

# Can Any Form of AI Be An Artist?

Philosophical potential of AI to be an artist in the context of art theory

Ali Eren Kaya

Laidlaw Undergraduate Research and Leadership Programme

University of Toronto

Research Advisor: Dr. Karina Vold

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## Abstract

The use of AI in the creative processes of art making is becoming more and more prevalent in New Media Art. With this shift in the creative paradigm, the philosophical views regarding the definitions of art concepts keep getting dispersed. This paper explores potential responses to the question, "**Can any form of AI be an artist?**" by bringing together views from cognitive science, art history, anthropology, and art theory. This paper's three objectives to accomplish an inclusive exploration are as follows: 1) Analyzing the general understanding of AI use within the current new media art scene and trying to answer whether current AI-Art works can be categorized as "art" from an art theory perspective. 2) Clarifying the current use of the term AI Art and questioning whether current artworks involving AI can be considered AI Art (artworks produced by an AI Artist). 3) Discussing potential ways to achieve AI Art, which entails the concept of AI Artist (where an AI Artist with full agency is present for the creation process of the work of AI Art). Even though we conclude the paper by stating that the current AI Artworks are unable to constitute AI Art, coming up with frameworks that do not limit AI's creative potential can lead to an anthropomorphic cultural alteration for AI, resulting in a language of art unique to AI's nature.

## Introduction

A new trend in new media art is the use of Generative Adversarial Networks (GANs) to create works using deep learning algorithms, which may resemble patterns of human cognition. This trend has inspired artists to create artwork via the use of specific datasets which correspond to specific kinds and domains of work. In 2018, Paris-based arts-collective Obvious sold the GAN-generated painting *Edmond de Belamy*, from *La Famille de Belamy* (2018) at a Christie's auction for a value of \$432,500. The image was signed with the Machine Learning algorithm used throughout the process. It was the first significant recognition of AI-generated art.

Despite the dominance of the campaign "AI creating art" (Cohn & Solly & Im, 2018), it is not widely known that the human artists who use AI improvements such as Autoencoders, GANs, Conditional Generative Adversarial Networks (cGANs), or Creative Adversarial Networks (CANs) intervene in the creation process to get desirable outputs. However exciting the idea of fully autonomous machine artists sounds, it is not the case yet. The human artist still plays an essential role in prompting the machine as well as selecting from the outputs. One of the most prominent new media artists today, Refik Anadol, admits that the output of the trained GAN corresponding to the dataset does not always return visually appealing results. Hence, the intervention, the reproduced narrative, is a key part of the creation process.



*A woman looks at a work of art created by an algorithm by French collective named OBVIOUS which produces art using artificial intelligence, titled "Portrait of Edmond de Belamy," at Christies in New York. (Timothy A. Clary/AFP/Getty Images)*

With these types of enhancements in the art field, the definition of the "artist" changes quite rapidly. It is indirectly true that AI can create visual depictions when trained with the right data source and curation (Elgammal & Mazzone, 2019). Yet the concept of the artist historically and philosophically means much more than any random creator of any work of visual depiction. It would be a naive approach to analyze AI art without regarding the contested views on what constitutes the art and the artist, and the role of intentionality and agency of the AI in the art creation process. For this reason, this paper aims to bring together such views through

- (1) Analyzing the general understanding of AI use within the current new media art scene and trying to answer whether current AI-Art works can be categorized to be "art" from an art theory perspective.
- (2) Clarifying the current use of the term AI Art and questioning whether current artworks involving the use of AI can be considered AI Art (artworks produced by an AI Artist).
- (3) Discussing potential ways to achieve AI Art where entails the concept of AI Artist (where an AI Artist with full agency is present for the creation process of the work of AI Art).

