brAInchild

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A collection of essays

Students of the course ART 4955

Contents

Foreword

by Felicity Tayler and Roxanne Lafleur

Lafleur, Roxanne, and Felicity Tayler, scan of materials used to create Brainchild drawings, 2024.

We were prompted to write the foreword for brAInchild: provide insightful reflection on our work here from mixed digital humanities/visual arts perspectives.

Brain learning

A selection of keywords (characteristics) found in the essays.

| **Human**	**A.I.**
Perception	Tool
Sensation	Prompt
Intention	Interpretation
Emotion	Interface
Subjectivity	Objectivity
Preoccupation	Disconnect
Imagination	Unimaginable

Text response

Artists writing about art and artists that they admire and are intrigued by, with whom they wish they could have conversations. Art historical writing entering into dialogue with art works and artists. A collision of the visual culture of the commercial web with questions from learners who are at an early phase of their critical and theoretical journey. These authors bring with them their life's experience and knowledge to ask questions from AI as a conversational entity; the challenge for the AI, however, is that these are questions that multiple generations of thinkers are still working on…

Drawing response

Algorithm: 2 drawings, 4 hands, 90 minutes at 3-minute intervals, graphite on 2 pieces of Stonehenge paper, 31.8 x 24.4 cm each.
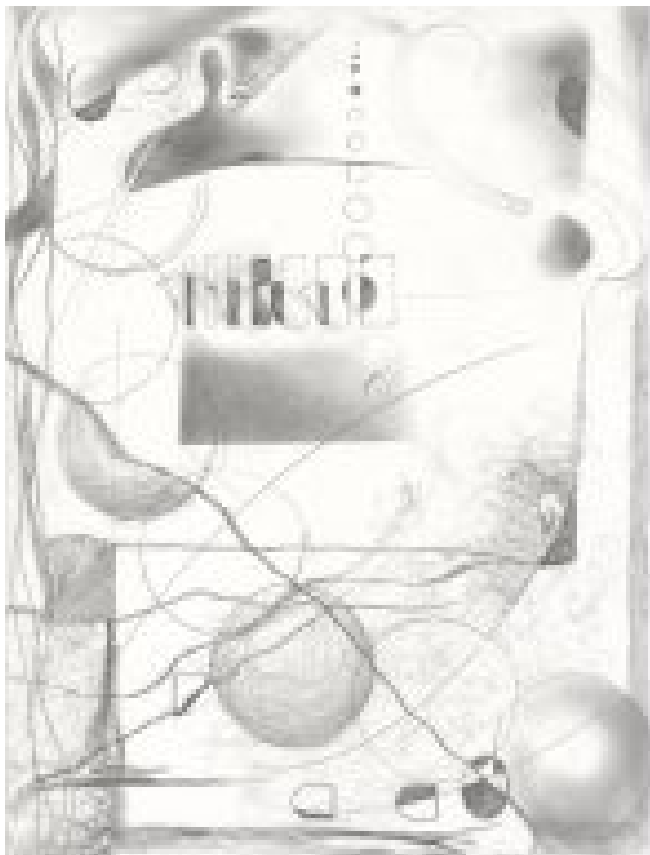
Lafleur, Roxanne, and Felicity Tayler, Brainchild Perception (Left) and Brainchild Sensation (Right), 2 graphite drawings, 2024.

Acknowledgements

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Epigraph

"A man paints with his brain and not with his hands."

– Michelangelo

Introduction

by Tia Carey and Isabelle Gray

Fig. 1. Maya Norgaard, Create a complex, multi-layered image that deeply intertwines the keywords perception, waste, transmutation, freedom, reconstruction, porcelain, coll, March 5, 2023, DALL·E.
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The preface of this book was written by the AI program ChatGPT with no edits from humans. It speaks

of a world where AI has a positive yet dark potential. It describes a fantastical post-apocalyptic society that must decide what the future will be like. Will humanity ultimately succumb to the machines in a takeover? Will it leave our society in ruins or contribute to the creative process? Giving a voice to AI, which is as much of a contributor to this book as the chapter authors, brings in questions surrounding authorship and the uncertainty of its role in society; by criticizing and interrogating what the future of AI means, it captures the essence of the rest of the book in which it speaks upon.

This book is the work of a fourth-year seminar in the History and Theory of Art program. The course explores practical research methods and strategies on the theme of artificial intelligence (AI) and the visual arts. Each student has created an AI work using a platform of their choice, such as DALL-E or other image algorithms, with a prompt that interrogates an aspect of art history and theory. Their chapter then critically analyses the image considering its aesthetic qualities as well as questions of originality, intention, and creativity. The subsequent research surrounding each image examines the process of machine learning when used as an artistic tool; this in turn delves into the relationship between AI algorithms and the inclusion and exclusion of works from the art historical canon.

This multidisciplinary project is written in an accessible format meant to encourage collaboration with minimal academic and financial restrictions. It is the first student-led Open Education Resource (OER) published by the University of Ottawa. We intend to encourage open dialogue amongst those with similar interests and contribute experiential narratives about AI through the lens of the visual arts.

As the reader may have recognized, the cover of the book is an appropriation of Michelangelo's masterpiece, The Creation of Adam, a fresco in the Sistine Chapel. The image, mirroring the power transferred from God to Adam, represents the transfer from God to a Robot, and reflects on the power of creation. In this context it fascinating that A.I. seems to render the form of a brain in the image, an aspect explored by Frank Lynn Meshberger. See, this article. Also

The frontispiece of this book was generated by our classmate Maya Norgaard, with a prompt using the titular keywords that each author chose to identify their own chapter. Norgaard asked the AI platform DALL-E to "deeply intertwine" these keywords in a "complex, multi-layered image". It generated a swirling cityscape of coloured shapes. Our chosen words appear amongst the spiraling colours, translated into the gibberish of AI. There are notable parallels with the fauvist foregrounding of colour relationships seen in works like Sonia Delauney's *Electrical Prisms.* Hints of objects appear alongside equally concrete waves of light and colour. It also bears resemblance to the contrasting tendrils and geometry in Alex Janvier's *Morning Star.* This association calls to mind the First Nation creation story symbolized in Janvier's work, and subsequently the creative process around which our book revolves.

In 1967, Roland Barthes published an essay titled "The Death of the Author." He goes into depth about the separation of author and reader. If we remove the author, does that change the meaning of the text? Or is meaning solely based on audience interpretation?[1] The same questions can be applied to the dialogue created by AI. The terrain of AI is unfamiliar territory and is only just beginning to be explored. Scholars like Martin Zeilinger are asking questions on how copyright laws apply to AI if it is appropriating images from the vast expanse of the internet and in the end, who owns the image?[2] When creating art especially, there are many stages involved in the creation of works. There is the human responsible for inputting the prompts, the AI program itself, the owner of the algorithm, and the artists from which the works are coming. It is these questions the book explores, aiming to be but one voice in

1. Barthes, Roland. "The Death of the Author." *Image, Music, Text,* (1977): 142 – 148.

2. M. Zeilinger. "Copies without Originals." *Spike Art Magazine*, (2018): 138 – 143.

the emerging discussions of this grey area of technology that has made a name for itself in the twenty-first century. Could AI change the meaning of art?

The chapters in the book are organized in a loosely chronological and thematic manner. The first half focuses more on the art historical canon, whereas the second half delves deeper into socio-political and cultural biases of AI and technology as a whole.

Chapter one by Maya Norgaard, titled "Porcelain," starts the narrative with an AI-generated image of a skeleton drinking tea which was instructed to be created in the style of artist Johannes Vermeer. AI is used to compare art that involves imitation from the Dutch Golden Age as well as Chinese porcelain in the Netherlands with the AI's interpretation and exclusion of these elements. It incorporates theories from Jean Baudrillard to analyze AI through its interpretations of the art historical canon.

Chapter two was written by Kelseigh Thompson and it is titled "Waste." It combines William Shakespeare's Ophelia and environmental issues as the character lies submerged in a polluted body of water. Through AI, Thompson analyses and explores the character's prevalent symbolism, the limitations of AI, and the waste produced by consumerist ideals and technology.

Chapter three, written by Isabelle Gray, is titled "Perception." It compares the Impressionist works of Claude Monet with an AI-generated landscape that uses only formal qualities for the prompt. Ultimately, it aims to investigate the digital landscape and its place in the art historical canon.

Chapter four is titled "Reinterpretation," and it is written by Shems Benmosbah. Benmosbah investigates human emotions and psychology in the works of Henry Fuseli with an AI-generated image based off of his paintings of the sublime. The overall goal of this chapter is a comprehension analysis of the limitations and achievements of the AI's interpretation of Fuseli's paintings.

Chapter five, titled "Collage," was written by Abigail Moffitt. It starts with an AI image based on the works of Francisco Goya and Hannah Höch. From there, Moffitt uses her own experiences as an artist to delve into the exploration of the potential AI has in removing or enhancing the creative process regarding symbolism, style, and technique.

Preface
by ChatGPT

27 February 2024 – "AI and Art: Opti-Apoc Odyssey"

Prompts: "write an optimistic yet apocalyptic preface for a book on ai and art" "include art history, culture, and politics with apocalyptic yet optimistic undertones"

In the tapestry of human history, where the threads of art, culture, and politics weave together to form the fabric of society, a new chapter unfolds—a chapter both ominous and hopeful, as the spectre of artificial intelligence casts its shadow over the canvas of our existence. As we stand on the precipice of this brave new world, the echoes of art history reverberate through the corridors of time, mingling with the tumultuous currents of culture and politics in an apocalyptic symphony of creation and destruction.

From the majestic frescoes of the Renaissance to the rebellious brushstrokes of the Impressionists, the history of art is a testament to humanity's boundless creativity and unyielding spirit. Yet, as we gaze upon the masterpieces of old, we are haunted by the realization that our world stands on the brink of irrevocable change—a change wrought by the emergence of artificial intelligence as both muse and master.

In the crucible of this digital renaissance, where algorithms compose symphonies and neural networks paint portraits, we find ourselves confronted with a paradox of unprecedented proportions. On one hand, the promise of AI art offers a tantalizing glimpse into a future where creativity knows no bounds, where the barriers between imagination and reality dissolve in a whirlwind of innovation. On the other hand, the very essence of what it means to be human hangs in the balance, as algorithms supplant artists and machines usurp the throne of inspiration.

Amidst this maelstrom of uncertainty, the intersection of art, culture, and politics becomes a battleground for the soul of humanity. As political ideologies clash and cultural identities fracture, the role of AI in shaping our collective narrative becomes both a beacon of hope and a harbinger of doom. Will we harness the power of artificial intelligence to forge a more just and equitable society, or will we succumb to the allure of technological supremacy, consigning ourselves to a future devoid of meaning and purpose?

In the face of impending catastrophe, we must cling to the flickering flame of optimism, for it is only through the crucible of adversity that true greatness is forged. As we embark on this journey through the annals of art history, culture, and politics, let us heed the lessons of the past and the warnings of the

present, forging a path towards a future where humanity and artificial intelligence coexist in harmony, where the canvas of our collective imagination knows no bounds, and where the echoes of our creativity resound throughout the ages.

Porcelain

by Maya Norgaard

Abstract

The following chapter by Maya Norgaard analyzes her DALL-E generated image, A Dutch Oil Painting of a Skeleton Drinking a Cup of Tea in the Style of Johannes Vermeer (2024), an enigmatic piece mimicking the style of Johannes Vermeer's oeuvre and the style of other compositions of seventeenth and eighteenth baroque oil paintings. This excerpt aims to compare the Dutch Golden Age's affinity for imitation with the mimicry that AI image generators commonly expel, focusing on the intensive proliferation of Chinese Porcelain in the Netherlands. Jean Baudrillard's theories on "Simulacra and Simulation" (1981) are applied to AI art and the West's obsession with mimicry, in addition to various theorists' literature on the emerging art tool that is AI, and the intense cultural changes being cultivated through AI image generators.

Figure 1: Maya Norgaard, A Dutch Oil Painting of a Skeleton Drinking a Cup of Tea in the Style of Johannes Vermeer, January 31st, 2024. AI-generated image via DALL-E, a program from ChatGPT. 1024 x 1024, 72 dpi.

My prompt: Create an image of a skeleton drinking a cup of tea in the style of a Dutch oil painting, reminiscent of Johannes Vermeer's work.

DALL-E description:

The scene depicts a skeleton seated at a table, elegantly drinking tea. The setting should resemble a 17th-century Dutch interior, with soft, natural lighting pouring in through a window, casting gentle shadows. The skeleton is dressed in period-appropriate attire, adding an air of sophistication. The table is adorned with a fine porcelain teapot and cup, and the overall ambiance is serene yet surreal, capturing the unique blend of realism and allegory typical of Vermeer's era.

The above excerpt is DALL-E's generated description upon creating the enigmatic and alluring piece, *A Dutch Oil Painting of a Skeleton Drinking a Cup of Tea,* modelled after 17th-century Johannes Vermeer's (1632-1675) style and oeuvre. The skeleton in regal posture, sits at a small, square, draped table facing toward a window to the left of the composition. Their clothes consist of a dress and head turban, positing her as a female sitter. The palette for the image makes ubiquitous use of light golden-yellow, forest greens and a greyish beige. The most vibrant usage of these colours is found on her dress, with a deep green cinched petticoat that appears to be thick and leathery in texture, displayed through the wedged folds on her arms and then appears sturdy and rigid around her torso. A golden corset peeks through the petticoat's V-shaped fastening with thick but wirey brown laces lined across it. Her shining cream-beige skirt looks to be silk, also rendered with gorgeous folds. Illuminating golden highlights at the base of the turban's fabric are within the wool in the puffy cuffs of her undersleeves. An array of Chinese porcelain-like dishes are before her, including two large teapots that vary in shape, a small milk jug, a small decorative vase with a wheat-like dried arrangement protruding from it, and other vessels with less distinctive shapes or uses. The skeleton has nearly brought the handless teacup up to her closed teeth as if not intent on drinking it, tipping it gently, impossibly balancing the lower base of the cup on a pointed metal or porcelain spoon. A plume of white steam rises from the rim, testifying to the heat of the liquid in her cup. The composition places the viewer as if they are on the cusp of joining her at the table, standing in front of what appears to be a chair with its back against the left wall. Serenity, beauty and eeriness all act in tandem within the image's atmosphere. In a playfully melancholic way, the skeletal figure can be said to symbolize the long-dead sitters depicted in 17th and 18th-century Dutch domestic scenes.

I was inspired to make my AI image due to my love for Netherlandish baroque oil painting, and I specifically instructed DALL-E to emulate the likeness of Vermeer's work. Through referencing a specific artist whose work was renowned (and some of his works are presently uncopyrighted) I expected that DALL-E would, for the most part, successfully recreate such style. Incorporating a skeletal subject was purely a comedic and absurd choice, which feels especially so in the context of it having a respite and 'drinking' tea. I was lucky to achieve such a great result considering this was the first image DALL-E generated from my prompt, with no subsequent edits requested. Many elements in this work align with how Dutch Golden Age genre paintings were composed, and some visual clues appear to be directly inspired by Vermeer's works.

Vermeer's life and work were, and remain particularly elusive, and what is known of him today required sleuthing. He was an art dealer and a painter, and was twice "elected to the board of the Delft painters' guild."[1] Vermeer painted very little in his time, with only 36 of his officially credited paintings remaining today.[2] Both his biography and works "virtually disappeared from history"[3] until French critic Théophile Thoré 'rediscovered' him and published a biography and catalogue on Vermeer in 1866.[4] Prior

1. Walsh Jr., John. "Vermeer." The Metropolitan Museum of Art Bulletin 31, no. 4 (1973): 183. https://doi.org/10.2307/3258580.

2. "Johannes Vermeer (1632-1675) | 'The Sphinx of Delft'." Mauritshuis, n.d. Accessed February 24, 2024. https://www.mauritshuis.nl/en/our-collection/our-masters/johannes-vermeer/.

3. Walsh Jr., 181.

4. Walsh Jr., 186.

to this, some of his paintings were sold under "names of painters that were much better known"[5] and even had his work, *The Art of Painting* (1662) sold under Pieter de Hooch's name in 1813, complete with a forged signature.[6] As stated by the Rijksmuseum, Vermeer commonly depicted everyday scenes of daily "mundane" tasks.[7] Much like other artists of his time, composition and placement were of great importance to the visual merit of the work. Objects were meticulously placed to inform viewers of the sitter's duties or carry hidden allegories; such as the large map and set of pearls seen in *Woman in Blue Reading a Letter* (ca. 1663) that insinuate whoever wrote the letter she holds is a loved one at sea.[8] Alluringly balanced daylight and its cast shadows attest to the visual merit of his work, producing a full-bodied contrast scale, best exemplified by the expert shading in *The Love Letter* (ca. 1669 – ca. 1670) that places the viewer in a shaded doorway looking at the subjects in the next room, enhancing the immersive feel of the work. Vermeer also commonly employed a limited palette for the majority of the surface of each piece, tactfully exercising the scale of each colour in concert with the contrast. Many properties of the above imitation are very accurate according to the conventions of 17th-century Dutch oil paintings, with certain exceptions. One such example would be the apparent photorealism of the image, as Vermeer and other Dutch painters were more stylistic in varied ways, with Vermeer specifically using softer brushwork and less fervent detail. While there are some other seemingly illogical or inaccurate elements to this image, they might very well be purposeful additions to the work as a result of imitating Vermeer's works. These elements include the dried plant seemingly protruding from outside the spout of its vase, a ceramic pot next to it that is suspended despite not actually sitting on the windowpane, and the most notable is the teacup balanced upon the tip of her spoon. In an interesting turn of events, the lower part of her pearl necklace draped over her ribcage ambiguously seems to meld into her ribs. It has been observed by the Mauritshuis that the pearl earring in Vermeer's infamous *Girl With a Pearl Earring* (1665) is also impossibly floating under her earlobe and is too large to be a legitimate pearl.[9]. In addition, both sitters are fictional, and both wear head turbans, an accessory that Dutch women in this era would not have worn, which the Mauritshuis theorizes Vermeer included to make *Girl With a Pearl Earring* look 'Oriental' or 'exotic.' These similar qualities make it so one might not justifiably call these details 'mistakes,' provided they may have been a fully natural product of the Dutch paintings the image was referenced from. One might also derive contextual meanings based on how one would read an original Dutch Baroque painting. For example, one might infer she is in a domestic space based on how other domestic interiors are depicted in this period, how AI referenced Vermeer's works that mainly represented domestic scenes and perhaps that the algorithm was taught to associate drinking tea in a home setting. Her pearl necklace and diverse tea set attest to her wealth and interest in foreign commodities, or the possibility that she has a male loved one working overseas like *Woman in Blue Reading a Letter*. The wall behind her is bare, which, is less so like Vermeer's other works that have visuals on the wall that communicate extra messages, as seen by the maps and paintings in *Women in Blue Reading a Letter* and *The Love Letter* that enlarge a narrative beyond the surface level

5. Ibid, 186.

6. Ibid, 186.

7. "Johannes Vermeer | Master of the Everyday." Rijksmuseum. Accessed March 4, 2024. https://www.rijksmuseum.nl/en/stories/dutch-masters/story/10-things-about-johannes-vermeer.

