

AI-created heritage and its relationships with cultural rights

Património criado por IA e as suas relações com os direitos culturais

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Abstract

With the exponential growth of Artificial intelligence (AI), the heritage field must reflect upon a set of unclear opportunities, challenges, and risks. By proposing and testing the concept of “AI-created heritage”, we aim to identify the connections between AI, heritage, and human rights, more precisely, cultural ones. Our methodology encompasses the state of the art, the clarification of conceptual and normative frameworks, and the analysis of international examples raising hopes and concerns around accessibility, copyrights, and ethics. The selection of examples will follow three criteria: mediatic impact, pertinence, and novelty. Guided by the principles of “future-thinking”, this approach contributes to broaden the debate about the development of ethical guidelines and cultural rights in the face of upcoming AI-dominated scenarios.

Resumo

Com o aumento exponencial da Inteligência artificial (IA), o campo do património deve refletir acerca de um conjunto de oportunidades, desafios e riscos ainda pouco definidos. Ao propormos e testarmos o conceito de “património criado por IA”, pretendemos identificar as conexões entre a IA, o património e os direitos humanos, mais precisamente, os direitos culturais. A nossa metodologia consiste num estado da arte acerca da matéria, na clarificação do seu quadro conceptual, normativo e na análise de exemplos internacionais que têm suscitado interesse e preocupação em matéria de acessibilidade, direitos de autor e ética. A seleção de exemplos seguiu três critérios: impacto mediático, pertinência e novidade. Guiada pelos princípios de “future-thinking”, esta abordagem permite alargar o debate acerca do desenvolvimento de diretrizes éticas e dos direitos culturais face a futuros cenários dominados pela IA.

KEYWORDS

Accessibility
Artificial intelligence
Copyrights
Ethics
Human rights

PALAVRAS-CHAVE

Acessibilidade
Inteligência artificial
Direitos de autor
Ética
Direitos humanos

Introduction

With the development and increasing visibility of Artificial intelligence (AI), the heritage field must practice future-thinking to reflect upon a yet not completely defined panoply of opportunities, challenges, and risks [1-8]. Despite the considerable academic production on AI in connection with other fields, its linkages with heritage and human rights can benefit from further reflection [9-11]. Which risks and opportunities does “Artificial Intelligence-created heritage” – from now “AI-created heritage” – impose on human rights and cultural ones? Which ethical principles should guide our approaches towards it?

By introducing and experimenting with the concept of “AI-created heritage”, we will explore the tensions between AI and traditional notions of heritage. We aim to understand how the interaction between the two fields can benefit or impair human rights, specifically cultural ones. Our discussion will have three main concerns: accessibility, copyrights, and ethics when approaching these technologies and “new” forms of heritage.

We will approach the subject-matter from an international viewpoint, focusing on sources, references, and examples that date predominantly from the 2000s. Guided by the principles of “future-thinking” [5-6], this approach has the potential to broaden the debate on the development of ethical guidelines and cultural rights in the face of future AI-dominated scenarios [12-13]. The next subchapter provides further information on the methodology adopted.

Methods

Our goal is to understand the opportunities, challenges, and risks that “AI-created heritage” raises to human rights, cultural ones, and which ethical principles should guide our approaches to it. We will conduct qualitative research based on the principles of “future thinking” [5-6]. Our state of the art focuses on international references dating from the 2000s. Thereafter, we will clarify our conceptual and normative frameworks by analysing international, regional, and national norms regarding AI in connection with cultural heritage, human and cultural rights. Afterwards, we will identify potential opportunities, challenges, and risks when connecting these fields. Finally, we will analyse practical examples in which AI intensifies the discussion about ethics, copyrights, and accessibility [3-4]. The selection of examples follows the criteria of mediatic impact, pertinence, and novelty. In the next subchapter we will elaborate the state of the art about the topic.

