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ARCHITECTURE BETWEEN FICTION AND REALITY IN THE AGE OF ARTIFICIAL INTELLIGENCE

ARCHITEKTURA MIĘDZY FIKCJĄ A RZECZYWISTOŚCIĄ W ERZE SZTUCZNEJ INTELIGENCJI

Abstract

In recent years, generative artificial intelligence (AI) has begun to profoundly influence the way we conceive architecture and the history of the built environment. Today, advanced algorithms can create images and texts that imitate architectural styles of the past, often with surprising realism. At the same time, we are witnessing a transition from traditional paper archives to digital ones, raising crucial questions about the authenticity of historical sources and the ability to distinguish real projects from pure inventions. This essay examines how AI can produce "fictional architectures" with a historical appearance and the resulting future difficulties in distinguishing real from invented architecture, in a context where AI can fabricate a past that never existed. The perishability of paper archives and the risk of the disappearance of analog originals will fuel the difficulty of distinguishing between reality and fiction. Finally, the consequences of increasing digitalization, with implications for the truthfulness of real architecture, will force us to question not only whether the past risks being reinvented but, above all, whether this may lead to the development of architectural theories based on pure fictions passed off as real.

Keywords: architecture, artificial intelligence, fiction, disinformation

Streszczenie

W ostatnich latach generatywna sztuczna inteligencja (AI) zaczęła w sposób głęboki wpływać na sposób, w jaki postrzegamy architekturę i historię środowiska zbudowanego. Współczesne, zaawansowane algorytmy potrafią tworzyć obrazy i teksty naśladujące style architektoniczne przeszłości – często zaskakująco realistycznie. Jednocześnie jesteśmy świadkami przejścia od tradycyjnych archiwów papierowych do cyfrowych, co rodzi fundamentalne pytania o autentyczność źródeł historycznych oraz o zdolność odróżniania rzeczywistych projektów od czystych wytworów wyobraźni. Artykuł analizuje, w jaki sposób sztuczna inteligencja może generować „fikcyjne architektury" o historycznym wyglądzie, a także jakie problemy może to w przyszłości rodzić w kontekście AI, która jest zdolna wytwarzać przeszłość, która nigdy nie istniała. Nietrwałość archiwów papierowych oraz ryzyko zaniku analogowych oryginałów dodatkowo pogłębią trudność rozróżnienia między rzeczywistością a fikcją. Wreszcie, narastająca cyfryzacja i jej konsekwencje dla wiarygodności architektury rzeczywistej każą zadać pytanie nie tylko o to, czy grozi nam ponowne wynalezienie przeszłości, lecz także o to, czy może to doprowadzić do powstania teorii architektury opartych na fikcjach przedstawianych jako prawdziwe.

Słowa kluczowe: architektura, sztuczna inteligencja, fikcja, dezinformacja

1. ARCHITECTURE PROJECTS GENERATED WITH AI

Today's generative AI is capable of producing virtual architectural works that seem to come from past eras. Text-to-image platforms such as Midjourney, Stable Diffusion, or DALL-E, powered by vast datasets[1] of historical images, can generate in seconds architectural visions in any historical style, from Gothic to Baroque, with an impressive level of detail. For example, contemporary architects have used generative models to imagine an Art Nouveau revival, creating designs for buildings rich in floral motifs and sinuous curves typical of that movement[2]. This phenomenon recalls the tradition of "paper architecture," utopian or fantastic projects that were designed but never built. Today such invented architectures can be generated by AI with photographic realism, blurring the boundaries between fantasy and reality.

An emerging field is also that of digital reconstructions of lost historic buildings. Through photogrammetry, BIM, and neural networks, AI can help virtually "resurrect" monuments that have disappeared, such as projects to recreate sites destroyed by war or time. This possibility is undoubtedly positive for heritage dissemination, allowing us to visualize how lost structures once looked. However, it also raises critical questions: once a historic building has been digitally reconstructed, where does documentation end and interpretation begin? Even in legitimate efforts at faithful reconstruction (for example, Dresden's Frauenkirche or Warsaw's Old Town, both rebuilt after the war), scholars ask whether the result can truly replace the original or remains in some way an imitation of memory. Similarly, AI could generate plausible but nonexistent historic buildings, such as "vintage" images of an imaginary cathedral or the photo of a Renaissance palace completely invented.

