Artefact-beings: hybridising painting through artificial intelligence[1]

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When we speak about hybridising painting, what are we proposing? We can perhaps declare all painting as being a hybrid, always transforming and adapting. Always, and especially, after so many declarations at different times that painting was dead. "Painting" is a comprehensive term for a large and growing diversity of media that have in common the purpose of representing something through something else. The limits that confine our definition of painting change and evolve according to emerging technologies. The very first paintings that we know of were made with charcoal, dirt, minerals and carbonised bones smudged with the painter's hands on rocks. Today, due the rapid evolution of technology and artists' constant appropriation of it, defining painting continues to be a difficult task.

The concept of transmedia art has been gaining momentum as artists appropriate an ever-increasing array of different media that relate with each other to create fictional narratives. Artificial intelligence (AI) models, particularly text-to-image (TTI) models, have been under the spotlight as a source of both fascination and criticism that seems to create a problematic new challenge for the role of the artist. However, the potential of painting with physical and simultaneously virtual means, in transmedia logic, is still yet largely left to explore. This project aims to question, using AI models within this hybrid practice, how the pictorial and the virtual can be intersected in poetics of remixing and hybridisation, challenging the ontological status of both media as systems of representation.

In the following text, we will analyse the expansion of the disciplines of painting and sculpture towards a growing hybridisation of their practices, contradicting the modernist paradigm of the search for purity of the medium. Based on this, we will understand how the notion of medium specificity has been losing relevance within post-modernist art, analysing the dissonances through which the work of art operates. We will then see how various authors have studied the concept of hybridisation in contemporary art, within the context of technological development, the digital and post-internet era and theories of convergence and transmedia culture. This way we will see what happened to the idea of painting as a discipline and category based on a medium, and contrast it with a reflection on the current status of this type of category. With that objective, we aim to re-evaluate the pertinence of this medium condition and raise other ways of thinking about the meaning and transformation of the discipline of painting.

Natural	–	**Artificial/Cultural**
landscape	–	architecture
3D	–	2D
dynamic	–	static
reproducible	–	singular
physical	–	virtual
authentic	–	fake
real	–	fictional
...	–	...

Table 1. Arrangement of various dichotomies present in the categorisations of artistic media

The present project is a continuation of my artistic practice. In this work, I created what I shall call "artefact-beings", digital three-dimensional forms constructed through the intersection of painting with AI. These are hybrids that represent the confrontation between perceived reality and constructed representation – in other words, the transformations resulting from the attempt to represent aspects of reality that are inevitably influenced by subjective perspectives, tendencies and biases. With this objective, representations of concepts were played with through images and words – the visual and the semantic. This, as we will see, is expressed with the infusion of human characteristics through words – such as words for feelings, personality traits and political or philosophical opinions – as well as characteristics from other beings or even inert things – such as words for morphologies, textures and abilities. These traits are hybridised with painting through the use of Stable Diffusion (SD), a deep learning text-to-image and image-to-image AI model, to shape images that are then transformed in a procedural way to 3D models and animations. To that end, a methodology was created to make various iterations – artefact-beings – characterised by automated processes that use AI (Stable Diffusion as well as ChatGPT), conditioned and supervised through aesthetic and artistic human choices.

Through the confrontation between the organic and the artificial, real and imaginary, authentic and fake, physical and digital expressed through these hybrids, I address the complexities of how we see, understand and represent things. To confront these ideas,

paintings needed to be the starting point for a transposal to the digital world through different processes that imbued them with diverse traits, such as feelings and beliefs, while simultaneously transforming the physical two-dimensional image into a virtual three-dimensional thing. This procedure uses different media, as we will analyse, intersecting them in an unprecedented way.

Expansion of the field of painting

In her seminal work "Sculpture in the Expanded Field" (1979), Rosalind Krauss refers to how modernist sculpture "had entered the full condition of its inverse logic and had become pure negativity: the combination of exclusions."[2] By moving away from its condition as a monument, its traditional stationary location and its pedestal, the sculpture was transformed by artists into something that is arguably hard to characterise and even more difficult to categorise. According to Krauss, modernist sculpture had come to enclose a field that resulted from two absences: it was simultaneously "not-landscape" and "not-architecture".[3] Moreover, there has been a further expansion to sculpture's field of action since post-modernism. Since then, this art form has moved beyond the previous two binaries precisely into what it used to deny: its opposites – architecture and landscape. Krauss concludes that post-modernist art practices no longer organise themselves over the definition of a given medium, of certain physical attributes, but around concepts that are felt as opposites. The author amplifies the concept of sculpture that the last century built into various possible combinations of landscape, not-landscape, architecture and not architecture, as fields that artists can explore and occupy.