Throughout the paper, I will present the findings and analyses regarding Art Theory with the views on art, artist, and their relational definitions. It will aim to clarify art theory terminology that will be used for the generality of the paper. Points (1), (2), and (3) will be expanded in sections I, II, and III, respectively. I will conclude by

arguing that though the current AI Art works cannot be fully justified to be intentional artistic creations of AI-Artists, the discussions around topics of AI-Art enhance human creativity and frameworks of creativity while aiding philosophers and artists to reconstruct and fine-tune art and concepts within.

## I. Is 'AI Art' Art?

Despite the variation of creative processes involving AI, we can safely state that current AI systems are far from initiating the decision of intentional art making. While complex works of art involve the use of AI in all possible creative ways, in the modern state of AI-Art initiatives, automated GAN-Art creative frameworks seem to assign the highest level of agency to the AI in the creation process. In the cases of GAN-produced art, the system is trained mostly on datasets that strictly correspond to a specific visual culture, where the aim of the AI is to fine-tune its 'understanding' of the visual information bulk it has been trained with and produce images corresponding to certain aspects requested by the user (human-artist) of the system. Even for the AI systems that present a relative generality, e.g. multimodal learning models, the decision to create visual depictions is embedded in the design of the system. It simply follows a framework of creative processes produced by humans. The decision to create (not necessarily art, but rather an artifact) is not a choice but simply a prompt-based task embedded in the system's existential purpose. In other cases, AI takes part in the creation process rather as a free creative tool (a 'thinking brush' as Refik Anadol states in an interview) that automates not necessarily the wholeness of the process but instead a specific task it accomplishes within it. Therefore it vaguely follows that the more creative the way the AI is integrated into the creation process, the more the rate of involvement/intervention/agency on the human artist's end.

By taking all the sensation and excitement around AI Art into consideration, can we strictly state that AI Art is and should be considered art from a philosophy of art point of view? As a framework of categorization, we can assume a proceduralist perspective, the institutional theory of art (Dickie, 1974). Recall that this view by Dickie requires two conditions for art to exist: 1) to be an artifact; 2) some society or sub-group needs to confer the status of "candidate for appreciation." This sub-group could be the artist or, more generically, what Danto defines as the "art world."

There have been views previously established by scholars (Elgammal & Mazzone, 2019) that GAN-art should be considered art. Since the institutional theory is a classificatory theory rather than an evaluative one, we can safely assume that as long as the human-artist involved considers the artifact produced by the GAN system to be an artwork, there is a sub-group conferring the status of "candidate for appreciation." Aside from the quality of the work or its general acceptability, GAN-art outputs satisfy the conditions to exist within an art world in the form of a digital artifact.

In the cases where the use of an AI system is integrated into the creation process in a rather complex manner, the distribution of the agency is simpler. In parallel with the description of Refik Anadol's own use of AI as a 'thinking brush,' the use of AI in these cases of artwork can be generalized as an automated intermediary step in the creation process. In addition, these sorts of artworks present explicit intentionality behind the purpose of the work being artistic. The artifacts in these cases are created with the intention of creating a work of art, which eases the process of categorization. If the institutional theory is to be applied to works of these types, we can classify the works to be art since it aims to be an artifact while being evaluated by certain artworlds (including the human-artists) as a "candidate for appreciation."

As an alternative approach, we can also apply Dickie's altered version of the institutional theory : the new institutional theory of art (Dickie, 1983). Due to the certain objection to his initial theory, he amends the previous circular statement into "A work of art is an artifact of a kind created to be presented to an artworld public." With this definition, the justification is rather straightforward. We have formerly established the view that the outcome of AI Art in the general sense is an artifact. Even though the creation is not necessarily intended to be presented to an artworld public from the point of view of the AI, the initiation of creation involves the aspect of presentation to a certain artworld public.