In summary, today's AI can imitate the aesthetics of the past with surprising effectiveness, producing both reconstructions of what once existed and entirely new creations that look ancient. This creative potential opens fascinating scenarios for design, but at the same time lays the groundwork for greater confusion between what truly belongs to built history and what is instead the product of architectural fiction.

2. REAL ARCHITECTURE VS INVENTED ARCHITECTURE. HOW WILL WE DISTINGUISH WHAT WAS FROM WHAT NEVER WAS?

If AI can easily create images and projects that at first glance are indistinguishable from historical documents, how will we in the future discern real from invented architecture? Already today we are witnessing a proliferation of fake historical photographs generated by AI, so realistic that they deceive many observers. On social networks circulate fascinating black-and-white shots of past eras – such as a "photo" of the Great Depression or a soldier in the Vietnam War – that seem like authentic archival documents but are actually AI creations. According to some digital historians, such as Jo Teeuwisse, the spread of these contents has triggered a "tsunami of historical fakes," especially images, that are "muddying the waters" of our understanding of the past. A well-known example concerns a photo, shared thousands

[1] Dataset, a structured collection of data organized and stored for analysis or project development.

[2] See the article AcanthusAlchemist, *How generative AI and Art Nouveau can transform urban aesthetics* [in:] Pixels to Plans, https://pixelstoplans.com/ai-architecture-the-case-for-an-art-nouveau-revival/ (access: 12.09.2025).

of times, of two young brothers next to a biplane – presented as the inventors of flight, the Wright brothers – but completely invented. Similarly, with just a few text prompts, AI can generate "historical" images of events never photographed (or that never happened). Scenes have been generated of the JFK assassination in 1963 from non-existent angles, or visions of the atomic bomb on Hiroshima as if a snapshot had been taken immediately after impact[3].

These sophisticated falsifications raise an unprecedented problem of historical authenticity. As artist Marina Amaral notes, there is "the risk that these visual fakes will be accepted as real facts"[4], distorting our understanding of history and undermining public trust in visual sources. In the field of architecture, this could mean that buildings never constructed improperly enter the historical narrative – for example through retouched images or "hallucinated" projects generated by chatbots[5] – confusing scholars and enthusiasts. Language models such as ChatGPT can themselves contribute to these distortions. If asked about the history of architecture, they may invent details or make wrong attributions with a convincing tone (in digital jargon: hallucinations), perhaps citing a non-existent building or misattributing an architectural work[6]. Without careful verification, AI-generated texts could fuel a distorted historical narrative.

Distinguishing the real from the fictitious will become increasingly difficult as AI refines its processing tools. Today it is still often possible to spot telltale traces in visual fakes – for example, anomalies in details (hands with too many fingers, incoherent architectural elements) or compositions too perfect to be coincidental. In architecture, a drawing or rendering produced by AI may seem stylistically correct yet lack the contextual authenticity that only a true historical process can provide (materials appropriate to the era, signs of wear, real functional adaptations, etc.). An algorithm "analyzes patterns and emulates styles, but does not possess a deep understanding of the historical or emotional context"[7] of a place. It may propose a formally Neo-Renaissance or Art Deco building but will not know how to embed within it the human stories and cultural stratifications of that architectural type. This lack of narrative and contextual meaning could be one of the few remaining clues to distinguish synthetic elaboration from authentic architectural testimony. However, over time even these subtle differences may fade, stylistic flaws corrected, and AI may learn to simulate even the accidental imperfections typical of reality. Experts warn that it is "only a matter of time" before fakes become almost impossible to unmask, a truly dangerous future that could amplify disinformation.

