and preservationist Alois Riegl used this term in the title of his seminal preservation essay 'The Modern Cult of Monuments: Its Character and Its Origin' (Der Moderne Denkmalkultus: Sein Wesen Und Seine Entstehung), published in 1903. It served as a preface to a legislative proposal to reorganize monument protection in Austria in the early twentieth century.[2] Riegl specifically used the term Denkmalkultus, which consists of two words – Denkmal (monument) and Kultus (cult). In order to reflect on the term Kultus in Riegl's context of fin de siècle Vienna, it is necessary to review early Christian art.[3] Its protagonists recognized fine arts as a valuable medium for celebrating their cult. Riegl used the word [Denkmal] Kultus to refer to his perception of monuments beyond their preservation, focusing on their cultural relevance and meaning as cult objects (Riegl,1982, 51). Similar to early Christian artists, Riegl articulated the notion of the monument as a medium to celebrate the cult of a modern monument, an object of veneration and, particularly in this essay, Riegl seems to be taking a modernist rather than historicist approach. In his essay, he invented the notion of unintentional monuments as a visionary concept as opposed to the notion of intentional monuments that were already part of the historical discourse.

Monument Values

Riegl defined a variety of monument values, most importantly the historical value of the nineteenth century and the age value (Alterswert) of the twentieth century. Both of these values represent the cult of modern monuments as Riegl categorized them. Reflecting on Riegl's age value, I would note that age affects all monuments equally, as it affects all living organisms. One is not allowed to interfere with the aging process, which would be considered an act against nature or God's

[1] For more details, see: Cult | english meaning - cambridge dictionary. Accessed January 8, 2024. https://dictionary.cambridge.org/dictionary/english/cult.

[2] Riegl's efforts for new legislation for monument protections were denied.

[3] The dating of early Christian art begins from the 3rd century, following the legalisation of Christianity in the Roman Empire by Emperor Constantine in 313 CE, and ends in the early 6th century.

will. Therefore, monuments with age value are continually 'dematerializing' and can be interpreted as living organisms between birth and death. Only by caring for them (offering them protection) can they achieve a longer life span than humans. Age value is also closely related to the temporality of perception, which Riegl studied within his art historical scholarship and was later applied in his preservation theory as well. Furthermore, age value appreciates the traces of the past on the object in question and manifests the most modern value for the twentieth century. The photograph of the decay of the building's façade, namely Oxford's Queens College by William Henry Fox Talbot from 1843, serves as an example of Riegl's concept of the age value of monuments. For this reason, the photograph became the frontispiece of the English translation of the essay published in the Oppositions journal in 1982 (Figure 1).

Figure 1: William Henry Fox Talbot. *Part of Queens College, Oxford.* Photography, 1843.

One of the essential aspects of monuments is that their values change over time. In his essay regarding monuments and memory, architectural historian Kurt Forster elaborated on this notion by stating that "the very idea of the monument proved to be at once historically determined and relative to the values of every time" (Forster, 1982, 22). Therefore, from the twenty-first-century perspective, a number of monuments of the past have transformed their values since Riegl's time, and so it is a task of every society to redefine them.

Due to Riegl's very innovative, forward-looking approach to monument protection, he is oftentimes seen in connection to an English writer and critic, John Ruskin. Even though both appreciated the age value, Riegl categorized it for the first time as a monument's value. Art historian Margaret Olin emphasized Riegl's and Ruskin's connection in more detail:

> Riegl explicitly Christianized the cult of monuments. His conception of the age value far surpassed Ruskin's piety. He felt that he stood before a time of religious renewal comparable to the dawn of the Christian era. "Stimmung" (roughly "mood" or "atmosphere"), the current artistic goal to which he ascribed the cult of age, itself characterized eras of religious upheaval (1985, 195).