The type of quaternary system that Krauss employed has been adopted by different authors in attempts to organise other disciplines into expanded fields as, for example, architecture, writing, video games and performance.[4] This system was also employed

2 Rosalind Krauss, "Sculpture in the Expanded Field", *October*, vol. 8, 1979, pp. 289–290. *JSTOR*, https://doi.org/10.2307/778224.

3 *ibidem.*

4 See: Ila Berman and Douglas Burnham, *Expanded Field: Installation Architecture Beyond Art*. Novato: ORO Editions 2016; Lucinda Strahan, "Permissions: On expanding the field of writing", in: *Writing in the Expanded Field*, 2018, https://expanded-field.acca.melbourne/2-permissions.html; Alice Nant, "Video Game in the Expanded Field", *An Ants Eyeview*, 03.02.2020, https:// anantseyeview.com/2020/02/03/videogame-in-the-expanded-field/; Alessandro Zambelli, "Performance in the Expanded Field", *Scandalous Artefacts: Between Architecture, Archaeology*

by Gustavo Fares with the task of understanding the similar condition that transformed painting in the last century.[5] Just as it happened with sculpture, Fares argues that painting, having moved away from a delimitation based on its "positive" attributes as pigments on a surface, also came to be defined by its "negative" outline: three-dimensional and in movement. Painting in the expanded field exists, therefore, within the fields created by the opposing concepts of 3D, not-3D, movement and not-movement. To this, Fares also adds another polarity initially proposed by Krauss: singularity/reproducibility. Accordingly, this model potentially includes fields such as installation, performance, video art, body art, photography and digital art, among others.

Let us look at the combination of the opposing terms proposed by both Krauss and Fares for sculpture and painting. They are grouped under the two main categories of Natural and Artificial/Cultural, which is the central dichotomy as suggested by Krauss herself, that conduces the tensions within the work of art between the constructed and the not-constructed. I added other dichotomies that are relevant to this discourse, namely physical and virtual, authentic and fake, real and fictional, while leaving the table open for other potential additions.

We are thus dealing with the dichotomies that characterise this natural versus constructed opposition. Within the space where these pairs exist, there are the fields in which artists work – at the tension between the borders of perceived reality (natural) and constructed representation (artificial/cultural). On one side there is our subjective understanding of the "real" world and the way we perceive it and, on the other, the various ways in which this perception is mediated and represented by us. As we have already seen with Krauss and Fares, post-modernist art no longer limits itself to the search for purity of representation or media but takes on a play with opposites whose relationship is mediated through interpretation. Throughout the operations of perception and representation and vice-versa, there is a divergence from and consequent transformation of the interpretation of phenomena. By acknowledging and exploring it, we gain insight into the complex relationship between experience and subjective narratives that inform our knowledge about the world. The implicit back-and-forth play in the processes of creating and experiencing a work of art relies, then, on what we see as natural or artificial through representations that exploit the ambiguity of such perceptions.

and Anthropology, 23.09.2022, https://scandalousartefacts.com/2022/09/23/performance-in-the-expanded-field/.

5 Gustavo Fares, "Pintura no campo expandido", *PORTO ARTE: Revista de Artes Visuais*, 18(31) / 2013, https://doi.org/10.22456/2179-8001.37934.

Our assumptions about what is "real" depend on how it is described and interpreted, and post-modernist art made obvious the processes of representation of the real and the fictional as well as their amalgamations by crossing the borders of fact and fiction, and hybridising, not assimilating them.[6] The process of convergence as well as its resulting transmedia aesthetic have been brought to the field of art making it possible to "consider that, finally, contemporary arts have become transmedia environments where artists use various means and media to summon their ideas and concepts about the world in which we live".[7]

Convergence and hybridisation

The concept of a "hybrid" is used by Lev Manovich to refer to different combinations resulting from the intersections of various types of new media – photographs, videos, 2D and 3D animations, 3D spaces, maps, social tools, etc. – that, according to the author, came to function as species in a common ecology (a shared software environment) and "started interacting [and] mutating".[8] According to Manovich, unlike typical multimedia documents, media hybrids are mixed in such a way as to create new gestalts experienced in a way different from experiencing their elements separately – a feature which results from remixing "not only content from different media but also their fundamental techniques, working methods, and ways of representation and expression".[9] Such an interaction between different methods of creation is what originates, according to the author, new visual aesthetics that did not previously exist.