State of the art

The state of the art must begin with references to cultural heritage and human rights. Since Smith & Logan [14] claimed the lack of studies about the topic in 2005, it has considerably increased. From the consulted references, we highlight those whose problematics can be extended to the linkages between AI, heritage, and human rights. The article of Vrdoljak et al. [15] establishes a pertinent connection between cultural heritage and sustainable approaches to development. The book edited by Soares and Cureau [16] offers interesting perspectives on how cultural heritage can promote citizenship while exploring connections to cultural rights. The anthology edited by Kapchan [17] raises questions about universality, challenges in protecting human rights and heritage that circulate despite borders. From Langfield et al. [18], we emphasize the reflections on intergenerational approaches to human rights, the risk of appropriation and the decontextualization of cultural heritage. For Silverman and Ruggles [19], cultural heritage is a legitimizing tool. The contributing authors question who has the

rightfulness to manage cultural heritage; they address the risks of approaching history from a unilateral perspective and call attention to nefarious uses of scientific results [19].

Regarding future heritage studies, Holtorf and Högberg [6] address “future thinking” as a way of contemplating multiple scenarios, predicting opportunities, challenges, and planning appropriately. The anthology questions the idea of heritage preservation as something necessarily positive, admitting its potential risks in contexts with non-humans or a decalage between the benefits of technological development and its impacts. From Berg and Fiedler [5], we highlight the recognition of ethical problems in heritage digitization, for example, regarding copyrights.

When it comes to human rights and AI, we consulted international, regional, and national norms, for instance, written by UNESCO and IRCAI, the European Parliament, the European Commission, the Council of Europe Commissioner for Human Rights, and the Portuguese Assembly of Republic [12, 20-23]. Through Silva, we understand the challenges in regulating AI, the interests, and arguments in favour or against it, and the resulting consequences to human rights [24]. Additionally, we stress the author’s analysis of the process of human rights’ transposition, adaptation, and evolution to the digital context [24].

Regarding the connection between AI and the cultural heritage sector, Münster et al. [10] examine the opportunities and challenges of using AI in connection to cultural heritage, by offering practical examples of its application and by raising questions surrounding accessibility, preservation, and inclusion. The Network of European Museum Organizations (NEMO) makes recommendations for policymakers dealing with AI in museums [25]. From Thiel and Bernhardt [26], we collect different perspectives concerning the potentialities, limitations, risks, and needs of using AI in museums. Ultimately, the book reflects upon how AI can contribute to the museum sector, and vice-versa [26]. The European Parliament [8] also addresses the opportunities, challenges, and practical applications of AI in the fields of cultural heritage and museums. Furthermore, it offers estimates about the use of AI in museums around the world, admits the need to invest in training heritage professionals, and enhances the potential of AI in democratizing the field [8]. Pansoni et al. [13] raise pertinent interrogations concerning the ethical implications of AI for cultural heritage, namely, in terms of authenticity, bias, privacy, representation, responsibility, and allocation of resources. On its end, Neudecker [27] claims that the cultural heritage sector needs to invest in “digital curation” and “data stewardship”.

We conclude this state of the art with publications on methods and frameworks to guarantee ethical approaches to AI. The first is *Data Ethics Canvas* [28], which is not exclusive to the heritage sector and is useful to any technological project. *A Museum Planning Toolkit* [29] is specifically designed for the museum sector and can be implemented by its professionals when dealing with AI. UNESCO & COMEST [30] make suggestions to create a standard normative instrument regarding the use of AI in social sciences and creative fields. Lastly, Floridi et al. [31] suggest an ethical framework for an AI beneficial to society, by addressing topics like human agency and decision-making.

