

# The Generative Art Community bridging between UNESCO Heritage and AI-generated works : An Interview with Celestino Soddu and Enrica Colabella

Sun Park, PhD candidate

Department of Sociology, University of Warwick, Coventry, United Kingdom

<https://warwick.ac.uk/fac/soc/sociology/staff/park/>

e-mail: [sun.park@warwick.ac.uk](mailto:sun.park@warwick.ac.uk)

---



## Abstract

The United Nations Educational, Scientific and Cultural Organization (hereinafter 'UNESCO') is a United Nations specialised agency that recognises heritage of historical, cultural, social and technological value at the international level. This so-called 'UNESCO heritage' includes diverse types of heritage, from tangible architectural buildings to intangible traditions and knowledge, and analogue and digital documents. UNESCO's Recommendation on the Ethics of AI encourages UNESCO member states and civil society to incorporate AI in identifying and preserving tangible, intangible and documentary heritage.

What theoretical and practical issues should UNESCO address to identify an AI-generated work as UNESCO heritage? Are there any precursors of AI-generated works that UNESCO and AI practitioners can learn from?

This paper aims to discuss how to recognise AI-generated works as UNESCO heritage by analysing an interview with Celestino Soddu and Enrica Colabella. The discussion lies in the idea that the field of generative art is a cultural community. The collective knowledge of the generative art community about the use of AI in cultural creation can offer ideas for possible ways to identify and preserve AI-generated works as UNESCO heritage. Acknowledging Celestino Soddu and Enrica Colabella as representatives of the generative art community, the interview with them focuses on two main questions: (1) What are the distinctive ways in which the generative art community employs AI to create cultural works?; (2) What components of AI-generated works would the generative art community want to preserve if their works are considered for UNESCO heritage in the future?

The generative art community seeks to construct systems that integrate human visions and the technological roles of AI. In an AI-based generative art system, humans are system-makers, whereas AI represents the subjective values and artistic ideas of its human creators. The interrelated but distributed roles of humans and AI in a generative art system produce a richer intellectual reciprocity between human and AI creativity. It distinguishes the generative art community from traditional art communities and the common use of generative AI programmes. The ethos of the generative AI community for interactive art between humans and AI can be extended to emerging AI practitioners. It can solidify the unique value of generative art, compared to traditional types of heritage. To nominate AI-based generative works as UNESCO heritage, this paper proposes that its nominators explain in a nomination dossier its fundamental socio-cultural and technological themes and purposes, databases, algorithmic codes and theoretical principles for comprehensively processing them. This package of a knowledge system should be preserved along with its subsequent outputs. The knowledge-centred examination of the generative art field in this paper links the generative art community and emerging AI practitioners. It provides policy recommendations on how to register AI-generated works as future UNESCO heritage.

\*Note: the interview with Celestino Soddu and Enrica Colabella was conducted as part of the author's doctoral research. A version of this paper will be included in the author's final doctoral thesis.

## **Cultural Community in UNESCO's terms**

UNESCO registers different types of heritage of international significance on its three heritage lists: the World Heritage List under the World Heritage Convention, the Representative List of the Intangible Cultural Heritage of Humanity under the Intangible Heritage Convention and the Memory of the World Register under the General Guidelines of the Memory of the World Programme. The tangible, intangible and documentary heritage inscribed on the three lists show skills, knowledge and values created by a human community in a particular time and space. In 2002, a group of experts from UNESCO member states examined how to understand the term 'community'. Their meeting papers define three types of communities: the cultural community, the indigenous community and the local community. In their description of the indigenous and local community, they emphasise geographical residence and local solidarity. On the other hand, their definitions of the cultural community focus on the cultural knowledge and ideas of a human group that are different from others. A cultural community is a "community that distinguishes itself from other communities by its own culture or cultural design" [5]. It is admittedly difficult, if not impossible, to define the absolute meaning of culture and cultural design. The notion of the cultural community, however, encompasses human groups whose members share particular traditional perspectives on who they are and how they express themselves through their distinctive intellectual and cultural activities.