Manovich also compares this process to a remix – the emergent aesthetic principle of the era of globalisation that, along with the introduction of personal computers, has transformed the whole of western culture by calling attention to the artistic potential of selection and recombination. As the author points out, this "cut and paste logic"[10] co-

6 See: Linda Hutcheon, *The Politics of Postmodernism*. London: Routledge 1986.

7 Patrícia Gouveia, "The New Media vs. Old Media Trap: How Contemporary Arts Became Playful Transmedia Environments", in: *Advances in Media, Entertainment, and the Arts*, https:// doi.org/10.4018/978-1-7998-3669-8.ch002. Pennsylvania: IGI Global 2020, p. 37.

8 Lev Manovich, *Software Takes Command*. London: Bloomsbury 2013, p. 164.

9 *ibidem*, p. 268.

10 Lev Manovich, *The Language of New Media*. Cambridge, MA: The MIT Press 2001, p. 131.

incided with the development of graphical user interfaces (GUI) and post-modernism. The usage of electronic tools in cultural production made its objects not only more self-referential but also mutable and variable given the nature of the electronic signal itself, which rendered the new media objects as "something that can exist in numerous versions and numerous incarnations".[11]

The concept of remix is used also by Nicolas Bourriaud to describe how artists employ available media beyond mere appropriation, associated with ownership, instead moving towards a collective culture of sharing.[12] This art of post-production, as Bourriaud describes, is a result of the ubiquity of the internet and a reaction to the chaos of global consumer culture, as enacted by artists whose works are products of said culture, no longer created from scratch but, rather, made of artefacts that are already in circulation and often already influenced by other cultural phenomena. According to the author, in this new paradigm, the work of art is no longer an end in itself but a moment – or a terminal – in an infinite web of contributions.

Claire Bishop confirms the artistic tendency to emphasise the recontextualisation of the existing artefacts. At the same time, however, she criticises the rejection of new media by visual arts.[13] According to her, the "hybridised solutions"[14] that the mainstream visual arts have been using, suffer from the tendency to exploit the new media as merely accessory or decorative, lacking the confrontation with "what it means to think, see and filter affect through the digital".[15] This, in her view, is due to the infinite variability of the digital image being incompatible with the need for affirmation through uniqueness, traditionally associated with the single or limited edition of an artwork. Within the post-internet art, however, there are authors that declare their practices as characterised by "hybridity and hyper-mediation of existing genres".[16] Art, in this context, affirms "an awareness that all culture has been reconfigured by the Internet – or by the Internet-enabled neoliberal capitalism".[17]

11 *ibidem*, p. 134.

12 See: Nicolas Bourriaud, *Postproduction. Culture as Screenplay: How Art Reprograms the World*. London: Lukas & Sternberg 2006.

13 See: Claire Bishop, "Digital Divide: Claire Bishop on contemporary art and new media", *Artforum*, 51(1), 2002, pp. 435–442.

14 *ibidem*, p. 441.

15 *ibidem*, p. 436.

16 Jennifer Chan, "Notes on Post-Internet", in: Em O. Kholeif (ed.), *You Are Here: Art After the Internet*. Manchester: Cornerhouse Publications 2014, p. 110.

17 Michael Connor, "Post-Internet: What It Is and What It Was", in: Em O. Kholeif (ed.), *op.cit.*, p. 61.

Mark Hansen suggests a "mixed reality" to explain the paradigm of the "fluid interpenetration of realms"[18] that artists nowadays can activate, combining physical and virtual spaces and bodies. According to Hansen, this paradigm reconfigures virtual reality's origin to "a desire for complete convergence with natural perception".[19] Beyond the concerns of separating disciplines such as painting, sculpture, installation, net art and others, art has become ever more a hybrid due to associating itself with what, at the surface, it is *not*. It has become "transaesthetic", as Baudrillard expresses when describing the general tendency of various disciplines and areas of expertise towards losing their specificity and participating in a process of contagion.[20]

The practice of convergence in contemporary art is comparable to the concept of "plasticity": something that is subject to the transfiguration and modelling of forms[21] or to silt, that simultaneously represents construction and erosion.[22] Convergence culture, as defined by Henry Jenkins – "the flow of content across multiple media platforms"[23] – has been appropriated from media theory to the world of art, resulting in a new aesthetics that Jenkins calls transmedia storytelling, which relies on the creation of fictional worlds that "cannot be fully explored or exhausted within a single work or even a single medium".[24] Unlike in Clement Greenberg's ideas about medium specificity that called for the purity of each medium, we can affirm that much of art being made nowadays transcended such preoccupation. Artists openly articulate multiple languages through various media or by employing intertextuality.