Despite the increasing scientific production about the relationships between AI and cultural heritage, some issues remain underexplored. Many publications do not question if resorting to AI is always the best solution. Others address the risks of AI for cultural heritage professionals superficially. However, we believe the topic demands further reflection once AI brings professionals from other fields to an already precarious sector. Some authors seem to minimize the fears of heritage professionals, disregarding the (potentially) life-changing effects that AI may have on their careers. Many publications affirm the need for the heritage sector to invest in AI without questioning how to deal with its lack of resources. Hypothetically, if a museum keeps its workers in precarious situations due to a shortage of resources, should it be investing in AI? Or, if a museum struggles with a lack of funding for the preservation, conservation or restoration of tangible heritage, should investing in AI be a priority? These problems must be addressed in future lines of research.

In the following subchapter we will clarify our conceptual framework, propose, and experiment with the concept of “AI-created heritage”. We will be able to test and compare existing heritage categorizations, while reflecting on new ones.

Conceptual framework

If there is a consensus about AI, is that it is a mutable and broad concept, whose definition is made difficult because of its plural nature and fast development but also due to the lack of transparency on how its systems, processes, and applications work [24, 26, 32]. The language used to describe AI has contributed to its misunderstanding by reinforcing the imaginaries in which it is closer to human intelligence and sentient beings [32-34].

Despite the challenges in defining AI, in the *Preliminary Study on the Ethics of Artificial Intelligence* [30], UNESCO & COMEST analyse the concept from a diachronic and international perspective, admitting the lack of a universal definition due to its multidisciplinary nature. Notwithstanding, the organization recognizes a tendency to categorize AI as: “theoretical/scientific” or “pragmatic/technological”. In a simplified fashion, the first category is applicable when AI is used to understand living beings, among others being associated with psychology. On the other hand, “pragmatic/technological” AI is led by engineering and includes “natural language processing, knowledge representation, automated reasoning, machine learning, deep learning, computer vision and robotics”. As explained in the study, each one of these categories sets possibilities and challenges [30]. Another attempt to define AI refers to the *White paper: on Artificial Intelligence - A European approach to excellence and trust* [22] which describes it as: “a collection of technologies that combine data, algorithms and computing power”.

Here, we are interested in the uses of AI in heritage, including its creation. As a starting point for our reflection, we suggest the expression “AI-Created Heritage” to address digital productions which result from the processing, combination, and generation of data by AI. In the following paragraphs, we will be testing this proposal. By adopting these four words, we allude to the processes of creating content. By attributing the heritage status, the expression implies that (in time) these productions may have potential and values to be passed on to upcoming generations.

Multiple values can be attributed to “AI-Created Heritage”, among others, based on its novelty, aesthetic, or artistic contours. These values can become less abstract if we think that “AI-Created Heritage” can assume different forms, such as digital paintings, illustrations, musical, audiovisual, and written works. Even though we suggest the expression “AI-Created Heritage”, we recognize it is not free from conceptual challenges. The first problem it raises concerns the creation processes of these “new” heritages. Once the data used by AI may have been created or made available by humans, where do the notions of authenticity and authorship lie?

The second issue comes back to the notion of “heritage”. Can something not entirely produced by humans be considered heritage? Based on the international normative framework regarding heritage matters, yes. For example, if we consider “natural features” or sites, “geological or physiographical formations” [36]. Following the same line of thought, if we recognize “cultural landscapes” as heritage – meaning, the combination between natural and human-made elements [37], we open a precedent to other heritages that may not be entirely of human origin. But how do we preserve and pass on “AI-created heritages”?

By referring to the concept of “digital heritage”, we can take the reflection further. According to UNESCO's *Charter on the Preservation of the Digital Heritage* [35], digital heritage includes resources and information modified to a digital format or produced digitally, which represents a “unique” human “knowledge and expression”. By admitting that digital heritage is worthy of being produced, preserved, accessed, and disseminated, UNESCO is opening space to upcoming heritage categories.