The religious aspect of Riegl's 'Modern Cult' ties into Austria's history of a predominantly Catholic society, a tradition that visibly shaped his writing. Even though the conception of the age value representing the 'Modern Cult' was highly original, it stood against the principles of the rising modernism celebrating beauty and completeness at the turn of the century in Vienna. The contradictions of Riegl's value theory and his appreciation of the monument's decay resulting in ruins did not allow him to implement his preservation methodology at the time and had to wait to be rediscovered again.

The Cult of Ruins

A close examination of the 'Modern Cult' and its reception reveals that the value of age was not accepted in the way Riegl envisioned. This value, defined by Riegl at the beginning of the twentieth century as a modern monument value, stands in opposition to the historical value representing the 'newness' of the monument typical for the nineteenth century. It might appear paradoxical to call a modern monument one that shows its 'age' and a historical one as one that represents 'the new' characteristic of the emerging modern movement. Also, Margaret Olin described Riegl's effort as 'utopian' when he thought of Alterswert as the primary concern of historic preservation in the future (1985, 197). The contradictions within Riegl's value theory and his appreciation of the monument's decay made it impossible to implement his concept into practice, whether in architecture or preservation, at his time. The modern quest for newness, completeness, and total beauty opposed his definition of the 'new' represented by the age value, which exhibited precisely

the opposite – traces, incompleteness, and deterioration.

The 'Modern Cult' had been dormant for decades, waiting to prove its relevance only after the devastation of both world wars. Social changes and the presence of architectural ruins in the urban fabric prompted a reevaluation of Riegl's views in the 1970s and 1980s. Architectural historian Alan Colquhoun emphasized the importance of the age of the monument in a postmodern context in the following words:

> Although evidence of decay is no longer, as it was in Riegl's day, the most crucial element in our sense of age-value, it would seem that it is still the "age" of historical buildings that constitutes their value today, rather than their qualities either as intentional or unintentional monuments. The past is valued for its "pastness" and not because it provided models for a normative architecture or represents timeless architectural values (as it did from 1450 to roughly 1800), nor because it can be accurately reconstructed as evidence of the organic relationship between monuments and the societies that produced them (as was the case in the nineteenth century) (1991, 218).

The author discussed how the value of historical monuments has evolved over time. He notes that, even 80 years after Riegl's writing, age value remains central to monuments' value. Thus, it is more significant than whether the monument is intentional or unintentional. While the concept of age value remains relevant even in the 1980s, the specific issues it raised have changed since Riegl's time. Here, Colquhoun claimed, it was precisely in the 1980s that age value came to be appreciated, albeit from a different perspective.

The period of postmodernism when Riegl's work was rediscovered saw a shift toward exploring memory and historical narratives with an emphasis on the subjectivity of interpretation, challenging modernist notions of objective truth. The shift saw an increased focus on the role of individual and collective memory, offering diverse perspectives on experiences and histories. Cities were bombed to the ground, and architects were faced with the difficult questions of how to rebuild what was left and how to approach ruins of cultural, social, or religious significance. As such, they sought new strategies for repositioning themselves and redefining historical narratives and identities, leading some of them to turn to Riegl's work and thereby give his theory new meaning and prominence. Societal changes and remaining architectural ruins prompted a reevaluation of Riegl's ideas, with a strong focus on his concept of age value as well as the application of his preservation theory, especially during the 1980s. This happened in relation to the postmodernist emphasis on the multiplicity of meanings and interpretations that aligned with Riegl's recognition of diverse values assigned to monuments. Furthermore, Riegl claimed that these values change over time, manifesting their varying character. Societal values are equally in constant flux, which relates to the postmodern focus on the subjectivity of interpretations and the importance of context. Another important aspect that contributed to the

spreading of Riegl's ideas since the 1980s was the publication of translations of the 'Modern Cult' into a number of languages for the first time, which made it available to a much wider audience worldwide.