In this section, we have shown that both GAN-art works and complex works of AI Art can be justified to be art with the use of institutional theory. Both of these types of creation involve human intervention to a certain extent. Therefore, the question of intentionality is not necessarily present in the works of current AI Art. Even though this can change with the development of AI/GAN-Art systems that are fully autonomous (specifically in the case of GAN-art, automated pre-curation, training, and post-curation), enabling an AI system to make the free/intentional decision of art making seems rather relevant to the question of whether Artificial General Intelligence is a possibility in the near future.

## II. Is Current 'AI Art', 'AI Art'?

Before we continue our discussion on the analysis of current AI Artworks, we first have to clarify the terminology of categorization for artworks that involve AI to any extent. In a general sense, we can reduce the models of collaboration/creation for artworks incorporating AI to three cases: where AI (1) is taking part in the creation process as a partner/assistant/support (Candy & Edmonds, 2002) and affecting the resulting work directly, (2) is taking part in the creation process as a tool yet it does not inform the resulting work directly, (3) has full agency in the creative decision making, from the initiation of the project to the completion of it. 'AI Art' is widely used to refer to any artwork created through Artificial Intelligence. However, the term AI Art does not necessarily entail a well-established history of use. As a result, the use of the word can lead to the inability to evaluate AI Art incorporating potential issues regarding agency and intentionality. We have to clarify the use of this particular term, distinguishing cases that refer to artworks produced by an AI-Artist, and the cases

that involve AI as a quasi-intelligent agent and a factor in the creation process. Previously, scholars touched upon this matter with certain replacements of the term with rather clear concepts such as 'AI-driven art,' 'artificially intelligent art,' or 'art about AI' (Zylinska, 2020). For the rest of this discussion, we will use the term 'artificially intelligent art,' 'art about AI,' and 'AI Art' to refer to cases (1), (2), and (3), respectively.

Regardless of the art theory approach we choose to apply, we can safely claim that AI Art is a subset of art. In a classificatory, definitive, and descriptive sense, the conditions for AI art to exist should also take place in the set of conditions for art to exist due to a relation of encapsulation. Therefore each artifact that is an element of the set of AI Art is also an element of the set of all artworks.

In his 1989 writing, *Art Works as Action Types*, Gregory Currie establishes a view that an artwork is an action type with the identifying elements of structure and heuristic. He then points out a potential problem regarding visual works. Even though the heuristic of visual works can be identified easily, structure, he argues, needs further assumptions in the context of singularity of paintings. Currie looks into paintings specifically when he is referring to visual works. Yet, we can state that digital visual works created algorithmically (including artworks that involve AI) present a sense of structure in a similar manner to how he describes musical and literary artworks' structure. "In literature, structure is a sequence of word types, in music a sequence of sound types," and in digital visual works, it is a sequence of pixels (Currie, 1989). Following, we can also state that digital visual artworks are action types. Without loss of generality, assuming that the frameworks that give AI a high level of agency in the creation process are limited to visual digital mediums, we can state that AI Artworks are action types. Yet, we have to distinguish the heuristic in the case of visual AI Art pieces. Currie states that the visual artist takes a certain path to the end result that he produces and adds that "whatever that path is will determine the heuristic of his work." We see that the heuristic of a visual artwork concerns the visual artist's [cognitive] process. Therefore, in the case of the visual AI-Art (with the assumption that the AI-Artist is possible), the heuristic is defined by the processes that are pertinent to the AI's decision mechanisms.

In his 2020 paper, *Failures of Intention and Failed-Art*, Michel-Antoine Xhignesse explores the outcomes of the cases where artists fail to execute their goals (Xhignesse, 2020). He builds up on the works of Christy Mag Uidhir (2010, 2013), which involves a framework of failure (altered by Xhignesse) as follows:

1. Attempt Condition: An object  $w$  is the product of an  $F$ -attempt.
2. Non-Art Condition:  $w$  is not  $F$  in the manner intended, and
3. Failed-Art Condition:  $w$  is not  $F$  in the manner intended as the result of the  $F$ -attempt in (1).