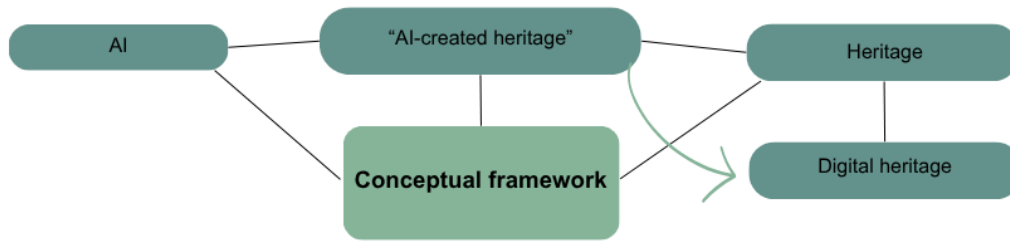


Figure 1. Conceptual framework (graphic created by the author using Canva).

If “AI-created heritage” can have different degrees of connection to humans, can we use this expression as a synonym for digital heritage? We believe it depends on the technologies used. “AI-created heritage” and “digital heritage” are not necessarily interchangeable expressions. “AI-created heritage” has always a digital component, however, “digital heritage” not always resorts to AI. This discussion can be further explored in future lines of research. Now that we have introduced our conceptual framework (Figure 1), we will clarify the normative one.

Normative framework

The regulation of AI is at an embryonic stage. The challenges and risks it creates may result in rethinking, adapting, and creating new human rights. The European Union has been promoting the debate around the subject-matter and creating norms to guarantee human integrity and dignity in the digital universe. This derives from the recognition that the physical and digital worlds are interconnected, and what happens in the digital context has ramifications outside of it [24].

Despite its benefits, AI can also menace human integrity, dignity, and privacy [12, 21-22]. However, economic and (geo)political factors may drive some parties away from this normative process [24, 33]. Some of the arguments against regulation are that it may impair technological development or that it will be unable to keep up with AI’s evolution. The proposal of new human rights in the face of new challenges also faces resistance. Some believe these may be irrelevant or menace pre-existing rights. For instance, there is a claim that the right to be protected from misinformation may limit freedom of expression [24]. However, we must continue to question which are the interests behind this resistance. Who wins or loses with the lack of AI regulation?

Even though it is not our intention to make a detailed analysis of the current state of AI regulation, in the following paragraphs we will mention a few normative instruments that raise pertinent questions to our discussion. We recall that when talking about AI regulation, we refer to norms which may implicate States, multinationals, companies, and individuals. Here lies the difficulty in establishing universal standards accepted by all parties [24]. In this subchapter, we will be analysing mostly regional – meaning, European –, and national documents with different binding degrees.

At an international scale, we enhance UNESCO’s *Recommendation on the Ethics of Artificial Intelligence* [38], whose values align with the respect for human rights, fundamental freedoms, and sustainable development goals. At a regional level, one of the documents with a broader scope of application is the *Artificial Intelligence Act* [21]. This extensive instrument constitutes an attempt to create a legal framework applicable within the European Union. It defends a human-centred AI, led by European and democratic values, in compliance with international law. The document identifies both the benefits and risks of AI in relation to culture. It offers recommendations, for example, involving diversity and non-discrimination [21].

We equally recall the *White Paper: On Artificial Intelligence - A European approach to excellence and trust* [22], which offers examples of how AI can have both positive and negative, tangible and intangible outcomes for society. The European Commission enhances the need for a human-centred AI, guided by ethical principles, in agreement with fundamental rights,

freedoms, and sustainable development goals [22]. In the same year, the Council of Europe Commissionaire for Human Rights released *Unboxing Artificial Intelligence - 10 steps to protect Human Rights: Recommendation* [12], which defended the need to make human rights assessments by public authorities using AI. The instrument suggested external reviews and evaluations of decision-making processes to mitigate risks, remedy eventual violations and impede their repetition [12].