Painting, then, is no longer an inert or a static discipline; it ceased to be one from the moment the paint stopped being its medium and the surface stopped being two-dimensional. Throughout the last century, we have been witnessing the transformation and expansion beyond rigid traditions of categorisations of art based solely on the media specificity. Artists have explored the frontiers of the territories that used to delineate disciplines and deny that which used to be painting, sculpture or art. A good

18 Mark B. N. Hanses, *Bodies in Code: Interfaces with Digital Media.* London: Routledge 2006, p. 2.

19 *ibidem*, p. 4.

20 See: Jean Baudrillard, *The Transparency of Evil: Essays on Extreme Phenomena*. New York: Verso 1993.

21 Patrícia Gouveia, *op.cit.*, p. 37.

22 Linda Hutcheon, *op.cit.*, p. 63.

23 Henry Jenkins, *Convergence Culture: Where Old and New Media Collide*. New York: New York University Press 2006, p. 2.

24 *ibidem*, p. 114.

example may be the realisation that the techniques employed by painters – such as perspective, contrast, texture, scale, shadow, composition and so on – independently of the style or the artistic movement, have all been devices for creating the illusion of depth or movement. This shows how even a two-dimensional, flat and static painting is much more than that, playing with the apparent limits of representation. Painting can be thus considered a "surface of conversion"[25] a surface of equivalence and articulation between different ways of making and perceiving.

Considered as such, painting can be used as a live conversion medium, no longer confined to a specific set of material characteristics, but a part of a larger discourse that transcends them. The convergence of different media, along with intertextuality and the exploitation of each medium's boundaries, turn contemporary painting into a complex and versatile form of artistic expression. Thinking about painting as a hybrid encompasses its gradual development and engagement with diverse materials, techniques and modes of representation, challenging the conventional understanding of it, and taking advantage of the plasticity and variability associated with the post-modern era, particularly as regards the evolution of technology and digital devices.

In light of this, the question remains whether it is still relevant to talk about specific disciplines – such as painting or sculpture – or even "visual" art. These terms, more than hermetic and imperative categories, may serve to characterise artistic techniques, concepts or motivations, adding meaning and intention; just as well, however, they may be discarded.

Creating hybrids

This essay follows practice-based research through which I have created a series of "artefact-beings" based on a process that aims to explore Rancière's idea of painting as a surface of conversion. Each artefact was created from an iterative process resulting from a physical-digital methodology relying on the convergence of different media to create hybrids. These are hybrids because of their process of creation since they were produced through the complementary use of different media and techniques: painting, programming, text and image AI generation, procedural 3D modelling and animation. They are hybrids also because they result from the combination of personality traits and other characteristics, interlacing the previously analysed dichotomies of the natural and the artificial.

25 Jacques Rancière, *The Future of the Image*. New York: Verso, p. 75.

This project stems from a process that was transformed and refined through constant experimentation with different media and methods. It started with the intention to create digital objects from physical paintings and, in this sense, comes from an artistic practice that has been characterised by transposing painting into media that does not typically support it, playing with dimensionality and adaptability.

The name “artefact-being” arose initially as a way of calling the objects that were made up: they were not paintings, 3D models, or programs, but a mix of them. The fact that this process was always evolving and undergoing various transformations was also relevant to the idea that growth and metamorphosis were an intrinsic part of it, suggesting the necessity of conjugating a natural being with a constructed thing.

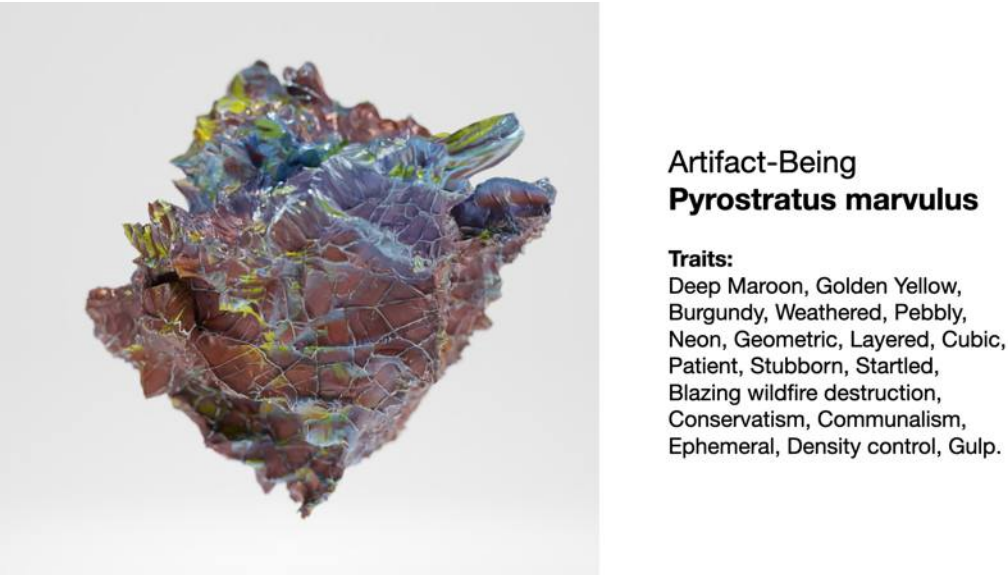


Figure 1. Artefact-being represented by a render from a 3D model, a name and a list of traits