UNESCO's 2003 Intangible Cultural

Heritage Convention underscores the role of communities in identifying and preserving intangible cultural heritage: namely, oral traditions and expressions; performing arts; social practices, rituals and festive events; knowledge and practices; and traditional craftsmanship [2]. For instance, “Craftsmanship of Mechanical Watchmaking and Art Mechanics” of Switzerland and France was inscribed on UNESCO’s Representative List of the Intangible Cultural Heritage of Humanity in 2020. The cultural qualities of the watchmaking derive from watchmakers’ professional skills intersecting technology with art and from their sharing of watchmaking knowledge, rather than from geographical aspects. The knowledge-based understanding of the cultural community enables us to understand the generative art field sociologically in the context of UNESCO.

## The Generative Art Community

Generative art is a transdisciplinary scholarly and professional field where artists, architects, mathematicians, roboticists, etc. employ various technologies to create cultural works. The International Conference on Generative Art is one of the main places where generative art researchers, practitioners and artists have gathered to share their research, inventions and philosophical reflections on the ontology and epistemology of generative art. Celestino Soddu and Enrica Colabella first used the term ‘generative art’ for the conference. They have co-chaired the conference since 1998, leading to the formation of the generative art community. Considering Soddu and Colabella as representatives of the generative art community, the author interviewed them

by email in July and August 2023. The interview questions were designed firstly to elicit their ideas of what the generative art community does, especially when using AI to create cultural works. The interview responses were then placed within one of the core issues of UNESCO heritage. In the sense of UNESCO, objects, knowledge and analogue and digital documents as UNESCO heritage should be preserved and transmitted to future generations. From the perspective of the generative art community, what components of AI-generated works should be preserved if they are valued as heritage? The interview questions were emailed to Soddu who answered them in writing with the contribution of Colabella. After the author reviewed their responses to the initial interview questions, additional questions were sent to Soddu to extract more detailed thoughts from the two interviewees. This paper intends to interpret their answers in accordance with the two research topics. Where it is necessary to deliver their original comments, their answers are presented in this paper in the form of verbatim quotations in italics.

Traditional art communities tend to circumscribe their areas of expertise such as architectural knowledge for architects and painting skills for painters. The International Conference on Generative Art does not distinguish between different disciplines in terms of the expertise of its speakers and what they create. The generative art community does not merely address specific artistic styles or particular forms of outputs. Meaning art by the *“ability to operate”* and generative by the *“ability to build tools suitable for generating events”*, the generative art community delves into

how they create a system that integrates their artistic ideas with technological tools. AI algorithms have been major parts of generative art systems. Soddu has been using AI algorithms since the 1980s to generate 3D models of architectural designs and artistic events. AI-based generative art systems operate through interactions between humans and AI. AI cannot start its performance without human artistic vision. Vice versa, human artistic vision cannot be embodied without the generative capabilities of AI.

An AI-based generative art system is not a computationally automatic tool but a reification of interpretive knowledge between the human and AI. Soddu has been developing his algorithm-based generative art system, ARGENTIA, for around 40 years. *“All ARGENTIA algorithms are not tools that can be used by anyone.”* We can compare ARGENTIA with other generative AI programmes in common use these days. An example of the common generative AI programmes is ChatGPT, a Chat Generative Pre-trained Transformer by OpenAI. Around 60% of ChatGPT-3’s dataset was based on a filtered version of the web-crawled data of Common Crawl [1], a non-profit organisation that scraps publicly available textual data on the internet such as books, web pages and articles. Most of the tasks given to ChatGPT are related to problem-solving. For example, a human user can ask ChatGPT to write a 1,000-word essay on a particular topic and ChatGPT will provide a piece. ChatGPT processes its data using machine-learning Natural Language Processing models (LLMs). LLMs infer relationships between words within given texts, answering the human user’s questions. A strength of ChatGPT is that it is *“usable*

*by anyone”*. At the same time, it makes ChatGPT *“an objective tool”*. AI as a tool produces outputs with the same algorithmic processing of the same data for anyone and any question. AI as a tool has a narrow scope of human and AI creativity and their interactions. Of course, ChatGPT is a conversational AI that interacts with its human users who ask questions. But humans become creative only when they describe problems that they want ChatGPT to solve. Also, the creative part of ChatGPT’s performance is mostly its answers, followed by tasks given by human users. The interaction between humans and ChatGPT ends when ChatGPT provides an answer and humans are satisfied with it. The value of ChatGPT is therefore consequential.