In his preservation theory, Riegl discussed the 'cult of ruins' and the values associated with these objects as part of the natural development of monuments. This approach thus points towards Riegl's concept of touchless preservation. Dealing with ruins became important during the post-war period, which required new approaches, two of which stood out particularly. In the first one, ruins were demolished, and new buildings were erected in their place. This approach assumed that the past and all traces of war had to disappear in order to build a better future. The second approach, however, argued for ruins to be incorporated into the urban fabric for various purposes, such as memorials. This process of transformation connected ruins with new buildings to resume their old function or assume a new function. The second approach was clearly inspired by Riegl, as it sought not to erase the past but to offer new narratives of history that go beyond its previous meaning or form and so show traces of the past that would otherwise not be visible. This approach also manifests Riegl's touchless preservation approach when working with architectural ruins within urban fabric.

Touchless Preservation

To oppose the first approach to the reconstruction of damaged monuments, architectural historian Kurt Forster mentioned the Kaiser Wilhelm Gedächtniskirche (Kaiser Wilhelm Memorial Church) in Berlin as a key example of coexistence, or what he calls 'the juxtaposition' of ruins and modern structure (Figure 2). The church was built in the last decade of the nineteenth century. The building, bombed in 1943 during the Second World War, was deliberately not reconstructed to stand as a reminder of the effects of the war. The old building currently functions as a memorial hall on the ground floor. However, in order to maintain the previous function of the church on the site, a new and modern church was designed next to the old one by German architect Egon Eiermann in the 1950s and constructed in 1963.

The project brought a discussion of ruins to the foreground, as it was "a bone of contention and attempted solution in the controversy over ruins in the German post-war period" (Forster, 2012, 201). The church structure from the Second World War demonstrates the Rieglian approach of touchless preservation, promoting the authenticity of the decaying structure with an age value. The church was mainly affected by human violence and the brutality of the war; therefore, its values and its role in society changed accordingly. The church transformed its previously ascribed values from an unintentional type of monument to an intentional one to commemorate past events while losing its former use value (as a church). But one might wonder if the site needed a new, side-by-side structure at all. In a Rieglian sense, the older structure has a higher value than the newer one. In this way, we juxtapose not only the ruined and new objects on the site but also their values

Figure 2: Erich Andres. *Berlin. Gedächtnis-Kirche. 1965/1975*. Ruined tower next to the new tower.

– the age value in opposition to the newness value[4], which certainly brings a new dialectical tension to the historic site.[5]

Cult Beyond Visible

> The development of modern techniques of reproduction promises that in the near future (especially since the invention of photography and facsimile reproduction) new and perfect means compensating for the loss of originals will be found. In this way, scholarly research, which remains a source of conflict for age-value, can continue without interfering with the original.
>
> Alois Riegl

Building upon Riegl's previously introduced preservation theory, the following text delves into how his concepts have evolved with the advent of digital technologies, highlighting the shift from physical to digital preservation methods.

Riegl claimed that a human should not interfere with a building's natural decay by modifying or restoring it to its original state. This concept aligns with Ruskin's idea that: "We have no right whatever to touch them. They are not ours. They belong partly to those who built them and partly to all the generations of mankind who are to follow us" (1884, 182). Both Riegl's and Ruskin's approach to preservation opposes the traditional method of restoration that has been employed since the eighteenth century by architects and restorers such as French Emmanuel Viollet-le-Duc or Austrian Friedrich Schmidt. It is important to acknowledge that preservation and restoration methods stand in juxtaposition when treating historic monuments.

[4] Newness value is one of the monument's values defined by Riegl in the 'Modern Cult'. This value seeks the monument's beauty in its completeness, whereas age value prefers a natural decay of its structure. Its primary goal is to preserve the monument in the best condition and to deviate from the original state only in minor ways.

[5] Riegl's preservation theory is represented by a dialectic tension at large. This can be mainly seen through his preference for preservation over restoration.

Riegl's above-mentioned quote goes beyond mere touchless preservation by letting the building age naturally. It addresses the profound implications of reproduction techniques that allow the preservation of cultural heritage by creating monument copies. By stating that, Riegl acknowledged the rapid advancements in technology development in the early twentieth century that consequently impacted preservation techniques and research of objects. Production of monument copies, for example, through photography, thus marks the significant shift toward the touchless preservation approach. This methodology also offers greater access to monuments to preservationists and scholars who are able to conduct research on these copies without altering the original. As a result, a new relationship between an original and its copy is introduced. Oftentimes, copies can completely substitute the originals, especially in the case of the original's loss or massive damage, and these objects act as if they were originals themselves.