Faced with this prospect, how will we distinguish true from false? In addition to refining automatic tools for detecting visual deepfakes (forensic image analysis, algorithms recognizing artificial patterns, etc.), transparency of digital sources will be essential. For example, there is discussion of developing digital watermarks or provenance metadata embedded

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[3] J.H. Teeuwisse, *Fake history. 101 things that never happened*, Ebury Publishing, London 2023.

[4] M. Amaral, *AI is creating fake historical photos, and that's a problem* [in:] The Colour of Time with Marina Amaral, 19.03.2024, https://marinaamaral.substack.com/p/ai-is-creating-fake-historical-photos (access: 12.09.2025).

[5] A chatbot is a digital assistant designed to communicate with humans.

[6] J. Ploennigs, M. Berger, *Generative AI and the history of architecture* [in:] arXiv, 22.12.2023, https://arxiv.org/abs/2312.15106 (access: 12.09.2025).

[7] A. Dari, *Architettura senza narrazione: il rischio di un futuro costruito dall'intelligenza artificiale* [in:] Ingenio Web, 30.11.2024, https://www.ingenio-web.it/articoli/architettura-senza-narrazione-il-rischio-di-un-futuro-costruito-dall-intelligenza-artificiale/ (access: 12.09.2025).

in AI-generated content, so that in the future authentic images and documents can be certified and distinguished from synthetic ones. Similarly, critical education for historians and architecture scholars will be essential: they must always ask "Where does this document come from? Are there independent sources confirming it?" A multidisciplinary approach (cross-checking textual, photographic, planimetric evidence) can help expose inconsistencies. In short, the challenge of distinguishing reality from fiction in architecture will require a set of technological, methodological, and cultural solutions, with the aim of preserving the integrity of knowledge about what was truly designed or theorized by humans in the AI era.

3. THE PERISHABILITY OF PAPER ARCHIVES

While AI advances, another factor is changing the landscape of knowledge of the real: the possible disappearance of traditional paper archives. Analog documents – drawings, prints, photographs, letters, records stored on paper or other physical media – are by their nature perishable. Over time, film decomposes, magnetic tapes deteriorate, and paper yellows and decays. Without adequate conservation measures (climate control, restoration work), many archival materials risk suffering irreversible damage. Media once common can become obsolete: for example, if today we wanted to read data saved on a floppy disk or punched tape from decades ago, we would encounter considerable difficulty finding the devices to decode them.

The fate of paper documents is thus marked by fragility: floods, fires, or simply the slow acidification of paper threaten to make us lose entire chapters of architectural memory. This has pushed institutions and scholars into a race toward digitization: scanning and converting into digital format drawings, vintage photographs, technical reports, and more, before the analog medium degrades beyond the point of no return. Digitization through OCR technologies and indexed databases not only saves the content of documents but also makes it more usable and searchable. For example, entire collections of 20th-century architecture magazines have been scanned for online consultation, preventing information loss due to the fragility of printed paper.

However, large-scale digitization raises important questions. One is strategic: what happens if, once digitized, the paper archive is disposed of or no longer maintained? Some libraries and archives, for reasons of space and cost, have considered keeping only digital copies, eliminating the original paper. This would mean entrusting historical memory solely to bits. Another question is technical: digital formats themselves age quickly and can become unreadable (consider incompatible software, or media such as CD-ROMs subject to physical degradation). Finally, there is a question of authenticity: the digital document is, by its nature, easily duplicable and modifiable. If the analog original disappears, how can we guarantee that the digital version remains intact and unaltered over time?

In summary, the disappearance of paper archives is not science fiction but a concrete long-term possibility, the result of both natural deterioration and management choices (digitize to preserve, but then discard the original material). This epochal change forces us to rethink conservation strategies: long-term digital preservation will have to take on the task of keeping the contents of our historical archives accessible and authentic, or risk the "disappearance" – in form or substance – of entire documentary collections.