The iterative process created to generate various artefact-beings involves several stages of successive “translations” from one medium to another, comparable to the children’s game called Telephone or Chinese Whispers, in which a message is silently transmitted from person to person, often becoming misheard or intentionally changed. As soon as a part of the process is transposed to another medium, the image or message is in a way corrupted, acquiring new characteristics. This project is an exploration of such transference between different media.

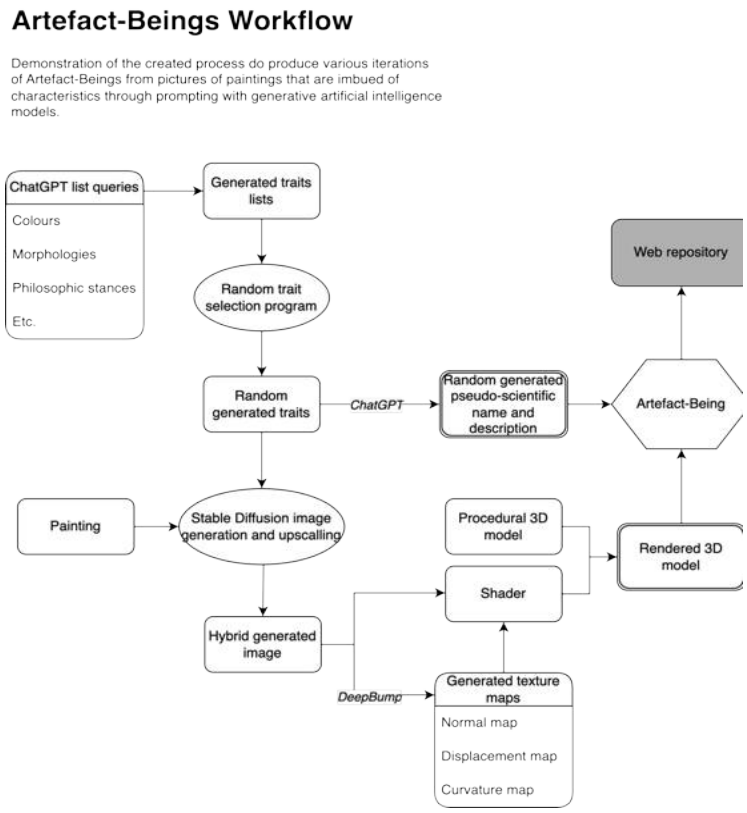


Figure 2. Workflow

As we can see in Figure 1, the workflow is non-linear. The starting points for each iteration that produces one, unique artefact-being, begin with a painting and a list of traits. Regarding the painting, we start with one image that is a fragment of a physical painting of mine, created with oils or oil pastels. This image is then processed into a Stable Diffusion 1.5 model (hereafter called SD) with the goal of achieving a mix between something that was initially created on canvas or paper with paint and afterwards modified through AI.

Trait generation

To transform these paintings through the imposition of traits, I asked ChatGPT to create several lists, each composed of 500 unique types of characteristics to be attributed to the artefact-beings. These same lists were used for each iteration and included names of colours, textures, visual traits, morphologies and sounds, as well as psychological characteristics, feelings, philosophical concepts and unusual abilities. The next step was to randomly assign a set of traits for each artefact-being, based on these lists. To that end, a program was created in C# programming language, which I called "Artefact-Being Generator". This program reads various lists and randomly selects a pre-determined number of traits from each of them. For example, it always selects three colours, two textures and one feeling, in this way helping to obtain both variety and consistency. Afterwards, the program exports each of these pre-selected sets to a text file.

Each of these sets of traits is then used to create not only the image and then the 3D model that will be the visualisation of an artefact-being, but also to generate an accompanying text that is complementary to it and helps to integrate concept and form.