At a national scale, Portugal was responsible for elaborating a *Charter of Human Rights in the Digital Era* [23]. Among its articles, we can find references to the rights of peaceful digital “reunion, manifestation, association, and participation” inclusively for cultural ends. Article 16° pays respect to the right to freedom of creation and content protection, which is complemented by Article 22° about the access limitation or removal of content that violates authorship rights [23]. The document was heavily criticized, among others, because of its terminology. According to Silva [24], the expression “human rights” should be replaced by “fundamental rights” once the document has only a national application. The author defends that since the digital universe is not limited by geographical frontiers, the Charter is symbolic. Despite its limitations, we believe the Charter is a positive sign that the country is preparing itself for what may be an AI-dominated future.

The analysis of normative instruments regarding AI in connection to human rights, cultural ones, and the heritage field help us to identify opportunities, challenges, and risks. In the next subchapter we will list, examine, and develop some of those problematics.

Results

Opportunities, challenges, and risks

Following the normative framework, this subchapter synthesizes some of the opportunities, challenges, and risks that AI – generally and in connection to heritage – imposes on human rights and cultural ones.

From a general point of view, AI entails challenges in connection to human rights due to its lack of borders, transparency, accountability, high levels of abstraction and the possibility of being misused [22, 24, 27, 32]. AI can menace human rights, for instance, by facilitating cybercrime, limiting access to justice, perpetuating discrimination (through its algorithms), misinformation or by dramatically impacting employment [11, 22, 24, 30-31]. Notwithstanding, AI can contribute to safer transportation, sustainable development goals, security, health, and the creation of new jobs [22, 29, 30]. This results in a dual comprehension of AI as potentially beneficial and detrimental to society.

Regarding the opportunities of AI in the heritage field, we enhance new conceptions of heritage and authorship, knowledge amplification, more access “to” and “new” forms of engaging with heritage, support in documentation digitization and management, text recognition, image reconstruction and replication, heritage preservation, fighting trafficking of cultural assets, helping in cataloguing and categorizing content, as well as creating new one [9-11, 13, 26, 33, 40]. About the challenges and risks of AI for the heritage sector, we highlight the difficulty in addressing cultural relativism and the polysemous nature of heritage, as well as the risk of enhancing disputes, for example, by disregarding or overvaluing some segments of history. There may also exist negative consequences for artists and heritage professionals through copyrights violations – resulting from the loss of the notions of authenticity and authorship –, the perpetuation of precariousness, employment displacement, and the superimposition of financial interests over social purposes [24, 26-27, 32-33, 39-40].

In its turn, AI applied to the heritage field offers opportunities for cultural rights [41] by constituting a form of cultural development. By facilitating participation in cultural life, by attracting new audiences or allowing interactions twenty-four seven, outside heritage institutions [26], enabling the enjoyment of scientific progress, and access to heritage itself [40]. Regarding the risks of AI to cultural rights, we believe it can perpetuate multiple forms of

discrimination [12, 20, 33], progressively devalue the work of heritage professionals, limit their job opportunities, impeding the right to choose a profession [24, 31, 39] and impairing author's interests regarding literary, artistic, or scientific productions [11, 41].

The conscience about the challenges and risks that AI creates for human rights – including cultural ones – and the heritage field, led many authors to reflect upon the ethical principles which should guide the use of these technologies. In the next point, we synthesize, analyse, and complement some of them.

Ethical principles

In the last years, several authors and entities suggested ethical principles to guide present and future approaches to AI. In the subsequent paragraphs, we synthesize, explain, and complement a few of them (Figure 2).