4. REALITY VS FICTION WITHOUT PHYSICAL ARCHIVES AND FUTURE RISKS

If we imagine a future in which the only archives available are digital, what implications arise for distinguishing reality from fiction in architecture? The presence of original documents – signed drawings, period prints, contracts, vintage photos on paper – has so far represented an anchor of authenticity, tangible evidence that historians can analyze, date, and verify with scientific methods (inks, watermarks, paper chemistry, etc.). In the absence of such physical references, verifying historical sources becomes more complex.

A digital archive, however convenient and widespread, is inherently fragile in terms of authenticity: files can be modified with extreme ease, invisibly. If an architectural project exists only as a digital scan, a skilled manipulator could alter a date, an author's name, or add non-existent details, creating a nearly indistinguishable fake. Without the paper original to compare, uncovering the falsification could be very difficult. In other words, the disappearance of the analog originals would remove a fundamental tool for unmasking potential fakes, given the possibility of returning to the physical matrix.

Furthermore, as discussed, AI will increasingly be able to generate realistic new "archival" digital documents that are entirely fictitious. We could reach the paradox of online archives populated not only by scans of authentic documents but also by entirely synthetic ones created from scratch (or altered versions of real documents). Without a system of revision tracking or cryptographic certification, a future user might come across, say, a floor plan of a historic monument "discovered" digitally but actually generated by an algorithm, with no immediate reason to doubt it. At that point, fiction would blend with historical reality in a subtle way.

Experts stress that we are heading toward an era in which discernment will have to rely on new methods. On the technological front, as mentioned, digital signatures and special registers (blockchain) are being developed to guarantee the immutability of digital archival documents: every modification would be tracked, making it more difficult to alter historical data covertly. On the knowledge front, cross-analysis will need to be strengthened: any architectural information must be corroborated by multiple sources and contexts (written testimonies, photographic comparisons, established bibliography) before being considered reliable. In the absence of the original "piece of paper," the network of relationships between data becomes the new evidence.

Despite these countermeasures, it must be recognized that the disappearance of physical archives and the digitization of the architectural process will accentuate the difficulty of distinguishing reality from fiction. Already today AI-generated images of historical events can be deceptive, and in the future, if such images were consulted without critical comparison data, they might be taken as true and even included in official historical reconstructions. Trust in digital data will have to be built with extreme care. Otherwise, architectural historiography could become contaminated by modern interpolations, similar to false chronicles or forgeries in past restorations, but on a much larger scale given the power of current technologies. This possible distorted vision of what did not actually exist architecturally could, in the near future, lead to the support of theories of architectural and urban composition without any foundation. The ability to distinguish reality from fiction in the digital age will depend on the robustness of digital archives (in terms of security and transparency), but above all on the critical vigilance of their users. The international community of archivists, librarians, and

IT specialists is already working to define standards of authenticity and long-term digital preservation (for example, the TRUST principles for reliable digital repositories). But the role of the user/researcher remains crucial: it will be necessary to develop a digital historical sense capable of evaluating the plausibility and provenance of every source, in order not to fall into the traps of fiction.