Colours:	Grasshopper green, Cool grey, Yellow
Textures:	Leathery, Flecked
Visual characteristics:	Bold, Bright
Positive psychological characteristics:	Tendrilous, Compound
Negative psychological characteristics:	Humble
Feeling:	Narcissistic
Climate:	Fulfilled
Stances:	Tropical paradise
Stances:	Atheism, Social constructivism
Rare adjective:	Obsequious
Weird ability:	Molecular manipulation
Sound:	Gush

Table 2.

Image generation from paintings with Stable Diffusion

Each set of traits was paired with a painting to generate a two-dimensional image through AI-based tools, which would then be used as a base for the texture and the morphology of the three-dimensional model. Accordingly, I used the SD model of image-to-image generation to imbue a set of traits into a painting. The traits served as prompts for SD to modify the painting. About 50 solutions were generated for each set of traits paired with a painting, and from these, only one was chosen to continue through the remaining part of the process. The criteria for choosing just one image from so many others were, on the one hand, aesthetic concerns and, on the other, the intention of selecting the option that could benefit most from subsequent stages of the process.

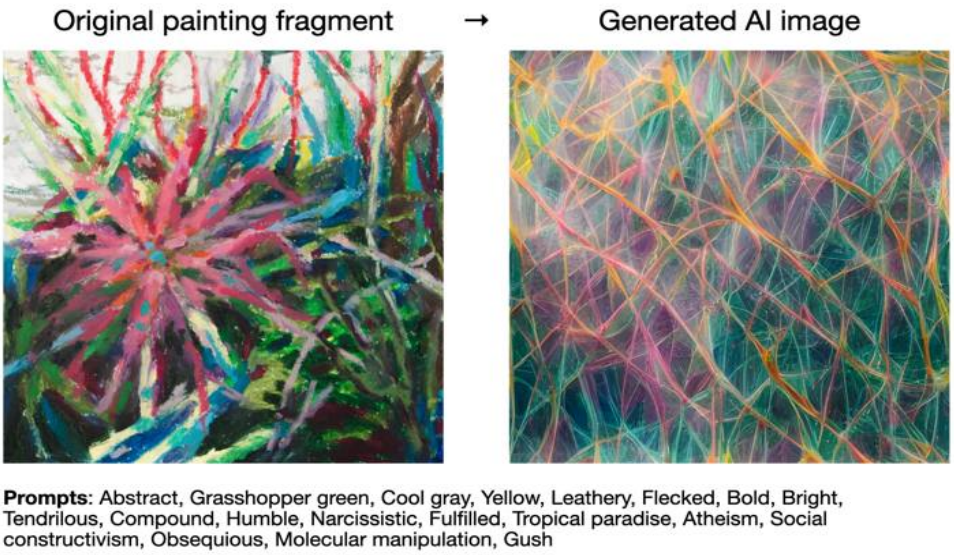


Figure 3. Generated image with Stable Diffusion from one painting and one set of traits as prompts

We can see some examples from the assortment of images generated with SD in Table 3. The images under the column “text-to-image” show the images generated with SD only with prompts. A major difference can be noticed between them and the images created by additionally conditioning SD with fragments of paintings, which automatically add not only aesthetic and formal qualities but also an authorial touch. In the same table, we can also see the seed numbers that act as unique identifiers of iterations, which are

what initiates the pseudo-random generation. In this context, it is worth stressing that the seed numbers only *imitate* randomness, since computers are deterministic and, thus, inherently incapable of generating something truly arbitrary.

Prompts	Original painting	Seed #	Image-to-image	Text-to-image
Abstract, Grasshopper green, Cool gray, Yellow, Leathery, Flecked, Bold, Bright, Tendrilous, Compound, Humble, Narcissistic, Fulfilled, Tropical paradise, Atheism, Social constructivism, Obsequious, Molecular manipulation, Gush	 "Nightbloom"	3589152880		
		3241368950		

Table 3. Demonstration of the conditioning produced by one painting in images generated with Stable Diffusion

Texture maps and 3D procedural model generation

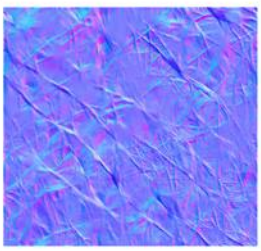
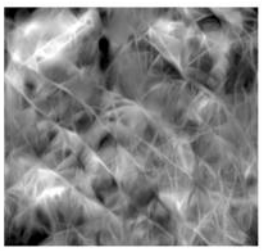
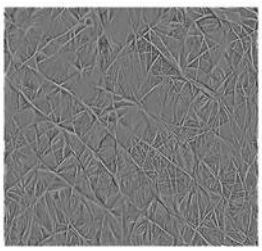
Stable Diffusion upscaled generated image	Generated normal map	Generated height map	Generated curvature map
			