The generative art community uses AI not as a tool but as a contextual component of its art-making system. Instead of general and random information on the Internet, ARGENTIA has data about the geometric transformations of architecture that Soddu has experienced over the past 40 years. The algorithms of ARGENTIA have specific goals set by Soddu’s personal interpretations of three-dimensional space art events. His algorithms regulate the compositional development of architectures and the morphogenesis of the urban image which Soddu has observed. ARGENTIA also performs tasks given by Soddu, just as ChatGPT does with its human users. But ARGENTIA is designed to show diverse facets of Soddu’s artistic ideas. The generative art community enables their generative art system to create not just one answer but multiple outcomes that represent the *“complexity of the artistic vision”* of

human creators. ARGENTIA produces multiple designs based on Soddu's subjective datasets and algorithms. Each of the outcomes is different but all of them "represent [...] possible infinite facets" of Soddu's artistic vision. A generative art system thus produces a richer space for the human and AI creativity and their interactions. Each time Soddu updates data or the parameters of data processing, ARGENTIA will respond to it and produce different results. The value of a generative art system is therefore procedural.

Rather than simply copying and pasting the artistic styles of its human creator, an AI-based generative art system creates diverse products that are "capable of communicating the same artistic vision [of a human author] and a multiplicity of possible outcomes". The idea of communication is worthwhile to note in comparison to other types of art. Traditional architecture, painting and writing have one final outcome. Audiences read the ideas of their human creators through the end product. An AI algorithm in a generative art system can, however, produce different outputs, for example, depending on the weights of different parameters derived from the entire knowledge and artistic vision of its human creator's. The multiplicity of possible outcomes generated by AI consequently engenders two aspects of communication. Of course, the diversity of algorithmic outputs leads audiences to discuss why the human author has different art pieces with the same cultural themes. But more importantly, the diversity of algorithmic outputs enables the human author and their AI to communicate with each other. The human decides on what to change and

what the final creative products should be, depending on the products generated by the AI. Vice versa, the AI responds to the human's request, producing other artistic options.

The intellectual reciprocity between humans and AI in an AI-based generative art system demonstrates the interrelated but distributed roles of the human and the non-human in producing cultural works. Humans create and specify cultural contexts, ideas, and purposes for why they use AI to express their artistic identities. In other words, they construct "an approach that creatively defines a meta-project, i.e., the project of the art project". According to the meta-project, humans curate and assemble thematic data and tailored AI algorithms. To put it another way, a human is not merely an art-maker but a system-maker in an AI-based generative art system. With a human system-maker, AI algorithms produce multiple outcomes that represent the identity of the human. In the process of modulating data and data-processing parameters by the human system-maker to find the best result, an AI algorithm "transforms the previous event into one more close to the author's vision". The human system-maker can recognise their AI as a representative of their artistic identity if the human system-maker is subjectively satisfied with the products generated by their AI. Then the human system-maker can acknowledge their AI as a procedural contributor expressing their artistic cognitive sphere, an "author's imprinting" in Soddu and Colabella's terms.

The generative art community has established its distinctive identity as a cultural community that builds generative

AI systems that can communicate with humans to best represent human visions. The knowledge tradition of the generative art community can be extended and transmitted to emerging and future AI practitioners who create cultural works to express their artistic ideas. What lessons can the generative art community give to those AI practitioners? UNESCO's Recommendation on the Ethics of AI underscores the maintenance of human values in the use of AI [3]. How can we interact with AI not to lose human creativity but to express it? Soddu and Colabella recommend "*setting the goal of generating events recognizable as belonging to one's vision*". AI practitioners need to curate certain data, which can "*rediscover the author vision*", rather than using them without contextual purposes. One method for doing this is not to copy existing data but to "*interpret*" data as part of their data processing. This enables AI practitioners to inject their personal values, producing new creative 'data about data', an "*adduction*" in Soddu and Colabella's terms. When AI practitioners design their AI algorithms, Soddu and Colabella suggest "*moving from only the logic of problem-solving to that of subjective vision for increasing complexity and rediscovering the author's identity*". AI practitioners therefore do not rely on answers from random generative AI programmes. They need to tailor particular AI algorithms and take the initiative to adopt AI-generated outputs. For example, human practitioners can revise or select a few products generated by AI so that they do not intellectually count on the randomness of AI but harness it. To do so, AI practitioners need to focus on "*defining possible transformations [of their art] from the past to the future that can be defined through*