Since the 1990s, during the first digital turn, a number of disciplines, including preservation, have started employing digital tools in their processes. However, at the time, the use of these tools and their importance for preservation was less clear than in the present day. The creation of digital records depended on technological developments, and so the process of digitization provided an opportunity to replace the original work with the copy (Viñas, 2004, 23-24). At the same time, touchless preservation tools gained the power to 'democratize' access to cultural objects that become available in the digital realm to viewers worldwide. These digital replicas can be presented outside of their physical location on the viewer's interface. Also, the reproductions can be augmented (using AR) onto their original site and juxtaposed with the current state of the original object.

Resurrecting Monument

As we shift from historical perspectives to contemporary applications, it becomes clear how digital tools have begun to mirror and extend Riegl's preservation approach in innovative ways. Transforming Riegl's theory into the digital realm, digital documentation tools offer the possibility of preserving a monument without altering it while storing information about its form, material properties, and appearance for future generations. Digital reproduction techniques, varying from digital photography to photogrammetry or LiDAR scanning, allow researchers to study and reconstruct artifacts in great detail while zooming into their digital image or 3D model, which was not possible when working only with physical objects. One of the first cases of reconstruction using digital tools is considered to be the Frauenkirche (Figure 3) in Dresden, Germany, which was heavily bombed during World War II and left in ruins for decades due to the socialist politics of the DDR and subsequently reconstructed in the twentieth century.

[6] The Frauenkirche, commonly translated as 'Church of Our Lady,' was built in the eighteenth century in Baroque style by the German architect George Bähr.

Figure 3: Walter Möbius. *Dresden-Altstadt. Ruins of Frauenkirche.* View from the West, 1946.

It is important to differentiate between the method of digital reconstruction used in the case of the Frauenkirche and the concept of digital preservation, which extends Riegl's theory from the physical to the digital realm. While the digital reconstruction of the Frauenkirche restored the monument to its Baroque form, digital preservation, following Riegl's principles, aims to preserve the monument in its current state without reverting it to any previous form.

Frauenkirche was reconstructed between 1997 and 2005 using 45% of old building material (stones) within the newly erected structure (Figure 4). Architectural historian Mark Jarzomberk marked the church's resurrection as a result of "the euphoria of German reunification" (2005, 55) while using computer-aided technology,[7] sometimes called 'archeological reconstruction'.

[7] The computer modeling software, CATIA, originally invented to design military aircrafts whose mission was to bomb, was now ironically used to reconstruct the church.

Figure 4: View of the Dresden Frauenkirche showing old (blackened) and new (light-colored) stone, 2006.

The reconstruction period coincides with the rise of computer modeling, which appeared in the 1990s and marked the beginning of the use of digital technologies in the treatment of historic structures. The Frauenkirche resurrection can thus be seen as the first step towards digitizing monuments, which started at the turn of the millennium. As German media theorist Wolfgang Ernst notes:

> The impression of reversal against the essential characteristic of historical time, which is material entropy, manifest in this case as architectural ruins. The archeological reconstruction of the Frauenkirche was in fact a media-archeological one; supported by algorithmic calculation, the remaining bricks and stones of the cathedral were reconfigured into the core of the reconstruction (2017, 68).

The architects of the reconstruction, Thomas Bauer and Jorg Lauterbach, identified the lack of information in the archaeological ruins as an absence of data. However, because of the digital simulations that were performed, the computer was able to interpolate the gaps in historical knowledge and complete the model of the digital reconstruction in order to build the church again.

Figure 5: Siegfried Bregulla. *Frauenkirche*, 2007. Quartier I, Frauenkirche and Quartier III (Construction Site).