The resulting list does not represent a hierarchization of principles, nor does it exhaust the topic:

- Accessibility [10, 13]: AI has the potential to increase accessibility to heritage. For example, by establishing new connections between pre-existing heritages, allowing new forms of interaction in an expanded frame of time, or simply facilitating its creation. We believe this standard is deeply intertwined with equality and diversity, fundamental principles for the respect of human rights.
- Accountability [10, 31]: one of the concerns regarding the use of AI goes back to accountability. In this sense, it is important that when resorting to AI, one follows international, regional, and national norms to avoid human rights violations. We must be able to prosecute (direct and indirect) perpetrators and compensate victims.
- Beneficence/common-good/wellbeing [31, 38]: data is becoming increasingly privatized. As a result, AI should follow the principle of beneficence, considering the common-good and people's wellbeing. Notwithstanding, the concepts of "common-good" and "wellbeing" should be defined by the people affected by these technologies, being only limited by the duty to respect other people's rights and freedoms.
- Cultural continuity [13]: as we mentioned earlier, AI can decontextualize heritage, resulting in biased, limited, or polarized views about it, its topics, and the communities it involves. Therefore, while using AI, one must respect the principle of cultural continuity. We believe the disrespect for this principle may have negative impacts on conservation and restoration practices.
- Democracy [10]: democracy is essential for the full exercise of human rights and fundamental freedoms, as such, the life circle of AI should respect democratic values and processes.
- Diversity/inclusivity/participation [10, 40]: to avoid the so-called "bubbles" promoted by AI algorithms, when using these technologies, we must consider the principles of diversity, inclusivity, and participation. However, it is not clear yet how to materialize the principle of participation when dealing with AI. In fact, the use of AI in decision-making may represent a setback for the sector, if we consider that we are still trying to bring participatory practices from theory to action.
- Human rights [33, 40]: to avoid nefarious uses of AI, it must be developed and used in accordance with human rights and international law.
- Self-determination [32, 41]: AI has the potential both to increase and diminish human-agency and decision-making, as such it must respect the principle of human self-determination.
- Sustainability [10, 31-32]: as we know, AI raises challenges, risks, and ethical problems in terms of sustainability. As such, those using AI must consider this principle in multiple dimensions: economic, social, cultural, environmental.
- Transparency [10, 31]: to avoid human rights violations, there must be an effort to ensure the transparency of AI's processes, applications, outputs, and underlying interests from those using it.

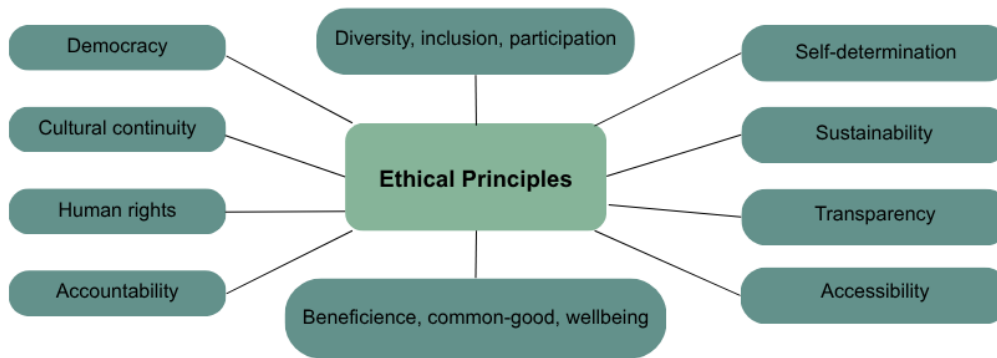


Figure 2. Ethical principles on how to approach AI (graphic created by the author using Canva).

Once we presented, examined, and developed the ethical principles that should guide our approaches to AI, the following subchapter discusses some of the questions raised through the analysis of practical examples.

Discussion: practical examples

To exemplify how AI and “AI-created heritage” raise questions of accessibility, copyrights, and ethics, we selected three international examples. The first one regards a claim made by Jane Friedman. The North American writer made the news by stating that AI generated books were being sold under her name. Friedman called attention to the fact that she had a lot of content with open access that was being misused. This case raises issues around authorship and copyrights once AI was being used to imitate the style of the author and to employ her name for profiting purposes. The case incentivized thousands of authors to ask the US government to create legislation to protect cultural rights. It also led to an open letter directed at companies behind AI applications, asking for consent when using authors’ productions [3]. This example exposes the risks of having publications with open access, in a context increasingly dominated by AI. Besides, it demonstrates how AI can be used to fake authorship, take advantage of artists’ creativity and identity following the quest for financial gain. Ultimately, it also shows how AI can menace authenticity.