*algorithms*", rather than "*basing one's creativity in producing forms [of their art]*". Humans can ultimately enhance their own artistic logic and identity in the process of interacting with AI. The generative art community can transfer this distinctive knowledge of generative AI systems to emerging and future AI practitioners. It can bring us not automatic computer art but interactive art between humans and AI. It can furthermore encourage UNESCO to identify the AI-generated art field as a traditional and explicit cultural community that has been transmitting unique practices for creating cultural works that express human creativity, compared to traditional types of heritage.

## AI-generated works as UNESCO Heritage

If how the generative art community uses AI to create cultural works is transferred to future generations, their distinctive knowledge per se could become intangible cultural heritage. UNESCO's Intangible Cultural Heritage Convention recognises the interaction between the intangibility of heritage and its tangible tools and products associated with it. Physical tools and outputs associated with an AI-generated creation will therefore support the cultural value of the AI-based creation. Once a UNESCO heritage policy recognises international values of intangible knowledge of AI-generated works and their tangible tools and outputs, they could become so-called 'UNESCO heritage'. Who decides whether particular heritage has international values depends on UNESCO's different systems of the World Heritage, Intangible Cultural Heritage and Documentary Heritage. But



all the heritage policies highlight that UNESCO heritage must be preserved so that it is transmitted to future generations. How to preserve particular heritage partially depends on its types. UNESCO World Heritage system states that immovable sites (e.g., the Architectural Work of Le Corbusier in Argentina, Belgium, France, Germany, India, Japan and Switzerland) should retain their physical integrity. UNESCO Intangible Cultural Heritage system stipulates that present communities should still continue to use their traditional practice and knowledge (e.g., “Craftsmanship of Mechanical Watchmaking and Art Mechanics” of Switzerland and France). UNESCO Documentary Heritage system states that components of documents<sup>1</sup> should be preserved. In the case of the film ‘Wizard of Oz’ in the USA, its original Technicolour 3-strip nitrate negatives and soundtrack have been preserved. An AI-based generative art can encompass the three aspects of heritage: physical products, intangible practices and analogue or digital databases or born-digital creation. If an AI-generated work produced today is recognised as UNESCO heritage, what elements does the generative art community think should be preserved to transmit the value of the work to future generations?

Soddu and Colabella describe ARGENTIA software as an “*active and dynamic memory of my [Soddu’s] architectural and artistic work [that] encapsulates all my [his] spatial ideas and visions*”. A unique aspect of ARGENTIA is its database of unused designs that may later be useful in other contexts. Suppose that a building is constructed using ARGENTIA in the future. If this building demonstrates historically important technological and

artistic value, what is the heritage that keeps carrying the value of the building? What should be documented and preserved to maintain the value of the building? Just as the physical integrity of Le Corbusier’s architectural work should be maintained, the physical integrity of the building itself would need to be preserved. But the building is one of ARGENTIA-generated outputs. If another building is later constructed using ARGENTIA, the first building is one of the derivative outputs of ARGENTIA. The first building and the second building will look different because, as discussed earlier, an AI-based generative art system is designed to produce different outputs based on its human’s visions. It is then necessary to trace back to the origin of the AI-generated buildings, i.e., ARGENTIA.

How can we nominate ARGENTIA as UNESCO heritage? This paper proposes that nominators of ARGENTIA first describe in a nomination dossier<sup>ii</sup> why and how ARGENTIA was created in social, cultural, historical and technological contexts. Then what component of ARGENTIA should they nominate in order to nominate ARGENTIA? Soddu and Colabella say that “*UNESCO’s Heritage could be the ARGENTIA software and the Topological Paradigm used to generate 3D models of architecture, art and design.*” In other words, the codes, the algorithms and the theoretical principles (i.e., the Topological Paradigm that defines the relationships among all the artistic events involved in ARGENTIA) need to be nominated as a package of the ARGENTIA knowledge system. Diverse buildings designed by ARGENTIA are different outputs from ARGENTIA. But the ARGENTIA software per se is the