Since Uidhir does not restrict the action  $F$  to be the action of art making, we can replace  $F$  with AI-Art in the same manner that Xhignesse replaces it with art. After

arguing that the analysis of failure should be concerned with attempts instead of objects and their properties, he concludes his work with following framework that theorizes this view:

#### *Attempt-Theory of Failure*

1. *Attempt Condition*: An agent *A* initiates a direct or indirect *F*-attempt.
2. *Failure Condition*: *A*'s *F*-attempt fails.
  - a. The *F*-attempt fails conformatively or
  - b. The *F*-attempt fails performatively
3. *Failed-F Condition*: Because of the way in which *A*'s *F*-attempt failed in (2), the product *p* of *A*'s actions is non-*F*.

Since every work of art we see under the category of AI Art must be initiated by a human agent, agent *A* in our case, is human. We suppose that *A* initiates a direct AI Art-attempt. *A*, in this case, executes the action of AI-Artwork, with the desire of creating a work of AI Art as an end result. Recall that the Condition to properly execute an AI-Artwork action is embedded in its heuristic. We can show that the AI Art-attempt fails conformatively, mainly because its heuristics imply the agent to be the AI, while the action is initiated by a human artist. Applying the Attempt-Theory of Failure to this set of assumptions, we conclude that the artwork *p* of *A*'s actions is non-AI Art.

See that the analyses we have completed require the assumption that agent *A* intends to create AI Art. This might not be the case. Within the application of the Attempt-Theory framework, if we replace the AI Art-attempt with 'artificially intelligent art'-attempt or 'art on AI'-attempt, we can naturally follow that these attempts are not failures, specifically because the heuristics of such actions align with the human artist's process while not requiring AI to be an agent determining the heuristics of the action based on the process it follows.

Then, what is the outcome of this analysis? The developments in the visual arts where artists utilize AI as a creative tool are absolutely fascinating. However, we have clearly seen that creations of artists where there is an intention of producing AI Art, giving rise to AI-Artists, are not currently viable. This conclusion does not imply that the works within the field are less valuable. Observe that unlike certain scholarly approaches (Wang & Ma, 2019), we have used theories of art that are only classificatory; there has not been a use of an evaluative approach. Therefore, the conclusion is only regarding the classification of current works of art that involve AI. The sub-groups within certain artworlds must use the terms concerning AI and art rather carefully. This will allow artists to experiment with AI technologies more freely while raising the level of agency they have in the production in the public's view.

### III. Is 'AI Art' Possible?

In the previous section, we have seen that the current works of art and the state of AI do not provide the required conditions for the emergence of AI Art. We have also shown that the initiative to create an artwork is required by the artist as an agent of

action to not 'fail.' See that the framework used does not inform the case where the artist actually succeeds in creating an AI-Artwork. Therefore, we simply did not conclude whether AI Art is possible or not. If the AI system involved in the creation process can initiate the art making or decides to produce "an artifact of a kind created to be presented to an artworld public," then it follows that it will not fail when *the Attempt-Theory of Failure* is applied. However, it does not directly follow that the work produced is art since the failure conditions are not sufficient but not exhaustive. So we can state the intention to produce an artwork is definitely a starting point for the emergence of AI-Artists.

For the sake of this section, we will assume that AI has the capacity to become an intentional agent, capable of initiating certain actions, elaborating on the reasons for acting, as well as intentional decision making and expressing these intentions. The question of whether AI is conscious or not is irrelevant in our case. We are only interested in the aspect that gives rise to intentionality<sup>1</sup> and agency (where in very general terms, an agent is a being with the capacity to act, and 'agency' denotes the exercise or manifestation of this capacity (Schlosser, 2019)). If all these conditions are satisfied, what can give rise to AI-Artists? To be able to answer this question, analyzing where art stands in the overall human experience can be informative.