5. DIGITIZATION AND THE REINVENTION OF THE PAST

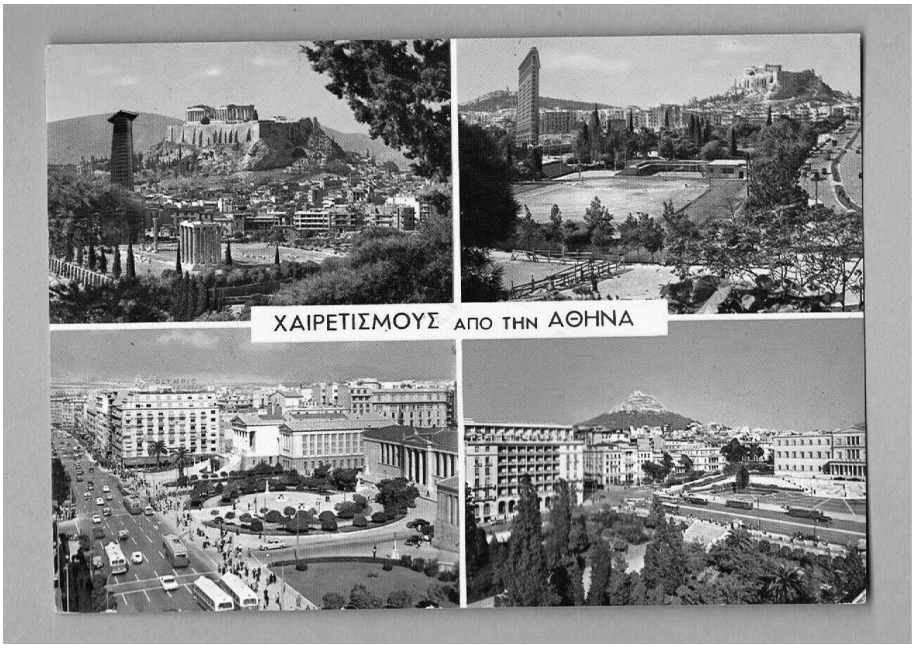
In light of these reflections, we may ask what the reliability of future studies and theoretical reflections on architecture will be in a context of increasingly extensive digitization of sources. On the one hand, digitization is an extraordinary opportunity: it makes materials previously confined to not always easily accessible archives available to a wide public, enables rapid cross-analysis, prevents content loss due to physical decay, and even AI can help fill gaps (consider the digital restoration of damaged photographs or the automatic transcription of unreadable ancient texts). Architectural knowledge can be enriched with new data and interpretive tools thanks to digital technology and artificial intelligence. For example, computer vision algorithms can recognize and catalog architectural elements in thousands of archival photos, facilitating new discoveries.

On the other hand, however, the dangers to reliability are real. If not managed rigorously, the massive integration of digital/AI content risks introducing subtle but harmful errors. The past could be almost unintentionally reinvented: it would be enough for an inattentive scholar to include in a paper an image found online without knowing it is a fake, or to cite an altered digital document, to propagate erroneous information. Once published in an academic setting, that mistake would confer further legitimacy to the fake, in a vicious cycle difficult to break. As noted above, if false images or invented data are accepted as authentic, over time they can distort our understanding of history. The construction of knowledge is a cumulative process, and including a fictitious element means building on unstable foundations.

The question of whether the past will be reinvented sounds provocative, but should not be understood as fatalistic. Rather, it should stimulate us to take measures to prevent it. In architecture, it will be important for future essays and research to transparently declare the nature of the sources used (distinguishing between originals, certified digital copies, and materials of uncertain provenance). One could imagine a system of "augmented citations," where alongside the normal bibliographic reference, a unique identifier of the consulted digital document is provided, verifiable through a certified archive.

In conclusion, the reinvention of the past is not an inevitable outcome but a risk to be managed with awareness. The reliability of future essays will depend on how we lay the groundwork today: by establishing solid models for digital preservation, training scholars in the critical use of AI, and creating tools to certify the authenticity of digital sources. Architecture, as a field of study, has always combined art, technique, and cultural context; similarly, in the digital future, we must ensure that behind every image or piece of information there is a verified and truthful context. Only in this way can we avoid losing historical reality in a labyrinth of simulations and guarantee that the history of architecture remains a rigorous discipline faithful to the facts, while exploiting the extraordinary new means that technology provides. Ultimately, the past can live again thanks to digital technology, but it must not be

arbitrarily reinvented: it will be our collective responsibility to ensure that architectural memory, while evolving in format, remains anchored in reality and distinguishable from fiction.



Ill. 1. *Greetings from Athens*. Collage on an old postcard made by the author, 2025

Ill. 2. *Flat Iron Building in Piraeus Street, Athens*. Collage made by the author, 2025

Ill. 3. *View of the Empire State Building in Rue de Rivoli, Paris*. AI composition made by Joshua Flenghi and author, 2025

Ill. 4. *John Hancock Center from Navona Square in Rome.* AI composition made by author and Joshua Flenghi, 2025

Ill. 5. *Seagram Building from Dante Square in Naples*. AI composition made by author and Joshua Flenghi, 2025

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