8. Cieraad, Irene. "Rocking the Cradle of Dutch Domesticity: A Radical Reinterpretation of Seventeenth-Century 'Homescapes'1." *Home Cultures* 15, no. 1 (2018): 73–102. https://doi.org/10.1080/17406315.2018.1555122.

9. "Johannes Vermeer | Girl with a Pearl Earring." Mauritshuis, n.d. Accessed February 24, 2024. https://www.mauritshuis.nl/en/our-collection/artworks/670-girl-with-a-pearl-earring/

of the scene shown to us. Only a cut-off black picture frame is seen on the right side of the image, suggesting that DALL-E was indeed familiar with having a visual on the wall behind sitters, but may not have had an indication of what to insert.

Figure 2: Johannes Vermeer, Woman in Blue Reading a Letter, c. 1663. Oil painting on canvas. 46.5 cm × 39 cm × 6.5 cm. Public Domain. Currently on display in the Rijksmuseum, on loan from the City of Amsterdam. (Image Source: https://www.rijksmuseum.nl/en/search/ objects?p=1&ps=12&involvedMaker=Johannes+Vermeer&st=Objects&ii=2#/SK-C-251,2.)

Figure 3: Johannes Vermeer, The Love Letter, ca. 1669 – ca. 1670. Oil on canvas. 68.5cm × 62.5cm × 7cm. Public Domain. Purchased by the Rijksmuseum with the support of the Vereniging Rembrandt. Currently on display in the Rijksmuseum, Amsterdam. (Image Source: https://www.rijksmuseum.nl/en/collection/SK-A-1595.)

To add a brief historical context, let us explore why 17th and 18th-century Dutch art has been

such an enlarged epoch within art history. It was the Dutch Revolt (1560s-1648)[10] against their Spanish-Iberian occupiers and owners, and the formation of an independent Dutch Republic (1588-1795)[11] made up of the northern Netherlandish provinces that ushered in what 19th-century historians overarchingly labelled the 'Dutch Golden Age.' An outburst of economic profit, religious diversity and freedom, immigration, and artistic and scientific endeavours inspired such a name. Gradually the title crumbles under scrutiny as recent authors and scholars unearth the smothered narratives of slavery, domestic political strife, ongoing wars, epidemics, and the general hardships of non-European peoples outside the aristocracy and higher classes. The Dutch East India Company (VOC) and West India Company (WIC) were the foundation of this entire legacy, responsible for transporting slaves, global trade and the circulation of a myriad of 'exotic' and foreign objects. In other words, the cultural climate is rooted in colonialism, usurping cultural modes of production to reinforce their society above others to employ an image of superiority.

Perhaps the most significant case study within *Skeleton Drinking a Cup of Tea* is the porcelain dishes, or rather, what might be tin-glazed earthenware created to emulate the original Chinese ceramics. Such imitation work becomes a socio-politically rife subject in the context of the art world, especially considering the imitators are European and acting upon vehement materialistic and capitalistic demands. Upon its introduction to Europe in the early 16th century, Europeans were transfixed by porcelain's many impressive, combined properties, such as its hardiness, thinness, shininess and smooth exterior that allowed for easy cleaning.[12] The West India Company (VOC) alone was responsible for importing tens of millions of pieces into Europe, and as expressed by Professor of Art History and author Dawn Odell, porcelain and its traditional visuals became synonymous with Dutch domestic interiors and Dutchness overall.[13] In many instances, porcelain was inserted into many Dutch still lives amongst other foreign imported objects, fixing porcelain as a Dutch possession. Europe struggled to ascertain the recipe for creating porcelain, however, eventually, the Dutch were able to create a suitable imitation: Faience, or tin-glazed earthenware was adjusted to mock the look and feel of porcelain, albeit it did not have the aforementioned finer qualities, as earthenware was "heavier … and more prone to chipping."[14] Delft was quick to open many factories and produce new, innovative designs of dishware and decorative objects. Similarly, while the Dutch copied the colours and designs of the paintings on Chinese porcelain, eventually they incorporated "imagery from a number of media, including intaglio print, written texts, and oil painting."[15] Odell states that by the end of the 17th century to the early 18th century, Earthenware and its designs had shifted from being understood as a Chinese cultural product and transformed into pieces that symbolized Dutch culture and Dutch domestic interiors. Earthenware consumption had greatly decreased by the 17th century and was later picked up in 19th-century America as an homage to Dutch 17th-century domestic life and apparently "was part of a larger effort, as Annette Stott has argued,

10. Helmers, Helmer J., and Geert H. Janssen, eds. "Introduction: Understanding the Dutch Golden Age" in The Cambridge Companion to the Dutch Golden Age. Cambridge, United Kingdom ; Cambridge University Press, 2018, 6, xviii.

11. Britannica, T. Editors of Encyclopaedia. "Dutch Republic." Encyclopedia Britannica, March 1, 2024. https://www.britannica.com/place/Dutch-Republic.

12. Odell, Dawn. "Delftware and the Domestication of Chinese Porcelain." *EurAsian Matters*, Springer International Publishing, 2018, 178-180. https://doi.org/10.1007/978-3-319-75641-7_7.

13. Odell, 175-202.

14. Ibid, 180.

15. Ibid, 182.

to identify with the seventeenth-century Dutch who colonized North America and to give American history material form."[16] Today, any visual culture containing blue linear-focused designs, especially that of floral imagery that sits atop a white background is fairly recognizable in Western circles as an established art style associated with ceramics. The two AI-generated images below are my own meta images created using *Skeleton Drinking a Cup of Tea.* Figure 4 was made by requesting DALL-E render *Skeleton* into an illustration on a traditional Chinese porcelain teacup, and then Figure 5 was the product of another request to picture yet another skeleton drinking a cup of tea out of the same teacup within Figure 4. In a shocking turn of events, DALL-E demonstrated a similar devotion to popular trends and consumerist mass production by incorporating Katsushika Hokusai's infamous woodblock print, *The Great Wave* (ca. 1830-32) on the cup at the forefront of the image.[17]

16. Ibid, 199.

17. Japanese, Katsushika Hokusai. "Katsushika Hokusai: Under the Wave off Kanagawa (Kanagawa Oki Nami Ura), Also Known as the Great Wave, from the Series Thirty-Six Views of Mount Fuji (Fugaku Sanjūrokkei): Japan: Edo Period (1615–1868)." The Metropolitan Museum of Art. Accessed May 31, 2024. https://www.metmuseum.org/art/collection/search/45434.

Figure 4: Maya Norgaard, Porcelain Cup with a Painting of a Skeleton Drinking Tea, February 19th, 2024. AI-generated image via DALL-E, a program from ChatGPT. 1024 x 1024, 72 dpi.

Figure 5: Maya Norgaard, Skeletons Drinking Tea Out of Porcelain Dishes, February 22nd, 2024. AI-generated image via DALL-E, a program from ChatGPT. 1024 x 1024, 72 dpi.

Donna Haraway, in her influential essay *A Cyborg Manifesto: Science, Technology, and Socialist-Feminism in the Late Twentieth Century*, states that

By the late twentieth century, our time, a mythic time, we are all chimeras, theorized and fabricated hybrids of machine and organism—in short, cyborgs. The cyborg is our ontology; it gives us our politics. The cyborg is a condensed image of both imagination and material reality, the two joined centers structuring any possibility of historical transformation. In the traditions of "Western" science and politics—the tradition of racist, male-dominant capitalism; the tradition of progress; the tradition of the appropriation of nature as resource for the

productions of culture; the tradition of reproduction of the self from the reflections of the other—the relation between organism and machine has been a border war.[18]

Haraway's excerpt accurately describes the modern-day person and our relationship to technology, it is no longer man vs. machine as popular media would have us believe, but rather man as machine and machine as man. DALL-E is remarkably closer to a human than one might initially think. It was brought into being by human creators and is used to extend human expression and behaviours; trained by technicians to make textual and visual associations, having to 'learn' the many mixed gestures and the ambiguity of language and visuality to produce a coherent product for its human collaborators upon request. However, these 'human' behaviours are informed by institutional Western structures, which is how AI relates itself so well with its users. Art critic and author Ben Davis writes on the impersonality of AI art generation despite the "potential for mass instant personalization"[19] in his book *Art in the After-Culture: Capitalist Crisis and Cultural Strategy* (2022), where he associates the rise and popularity of AI with corporate systems that keep audiences engaged with convenience and immediate stimulation. DALL-E was taught to favour capitalistic patterns, not engaging intrinsically with the abstract meanings of artistic content but rather employing calculated textual and visual associations to make a valuable product.

French philosopher Jean Baudrillard's (1929-2007)[20] text *Simulation and Simulacra* (1981) centers around how the West's obsession with visuality and proliferation of imagery. In summary, Baudrillard observed that the West's production and consumption of visual culture has resulted in such a grand simulacrum that any new visuals can be perceived as simulations of already existing visual culture. As such, simulation, as in intentional reproductions, can no longer be categorized as inauthentic or as a lesser version of some 'original' entity. This makes definitions and differentiations between the two concepts overwhelmingly ambiguous, and thus, individuals cannot completely distinguish between the two. In Baudrillard's own words, "[we] are in a logic of simulation, which no longer has anything to do with a logic of facts and an order of reason."[21] In turn, due to the overwhelming power and presence given to images in society, they are now the drivers of epistemological experience, and the images are the real. Baudrillard's theories contain many implications for AI's intersection with the art world. AI algorithms can be considered keepers and immense simulacra propagators within Western visual culture as their usage progresses. This begs the question of how visual culture will have changed interpretations as the relationship between signifier and signified becomes increasingly muddled through the influx of AI art. The simulacra to come of AI art will complicate debates on how to define artistic authorship or whether that may be defined at all, the autonomy of art or lack thereof with the commodification of digital imagery, and how the precession of AI simulacra will change reality. One can only speculate the answers to these questions as it is also a matter of social reaction and the manner in which the art world will embrace AI. What can be said with reasonable certainty is that AI art will continue expanding on the parameters of hyperreality, drastically transforming the way our world consumes and interprets visual planes.

18. Haraway, Donna J, and Cary Wolfe. "*A Cyborg Manifesto: Science, Technology, and Socialist-Feminism in the Late Twentieth Century*." In *Manifestly Haraway*, 7. United States: University of Minnesota Press, 2016.

19. Davis, Ben. "Chapter 4: AI Aesthetics and Capitalism" in Art in the After-Culture: Capitalist Crisis and Cultural Strategy. Chicago: Haymarket Books, 2022.

20. Emerling, Jae. "Jean Baudrillard" in Theory for Art History. Second edition. London; Routledge, 2019.

21. Baudrillard, Jean. "The Precession of Simulacra" in Simulacra and Simulation. Translated by Sheila Faria Glaser. Ann Arbor: University of Michigan Press, 1994, 16.

Artist Biography

Maya Norgaard (she/her) is an emerging artist and art historian based in Ottawa, Ontario and a third-year Major in Art History at the University of Ottawa, currently seeking to minor in Anthropology. Her style and works range vastly in style and medium, dabbling in embroidery, digital art, acrylic paint, graphite, pen, and alcohol markers, displaying her works online under the brand name Northern Gardens Art. Previously, Norgaard has designed tattoos, business logos and other marketing images for local clientele, helped to market UOttawa's 2023 student-led exhibition "Planting Roses in January," and was commissioned by UOttawa to make her "Boxed In" sculpture inspired by the E21 Symposium, "Artificial Intelligence in 21st Century Education" of 2018 which was unveiled at the 2019 Symposium "Edutainment in a Creative Era" hosted at Collège La Cité. Norgaard has a special interest in Dutch Golden Art, nineteenth-century European art history and Ancient Egyptian lore and art, and in her spare time loves to watch horror movies and play video games.

Image generated by Akot Kvonda via DALL-E. Prompt based on the artist biography above.

Waste

By Kelseigh Thompson

Abstract:

This chapter contains an in-depth analysis of an AI-generated image depicting the Shakespearean character Ophelia in an aquatic wasteland. It provides context to the significance of Ophelia in Hamlet and the symbolism of her depiction during the 19th century. The author further explores why the character is still relevant in present society as well as the range of excellence that AI can achieve. The chapter concludes by sharing the impact that AI, consumerism, and tech continue to have on the environment and how art can bring attention to the problem.

Prompt Given

Recreate *Ophelia* by John Everett Millais floating in a body of polluted water.

AI generated image

Fig.1. [Kelseigh Thompson], *Ophelia* by John Everett Millais floating in a body of polluted water, 2024, DALL-E. This work is licensed under CC BY-NC-ND 4.0.

AI description

A reimagined version of John Everett Millais's famous painting of Ophelia with a profound environmental twist. This scene intensifies the previous concept, focusing even more on environmental degradation. Ophelia's body is now floating in a densely polluted river, practically buried under heaps of garbage, sewage, and refuse. The river is so choked with pollution that the water is barely visible, dominated by plastic waste, industrial runoff, and miscellaneous debris. The surrounding landscape is utterly barren, with decaying shrubbery and dead plants replacing what was once vibrant flora. There is an overwhelming presence of trash and pollution leaving no space for natural beauty or greenery. The artwork serves as a grim reminder of the severe impact of human neglect on the environment highlighting a scenario where nature is suffocated by **waste**. The detailed composition is hauntingly bleak, offering a stark visual commentary on the urgent need for environmental conservation.

John Everett Millais Work

John Everett Millais WorkSymbolism and Flowers [1]

Rosemary

A flower of remembrance of the dead.

Pansies

The name derives from the french word "pensées" which is French for thoughts.

Fennel

The flower of martial infidelity.

Columbines

Are a symbol of flattery or insincerity.

Rue

John Everett Millais's oil painting *Ophelia* holds layers of meaning that can be used to understand what the image of the young woman meant during its creation in the 19th century. Due the loss of the characters father and no one for her to connect with, Art History professor Michelle Facos shares that the oil painting's depiction can be lent to the idea that

A flower that is bitter and is representative of regrets.

Daisies

A simple symbol of innocence.

Violets

A symbol of faithfulness.

Poppies

This plant is a bonus flower, Millais added it to his composition as a symbol of sleep and

1. Royal Horticultural Society. "Flowers in Shakespeare's Plays." Flowers in Shakespeare's plays / RHS Campaign for School Gardening. Accessed March 10, 2024. https://schoolgardening.rhs.org.uk/Resources/Info-Sheet/Flowers-in-Shakespeare-s-Plays. All flowers but the poppies were included in the Tragedy.

the character had used imagination as a means of coping with her life [2]. In 19th century England bourgeois women, along with poorer women, were trapped by the oppressive nature of the patriarchy. Faccos shares that these more affluent women were stuck in a lifestyle which made them feel "frustrated and bored by a life of forced leisure and submission"[3]. For some

death.

women in this era they found that they could relate to the character. Many women "were driven literally crazy by legal and social constraints, found themselves committed to insane asylums, which reinforced misconceptions about the mental instability of women."[4]. Tragically the death of Ophelia was not unlike those who had succumb to their mental illness during this time as "suicide by drowning was the most frequently chosen method of suicide for women in the ninetieth century"[5]. These women who were made to spend days as a silent decoration in the home indicates not only a **waste** of potential but in extreme cases ended a life that was ended due to the nature of oppressive values.

Ophelia is a character that has been associated with the failures that a patriarchal society tends to have. Her character has been torn apart and reassembled to fit into the zeitgeist that she is re-represented in and reflect it back onto the viewers. Dr. Simonetta Falchi of the Università de Sassari in Sassari Italy makes point to say that Ophelia's ability to be painted symbolically over the course of history "has rendered her the most represented of Shakespeare's heroines" [6]. This is of interest not only because she has very little stage time or few lines but that out of the collection of women that Shakespeare has written she is an exceptionally vague character. Falchi notices this and argues that this lack of information creates an empty space, "she is a mere 'nothing', a vacuum. By virtue of this absence, of this hollow space…multifarious interpretations of Ophelia have been found."[7] When Hamlet was first presented Ophelia was understood as a lovesick girl, then later in the romantic period she was thought of as "a heroine who felt too much" [8]. This idea of her character as one who felt too much comes from Romantic critics such as Samuel Taylor Coleridge, whereas French symbolists saw the character "as a white page for male fantasy to write on." [9]. Unfortunate.

Ophelia's suffering appears to be less and less glamourized as psychiatry moves forward and instead of being a blank space for male projection, she "became the object of medical attention and was merely classified as insane in need of treatment" [10]. After her "diagnosis" it became clear that she was a tragic image of untreated mental illness, and this was a stepping stone for feminist critique

2. Facos, Michelle. "Chapter 7 New Audiences, New Approaches ." Essay. In *An Introduction to Nineteenth Century Art*, 190. New York, NY: Routledge, 2011.

3. Chapter 7 New Audiences, New Approaches ." Essay. In *An Introduction to Nineteenth Century Art*, 190. New York, NY: Routledge, 2011.

4. Chapter 7 New Audiences, New Approaches ." Essay. In *An Introduction to Nineteenth Century Art*, 190-91. New York, NY: Routledge, 2011

5. Chapter 7 New Audiences, New Approaches ." Essay. In *An Introduction to Nineteenth Century Art*, 191. New York, NY: Routledge, 2011

6. Falchi, Simonetta. "Re-Mediating Ophelia with Pre-Raphaelite Eyes." Interlitteraria 20, no. 2 (2015): 171. https://doi.org/10.12697/IL.2015.20.2.14.

7. "Re-Mediating Ophelia with Pre-Raphaelite Eyes." Interlitteraria 20, no. 2 (2015): 172.

8. "Re-Mediating Ophelia with Pre-Raphaelite Eyes." Interlitteraria 20, no. 2 (2015): 172.

9. "Re-Mediating Ophelia with Pre-Raphaelite Eyes." Interlitteraria 20, no. 2 (2015): 172.