The second example remits to *Thaler vs Permultter* [4], a civil action about the dispute between Stephen Thaler – producer of the *Creative Machine* – and Shira Permultter, Register of Copyrights and Director of the United States Copyright Office. According to Thaler, the system he created – *Creative Machine* – was responsible for producing an artwork independently. The man behind the system tried to register the artwork – entitled *A Recent Entrance to Paradise* (Figure 3) – for copyright. Notwithstanding, the Copyright Office did not agree with the request under the argument that the artwork was not created by humans and, therefore, was not eligible to copyright in the US. Thaler lost the civil action, once human contribution was (still) a necessary component for the attribution of copyright [4]. In the face of AI’s developments, we question for how long this will be a requisite for copyright.

Independently of its result, the civil action raises interesting questions about copyrights, ethics, and accessibility. If Thaler created the AI system, the artwork’s authorship cannot be (at least partially) attributed to him? If the artwork was not accepted for the purposes of copyright, who can use it and for which purposes? Will systems like *Creative Machine* contribute (or not) to make art creation more accessible? Or will it be a menace to human artists? These are all questions which would benefit from further reflection.



Figure 3. *A Recent Entrance to Paradise* (2012). Figure created by Stephen Thaler using the Creative Machine. This version was produced by DABUS and is available on Wikimedia Commons [42].

In the same logic, we recall the work of Bruno Carnide (2023a), *January: AI cinematic short film* [1-2]. The Portuguese professor had a reluctant attitude regarding AI, however, his responsibility towards his students pushed him into trying new forms of creating [1]. In 24 hours, Carnide produced a short film of little more than two minutes, by resorting to multiple AI systems, available online for free. The systems were used to create and edit images, to give them movement, and to complement them with audio. According to the author, the result is a proof that AI will have a significant impact on the creative sector and that it may lead to the progressive devaluation of artists' work. The author recalls how numerous entities have been asking for regulation, fearing that AI may lead to the "homogenization of art" and the loss of "creativity" [1]. The result of this experimental process is a short film with dramatic contours, in which AI narrates its own consequences for the artistic and cultural sectors, both deeply interconnected with the heritage field [2].

Based on these three examples, we ask: Is this the end of artistic technique? Can AI write a new chapter about (post)conceptual art? Is AI leading to art's dehumanization? Or is it democratizing its creation? Will people prefer to buy AI-created artworks or human-made ones? Will AI checkmate the rights to choose a profession and to benefit from the interests linked to literary, artistic, or scientific creations? Or will it exponentially maximize the right to take part in cultural life, to enjoy scientific progress and cultural development? The answer to these questions will depend on how ethical guidelines and cultural rights will respond to AI's evolution in the following decades.

Conclusion

We started this study with the purpose of understanding how AI offers opportunities, challenges, and risks to the heritage sector. To do so, we suggested and experimented with the concept of “AI-created heritage”, testing the limits of current heritage terminology and categories, and unravelling their linkages with human rights and cultural ones.

The methodology adopted consisted of a state of the art, the clarification of the conceptual and normative frameworks – which allowed us to identify the pros and cons of AI to the heritage field, and the analysis of international examples raising questions around accessibility, copyrights, and ethics. Thanks to the analysis of the case studies, we raised questions that may lead future lines of investigation concerning authorship, authenticity, human and cultural rights, as well as future trends in the art market.

Ultimately, we believe this investigation contributed to deepen the debate about the development of ethical principles and cultural rights in the face of upcoming AI-dominated scenarios, resulting in new heritage categories, opportunities, and challenges.

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