Regardless of the answer to the question "Why is art?" it is accepted by a majority of scholars that art has a certain connection to evolution. (Davies, 2013) In addition, it has never been plausible to think of the concept of aesthetics and art making as wholly *a priori*. Ellen Dissanayake suggests that art making is an evolved aspect of human nature. (Dissanayake, 1995) Richard Anderson argues that we can find something akin to art in all cultures and defines art as "culturally significant meaning, skilfully encoded in an affecting, sensuous medium" (Freeland, 2001). Having this view in mind, as well as our assumptions of AI as an intentional agent, what can we say about the formation of a potential AI culture in the context of singularity? What would be the impact of such a culture on the reconstruction of concepts of aesthetics and art making so that they reflect a cultural significance (where culture refers to the culture of AI)? Alfred Gell argues that concepts of "art" and "aesthetic" are recent notions and essentially are western inventions, the application of which to other and older cultures is mistaken (Gell, 1998). In the case of a potential AI culture, the culture itself would be old in the sense that it might incorporate resemblances of certain primitive aspects of former human cultures, and it would be new for being in constant interaction with the current state of humanity.

As discussed in the previous section, current artworks are simply not AI-Art, though they are artworks that are produced with the involvement of AI. The models that incorporate AI in the creative process mostly limit the freedom that AI has on its creative potential. Even if we assume that artwork is created by an AI-Artist, it would be art produced by AI, for humans, within human terms and aesthetic qualities. It retraces humane interpretation of art worlds and mostly does it through western aesthetic traditions. Especially in the case of GAN-art, we see that the work's capacity for intentional creativity is bounded by the dataset it has been trained with.

A subtle distinction to state at this point is regarding creativity and art. As a collaborator, AI exhibits great creative potential. The question of creativity, however, does not necessarily entail the definition of art and the artist. To further understand this difference, looking into models of creative collaboration with AI is extremely useful.

Margaret Boden defines three forms of creativity: *exploratory*, *combinational*, and *transformational* (Boden, 2004). *Exploratory creativity*, which we will be specifically looking into, involves extending the limits of possibilities while remaining within the boundary of restrictions. This sort of creativity is assumed to be one that computers excel at (Du Sautoy, 2019). Looking into the potential frameworks of co-creativity, we can deduce that while enhancing the creative potentials of the human agent within the creative process, task-based (Candy & Edmonds, 2002) AI systems are capable of creative production in an exploratory sense. However, it is false to claim any creative production to be a work of art. Bounded by a limited space of freedom, one can be creative by taking certain actions while fulfilling the task provided for that space of work. Therefore, creative action is not necessarily an act of art making. Nevertheless, the act of art making and acts embodied within the artistic process embed a certain level of creativity.

Even though it is not used throughout this piece as a valid definition of art or aesthetic understanding, Kant's view on aesthetics is quite a relevant perspective at this point. He considers the concept of beauty to be built in the process he specifies as 'free play of imagination.' In a cognitive and expressive manner, liberating systems of AI or creating systems that lead to AI getting creative without a certain task/purpose might result in an alternative direction.

## Conclusion

In this paper, we have first used the institutional theory of art by George Dickie to examine whether the current AI Art constitutes art or not. Though it follows that contemporary works that utilize AI as a creative tool fit into the institutional definition of art, works fail to constitute what we can define as AI Art (demanding an AI Artist as the essential artistic agent), which requires subtlety to distinguish from 'art on AI' or 'Artificially intelligent art.' After some clarification on the use of these terms, we claimed that AI Art is a subset of art. Following, we have shown that art making is an action type. With this categorization, we could apply the *Attempt-Theory of Failure* to deduce that contemporary AI Art attempts fail to constitute necessary conditions for AI-Artists to emerge. In the last section, we argue the historically-formed aesthetic theory does not necessarily produce an infrastructure of evaluation for works from different cultures, including one AI can form through years. But developing frameworks that do not limit AI's creative potential can lead to an anthropomorphic cultural alteration for AI, resulting in a language of art unique to AI's nature.

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