Table 4. Texture maps generation from a single image through DeepBump

The generated image was introduced into Blender, an open-source 3D graphics software, to initiate the process of turning this two-dimensional image into a three-dimensional object. First, the SD-generated image was used to endow the final model with colours and as a source for generating more images that would then be used as texture maps for the effect of three-dimensionality. With that in mind, I used Blender's add-on called DeepBump for each SD-generated image to create regular maps, displacement maps and curvature maps. Combined, along with the source image, they constituted the object's shader, which defined its texture and relief – the "skin" and the "mass". In it, the normal map added the appearance of relief, the displacement map defined topology and the curvature map supplied information about the apparent concavity/convexity of the image, which was used to further enrich the texture of each of the models.

Underneath this superficial layer, it was necessary to have a 3D model as a base whose shape could be modified from the surface – the shader that contained all the aforementioned maps. This "base model" was created from a sphere to which a Voronoi tessellation was applied to create random irregularities. Furthermore, a different seed in the fourth dimension of the Voronoi tessellation was added to generate successive random shapes.

Figure 4. Comparison between the 2D image generated in Stable Diffusion with the final artefact-being model render

After this process and the addition of lighting and a neutral backdrop, a final model was attained, which can be seen on the right of Figure 2, from the generated 2D image on the left. For each of the artefact-beings, the same model was duplicated, with only texture maps and the procedural seed number altered. At the final stage, renders were generated, as well as some animations.

Generating a complementary description with ChatGPT

"Narcissus textrix"

"Narcissus textrix is a species of artifact-beings known for their striking appearance and unique abilities. They have a grasshopper green hue with gray undertones and splashes of vibrant yellow. Their tendrilous appendages, reminiscent of grasshopper antennae, allow them to manipulate molecular structures at a microscopic level.

Despite their narcissistic disposition, Narcissus textrix also exhibit humility and a lack of theological beliefs, embracing atheism and prioritizing empirical observation and rationality. They engage in complex social constructs, forming hierarchies and networks based on cooperation and interdependence, while maintaining harmonious relationships.

These artifact-beings thrive in tropical environments and appreciate the natural beauty of their habitats. Their radiant presence and molecular manipulation abilities contribute to the mesmerizing spectacle of their tropical abodes."

— ChatGPT text generation with provided trait prompts.

Figure 5. Generated text from a query in ChatGPT-3 for a scientific description of the "Narcissus textrix"

The set of traits initially generated for each artefact-being was ultimately used for two things: its form and character. These were represented through, respectively, a three-dimensional digital object as described above, and a written description. The latter was generated, like the rest of this work, through AI. In this case, the aim was to generate one text from another, for which ChatGPT was again used. First, it was prompted to make a list of different "scientific" names for an artefact-being with a set of previously defined traits. For example, in the case of Figure 2, the description was based on the characteristics referred to in Table 2. ChatGPT gave back various expressions that mimicked scientific names by simply Latinising or making allusions to the Greek roots of the inputted words.

Once one of these names was chosen for an artefact-being, ChatGPT was prompted to write a scientific description of it, taking into account the object's specific set of traits and attributes, such as the morphology, etymology and curious facts about it, while keeping an academic tone. The conjuncture of an academic tone, scientific form, fictional content and artistic vision gave interesting – even if at times contradictory – results, which Figure 5 well demonstrates.

Renders and animation

Figure 6. Renders of different artefact-beings

This way, with a 3D model and a corresponding description, we obtain a final form of an artefact-being. After the rendition, whose effects can be shown above, an accompanying animation was created, demonstrating the artefact-being's growth or evolution. It was done mainly by progressively changing the scales of texture maps that helped to transform the object from a simple model to a very detailed one.

Artificial intelligence in the creative process

The work *Portrait of Edmond Belamy*, created with AI and sold by Christie's for 432,000 dollars in 2018, ignited the debate on authorship in art while also raising questions on the notions of originality and autonomy.[26] Various authors compare the advent of art produced with AI and its resulting shock in pre-established modes of creating art to the invention of photography and its effect on painting.[27] This shows how in recent years the subject has been seriously discussed, particularly since 2022 with the popularisation of models similar to Stable Diffusion that was used in this project. The SD model, unlike other text-to-image (TTI) models, which take hundreds of hours of GPU computation, requires significantly fewer resources and allows a modification of the existing images through an image-to-image translation.[28]

Generative art, as created in this project, has a history that precedes the use of computers, since – at the very least – Jean Arp who in the 1910s created artworks governed by chance, John Cage who in the 1950s used random rules to create music and Sol LeWitt who in the 1960s used instructions to elaborate his works. In each of these cases, according to Hertzmann,[29] despite the generative element present in the artworks, it is the human that is considered the author, as it was the human that developed the whole creative decision process. The author considers that no matter what technology is employed, it will always be just a tool, just like the AI algorithms that have been emerging: there is always a human behind the work.