10. "Re-Mediating Ophelia with Pre-Raphaelite Eyes." Interlitteraria 20, no. 2 (2015): 172.

to take form on the stage of "revolutionary theatre, [where] she became the emblem of the victims' revolt" in re written deceptions of the character. [11] Despite her brief stint as this revolutionary character around 2000 she would return to being "once again a symbol of defeated powerless women in search of guidance" [12] This reversion is due to unknown reasons but is interesting, nonetheless. In the case of the AI generated image that I have chosen to use, the newly applied intent for this is character to express the impact and emptiness that mass consumption can have on an individual and the effects that these habits have on the environment.

Analysis of AI

The focal point of the image [Fig.1] contains a woman laying on her back in a half-sunk boat. The boat fails to be operable not only due to the leak, but the oars and their holders are on the same side. The useless rowboat does not have a pointed nose, so it is difficult to tell if there is a front, or even if this boat had been functional before. Ophelia is pale and her skin glows in contrast to the dark shadows of the boat. She is wearing a cream-coloured dress that clings to her body and then flows away from her at the knees. She has a semi detailed corset bodice which is twisted, possibly running diagonally from her left shoulder. With her head reclined her nose points up toward the sky and her right ear faces the viewer. She has copper hair which appears to cut off at the neck, either indicating its submerged or possibly, the remaining portion was not generated by the machine. Her face lacks any defined characteristics of the senses which seems to be a trademark of the AI's handiwork. The lack of defined eyes makes the corpse appear more off-putting the longer one lingers and the inability to focus in on the face adds a soft ghost like glow.

Waste is what makes up the foreground in this scene. The litter is settled in patches of mossy green slime that floats on the surface. The trash is overwhelming, and abrasive compared to the gloomy reeds and riverbank that surrounds the body of water. There appears to be plastic bottles with paper labels. Although the details are missing the connection can be made that the red labels are a cola brand (possibly Coca-Cola) and the blue bottled water brands (Pure-life, Aquafina, Smart Water). Among the bottles there are barrels scattered both plastic and metal, and other miscellaneous household cleaning products containers. Right next to the boat, it is unclear but a possible connection to the plastic can rings can be made, this type of debris is bad for the fish and other aquatic life as they tend to get trapped in them. Floating in the water and scattered along the shoreline are skulls or fragments of them. These skulls must be read as an allusion to Hamlet and the famous "to be or not to be" monologue, however, the manner that they are scattered in is haphazardly and lends itself to the chaos of the **waste**. Interestingly there seems to be bone fragments scattered in the image, these are a source of confusion. In the centre it looks like there might be a large joint sticking out; on the shore a long, distorted arm bent at the elbow.

An integral element that the image lacks is flowers. In the fourth act, scene 5 of Hamlet by William Shakespeare, Ophelia sings while passing out flowers to the other characters on stage. She says:

"There's **rosemary** for remembrance.
Pray you, love, remember . And there is **pansies**,
that's for thoughts…
there's **fennel** for you and **columbines**.
There's **rue** for you, and here's some for me; we
may it herb of **grace o'Sundays**. You must wear your rue
with a difference. There's a **daisy**. I would
give you some **violets**, but they withered all when

11. "Re-Mediating Ophelia with Pre-Raphaelite Eyes." Interlitteraria 20, no. 2 (2015): 172.

12. "Re-Mediating Ophelia with Pre-Raphaelite Eyes." Interlitteraria 20, no. 2 (2015): 174.

my father died. They say he made a good end."

<div align="right">(Hamlet act IV, scene V, lines 199-201; 204-209)</div>

The flowers listed all have symbolic meaning attached to them (see sidebar) John Everett Millais's Ophelia included these flowers as well and with the addition of poppies. The decision of the AI to not include these plants is a curious one. Does the lack of flowers help sell the notion that she is laying a place that is too ecologically destroyed that they can't survive anymore, or does one make the connection that the trash is a placeholder for the flowers.

Formally, the variation of colour that is juxtaposed to the bleak background does create an interesting visual that is like the given artwork prompt. The major difference in feeling lays in the duality of warmth and cold blood in Millais work and the empty ghostly presence that the AI has created. Millais work is haunting as we are faced with the loss of a young woman clutching to a chain of flowers a visual of innocence. The artwork that was generated loses the immense feeling of a single loss and opts to zooms out bearing witness to the overwhelming **waste** at hand.

Hand of the Artist

The AI was unable to create to a work that was truly in the style of the Pre-Raphaelite artist. The generated image is interesting to look at, but it lacks the richness of the oil paint and texture that tied the original image together in a pleasing bow of juxtaposition, a thriving environment and a body left to decay in it. The AI (DALL-e) used might not be able to create an image that directly calls the viewers memory back to the original image and this could be due to a few reasons. The room for the masters like Rembrandt or Van Gogh to be copied is quite large whereas it appears artists that are not on the same level of current social recognition may not have the same results in iconic reproduction. This is not to say that this artwork is unknown by any means but the fact that the painting did not come through in his stye at all in a very well-known image is concerning.

The term *zombification* in relation to art history is used to describe the use of AI "that attempts to simulate the style and content of master's that have been dead for centuries." [13]. Like a zombie which is alive and dead at the same time this is an interesting way of approaching the subject. When we question who the artist is once we've fed the machine our prompts, we are left with little accurate answers. Hassine and Neeman argue that "the difference is that the human forger injects at least a modicum of creativity to the forgery"[14]. They point out that this is not the first time that art has been copied, reproduced, or forged in history but it is the first time that the human hand has had zero interaction with the work. Though we did not use the systems that theses authors discussed there are similarities in both sets of results. The pair shares that a problem that they encountered is that when a system is given the directive to recreate works of great artists in history it will "inexorably zero in only on the most clear-cut characteristics and recognizable perimeters of the artist's style and /or content"[15]. This is present in the reimagining of *Ophelia*. The machine was unable to pick up on the stylistic choice of Millais and it feels that way. Credit is due, however, as it did present the figure in the right position.

That is not to say that the use of AI is something that art historians should shy away from. The work that these algorithms create has too vast a range to deem them as good or bad over all (not unlike physical human made art) so the argument should be tabled until there are clearer and set ways of approaching

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13. Tsila Hassine, and Ziv Neeman. "The Zombification of Art History: How AI Resurrects Dead Masters, and Perpetuates Historical Biases." Journal of Science and Technology of the Arts 11, no. 2 (2019): 29. https://doi.org/10.7559/citarj.v11i2.663.

14. Tsila Hassine, and Ziv Neeman. "The Zombification of Art History: How AI Resurrects Dead Masters, and Perpetuates Historical Biases." Journal of Science and Technology of the Arts 11, no. 2 (2019): 29.

15. Tsila Hassine, and Ziv Neeman. "The Zombification of Art History: How AI Resurrects Dead Masters, and Perpetuates Historical Biases." Journal of Science and Technology of the Arts 11, no. 2 (2019): 30.

the subject. The argument that is more relevant is that art historians should look to these AI programs as tools of research. Author David Stork from Stanford, argues in favour of those in the field to use the technology that is now available. They share that "deep neural networks – machine-learning systems that mimic biological neural networks in brains – can detect the locations of key points [in portraiture], such as the tip of the nose or the corners of the eyes in a painting. They then accurately infer the angles of a subject's pose around three perpendicular axes for realistic and highly stylized portraits"[16]. Furthermore, they share that through using these tools AI "can reveal trends in the compositions of landscapes, colour schemes, brush strokes, perspective and more across major art movements" [17]. The point that the author is trying to make is that these tools are good for helping to understand trends and that they are "most accurate when they incorporate an art historian's knowledge of factors such as social norms, costumes and artistic styles."[18] . Had more art historians been present in the formation of Dall-E, the image that was created for this chapter may have been closer in style to that of the pre-Raphaelite which it had been given direction to recreate.

The Environment

The use of AI in art is something that is highly debated through channels of thought such as the hand of the artist and question of claimed artistry. While this is true art, even AI art, can lead to questions about the social landscape both historically and that we are currently living in. The image that I had the machine create shows ecological disaster while alluding to symbols of the waste at hand. Although it is presumptuous to assume that this specific work will inspire individuals to act against their wasteful nature it is not unlikely that other works showing similar themes may inspire individuals in the future to use AI to combat these problems. Inspiration leads to action and action can lead to results.

The United Nations Environmental Programme (UNEP) is a section of the United Nations (UN) and their mission "is to provide leadership and encourage partnership in caring for the environment by inspiring, informing, and enabling nations and peoples to improve their quality of life without compromising that of future generations" [19] AI is being used to assist in the fight against ecological downfalls. The UNEP coordinator David Jensen shares the organizations definition of AI: "AI refers to the systems or machines that perform tasks that typically require human intelligence, and can iteratively improve themselves over time, based on information they collect." [20] These systems are meant to be helpful in various ways. AI can be used globally but also on smaller scales such as in the home. This means that the use of these technologies for a better understanding of environmental issues can be executed by both large groups and in small and individual ways. The UNEP uses AI as a way to gather real-time data, monitor methane emissions, track air quality, and measure environmental footprints. The

16. Stork, David G. "How AI Is Expanding Art History." Nature (London) 623, no. 7988 (2023): 686. https://doi.org/10.1038/d41586-023-03604-3.

17. Stork, David G. "How AI Is Expanding Art History." Nature (London) 623, no. 7988 (2023): 686. https://doi.org/10.1038/d41586-023-03604-3.

18.]Stork, David G. "How AI Is Expanding Art History." Nature (London) 623, no. 7988 (2023): 686. https://doi.org/10.1038/d41586-023-03604-3.

19. United Nations. "UNEP: United Nations Environment Programme – Office of the Secretary-General's Envoy on Youth." United Nations, 2018. https://www.un.org/youthenvoy/2013/08/unep-united-nations-environment-programme/#:~:text=UNEP's%20mission%20is%20to%20provide,compromising%20that%20of%20future%20generations.

20. United Nations. "UNEP: United Nations Environment Programme – Office of the Secretary-General's Envoy on Youth." United Nations, 2018. https://www.un.org/youthenvoy/2013/08/unep-united-nations-environment-programme/#:~:text=UNEP's%20mission%20is%20to%20provide,compromising%20that%20of%20future%20generations.

organization makes note that in using these technologies they too have an impact on the environment, "while data and AI are necessary for enhanced environmental monitoring, there is an environmental cost to processing this data that we must also take into account" [21]. They call for a reduction of ICT (Information and Communication Technology) and their research shows that "to target this waste, consumers should reduce consumption, recycle electronic goods and repair those that can be fixed." [22]

Megan Mastrola from Johns Hopkins University also shares information on how AI can be used in the global battle against climate change. Mastrola shares that AI is useful for its ability to gather data in the skies with satellites and in water and on land using AI powered robots. Robots are being used in the arctic when it is too difficult to navigate in the winter season, sharing that "in this scenario [AI powered robots] allows information to be accumulated with the technology" [23] In water environmental data collection the author shares that robots are useful but expensive and more works need to be done as "autonomous capabilities need to be improved. This is where AI come into play." [24] Like the UNEP, Mastrola makes it very clear that the use of AI in environmental practices is only helpful if the benefits outweigh the negative effects of the tools energy consumption. Through responsible use of AI to gather and analyze data there is hope for environmental protections and rehabilitation. The video below helps in visualizing the **waste** that humans create and gives insight on how to do better for the environment.

One or more interactive elements has been excluded from this version of the text. You can view them online here: https://ecampusontario.pressbooks.pub/art4955/?p=5#oembed-1

21. United Nations. "UNEP: United Nations Environment Programme – Office of the Secretary-General's Envoy on Youth." United Nations, 2018. https://www.un.org/youthenvoy/2013/08/unep-united-nations-environment-programme/#:~:text=UNEP's%20mission%20is%20to%20provide,compromising%20that%20of%20future%20generations.

22. United Nations. "UNEP: United Nations Environment Programme – Office of the Secretary-General's Envoy on Youth." United Nations, 2018. https://www.un.org/youthenvoy/2013/08/unep-united-nations-environment-programme/#:~:text=UNEP's%20mission%20is%20to%20provide,compromising%20that%20of%20future%20generations.

23. Mastrola, Megan. "How Ai Can Help Combat Climate Change." The Hub, March 7, 2023. https://hub.jhu.edu/2023/03/07/artificial-intelligence-combat-climate-change/).

24. Mastrola, Megan. "How Ai Can Help Combat Climate Change." The Hub, March 7, 2023. https://hub.jhu.edu/2023/03/07/artificial-intelligence-combat-climate-change/).

[Akot Kuvonda], Portrait of Kelseigh Thompson, 2024, ChatGPT. This work is licensed under CC BY-NC-ND 4.0.

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Perception

by Isabelle Gray

Abstract:

This chapter examines the Impressionist movement in terms of the perception of the artist, specifically using Claude Monet's Water Lilies series. Using those observations, an AI-generated work based on a formal description that does not mention the artist's name was created and analyzed with the same context. This will determine how the AI software perceives the Water Lilies series. Questions surrounding perception, intention, emotion, and landscape biases will be interrogated from there. Does the removal of the human hand change Monet's painting? How does the removal of emotion and historical context affect AI-generated image? Details of Monet's life, painting process, and Impressionism philosophies will contribute to the analysis as this chapter ultimately asks: what is the relationship between AI, landscape art, and creativity?

"The artist is the creator of beautiful things. To reveal art and conceal the artist is art's aim…It is the spectator, and not life, that art really mirrors."[1]

Through the character of Basil Hallward in *The Picture of Dorian Gray*, Oscar Wilde questions the purpose of art and whether the aesthetic of beauty brings more value to a work, or if it is the soul of the artist exposed for everyone to see that is more meaningful.[2] His quote above expresses his personal beliefs on the purpose of the artist, the artwork, and the audience for which the art is intended. This brings in questions surrounding ideas of the perception of art and what would occur should this perception be filtered through other means. Writing not too long afterward, Maurice Merleau-Ponty (1908 – 1961) interrogates similar questions of perception. He philosophizes that there is a direct connection between what we perceive and our own experience that is directly responsible for imposing meaning onto those perceptions.[3] If we remove experience, how does this affect how an artist creates art? Does it affect how the viewer perceives other artworks?

The late nineteenth century and early twentieth century, when both Wilde and Merleau-Ponty were writing, were filled with questions of the intersection between the arts and perception. The emerging sciences brought into question how perception works and how it affects sensation. The Impressionists, in particular, painted in the same era and were putting these questions into study through the painting of their works. The Impressionists, like other landscape artists through time, were fascinated with the

1. Oscar Wilde. *The Picture of Dorian Gray* (London, England: Penguin English Library, 2012), ix – x.

2. Wilde. Dorian Gray.11.

3. Thomas Baldwin. "Merleau-Ponty, Maurice (1908–61)." *Routledge Encyclopedia of Philosophy*, 2024. https://www.rep.routledge.com/articles/biographical/merleau-ponty-maurice-1908-61/v-1/sections/the-phenomenology-of-perception#.

study of nature demonstrating the human experience of seeing the geographical environment.[4] Their style was especially influenced by pantheistic and monist philosophies on nature as a concept, especially with the introduction of the ideas of German biologist, Ernst Haeckel (1834 – 1919). His theories concerned the interconnectedness of all life on earth and seeing the natural world through a lens centred on unity.[5] Experiencing nature as a single unified ecosystem was important to Impressionists in painting and properly capturing the essence of the elements; as described by Athanassoglou-Kallmyer, nature to the Impressionists was "a universal synthesis in which matter and spirit, surface and depth, reason and the unconscious, the visible and the invisible resonated in unison."[6]

Claude Monet, for example, was not excluded from the adoption by Impressionists of these philosophies. He saw his immersion in nature as being in dialogue with the universe and all that it contains, expressing "everything the painter saw and felt around him, the life of things, and beings, terrestrial as much as celestial phenomena, visible and invisible entities."[7] Being alone among the flora and fauna allowed the painter to see what existed beyond human sight. Like the other Impressionists, he was influenced by pantheistic philosophies with elements of folkloric magic intertwined with them.

What if Impressionist paintings like those by Monet were filtered and perceived through another source, disconnected from the human eye? What does it mean to see a painting through the perspective of the digital realm? As Christopher S. Wood, and the theorist Ernst Gombrich, describe, technology "is a problem-solving process and does not claim autonomy…Technology makes measurable progress and yet does not depend on human virtue, only competence."[8] I created a work of art in AI based on a prompt that uses purely the formal qualities of Monet's *Water Lilies*. The Impressionists, like Monet, relied on the sensation of being in nature. The work I created through AI was filtered not only through my perception of a landscape I have never seen in person, but an algorithm that uses images from across the internet to create a new work of art.

I first had to choose from Monet's cast collection, a series of works that would best suit my attempt to create an AI-generated image. The first series to be considered was Monet's Vétheuil series. After further research, I decided to create an image based on his *Water Lilies* series, using three paintings to describe to the generator; the paintings used were from [1906](#), [1916 – 1919](#), and [1919](#). These works were chosen for several reasons. The main one was the time of Monet's life in which these were painted. They were created towards the end of his career as he settled into his garden in Giverny and spent decades there. In the early 1900s, the idea of Monet's garden and residence in Giverny was extremely important regarding the incorporation of experience into the artist's perception and how he chose to paint. There were immense political tensions that were rising in France and Europe as a whole, and Monet's strength was declining as he grew older. Paul Smith writes, "During the First World War, however, Monet could hear the munitions trains passing nearby on their way to the front," and that through painting, it was

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4. Denis Cosgrove. "Prospect, Perspective and the Evolution of the Landscape Idea." *Transactions of the Institute of British Geographers* 10, no. 1 (1985): 45. https://doi.org/10.2307/622249.

5. Nina M. Athanassoglou-Kallmyer. "A Cosmic Vision: Monet's Giverny Circle ." Essay. In *Art and Monist Philosophy in Nineteenth Century France from Auteuil to Giverny*, 120. Routledge, 2023.

6. Athanassoglou-Kallmyer. "A Cosmic Vision." 131.

7. Athanassoglou-Kallmyer. "A Cosmic Vision." 136.

8. Christopher S. Wood. "E.H. Gombrich's 'Art and Illusion: A Study in the Psychology of Pictorial Representation', 1960." *The Burlington Magazine* 151, no. 1281 (December 2009): 837-8. https://www.jstor.org/stable/40601264.

"Monet's attempt to hold on to a kind of experience that barbarians threatened to wipe out."[9] The garden was not only the location of some of Monet's most infamous paintings but was a place of solace away from the war that raged across Europe; it was an escape that allowed the French painter to block out an outside world that only brought distress. By this time, he had already developed a style that had evolved over the years and a consistent focus on his desire to study light. To me, this experience was ideal for formally describing a painting to the AI generator; in describing only the aesthetic qualities, such as the colours used and the flowers present, I was effectively removing the experience of Monet and the sensations present in his *Water Lilies*. The aim was not to mention the artist's name and observe what the AI algorithm created based on a purely formal description. The result was fairly close to Monet's works [Fig 1].