Although the reconstruction was considered successful (Figure 5), it was criticized for the methods used. In particular, Jarzombek criticized the reconstruction of the church because of the random displacement of ruins in the reconstruction. The misplaced stones (in a darker shade) that made up the original church were "separated, measured, analyzed, and then placed into the fabric of the new walls of the church, hopefully at the very spot where they once belonged. Preservationists call this a 'critical restoration'" (Jarzombek, 2005, 56). In terms of the computer model of the reconstruction, the repositioning of the former building blocks was somewhat arbitrary, leaving us with the question of the relevance and authenticity of the old material for the reconstruction. This attempt at reconstruction is what Jarzomberk calls an "aesthetic governed by the positivistic conceits of the restorers" (2005, 56). The reconstruction of the Frauenkirche is thus considered a hybrid – composed of old building blocks and new stones representing the fragile relationship between the church's past and present and its historical and age values. Due to the complexity of the reconstruction from ruins, the use of digital documentation tools largely contributed to the project's completion by combining original plans and old building blocks with modern technology and advances in structural engineering.

Digital Touchless Preservation

Historically, the recordings of monuments have evolved through various analog and digital formats. Before the advent of digital techniques such as 3D scanning, there was a long tradition of monument documentation through methods like drawing and (analog) photography. These two-dimensional representations thus laid the groundwork for more modern techniques, which now include the development of three-dimensional digital copies and even four-dimensional models that depict the passage of time.

Due to technological advancement, contemporary digital tools allow for the snapshot of the age value of an original object that can be digitally stored and compared to other snapshots from a different time. In this way, the changes that happened to the object between various moments in time are directly comparable. The viewer can, therefore, gain knowledge about the object's transformation over time that is not visible when reviewed physically. One such attempt to document the transformation of a singular built structure is shown in the Bartlett Transformation 2013-2018 project by ScanLAB Projects. Although the project shows only two stages of the building, it manifests the concept of digital touchless preservation by mapping its evolution over time using 3D scans. The primary goal of the project is to show the transformation of the University College London (UCL) building in London scanned at different times, years apart, to represent the state before and after the building's reconstruction through a series of point cloud animations. On its homepage, ScanLAB Projects elaborates on the project's aim: "The resulting data set was assembled and overlaid to create two digital point cloud models.

The dual phases of the film vividly reveal the substantial change in space and scale brought about by the refurbishment" (ScanLAB Projects, 2018).

Furthermore, digital technologies allow us to document the condition of a monument and reconstruct its historical value by restoring it to its original or any other desired state using available sources such as drawings, plans, sections, sketches, or photographs to fill in the missing information when preserving the monument retroactively. Reconstruction tools, such as three-dimensional modeling software, make it possible to reconstruct missing data, allowing contemporary audiences to experience the past in a new way through the monument's collected historical layers. These layers are in constant flux as they also represent the age value of the monument, which changes in the physical world over time due to the monument's aging or other forces.

The director of the Spanish organization Factum Arte and the founder of Factum Foundation for Digital Technology in Conservation, Adam Lowe, calls the above-mentioned digital techniques also 'non-contact recording methods'.[8] His approach can be seen as a continuation of Riegl's touchless preservation approach positioned in the digital environment of the twenty-first century and shifted from theory to practice. Furthermore, artist and preservation architect Jorge Otero-Pailos[9] defines Lowe's methodology as 'experimental' due to the nature of the deployed processes, such as the digitalization of artworks, which changes their material properties (Otero-Pailos, Langdalen, Arrhenius, 2016, 15). Lowe and his team applied the non-contact methodology in many projects, combining mainly two complementary methods, 3D scanning and panoramic photography, which allows the capturing of surfaces and volumes in great detail.[10]

Digital preservation, building on Riegl's idea of a touchless method, introduces a new way of engaging with historical objects by transforming them into digital images or spatial models. Riegl argued that all monuments are equal in their aging; they exist between life and death, inevitably subject to the passage of time. However, this situation changes when monuments are reproduced digitally. In the digital realm, they are no longer affected by aging in the same way as their physical references because they exist outside of physical time. This shift assigns them what I call a 'timeless value' in the twenty-first century, replacing Riegl's 'age value' of the twentieth century. In the current post-digital historiographical context—sometimes referred to as

[8] This approach is defined on Factum Foundation website, https://factumfoundation.org/the-foundation/.