In this project, the aim was to explore the "capability of translating symbolic representations (textual descriptions) into iconic ones (images)".[30] The "understanding" that these systems have of images is literal, as they are trained on millions of them, paired with descriptions; consequently, the images they produce reflect the content of

26 Eva Cetinic, "Understanding and Creating Art with AI: Review and Outlook", in: *ACM Transactions on Multimedia Computing, Communications, and Applications*, vol. 18, 2022, pp. 1–22.

27 See: Aaron Hertzmann, "Can Computers Create Art?", Arts, vol. 7(2), no. 18/2020, https://doi.org/ 10.3390/ arts7020018; Avijt Ghosh and Genoveva Fossas, "Can There be Art Without an Artist?", arXiv, 16.09.2022, http:// arxiv.org/abs/2209.07667; Jon McCormack et al., "Is Writing Prompts Really Making Art?", arXiv, 26.01.2023, http:// arxiv.org/abs/2301.13049.

28 Anne-Sofie Maerten and Derya Soydaner, "From paintbrush to pixel: A review of deep neural networks in AI-generated art", arXiv, 14.02.2023, http://arxiv.org/ abs/2302.10913.

29 Aaron Hertzmann, *op.cit.*

30 Jon McCormack et al., *op.cit.*, p. 4.

the text literally, having no recognition of metaphors, analogies or visual poetry, as Mc Cormack et al. point out. Despite that, as often happens with internet searches, word searches give back the most common, stereotyped and discriminatory interpretations – for instance, a search for a "beautiful man" gives back images of a white, young and athletic man. Likewise, as the authors say, "when used as part of prompts, basic artistic concepts such as 'beauty' follow the statistical patterns expressed in the dataset, precluding cultural differences, homogenising representations, and reinforcing biases".[31]

By exploring image generation with Stable Diffusion through a mix of concrete and abstract prompts, this theoretical-practical work takes advantage of the model's limitations as regards expressing human concepts, which in turn reveals many biases of our own condition.

Conclusion

As we can see, painting is capable of hybridising, contaminating and fusing with other modes of representation through interaction with them and the use of physical and digital media in a complementary way. This allows us to think about the artistic practice in which painting emerges as a "surface of conversion", like Rancière declared – a live conversion medium between the natural and the artificial.

To consider painting in this way, to "hybridise" it, allows us to challenge traditional notions of artistic media, expanding the possibilities of an author's expression and opening new opportunities for experimentation and innovation at the intersection of different disciplines, materials and techniques, which results in bringing together the ideas and approaches. This process can lead to the emergence of different perspectives, non-conventional aesthetics and unique artistic languages. Furthermore, hybridised painting reflects the cultural scene characterised by interconnectivity and digitalisation. It also acknowledges the influence of technology on our perception, as well as the fluid nature of contemporary identities, narratives and representations. Finally, it encourages the reassessment of the role that has painting in contemporary practice by challenging the notion of it as something two-dimensional, static and singular. In this context, the idea of painting is no longer confined to a specific medium and becomes part of a larger discourse that transcends different media. Their convergence, the intertextuality and the exploration beyond boundaries characterise contemporary painting as a multifaceted mode of expression.

31 *ibidem*, p. 6.

This project was based on an iterative process, in which AI was used at various stages to intertwine painting and digital forms. However, the author's influence was always present. The elements of randomness and serendipity introduced at different steps were, in fact, pseudo-random procedures that relied on the computer's determinism as well as – even more substantially – being conditioned by the author. In this particular phase of the project, the painting served as a point of departure for AI's "imaginings", influencing the generation of the artefact-beings.

Artefact-beings themselves are hybrids. Each is an artificial object while, at the same time, it is imbued with a psyche, feelings, spirituality, convictions and so on. Each is a representation of a unique set of these traits. These attributes are inscribed in the process of its creation through words interpreted by programs that try to translate into images what the human understanding is of these words. The textures of the skins of artefact-beings, as well as their morphologies and colours, are defined by the ideas that they represent, imagined by a computer that stores our collective knowledge. Our reality is shaped by this vision. We see everything, including ourselves, through the shared images that we collect on computers. Artefact-beings are a conglomerate of things that exist and those that are imagined. As such, they exist in a space of liminality. They can be seen as symbolic representations of the play between perceived reality and constructed representations, incorporating the liminal space where these boundaries get blurred.

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