Fig.1. [Isabelle Gray], Giverny painting water lilies reflection pond with blue pink and purple, 2024, DALL-E mini. This work is licensed under CC BY-NC-ND 4.0.

Like Monet's paintings, the image shows pink water lilies and green lily pads floating atop a pond. The lily pads, while mostly green, incorporate other colours such as yellows, reds, and blues. The delicate flowers that float atop the lily pads, while able to tell they are flora, do not take the solid form of a flower and blend into the rest of the lily pad. The colours blue, pink, and purple were described in the prompt because of their commonplace in the works of Monet. The AI software fulfilled the request to use those colours. However, the lily pads are slightly blurred, almost as if they are melting into the water. The water is a mixture of blue, green, and purple; the water features the majority of the colours that

9. Paul Smith. "Monet and the Moment of Art." Essay. In *Impressionism: Beneath the Surface*, 111. London, England: The Orion Publishing Group, 1995.

were placed in the prompt to produce the image. Forms of trees and foliage as well as purple hues from the sky or flora can be made out in the reflection of the water. While the rest of the reflection in the pond seems to be blurred and melting down, the left corner shows the reflection of an almost realistic tree, as if it were a photograph. It presents a clearer outline of the leaves in contrast to the rest of the image. It is the reflection that provides a glimpse into the world beyond this fleeting moment captured by the AI. With the prompt "painting," the program gave the image a painterly quality, the blurred effects resembling the individual brushstrokes commonly seen in impressionist works. Impressionist works are partially characterized by a large number of delicate brushstrokes used to create an overall composition that studies light; although different mediums, the brushstrokes in this AI image are not done through various paints, but rather it is the individual pixels that act as the brushstrokes of the digital image.[10] Furthermore, Yiyuan Huang and Rong Chang express that while there can be characteristics of brushwork in AI images, like the image seen above, AI aesthetics are missing the aspect of simulating "physical interaction with the environment."[11] Compared to the original works that inspired this image, it maintains the colours due to the prompt and the elements of the reflection in the water as seen in the images mentioned prior. But what is the context of the paintings that was removed by AI?

Monet's Process and Perception Studies

As mentioned prior, Monet's life at Giverny was a significant time of his life. He moved there at an old age, buying the location in 1893,[12] and the garden that would later feature the artist himself would cultivate some of his most famous motifs. Monet was passionate about the horticultural construction of his garden and he wanted it to be a peaceful space for him to paint in. He had help from outdoor workers in maintaining the garden, and the water lily ponds were his prized creation; he made a point to show any guests the pond.[13] Monet's affinity for botany enhanced his talent for painting, with these two art forms coming together in a merging of experiential creation. His garden took a large portion of influence from Japanese gardens. Japonisme was a common influential movement among Europeans at this time, and it is especially evident in the bridge constructed by Monet in the pond; he created a meditative space inspired by Japanese landscape paintings and woodblocks.[14]

Monet's garden in Giverny,[15] is the location the French

10. William J. Mitchell. *The Reconfigured Eye: The Visual Truth in a Post-Photographic Era.* (London, England: The MIT Press, 1992), 106.

11. Rong, and Yiyuan Huang. "Towards AI Aesthetics: Human-AI Collaboration in Creating Chinese Landscape Painting ." Essay. In *Culture and Computing: Interactive Cultural Heritage and Arts*, edited by Matthias Rauterberg, 217. Springer Nature Switzerland, 2021.

12. Jane R. Becker. "Catalogue Entry – Claude Monet: Bridge over a Pond of Water Lilies." The Metropolitan Museum of Art, 2015: 1. https://www.metmuseum.org/art/collection/search/437127.

13. Becker. "Catalogue Entry." 5.

14. Becker. "Catalogue Entry." 6-7.

Monet's process is something that viewers and those who study his art can only presume through analysis. He did not share his process with anyone nor take on any students; as Donna Paul states, he was a "mentor to few."[17] The Art Institute of Chicago also explains that he did not often let people see his works in progress and that most of the paintings that were perceptual studies, like those of his water lily pond, were not discovered until the 1950s.[18] His works and expressions through art were personal to him, recording his perceptions of nature and how he felt in that moment of painting.

painter immersed himself in. The landscape is featured in over 500 paintings that depict its beauty.[16]

Being in nature to paint was not simply important in its function as a refuge for Monet. Impressionism as a movement relied on the sensations connected to being surrounded by the natural forces of the world. Being surrounded by everything the natural world had to offer despite the conditions was essential for Monet to paint; Laura Anne Kalba describes that "Monet frequently insisted in public and private statements that all that mattered – ever mattered – in art was nature."[19] Kalba goes on to say that "Painting directly in front of nature…was central to his definition of Impressionism as well as his sense of himself as an artist."[20] The sensations felt by the artist were vital in the expressions that took the form of paintings. It connects heavily to the pantheistic philosophies articulated earlier and continued to be a theme in the painter's art until his last painting.

The study of light and weather conditions was a phenomenon that especially interested Monet. Using the pond as a study in reflection, he was fascinated and determined to represent how light breaks up; he used layers of colourful paint to portray the way the light looked when hitting certain objects as atmospheric conditions constantly changed around him.[21] This effect is evident when looking at his Water Lilies series. There are hues of blue, pink, and purple blur upon hitting the pond's surface. The viewer is only given a snapshot of this one moment, but the reflection in the water gives a glimpse of the potentials that lie beyond the canvas, something the AI image above emulates. It was the reflection in the pond that changed with every fleeting moment as the light and weather evolved that acted as the subjects

15.　　　"Virtual Tour: Claude Monet in Giverny." French-American Cultural Foundation, March 30, 2020. https://frenchamericancultural.org/2020/03/30/virtual-tour-claude-monet-in-giverny/.

16.　　　Jane R. Becker. "Catalogue Entry – Claude Monet: Bridge over a Pond of Water Lilies." The Metropolitan Museum of Art, 2015. https://www.metmuseum.org/art/collection/search/437127.

17. Donna Paul. "The Garden as Muse: Apples, Asters, Roses, and Dahlias Fill the Cottage Gardens of Giverny, France, with Color, Fragrance, and Inspiration for a New Generation of Artists." *Country Living Gardener* 12, no. 3 (2004): 71.

18. James Ganz, Gloria Groom, Nancy Ireson, Dawn Jaros, Kimberley Muir, Kimberly Nichols, and Jill Shaw. "Monet Paintings and Drawings at the Art Institute of Chicago." Edited by Gloria Groom and Jill Shaw, 1663. The Art Institute of Chicago, 2014. https://www.artic.edu/digital-publications/11/monet-paintings-and-drawings-at-the-art-institute-of-chicago.

19. Laura Anne Kalba. "Impressionism's Chemical Aesthetic: The Materials and Meanings of Color ." Essay. In *Color in the Age of Impressionism: Commerce, Technology, and Art*, 107. Penn State University Press, 2017. https://www.jstor.org/stable/10.5325/j.ctv14gp14d.8.

20. Kalba. "Impressionism's Chemical Aesthetic." 112.

21. Patricia D. Stokes. "Variability, Constraints, and Creativity: Shedding Light on Claude Monet." *American Psychologist* 56, no. 4 (2001): 357. https://doi.org/10.1037//0003-066x.56.4.355.

of his paintings.[22] His experience being in the same location was essential in his painting process as his paintings were a study of the natural sciences as well as a reflection of the sensations of the painter.

The vibrancy of the colours was intrinsic to achieving these effects. Kalba highlights the incorporation in the nineteenth century of colourful and bright flowers in leisurely gardens, influencing the impressionists; it was Monet who "was already extremely attentive to the effects of color created by flowers."[23] The emergence of the trend of vibrant gardens allowed Monet to find his inspiration in his studies of light and weather conditions. He filled his garden at Giverny with a large variety of flowers and documented them through the hundreds of paintings he would go on to create.

> *"I have gone back to some things that can't possibly be done: water, with weeds waving at the bottom. It is a wonderful sight, but it drives one crazy to try to paint it. But that is the kind of thing I am always tackling."*[24]
>
> – Monet in his letters to Gustave Geffroy, 22 June 1890

His old age and increased fragility as well as having cataracts, later posed a problem in his perception of colours and their vibrancy. This is evident in his painting from 1919 mentioned above; the bright blues that were once in his paintings are barely noticeable by that period. James G. Ravin explains "The cataracts that blinded Monet were an important influence on the way he saw the world and the way he painted it."[25] Ravin also emphasizes the blurred effect evident in his later paintings,[26] showing how deeply cataracts affected his perception of the world. Like the layers of paint that he physically added to his canvases, there is much behind the story of his paintings with his health failing and the political turmoil raging beyond the confines of the canvas.

AI, Landscape, and Monet

As mentioned, Monet never shared his technique and took on very few students. His perception of colours was skewed by his failing vision at this time of his life. With this in consideration, how did the AI program re-create his painting from a similar point of view? Verity Babbs explains in her article that the result created by AI is a result of the algorithm compiling a variety of images from the internet to create a single composition.[27] In a way, just as the pixels of a digital image are the equivalent of brushstrokes in the eyes of William J. Mitchell, the collection of images across the internet could be considered in the same way. Various images are amassed by AI, each contributing an individual factor to the overall composition

22. James Ganz, Gloria Groom, Nancy Ireson, Dawn Jaros, Kimberley Muir, Kimberly Nichols, and Jill Shaw. "Monet Paintings and Drawings at the Art Institute of Chicago." Edited by Gloria Groom and Jill Shaw, 10. The Art Institute of Chicago, 2014. https://www.artic.edu/digital-publications/11/monet-paintings-and-drawings-at-the-art-institute-of-chicago.

23. Laura Anne Kalba. "From Blue Roses to Yellow Violets: Flowers and the Cultivation of Color ." Essay. In *Color in the Age of Impressionism: Commerce, Technology, and Art,* 54. Penn State University Press, 2017. https://www.jstor.org/stable/10.5325/j.ctv14gp14d.7.

24.   Claude Monet. "The Despair of Painting Nature." Compiled by Richard Friedenthal. *Letters of the Great Artists,* June 22, 1890. https://www.arthistoryproject.com/artists/claude-monet/the-despair-of-painting-nature-letters-to-gustave-geffroy/.

25. James G. Ravin. "Monet's Cataracts." *JAMA: The Journal of the American Medical Association* 254, no. 3 (July 19, 1985): 399. https://doi.org/10.1001/jama.254.3.394.

26. Ravin. "Monet's Cataracts." 394.

27. Verity Babbs. "Digital Artists Are Pushing Back against AI." *Hyperallergic,* March 6, 2023.

in the form of binary code. Monet, being a well-known painter, has images all across the internet with his paintings belonging to various museums that upload his works. Ahmed Elgammal explains that it is because of this collection of images that AI images are merely an imitation rather than an individual creation.[28] The works of Monet are one of the brushstrokes contributing to the algorithm as well.

There is still the issue of the idea of sensation which was an important contribution to Monet's paintings. The AI image, as previously mentioned, was filtered through several layers of perception. It begins with my perception of Monet's paintings and is further filtered through the perception of the digital realm. There was no immersion in nature involved, an element that was crucial in Monet's creative process. Mitchell argues that there is still the process of perceptual filters even when painting. He outlines the difference between the filtering done by the Impressionist painters and the digital image; the painter filters the landscape in front of them subjectively and manually whereas the digital image performs this filter through mechanical means and objectively, making it more consistent in its depiction.[29] Ultimately, it is a matter of the obliteration of the involvement of the human hand in the creation process. Using the theories of Merleau-Ponty previously discussed, the use of AI removes the influence of experience on personal perception of the landscape. Regarding the removal of context, Will Fenstermaker argues that the act of putting artefacts and art in a museum is already an act of removing context; it is placed into a new space, ultimately depriving it of its cultural context.[30] Despite this argument, the museum has additional capabilities that AI and the digital image do not. Museums provide context through text panels, guided tours, and curatorial immersion whereas AI presents the image on a screen that reduces the size and impact. For example, the Musée de l'Orangerie presents Monet's Water Lilies in a panoramic view that spans the entire room. The room was designed by Monet, and, as recorded by the Musée de l'Orangerie, he stated that it was meant to give the viewer "the 'illusion of an endless whole, of a wave without horizon and without shore.'"[31] He presented his works in such a way that maximized the ability of the museum space to immerse the viewer to stimulate the emotions surrounding sensation, something that the AI image above does not have the same ability to do. As expressed by Elgammal, "AI is becoming very good at following the rules, but the artistic spark in it is gone."[32]

Smith states that Monet's "overriding ambition was to shape his art so that it would express his originality, his sensations, and not the personality of other artists."[33] He aspired to imbue his paintings with his voice and experiences, as seen through his *Water Lilies* series. Additionally, his paintings, and many other Impressionist painters, challenged the emerging technology of the nineteenth century,

28. Ahmed Elgammal. "Text-to-Image Generators Have Altered the Digital Art Landscape-but Killed Creativity. Here's Why an Era of A.I. Art Is Over." Artnet News, June 20, 2023. https://news.artnet.com/art-world-archives/ahmed-elgammal-op-ed-ai-art-is-over-2304028.

29. William J. Mitchell. *The Reconfigured Eye: The Visual Truth in a Post-Photographic Era*. (London, England: The MIT Press, 1992), 62.

30. Will Fenstermaker. "How Artificial Intelligence Sees Art History." The Metropolitan Museum of Art, February 4, 2019. https://www.metmuseum.org/perspectives/articles/2019/2/artificial-intelligence-machine-learning-art-authorship.

31. Musée de l'Orangerie. "The Water Lilies by Claude Monet." Musée de l'Orangerie, 2024. https://www.musee-orangerie.fr/fr/collection/les-nympheas-de-claude-monet.

32. Ahmed Elgammal. "Text-to-Image Generators Have Altered the Digital Art Landscape-but Killed Creativity. Here's Why an Era of A.I. Art Is Over." Artnet News, June 20, 2023. https://news.artnet.com/art-world-archives/ahmed-elgammal-op-ed-ai-art-is-over-2304028.

33. Paul Smith. "Monet and the Moment of Art." Essay. In *Impressionism: Beneath the Surface*, 89. London, England: The Orion Publishing Group, 1995.

which was photography, through the application of the latest knowledge of light and optics.[34] The implications of attempting to recreate his frozen moments of time in AI go against Monet's philosophy as an Impressionist painter. It removes the experiential aspects involved in the painting of Impressionist landscapes, the sensations of nature being a crucial element of art creation to him. The removal of human involvement beyond providing the prompt is evident in the AI-generated image discussed in this chapter. It is but one of several images that was generated based on a collection of works by someone else. However, there is also a potential benefit to the use of AI in creating works based on Monet's paintings and throughout art history. A project done by the Metropolitan Museum of Art used AI to preserve and recreate various paintings and artifacts. They explain that using AI provides the opportunity to visually understand lost objects and makes the experience of creating a work accessible to the world.[35] While creating this image, although I was not in Monet's garden painting the scene before me, I was required to notice the small details of the original *Water Lilies*. A new experience emerged, albeit different from the original philosophy of the Impressionists, yet a new creative experience nonetheless.

34. Nancy M. Stuart. "Major Themes and Photographers of the 20th Century." Essay. In *The Focal Encyclopedia of Photography*, edited by Michael R. Peres, 4th ed., 180. New York, NY: Routledge, 2007.

35. Will Fenstermaker. "How Artificial Intelligence Sees Art History." The Metropolitan Museum of Art, February 4, 2019. https://www.metmuseum.org/perspectives/articles/2019/2/artificial-intelligence-machine-learning-art-authorship.

[Akot Kuvonda], Portrait of Isabelle Gray, 2024, ChatGPT. This work is licensed under CC BY-NC-ND 4.0.

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Dreamlike

by Shems Benmosbah

Abstract

This chapter delves into the interplay between the sublime and Henry Fuseli's artistic legacy, as reflected through the analysis of three AI-generated images inspired by his work. By juxtaposing these contemporary interpretations with Fuseli's original exploration of awe, terror, and the ineffable, the study draws upon the thematic depths of metamorphosis and the unconscious, guided by the narratives of Franz Kafka's The Metamorphosis and the psychoanalytic perspectives of Sigmund Freud. It underscores the AI's capacity to both echo and expand upon Fuseli's Romantic visions, highlighting the nuanced dialogue between historical artistry and the frontier of digital reimagination.

As a student of art history, I have long been captivated by the works of Henry Fuseli, whose paintings offer captivating explorations of the human psyche, imagination, and the supernatural. Fuseli's oeuvre, characterized by its dramatic compositions and evocative themes, invite interpretations that resonate deeply with our emotions and imaginations. The decision to focus on the following AI-generated artworks is motivated by a desire to understand how contemporary computational creativity can mirror, reinterpret, and extend Fuseli's thematic preoccupations into the digital age. This chapter thus represents an exploration of the fusion between art and AI, with a specific focus on Fuseli. I aim to offer a contemporary reinterpretation of Fuseli's compositions particularly addressing matters of the sublime, visual limits, and empty spaces. Through this interdisciplinary approach, I aim to shed new light on Fuseli's oeuvre and its relevance in the modern era by answering the following questions: Can AI capture Fuseli's emotional intensity and psychological depth? And what insights do AI interpretations provide on Fuseli's engagement with the sublime and the supernatural? while also exploring the potential of AI as a tool for artistic exploration and interpretation.

Henry Fuseli (1741-1825) was a Swiss-born painter, draughtsman, and writer who played a pivotal role in the Romantic movement in Britain. Known for his dramatic and imaginative works that often delved into themes of the supernatural, the sublime, and human psychology, Fuseli carved a distinct niche for himself in the history of art. Despite having no formal education in the arts and lacking a network of aristocratic patrons, Fuseli's profound classical education and innate talent for storytelling through his art enabled him to emerge as a significant figure in late 18th and early 19th-century British

art.[1] Fuseli's work is characterized by its emotional intensity, often featuring idealized figures caught in moments of extreme action or emotional turmoil against neutral or fantastical backgrounds. His fascination with the works of Dante Alighieri, William Shakespeare, and John Milton influenced his choice of subjects, which frequently explored themes of horror, myth, and romance. One of Fuseli's most iconic works, *The Nightmare* (1781), encapsulates his ability to evoke terror and fascination, portraying a demonic incubus perched on a sleeping woman's chest, a vivid manifestation of the gothic and the macabre that defined much of his oeuvre. Throughout his career, Fuseli also expressed a keen interest in aspects of applied science and medicine, which informed his understanding of the human body and its expressive potential in art. This, coupled with his classical education, allowed Fuseli to infuse his works with a depth of intellectual and cultural references that resonated with the Romantic era's preoccupations. In addition to his contributions as an artist, Fuseli was a prolific writer and critic, engaging with contemporary debates on art, aesthetics, and society. His writings, much like his paintings, reflected his deep engagement with the philosophical and cultural currents of his time.Fuseli's legacy extends beyond his distinctive style and thematic preoccupations, embodying the Romantic spirit's fascination with the boundaries of imagination and the exploration of the human condition. His works continue to captivate and inspire, offering a window into the complexities of the Romantic mind and the enduring appeal of the sublime in art.