[9] Jorge Otero-Pailos is associated with the 'experimental preservation' movement.

[10] See one of the case studies discussing the use of these techniques in detail: Carlos Bayod Lucini, "The Raphael Cartoons at the V&A: Close-Range Digitisation at a Monumental Scale," in The Aura in the Age of Digital Materiality: Rethinking Preservation in the Shadow of an Uncertain Future (Cinisello Balsamo, Milano: Silvana Editoriale S.p.A., 2020), 169–71.

the 'digital end of history'—the depth of historical time is compressed into a perpetual 'now', where digital data can be accessed at any moment. This results in a flattened, non-chronological view of history, where digitized monuments can be retrieved and reviewed in reverse, existing outside time constraints. Although time affects the physical hardware that stores digitized monuments, it does not alter the monuments when displayed on the interface. Composed of mere digital data—zeros and ones—these monuments exist solely in the digital space, independent of material decay and the passage of time. This novel process in preservation can be interpreted as an experimental method contrasting traditional approaches in the field. Experimental preservationists often work with unintentional monuments, a concept first introduced by Riegl. They engage with found objects, more accurately 'quasi-objects', while giving them new meanings. In doing so, they reinterpret them while placing them in a new context of today.

Conclusion

The transition of Riegl's touchless approach to preservation bears the potential to evolve from a physical context into a digital one due to the inherently visionary and forward-thinking nature of Riegl's theoretical framework. Continuous digital documentation of a physical monument leads to the creation of a digital database over time. These digital records can exist beyond the monuments' lifespan as digital files, hence extending their existence and availability through a digital medium. This database can be seen as a dematerialized structure that keeps the monuments alive in the form of two- or three-dimensional digital records.

As we look forward, emerging technologies such as generative AI can offer new possibilities for preserving architectural heritage in ways that Riegl could have scarcely imagined. Generative AI could help a digitally documented monument function as a spatial database in efficient and novel ways to predict and optimize its future use or fill in missing information. Thus, the database is not seen as a mere architectural representation of a monument in a digital space but rather as a tool for preserving monuments in the future. It combines collected data concerning the monument's physical changes that humans and nature have made to its form over time and the imagination of a machine to fill in the missing information or predict the monument's transformation in the years to come.

Using AI and machine learning for data sets is not necessarily a new development. It can now analyze large volumes of digital content and automatically generate metadata, which makes it easier to categorize, search, and retrieve information. This is especially useful for large archives where manual cataloging is impractical. Working with 3D datasets adds complexity and offers new solutions for the creation of spatial outputs, which will be helpful to various disciplines, such as architecture and preservation. This technique can be particularly

beneficial in reconstructing missing data or creating new data on decayed physical monuments. By interpolating collected data sets of digitally documented historical layers of monuments, machine learning can suggest a new scenario of their preservation within a digital environment. This characteristic of generative AI is also called 'autocomplete', commonly used in software such as ChatGPT, and can also be applied when working with digitized monuments. While the original (physical) monument is always missing something, the digitized monument can be completed to any of its previous states by generative AI tools. The process can also be seen as an imitation – the filling in of missing data, i.e. memory, by a machine instead of a human to produce a complete image of the past. This methodology aligns with those applied in history when restoring monuments by restorers such as Viollet-le-Duc or Schmidt, as opposed to Riegl's approach. Also, these tools might be able to predict a monument's further decay in the built environment and propose its preservation in order to extend its lifespan in a physical form. It is important to point out that preservation methodology utilizing generative AI is only emerging, and its effects have not yet been well documented. However, it is clear that this new approach might bring some innovation into the preservation field.

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