consistent and fundamental knowledge framework that is *“able to generate a whole series of 3D models that, although always different, would all be recognizable as belonging to [...] the architectural and art vision of the author even if he [Soddu] is deceased or belongs to the history of architecture.”* If we preserve the computational and theoretical components of ARGENTIA so that ARGENTIA can continue to work in the future, we can preserve the source of ARGENTIA-based buildings, i.e., Soddu’s cultural and computational knowledge for artistic designs. Nominators of ARGENTIA should explain, in a nomination dossier, the codes, the algorithms and the theoretical principles and how they work together. This paper suggests that buildings designed by ARGENTIA be included in the nomination dossier as derivative outputs of ARGENTIA. If there are new buildings designed by ARGENTIA or ARGENTIA is updated after ARGENTIA has been registered as UNESCO heritage, nominators of ARGENTIA should report it and submit the additional information to UNESCO. UNESCO World Heritage policy allows its member states to extend components of sites after their inscription on the World Heritage List if this further demonstrates the values of the sites. UNESCO may therefore consider a policy to update components of an AI-generated work after its inscription on a (potential) UNESCO list of AI-generated works if this solidifies socio-cultural and technological values of a generative AI system. This scenario of a nomination of ARGENTIA as UNESCO heritage indicates that both ARGENTIA and its derivative buildings should be preserved. The organisations responsible for ARGENTIA and those buildings may be different. For example, Generative Art &

Design Lab of Soddu for ARGENTIA and national or provincial governments of the places where the buildings are located. All of them should prepare their preservation plans and write them in a nomination dossier, in accordance with UNESCO’s World Heritage and Documentary Heritage policy.

This paper has examined the generative art field as a cultural community that has developed its distinctive knowledge of using AI to create cultural works. The generative art community’s shared knowledge of how to interact with AI can be extended to AI-generated works which are being created at a tremendous rate. The ethos of the generative art community suggests an approach to heritage: *“heritage would not only be material but, owing to AI, operationally design-oriented and thus would an alive creative memory”*. The preservation of generative art means by keeping creative memory alive. An AI-generated work cannot be clearly categorised as tangible or intangible or documentary heritage. We need a new category of hybrid heritage, an AI-generated work that encompasses the existing forms of heritage. The interview with Soddu and Colabella has demonstrated the possibility of this new policy. The knowledge-centred examination of the generative art field in this paper links the generative art community and emerging AI practitioners. It provides policy recommendations on how to register AI-generated works as future UNESCO heritage.

## Notes

<sup>i</sup> The 2021 General Guidelines of the Memory of the World (MoW) Programme of UNESCO defines a document as “an



object comprising analogue or digital informational content and the carrier on which it resides. It is preservable and usually moveable. The content may comprise signs or codes (such as text), images (still or moving) and sounds, which can be copied or migrated. The carrier may have important aesthetic, cultural or technical qualities. The relationship between content and carrier may range from incidental to integral.” [4]

ii Of course, UNESCO does not yet have a nomination dossier for AI-generated works at the time of writing this paper. The author’s doctoral thesis will propose a UNESCO nomination dossier for AI-generated works as one of the findings of the doctoral research.

## References

[1] Brown, T., et al. (2020). Language Models are Few-Shot Learners. NIPS'20: Proceedings of the 34th International Conference on Neural Information Processing Systems, 159, 1877-1901. <https://dl.acm.org/doi/abs/10.5555/3495724.3495883>

[2] UNESCO (2003). The Convention for the Safeguarding of the Intangible Cultural Heritage. <https://ich.unesco.org/en/convention>

[3] UNESCO (2021a) Recommendation on the Ethics of AI. <https://unesdoc.unesco.org/ark:/48223/pf0000381137>

[4] UNESCO (2021b) General guidelines of the Memory of the World (MoW) Programme. <https://unesdoc.unesco.org/ark:/48223/pf0000378405>

[5] van Zanten, W. (Ed.) (2002) *Glossary Intangible Cultural Heritage* (Results of the International Meeting of Experts on Intangible Cultural Heritage - Establishment of a Glossary UNESCO Headquarters, Paris, 10-12 June 2002, and edited by this group between June and August 2002), Netherlands National Commission for UNESCO.

<https://ich.unesco.org/en/events/expert-meeting-on-intangible-cultural-heritage-establishment-of-a-glossary-00082>