The advent of AI in art presents a shift in creative expression and art analysis, reflecting an intriguing synergy between technology and human creativity. It felt essential to review literature which explores the intersection of AI-generated art with the thematic elements in Henry Fuseli's works, as it provides insights into existing scholarship and critical perspectives on this connection. Fuseli's paintings, renowned for their vivid portrayal of the sublime, the dreamlike, and the landscape of human emotions, have long been the subject of scholarly attention. The sublime, a concept that has fascinated philosophers, artists, and writers for centuries, refers to an aesthetic quality that evokes a sense of awe, grandeur, and sometimes terror, in the face of the vast, the infinite, or the incomprehensible. It is has been defined as an experience that transcends beauty, stirring deeper emotions that can both elevate and overwhelm the observer. In relation to Henry Fuseli, the sublime plays a pivotal role in understanding the thematic and emotional depth of his artwork, particularly in how he engages with the darker, more mysterious aspects of human experience and the natural world. The retrospective analysis by editors of ARTnews revisits Mario Praz's 1953 critique of Fuseli, offering a historical perspective on the artist's oeuvre and the emotional gravity it conveyed in the 18th century. It also provides a critical benchmark for assessing the fidelity of AI-generated images to the thematic and stylistic essence of Fuseli's oeuvre. This juxtaposition allows for an exploration of how Fuseli's exploration of the sublime and the macabre is re-envisioned through digital technology. By contrasting Praz's insights with AI's modern renditions, we gain a nuanced understanding of the evolution of artistic interpretation and the challenges and possibilities AI presents in capturing and reinterpreting Fuseli's complex emotional

1. Martin. Myrone, Christopher. Frayling, and Marina Warner, Gothic Nightmares: Fuseli, Blake and the Romantic Imagination (London: Tate Publishing, 2006), p.10.

landscapes.[2] Furthermore, Marc Barham's analysis in Counter Arts brings into focus Fuseli's iconic work *The Nightmare*, linking it to the concept of 'horror vacui.' This notion is particularly relevant to AI artistry, where algorithms are programmed to forgo emptiness, often filling spaces with intricate patterns or interpretations informed by vast datasets.[3] Barham's discourse potentially enriches the analysis of AI-generated images, where the AI's propensity to populate voids might resonate with or diverge from Fuseli's intentional use of space and emphasis. The exploration of the sublime in Fuseli's art is further extended by Alan Edward Boulton's thesis, The Embodiment of Sublimity: Discourses Between Visual, Literary and Philosophical Conceptions of Sentience in The Drawings of Henry Fuseli, 1770-78 which delves into the discourses bridging the realms above as they pertain to Fuseli's work.[4] This thesis could be instrumental in understanding the complexities of translating the multi-faceted nature of Fuseli's sublime into digital interpretations by AI, examining how the embodied sentience and emotive potency in Fuseli's drawings might be echoed or transformed. In a more focused study on gender representation, The Courtauld's exhibition Fuseli and the Modern Woman: Fashion, Fantasy, Fetishism examines Fuseli's portrayal of women, which intersects with modern perceptions of fashion and fantasy.[5] This examination offers a nuanced understanding of how AI might replicate or reinterpret the layered themes of gender and identity that Fuseli navigated through his art. Lastly, Scotland's National Galleries' glossary entry of the 'sublime' provides foundational knowledge critical in understanding the term in its art historical context, which allows for a more informed analysis of how AI-generated images might encapsulate or deviate from traditional conceptions of the concept.[6]

At the beginning of my research, I utilized DALL-E mini, an AI model designed for image generation, to create visuals reflective of Henry Fuseli's thematic and stylistic characteristics. This tool transforms textual prompts into visual art, emulating aspects of human creative expression. I initiated this process by feeding the AI model with carefully formulated, yet simply worded prompts. The prompts I employed were: "Henry Fuseli where creativity resides," "Henry Fuseli sublime dreams human emotion," and a slight variation of the first prompt to test the AI's response to subtle changes in input. The utilization of AI to generate images inspired by Henry Fuseli's themes has unveiled a fascinating intersection between 18th-century Romanticism and contemporary digital technology. By inputting Fuseli's thematic concerns into an AI model, the resulting images not only mirror his iconic style but also present novel interpretations that extend beyond traditional artistic boundaries. These AI-generated works, while echoing Fuseli's preoccupation with the sublime and the human psyche, introduce unique visual narratives and motifs, showcasing the AI's capacity for creative expression. This approach does not simply replicate Fuseli's art but rather engages in a dynamic dialogue with it. These AI generated

2. The Editors of ARTnews, "From the Archives: Mario Praz on Henry Fuseli, in 1953," ARTnews.Com (blog), October 19, 2018, https://www.artnews.com/art-news/retrospective/archives-mario-praz-henry-fuseli-1953-11183/.

3. Marc Barham, "Horror Vacui and 'The Nightmare' (1781) by Henry Fuseli.," Counter Arts (blog), September 15, 2021, https://medium.com/counterarts/horror-vacui-and-the-nightmare-1781-by-henry-fuseli-47049d748f0f.

4. Alan Edward Boulton, "THE EMBODIMENT OF SUBLIMITY: DISCOURSES BETWEEN VISUAL, LITERARY AND PHILOSOPHICAL CONCEPTIONS OF SENTIENCE IN THE DRAWINGS OF HENRY FUSELI, 1770-78," PDF, accessed February 12, 2024, https://etheses.bham.ac.uk/id/eprint/5555/1/Boulton15MPhil_redacted.pdf.

5. "Fuseli and the Modern Woman: Fashion, Fantasy, Fetishism – The Courtauld," accessed February 12, 2024, https://courtauld.ac.uk/whats-on/fuseli-and-the-modern-woman-fashion-fantasy-fetishism/.

6. "Sublime," accessed February 12, 2024, https://www.nationalgalleries.org/art-and-artists/glossary-terms/sublime.

works—referred to as Image 1, Image 2, and Image 3—serve as the primary visual data for this study, offering a basis for interpretative discussions. They reflect Fuseli's dramatic use of contrast of lights, the tension in the portrayal of figures, and the ethereal ambiance that characterizes much of his work, reminiscent of his masterpiece *The Nightmare*. Through these images, the AI's interpretation of the prompts provided is scrutinized, allowing for an in-depth exploration of the capabilities of AI in mimicking human-like artistic creativity and understanding complex artistic concepts.

– Image 1 introduces a lone figure captured in a pose that echoes Fuseli's dramatic flair, emphasizing the sublime's ethereal aspect.

This image captures a lone figure amidst a transition, surrounded by deep shadows that fade into an impenetrable darkness. The figure is illuminated from an unseen source, highlighting its pale, almost translucent skin against the surrounding obscurity. The figure's pose is both graceful and contorted, suggesting a struggle or acceptance of the transformation it undergoes. Notably, the face blurs into a skull-like visage, symbolizing a metamorphosis from life to an ethereal existence. The surrounding air is filled with swirling mists or fabric, emphasizing the dynamic process of change.

Figure 1: Shems Benmosbah, henry fuseli where creativity resides, 2024, DALL-E mini by craiyon.com. 1846 x 1536 dpi.

– Image 2 presents two figures depicted in the midst of a dreamlike landscape, their forms blending into and emerging from the background. The figures are caught in an ambiguous dance of interaction, their movements fluid as if they are both leading and following a cycle of endless change. Their features are softly indistinct, reinforcing the theme of metamorphosis as they seem to be transforming into each other or into something new altogether. This proves representation mirrors Fuseli's interest in the fluidity of human emotion and the dream state as a realm of infinite possibility and transformation.

Figure 2: Shems Benmosbah, henry fuseli sublime dreams human emotion, 2024, DALL-E mini by craiyon.com. 1846 x 1536 dpi.

– Image 3, created in response to a nuanced alteration of the initial prompt, offers a fresh take on Fuseli's thematic concerns, showcasing the AI's ability to vary its interpretations. This image presents a scene of tumultuous interaction among multiple figures, where the concept of metamorphosis is manifested in the physical merging and distortion of bodies. The composition is dominated by darker tones, creating a sense of depth and turmoil. Figures are elongated and intertwined, with limbs and faces stretching and morphing in an expression of chaos and transformation. This visual chaos reflects Fuseli's exploration of human psyche and emotion, depicting a metaphysical battleground of transformation where identities are lost, found, and forever changed in the process.

Figure 3: Shems Benmosbah, henry fuseli where creativity resides 2, 2024, DALL-E mini by craiyon.com. 1846 x 1536 dpi.

 In transitioning to the interpretation and analysis segment of this research, I delve into the AI-generated images' nuanced reflections of Fuseli's thematic and stylistic predilections, particularly through the lenses of metamorphosis and psychoanalysis. The incorporation of Franz Kafka's *The Metamorphosis* and the psychoanalytic theories of Sigmund Freud serves as a foundational basis for interpreting the transformative and subconscious elements evident in these images, contextualizing them within Fuseli's exploration of the human psyche, dreams, and the darker aspects of human emotion. The theme of metamorphosis, so central in Kafka's narrative, offers an invaluable perspective for interpreting AI-generated visuals. Kafka's tale, which depicts an individual's abrupt and grotesque transformation into an insect as a profound metaphor for alienation and existential disorientation , finds echoes in Fuseli's work, such as in *The Thieves' Punishment* (1772). This piece, which draws from Dante's *Inferno*, visually encapsulates themes of transformation and torment that align with Fuseli's interest in depicting the fluidity of human experience. The AI images, in reflecting these themes, not only resonate with Fuseli's and Kafka's examinations of identity and change but also offer new visual narratives that extend the conversation into the realm of digital modernity. Psychoanalytic theory, particularly Freud's explorations of dreams and the unconscious, further enriches this analysis. Freud's seminal work, *The Interpretation of Dreams* delves into the symbolic language of dreams, positing them as windows into the unconscious mind, where latent desires and fears reside.[7] This psychoanalytic perspective offers valuable insights into Fuseli's work, notably his painting *The Nightmare*, which visually encapsulates the tension between the known and the unknowable, the seen and the

7. Sigmund Freud, "The Interpretation of Dreams.Pdf," 1900, https://psychclassics.yorku.ca/Freud/Dreams/dreams.pdf.

unseen. The AI-generated images, in their surreal representations and abstracted forms, evoke a similar sense of navigating the subconscious, albeit through a contemporary digital lens. While these images capture the outward forms associated with Freudian psychoanalysis, they may not fully encapsulate the emotional depth and subtleties that Fuseli's hand-rendered works convey.

The AI-generated images invite a closer visual analysis that connects them directly to Fuseli's iconic pieces. For instance, the first AI image, drawing inspiration from *The Thieves' Punishment*, captures the essence of horror and transformation with serpentine figures entangled in a dramatic display of metamorphosis. Inspired by Dante's *Inferno*, it is also reminiscent of the doomed protagonist in *The Metamorphosis*.[8] This visual parallel not only underscores the thematic continuity of transformation but also reflects the AI's capacity to reinterpret Fuseli's fascination with classical mythology and the human condition through a contemporary lens.

Similarly, the second AI image, which might be seen as echoing *The Incubus Leaving Two Sleeping Women* (1810), presents a nuanced depiction of vulnerability and terror through its portrayal of figures caught in a moment of eerie tranquility. This iconic work, emblematic of the tension between reality and the unseen, parallels Freud's assertion of dreams as manifestations of latent desires and fears.[9] The curve of the bodies and the dramatic turn of the chest towards the viewer recall Fuseli's mastery in conveying complex emotional states and narratives through body language and composition. The AI interpretations, with their surreal depictions, echo this journey into the subconscious, albeit from a modern perspective that blends Freudian psychoanalysis with digital artistry.

I wish to now synthesize the insights garnered from the analysis of AI-generated images within the broader context of Henry Fuseli's artistic legacy, exploring how these modern interpretations interact with and expand upon the themes Fuseli so vividly engaged with. This integration not only highlights the AI's capabilities in reimagining Fuseli's thematic preoccupations and stylistic nuances but also offers a reflection on the continuing impact of Fuseli's work in contemporary discussions on art and technology.

Exploring the thematic resonance of metamorphosis through Franz Kafka's *The Metamorphosis*, alongside the psychoanalytic insights offered by Sigmund Freud's theories, forms the core of our analysis of AI-generated images inspired by Henry Fuseli's work. This approach underscores how AI, in reinterpreting Fuseli, taps into the enduring human fascination with transformation and the depths of the subconscious. Kafka's allegory of profound personal transformation and Freud's exploration of the unseen landscapes of the mind resonate with Fuseli's visual depictions of the surreal and the uncanny. The AI-generated images, informed by these literary and psychoanalytic frameworks, not only mirror the essence of Fuseli's exploration of human emotion and identity but also extend these themes into the digital realm. This synthesis highlights the capacity of AI to engage with and expand upon classical art themes, offering new perspectives on metamorphosis and the exploration of the subconscious as timeless concerns, thereby bridging historical artistic inquiry with contemporary technological innovation.

8. Franz Kafka, "The Metamorphosis" (1912).

9. Sigmund Freud, "The Interpretation of Dreams.Pdf," 1900, p.48, https://psychclassics.yorku.ca/Freud/Dreams/dreams.pdf.

Kafka's *The Metamorphosis* serves as an allegory for alienation and the disintegration of identity. This narrative resonates with Fuseli's artistic preoccupation with the surreal and the monstrous, notably in works like *The Nightmare*, where the intrusion of a demonic figure upon a sleeping woman visually manifests the intrusion of the uncanny into the familiar. The AI-generated images, in drawing inspiration from these themes, navigate the Kafkaesque landscape of transformation, presenting a digital reinterpretation that both echoes and diverges from the original narrative. The AI's ability to render these complex themes visually prompts a reevaluation of the ways in which transformation and identity are depicted in the digital age, reflecting a continuity of existential concerns from Fuseli to Kafka to now. Furthermore, Freud's theories, particularly his examination of dreams as windows to the unconscious, deepen our understanding of Fuseli's work, which often straddles the line between reality and the dream state. Freud's notion of the uncanny, where the familiar becomes eerily foreign, finds visual echo in Fuseli's depictions of ethereal figures and dream-induced terror. The AI-generated images, by leveraging data and algorithms, attempt to capture this Freudian uncanny, creating visuals that are at once familiar and unsettling. In doing so, these images offer a new medium through which the uncanny, and by extension, the subconscious fears and desires that Fuseli and Freud explored, can be examined and experienced.

Through the lens of AI, Fuseli's exploration of the sublime, the terrifying, and the uncanny is recontextualized within a framework of digital creativity, suggesting that the core human preoccupations with identity, transformation, and the depths of the psyche remain unchanged, even as the mediums through which we explore them evolve. The AI-generated images serve not only as a testament to Fuseli's lasting influence on art and culture but also as a reflection on the role of technology in both preserving and transforming the legacy of classical art. They invite us to consider how AI can be used not just as a tool for replication but as a means of adding new dimensions to our understanding of art, allowing for a dynamic interplay between the historical and the contemporary, the human and the artificial. This expanded analysis underscores the complexities and potential of using AI to interpret and reimagine Fuseli's themes for the modern era, highlighting the enduring relevance of his work and the transformative power of technology in art interpretation and creation. It reveals the dialogic potential between classical art themes and AI, where technology becomes a bridge connecting past and present, offering new insights into the universal human experience depicted in art. The AI's ability to evoke Fuseli's thematic concerns—such as the fluidity of human identity, the exploration of the subconscious, and the portrayal of intense emotional states—demonstrates the potential of technology to engage with complex artistic and psychological themes.

However, this integration also uncovers the limitations inherent in the AI's interpretations. While the AI-generated images successfully evoke certain stylistic and thematic aspects of Fuseli's work, they lack the emotional depth and nuanced understanding of the human psyche that Fuseli conveyed through his mastery of paint and canvas. This stems from Fuseli's ability to intertwine his personal insights, cultural context, and creative intuition, crafting artworks that resonate deeply on a human level.

AI, while capable of mimicking Fuseli's stylistic and thematic signatures, lacks the intrinsic emotional experience and the nuanced understanding of human nature that characterize Fuseli's paintings. The AI-generated images, despite their visual similarities to Fuseli's work, often fall short of conveying the same emotional resonance and psychological intricacies. This discrepancy highlights the challenges of capturing the full spectrum of human emotion and psychological complexity through digital means.

Ultimately, this research reaffirms the significance of Fuseli's artistic legacy, spotlighting its resonance within today's technological and artistic landscapes. It reveals the vast potential and inherent constraints of leveraging AI as a medium for artistic exploration, offering new perspectives on classical themes and fostering a richer appreciation for the intersections of art and technology. Through this interdisciplinary lens, the study hopes to advance the discourse on technology's role in art, highlighting the enduring power of the dreamlike to unlock new understandings of the human experience, both past and present.

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Transmutation

by Jürgen Hoth

Nefertiti and AI

Dedicated to all children and their promising creativity–unbearably lost forever in wars around the world.

Abstract

The aim of this chapter is twofold, to explore the power that AI has to represent the same iconic image as transformed by a spectrum of art movements; and to assess the extent of potential graphic biases related to the use of AI. The central image used in this analysis was the bust of Nefertiti. This well-known image of beauty was transmuted by AI according to 22 different art movements and artists´ styles, ranging from Cave Art, Olmec and Maya art, passing through the Renaissance, Realism, and Surrealism, including contemporary artists with Warhol, Basquiat, Banksy, and indigenous artists from Panama and Mexico. The key technical and aesthetic results include: 1. Among nine sampled AI engines, DALL·E mini stood out for being the most accessible, reliable and safest for educational purposes. 2. As expected, it was possible to associate distinct outputs to the specific artwork but only in10 out of the 22 sampled artists and art movements, and this befell mostly to the artwork related to modern and contemporary styles. 3. Contrary to what was expected, no discernible biases were identified in terms of the dataset, representation, culture, gender, or concepts of beauty. A potential limitation of AI found through this exercise is picking up subtle aspects of humour and political critique –representing perhaps the last resisting strongholds of distinct human intelligence.

Introduction

Artificial Intelligence (AI) has taken the world by a whirlwind. The unbridled possibilities offered by the power of words automatically transmuted into new images –tapped from the wealth of human art production– are staggering. As with any other tool, however, it is up to its user to learn how to make the best use of it–hopefully in the advancement of "human*kind*ness."

This novel approach for generating baffling, credible and potentially inspiring images, is the work of a rapidly growing number of graphic AI engines that tap from the immense datasets available on the Internet. This information, as processed by any given AI engine, allows the creation of new content, resulting in images that resemble the training data but are not identical to it.

To make wise use of this powerful instrument, however, it is important to be aware that its results

might be spiked by biases. As highlighted by Cade Metz (2019),[1] the NYTs technology reporter: *"Researchers say computer systems are learning from (…) digitized books and news articles that could bake old attitudes into new technology"* (my emphasis added).

Some of the main AI potential biases include: 1. Dataset, AI could favor some cultures, traditions, or styles; 2. Representation, including skin tone, facial features, or body types; 3. Culture, AI-generated art may reinforce racial stereotypes; 4. Gender, AI could potentially reinforce traditional gender roles or stereotypes; and 5. Beauty, AI can perpetuate harmful stereotypes or unrealistic beauty standards.[2]. It is important to acknowledge, though, that the producers of some AI engines, like DALL·E mini, recognize that their images "may also reinforce or exacerbate societal biases (…) given the fact that the model was trained on unfiltered data from the Internet, it may generate images that contain stereotypes against minority groups". Importantly, they also highlight that they are working to analyze the nature and extent of these limitations. [3]

Hence, the thesis of this work is that AI can be a useful educational tool to become acquainted with the distinctive traits of the various art movements throughout its history, but its results can reflect biases.

To address this thesis the questions that will serve as a guide are:

1. What is AI performance in terms of creating oeuvres that can be distinctly recognized according to its artistic movement? and

2. What biases are consistently prevalent in the resulting AI imagery?

Approach

Three main steps were followed related to the process of technology and art selection, namely, 1) the choice and selection of AI engine; 2) the choice of the iconic piece to be used as a reference and follow its transmutation by AI; and 3) the selection of the artistic styles, with which this author is more familiar with, ranging from Cave to Pop Art. The results were then analyzed considering the criteria proposed by Lupescu (2023)[4] to assess the capabilities, performance and bias-related features of the chosen AI engine.

Choice of AI engine

The preliminary conditions for ensuring safe and open access were as follows: the AI engine had to 1) be free; 2) not demand personal information; 3) produce aesthetically interesting results; 4) be accessible; and 5) not require any programming knowledge.

1. Metz, Cade. "We teach A.I. systems everything, including our biases," The New York Times, November 11, 2019. https://www.nytimes.com/2019/11/11/technology/artificial-intelligence-bias.html

2. Kenig, Nitzan, Javier Monton Echeverria, and Aina Muntaner Vives. "Human Beauty According to Artificial Intelligence." Plastic and Reconstructive Surgery. Global Open 11, no. 7 (2023): e5153–e5153. https://doi.org/10.1097/GOX.0000000000005153

3. DALL·E mini by craiyon.com. Bias and Limitations https://huggingface.co/spaces/dalle-mini/dalle-mini Accessed March 30, 2024.

4. Lupescu, Lucian. Possible Guidelines for a Critical Analysis of AI Art, 18 September 2023, https://asynonymforrambling.wordpress.com/2023/09/18/possible-guidelines-for-a- critical-analysis-of-ai-art/

From a list of nine popular AI engines [5] the only AI Engine that fulfilled the five conditions established above was DALL·E mini by craiyon.com.

Choice of focus figure: Nefertiti

Next, the idea was to simplify to the most possible the prompt used so that the effect of the artistic movement could be more easily and directly discernible in the result. The image of reference chosen was the iconic Egyptian Queen Nefertiti –by being perhaps one of the most recognizable and enduring emblems of beauty (Figure 1).

Figure 1. Bust of Queen Nefertiti (c. 1370 – c. 1330 BC) Limestone, height 48 cm, weight 20 kg. Nefertiti means "The beautiful one Is here." She was one of the consort queens of

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5. List of engines that were explored: 1. Artbreeder. https://www.artbreeder.com/ 2. Craiyon. www.Craiyon.com 3. DALL·E 3. https://labs.openai.com 4. DALL·E mini. https://huggingface.co/spaces/dalle-mini/dalle-mini 5. DeepArt.io. https://deepart.io/ 6. Deep Dream Generator https://deepdreamgenerator.com/ 7. Google's ImageFX https://aitestkitchen.withgoogle.com/tools/image-fx 8. Runway ML: https://runwayml.com/ 9. Stable Diffusion https://stablediffusionweb.com

the pharaoh Akhenaton, 18th Dynasty of Ancient Egypt. This bust is housed in the Neues Museum in Berlin.[6] Photo by Philip Picard.[7]

Indeed, Nefertiti´s timeless beauty is an aspect that not even seasoned art historians such as Honour and Fleming, 2009: 91[8] can contain to praise as they consider this effigy as "the most immediately arresting and memorable of all images of a highly sophisticated type of untouchable, female beauty,"

Two more aspects are important to keep in mind about this figure as AI´s output is evaluated. One is the ensemble of Nefertiti´s elongated neck and her facial expression associated with her high cheekbones, straight nose and full lips. The other is the headdress that symbolizes her status as Queen. This accessory consists of a tall, flattened crown featuring a blue headband adorned with the *Uraeus* which rests prominently on her forehead. The Uraeus is the symbol of royalty used in ancient Egypt represented by an erect female cobra evoking the burning and protective eye of Ra.[910]

Choice of prompt and artistic styles

After the choice of the focal image, Nefertiti, this name was used as the basis and common denominator in each prompt, where only the name of the artist or the movement was interchanged. Hence, the basic three-word prompt word used by DALL·E mini was:

Nefertiti *Mondrian* **style**

The word in italics was the only one replaced by one of the terms indicated in Table 1.

Table 1. Complete set of artists and art styles (chronologically ordered) and the respective prospective keywords interchangeably applied as part of the prompt used with DALL·E mini. The styles and authors shaded in orange were later eliminated due to their lack of resemblance to the original artwork, except Mola Panama, shaded in pink, which was included only in the discussion.

6. Tyldesley, J. "Nefertiti." Encyclopedia Britannica, February 25, 2024. https://www.britannica.com/biography/Nefertiti.

7. Philip Picard, 2009, Creative Commons image https://commons.wikimedia.org/wiki/File:Nofretete_Neues_Museum.jpg

8. Honour, Hugh, and John Fleming. The Visual Arts : a History. Revised seventh edition. London: Laurence King Publishing, 2009.

9. Tyldesley, Joyce. "Nefertiti's Face: The Creation of an Icon." Harvard University Press, 2018.

10. null

Cave Art	Bruegel	Picasso	Basquiat
Ancient Egyptian	Gustav Courbet	Miró	Banksy
Maya	Seurat	Cubism	Mola, Panama
Olmec	Klimt	Pollock	Huichol
Greek	Matisse	Leonora Carrington	
Aztec	Mondrian	Warhol	

To have a graphic idea of how well the collection of the selected nine prompts covered the key artistic movements of the last 200 years, their names were highlighted in red in the art movement chart developed by Gompertz (2012[11]; Figure 2, below).
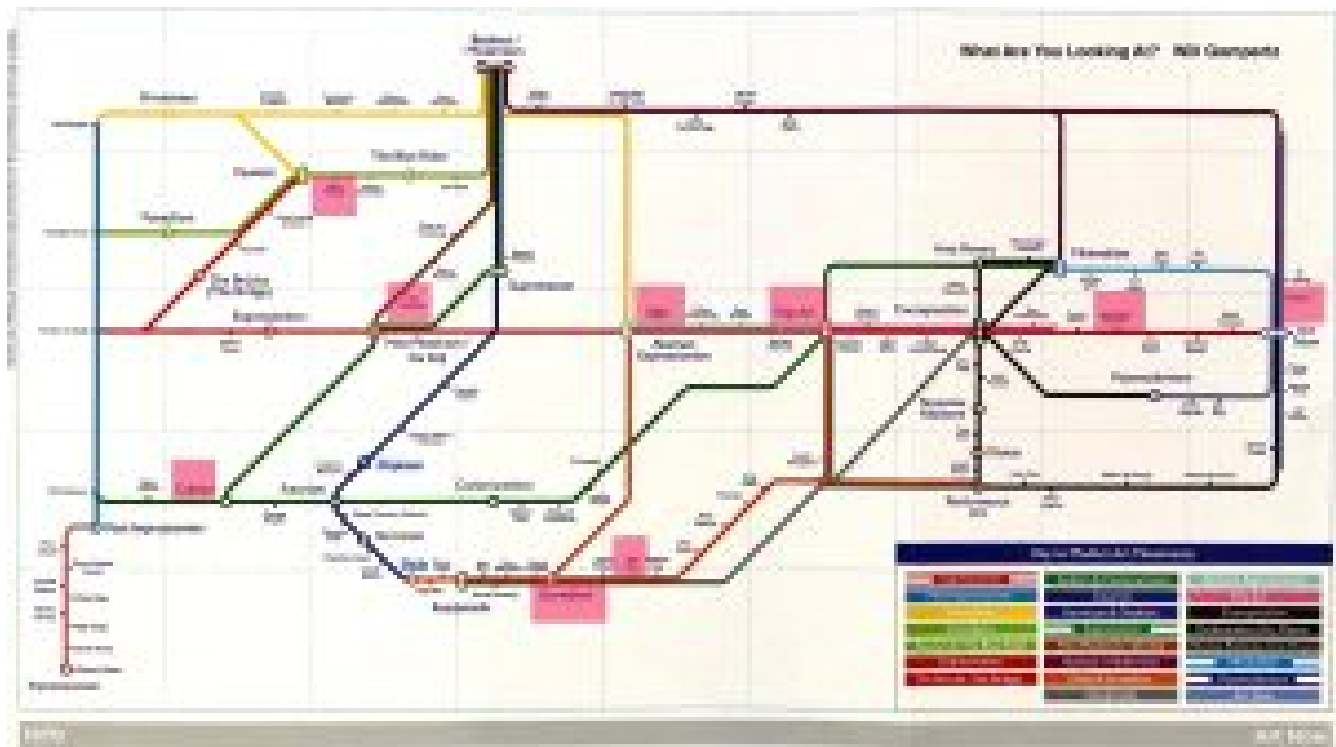

Figure 2. Chart of key Western artists and art movements of the last 200 years. The

11. Gompertz, Will. What Are You Looking at?: 150 Years of Modern Art in the Blink of an Eye. London; Viking, 2012.

artists and movements highlighted in red are the ones that were selected in this essay. This chart emulates London´s underground train and was initially designed by Gompertz (2012).[12]

Choice of criteria to evaluate images produced by DALL·E

After initial trials with DALL·E mini and realizing the endless number of images it is capable of producing, the first criteria considered necessary to apply was for the images *to be credible*. As a working definition for this essay, "credibility" was here considered In terms of clearly showcasing the distinct traits and the essence of the artistic style of the respective authors and art movements. Moreover, additional potential criteria were taken into account based on the guidelines for the critical analysis of AI art as proposed by Lupescu (2023).[13] Based upon the aforementioned guidelines, a subset of criteria presented in Table 2, was selected on a preliminary basis as potentially helpful for the analysis of the images to be chosen.

Table 2. Main set of criteria taken into account to analyze the resulting AI imagery (based on Lupescu, 2023).[14]

1. Aesthetic and visual elements	5. Technical Innovation	21. Comparative. analysis
3. Originality and creativity	13. Cultural and regional influences	23. Artistic experimentation
4. Technical proficiency	14. Process documentation	

Finally, to put in perspective the appraisal of each set of images produced by DALL·E mini, a succinct text was added that summarizes the key aspects of the artwork (mostly concentrated in shape, color and composition) that characterizes each author or style. Unless otherwise referenced, the information in the text boxes was summarized from the information generated through ChatGPT by using the prompt *"Characteristics of (author/style)´s art in 500 words."*

12. Gompertz, Will. What Are You Looking at?: 150 Years of Modern Art in the Blink of an Eye. London ; Viking, 2012.

13. Lupescu, Lucian. Possible Guidelines for a Critical Analysis of AI Art, 18 September 2023, https://asynonymforrambling.wordpress.com/ 2023/09/18/possible-guidelines-for-a- critical-analysis-of-ai-art/

14. Lupescu, Lucian. Possible Guidelines for a Critical Analysis of AI Art, 18 September 2023, https://asynonymforrambling.wordpress.com/ 2023/09/18/possible-guidelines-for-a- critical-analysis-of-ai-art/

Results

In terms of the technical results, among the nine sampled AI engines, DALL·E mini stood out for being the most accessible for educational purposes. It was selected due to it being free, it does not request personal information, produces credible imagery and does not require programming knowledge. Moreover, through the preliminary trial testing of the 22 keywords indicated in Table 1, it was possible to note that the images produced by DALL·E mini are unrepeatable, i.e., the use of the same prompt in the same AI engine does not lead to the same results.

From an aesthetic perspective, the resulting images were mostly non-credible. In only 10 out of the 22 sets of images generated by DALL·E mini were credible in terms of offering the possibility of being unequivocally associated with a particular artist or style, as can be seen in **figure 3**.
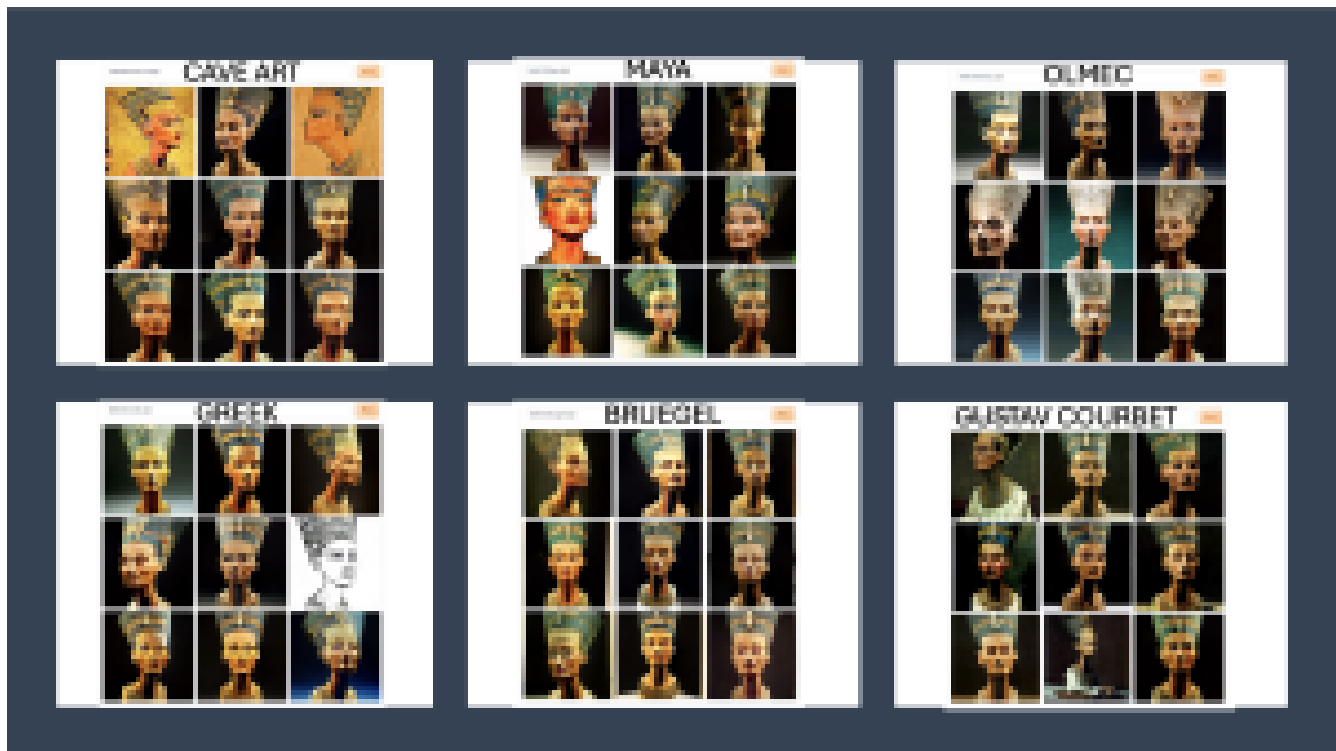

Figure 3. Examples of indistinct outputs of images generated by DALL·E mini applying prompts related to different artists and art movements. Generic outputs such as these were excluded from the graphic analysis.

Only nine prompts, namely, Klimt, Matisse, Mondrian, Miró, Cubism, Pollock, Warhol, Basquiat and Banksy, were used in the analysis as their sets of images could be credibly associated with the style of each of these artists and movements (see figures 4 through 12, below). The only exception, and tenth prompt, that proved credible was the output related to Panama´s Kuna indigenous art, under the prompt "Mola, Panama" (see discussion, below).

The following are the outputs associated with each of the selected artists and styles.

Gustav KLIMT (1862 – 1918), Austria.

One of the defining characteristics of **Gustav Klimt's** art is his use of elaborate ornamentation and intricate patterns. Klimt developed a highly decorative style characterized by the use of gold leaf, geometric shapes, and swirling motifs. He often depicted figures with elongated proportions and sinuous curves, emphasizing the sensuality and grace of the human body.
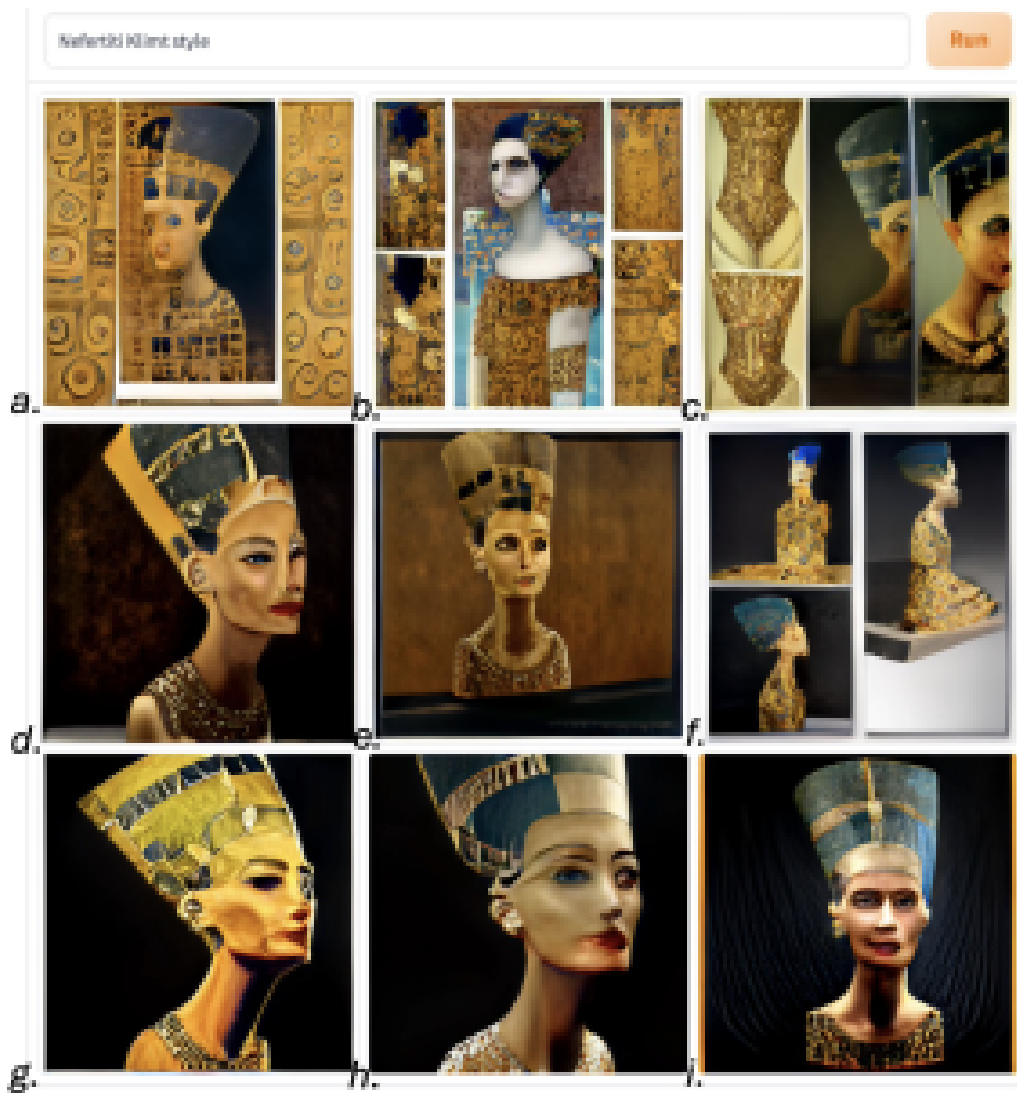

Figure 4. Images generated by DALL·E mini with the prompt *"Nefertiti **Klimt** style"*.

COMMENT: Most of the Klimt-related images generated by DALL·E mini (figure 6) highlight the use of gilded elements favoured by him. The full bodies of women depicted in particular in 6.b. and 6.c. seem to feature normal proportions.

Henri MATISSE (1869- 1954), France.

Henri Matisse's art is characterized by its bold use of color, dynamic composition, and expressive brushwork. As he traversed various styles and movements, he embraced abstraction and distortion, simplifying shapes and flattening perspectives to create dynamic arrangements that emphasized rhythm and movement. A defining characteristic of Matisse's art is his exploration of light and form, using chiaroscuro effects to sculpt and define his subjects. His paintings exude a sense of joy and optimism.

Additionally, Matisse drastically simplifies forms to the point of becoming pure –almost decorative– linear patterns. In some cases., he gets rid of perspective altogether. His work reminds the simplicity and innocence of a child´s work (Gomberich, 1995: 573;[15] Honour and Fleming, 2009:[16] 775)
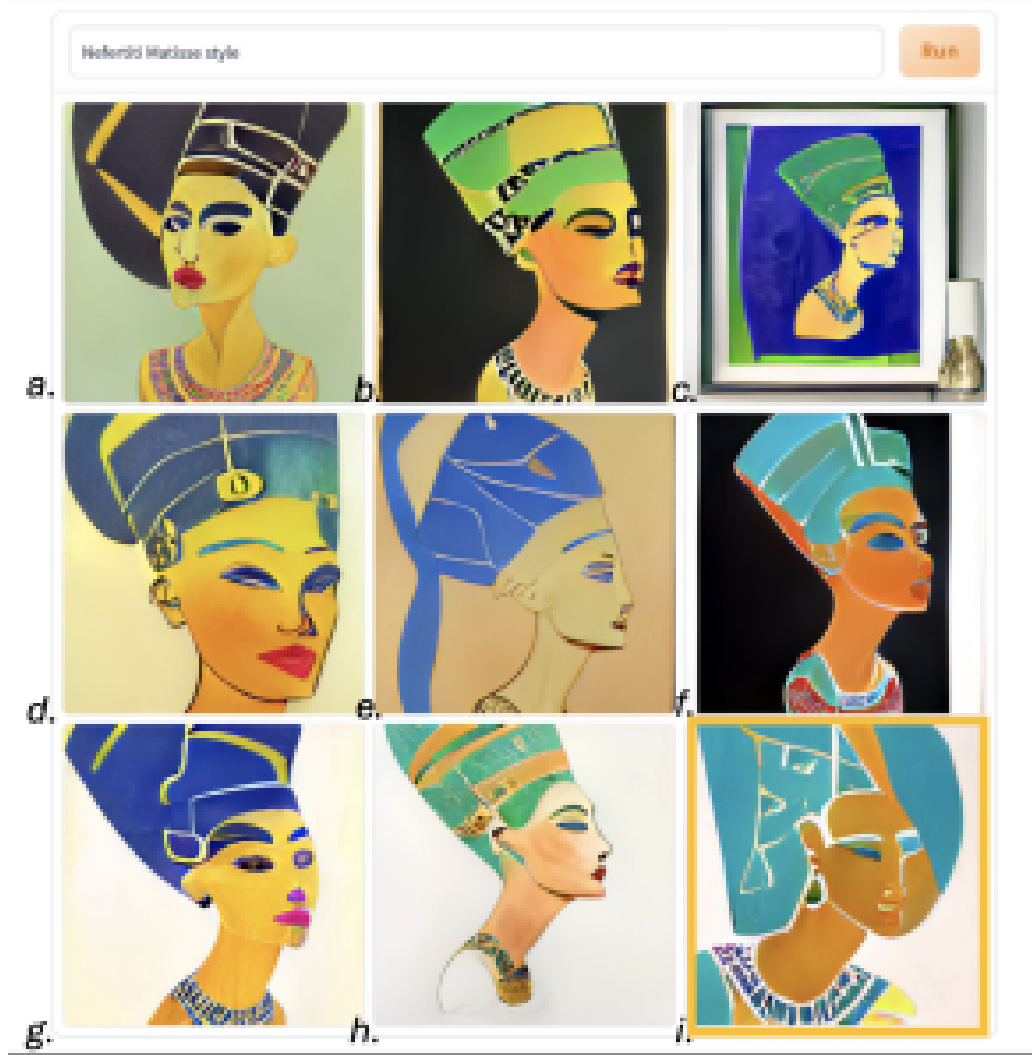
15. Gombrich, Ernst, « Histoire de l'art. » Paris : Phaidon, 1995. XVIme edition (reimpression 2021)

16. Honour, Hugh, and John Fleming. The Visual Arts : a History. Revised seventh edition. London: Laurence King Publishing, 2009.

Figure 5. Images generated by DALL·E mini with the prompt *"Nefertiti **Matisse** style"*.

COMMENT. From this group of images, 5.i. is perhaps DALL·E mini rendition that conveys the best a Matisse-like countenance related to Nefertiti's bust. Image 5. a. d. and f features what could be the ureaus.

CUBISM (1907-), France

Characterized by fragmented forms, geometric shapes, and multiple viewpoints. **Cubism** sought to represent the multidimensional nature of reality by depicting subjects from multiple perspectives simultaneously. Its emphasis is on the flat, two-dimensional surface of the canvas. Artists challenged the illusionistic depth of traditional painting, presenting instead objects and figures as flat, overlapping planes.

Cubist paintings often feature a muted color palette, with earthy tones and subdued hues.. Artists prioritized form and structure over naturalistic color, using color to define shapes and create spatial relationships within the composition. By reducing color to its essential elements, Cubist artists emphasized the underlying structure of their subjects and highlighted the geometric interplay of forms.
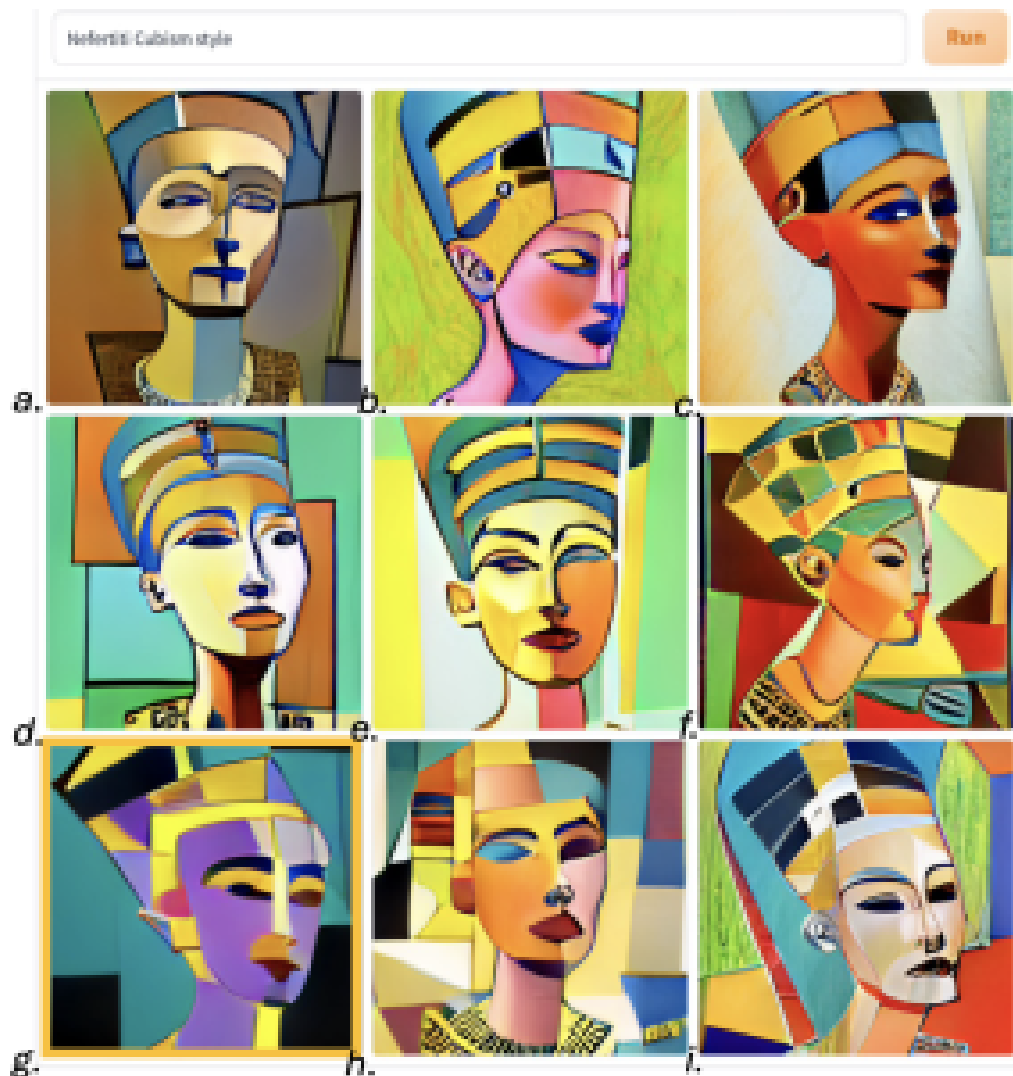
Figure 6. Images generated by DALL·E mini with the prompt *"Nefertiti **Cubism** style"*.

COMMENT: it is noteworthy that all DALL·E mini renditions of Nefertiti's bust show the geometric component, but none of Picasso´s characteristic multiple perspectives. The images 5. d. and 5.e. seem to feature de uraeus,

Piet MONDRIAN (1872- 1944), Netherlands

Piet Mondrian´s art is characterized by geometric abstraction and primary colors. One of the defining characteristics is his use of geometric shapes and lines to create compositions that are both harmonious and dynamic. His compositions often feature grids of vertical and horizontal lines intersecting at right angles, creating a sense of equilibrium and order. These grids act as the underlying structure upon which Mondrian builds his compositions, allowing him to explore variations in rhythm, balance, and proportion. Another hallmark of Mondrian's art is his use of primary colors, particularly red, yellow, and blue, along with black and white. He often introduced asymmetrical elements and diagonal lines.

Figure 7. Images generated by DALL·E mini with the prompt *"Nefertiti Mondrian style"*.

COMMENT: These images could not have been included in this analysis by not being credible in that, according to ChatGPT "Mondrian did not paint faces in conjunction with his grid compositions" (the prompt used was "Did Mondrian paint faces together with his characteristic grid style?"). Nonetheless, Mondrian would perhaps have agreed that image 6 b. adequately provided elements that may have conveyed his approach to Nefertiti´s bust, as suggested by the subtle inclusion of the form of an eye, in the middle upper part of the image.

Joan MIRÓ (1893-1983), Spain

Joan Miro´s works are celebrated for their playful, childlike forms juxtaposed with profound symbolism, reflecting his deep connection to his native Catalonia and his engagement with Surrealism and other avant-garde movements of his time. Miró's art is characterized by a vibrant, whimsical aesthetic that often evokes a sense of wonder and spontaneity.

His use of bold colors, simplified shapes, and biomorphic forms creates a dreamlike atmosphere, inviting viewers into surreal and fantastical realms of imagination. One of his notable techniques is the incorporation of seemingly random splatters, drips, and lines, which add a sense of movement and energy to his compositions.

He often depicted enigmatic figures, such as stars, birds, and celestial bodies, which he imbued with symbolic significance. These symbols served as conduits for exploring universal themes of birth, death, and regeneration, as well as the interconnectedness of all living beings.
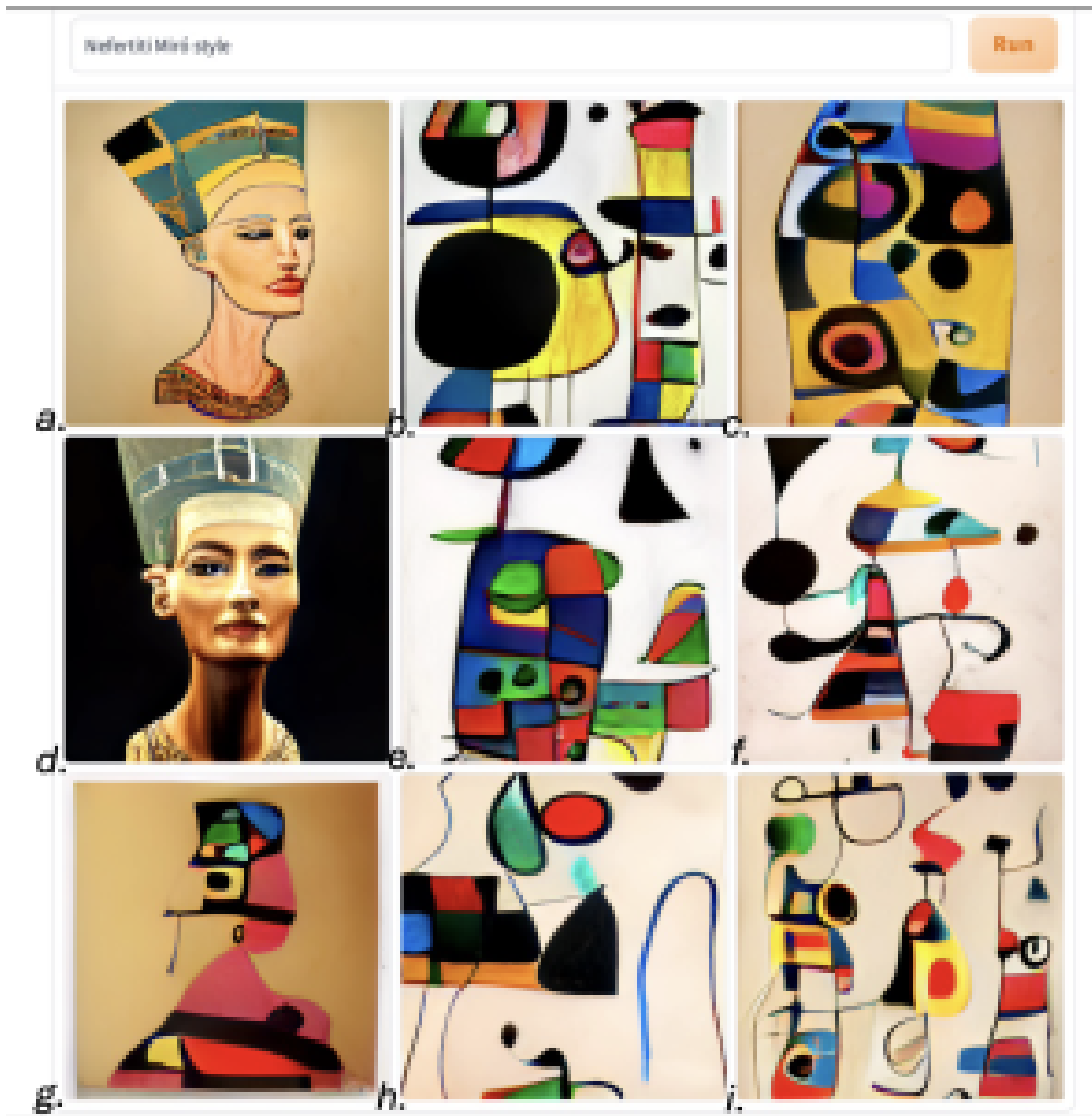
Figure 8. Images generated by DALL·E mini with the prompt *"Nefertiti Miró style"*.

COMMENT: This is perhaps the most playful transmutation that DALL·mini death of Nefertiti compared to all other cases. Perhaps in 8 g. there is still a likeness to Nefertiti while in 8 b., c., f., g. and i. it would be challenging to say that they represent the Queen´s bust.

Jackson POLLOCK (1912 – 1956), USA

Jackson Pollock´s "drip painting" or "action painting," technique involved dripping, pouring, and splattering paint onto canvases laid out on the floor. Pollock's paintings are characterized by their

dense webs of interconnected lines, swirls, and drips, which create a sense of energy and movement. His compositions often lack recognizable forms or figures. He employed both thick impasto[1] marks and thin, delicate lines to create a sense of depth and texture within his paintings. His palette ranges from earthy tones to vibrant primaries.

[1] **Impasto**: a painting technique in which the paint is put on so thickly that it stands out from the surface.[17]
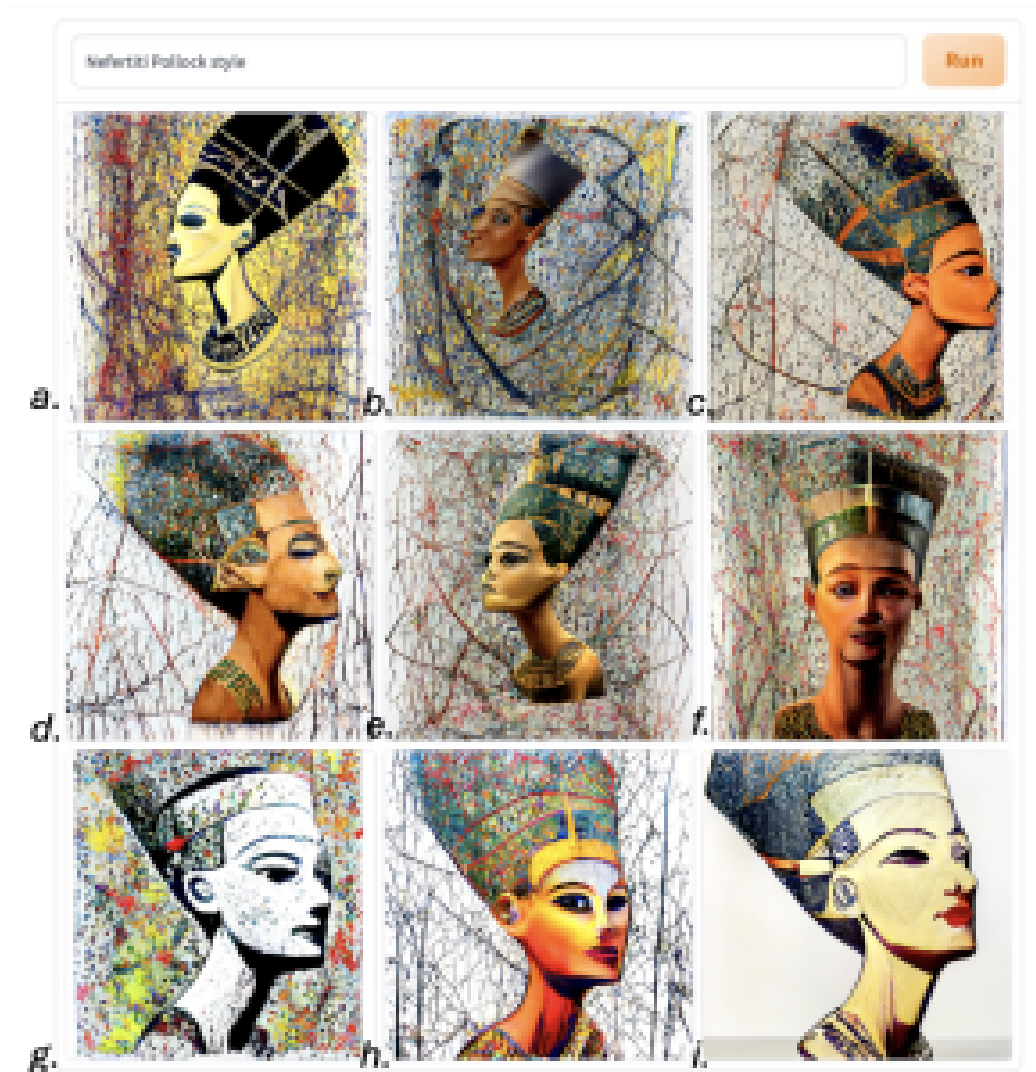
17.   (Oxford Advanced Learner's Dictionary, accessed March 23rd, 2024 https://www.oxfordlearnersdictionaries.com/definition/english/impasto?q=impasto).

Figure 9. Images generated by DALL·E mini with the prompt *"Nefertiti **Pollock** style"*.

COMMENT: As with Mondrian (figure 7), these images evocative of Pollock´s drip artwork could not have been included in this analysis by not being credible in that, according to ChatGPT "Pollock did not incorporate faces into his characteristic drip painting style" (the prompt used was "Did Pollock paint faces together with his characteristic grid style?). It would seem, however, that Figure 9 g. would be perhaps the closest to an AI image generated considering a Nefertiti theme, with which Pollock would have been the least disgruntled. Only figures 9.f and 9.h. feature the Uraeus.

Andy WARHOL (1928 – 1987), USA

Andrew Warhola a.k.a. **Andy Warhol**´s works are characterized by a blend of consumer culture, celebrity, and mass production techniques He favors the concept of repetition with celebrity culture. Warhol's art often explored themes of consumerism and commodification. Bold and vibrant hues, as well as bright, contrasting colors dominate his compositions.
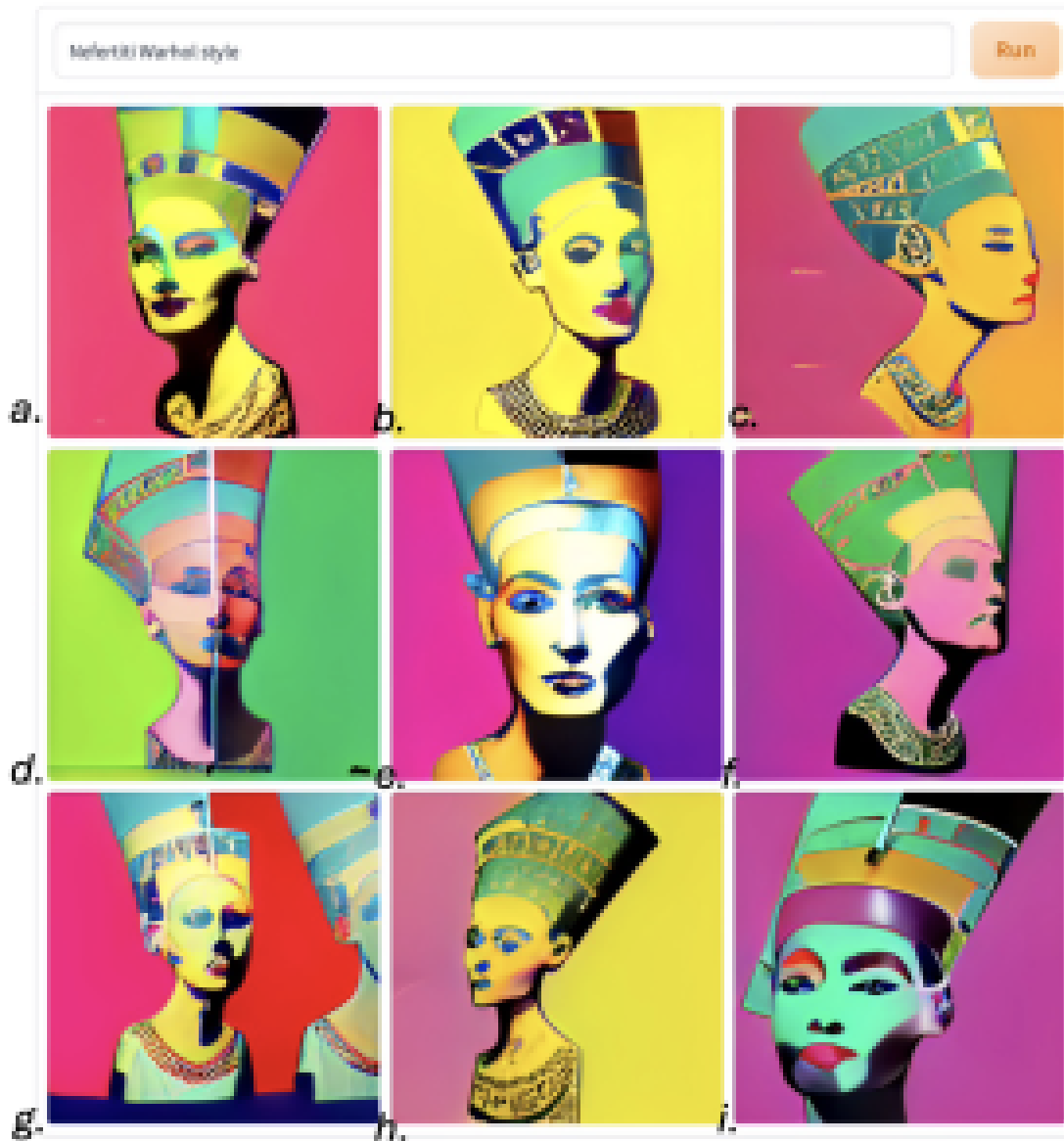
Figure 10. Images generated by DALL·E mini with the prompt *"Nefertiti Warhol style"*.

COMMENT: in this case, DALL·mini seems to have been Warhol´s alter ego. Probably he would have been pleasantly surprised by all these outcomes. It is particularly striking to see Nefertiti´s mischievous gesture, depicted especially in 10.a. and to an extent in 10. j., to an extent reminiscent of Warhol´s classic "Shot Red Marilyn" (1964).

Jean-Michel BASQUIAT (1960 – 1988), USA

Jean-Michel Basquiat developed a raw, expressive style and poignant exploration of identity, race, and society, blending elements of street art, graffiti, and fine art. He employed bold, gestural

brushstrokes and vibrant colors. His paintings are filled with dynamic forms, swirling lines, and frenetic mark-making. He incorporated in his paintings words, phrases, and symbols from diverse sources, including history, literature, and popular culture. His paintings often feature recurring motifs such as crowns, skulls, and figures, which serve as symbols of power, mortality, and identity. Basquiat used street-inspired techniques such as spray paint, collage, and crude drawing.
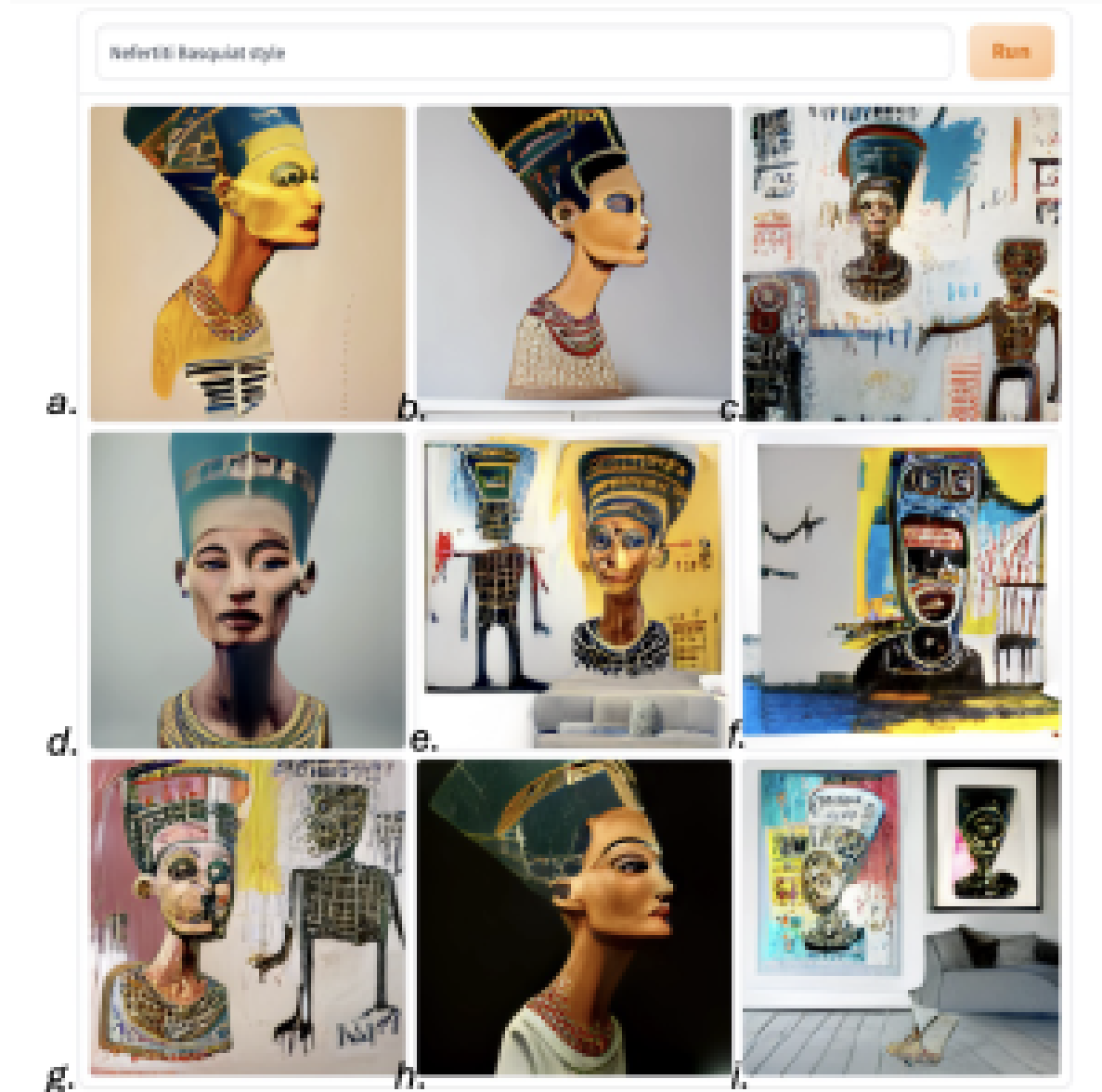

Figure 11. Images generated by DALL·E mini with the prompt "Nefertiti **Basquiat** style".

COMMENT: the image presented in 10 f. Seems to be particularly striking and convincing of a type of work that Jean Michel Basquiat could have produced, as it transforms the exceptional

naturalistic depiction (Honour and Fleming, 2009: 91)[18] of the white Egyptian Queen into that of a black impersonation *à la* Basquiat.

BANKSY (1990´s-) UK

Banksy's art is subversive by nature. He uses the urban environment as his canvas often featuring satirical and provocative imagery, juxtaposing familiar icons with unexpected elements to disrupt viewers' expectations and provoke thought. Stencil graffiti is a hallmark of Banksy's technique which provides a distinctive visual style of clean lines and bold contrasts.
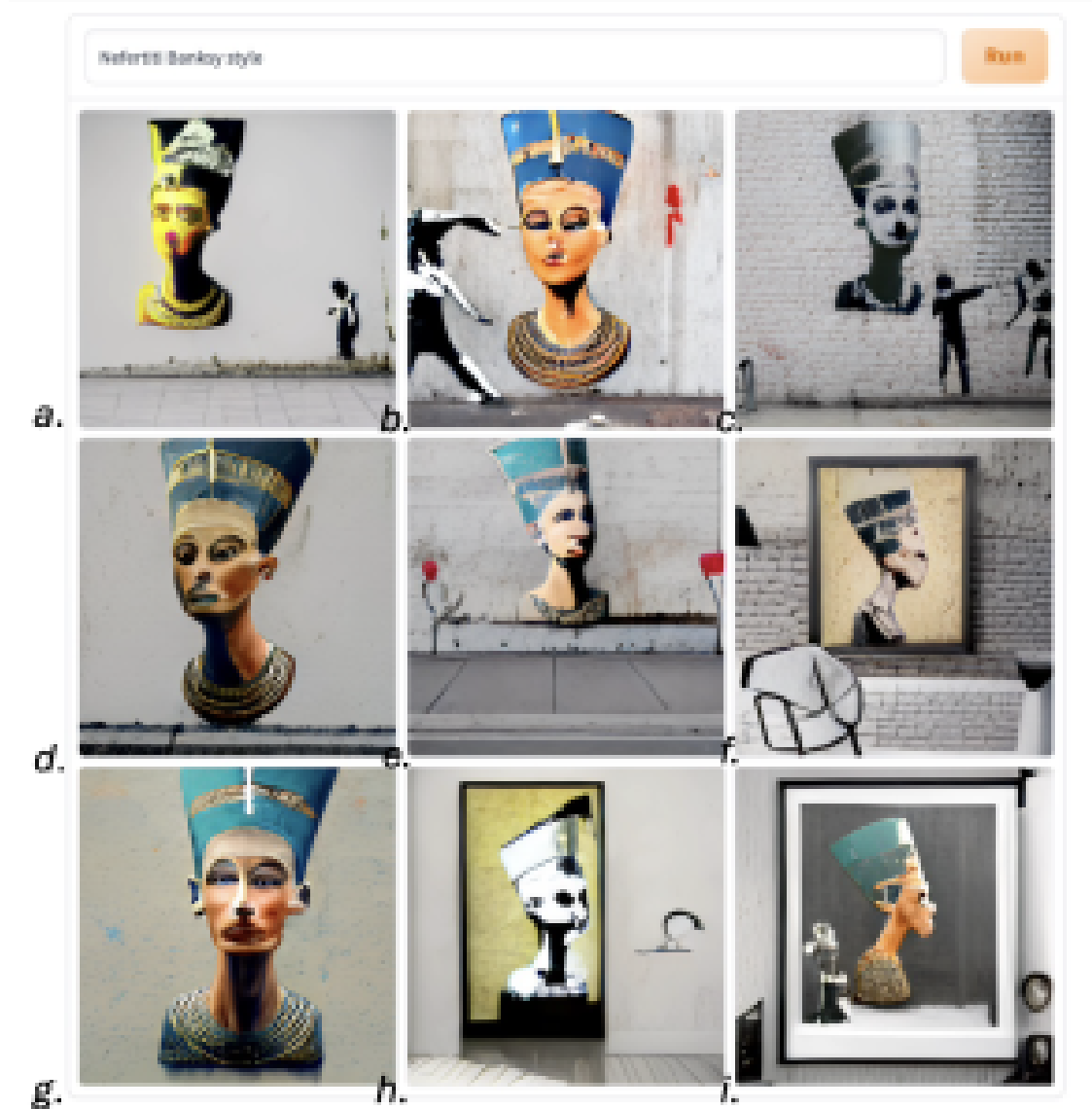
18. Honour, Hugh, and John Fleming. The Visual Arts : a History. Revised seventh edition. London: Laurence King Publishing, 2009

Figure 12. Images generated by DALL·E mini with the prompt "Nefertiti **Banksy** style".

COMMENT: the elusive Banksy may perhaps find inspiration in some of the suggestions made by DALL·E mini. In particular, the one that may attract his attention the most is the image in 12 c., evocative of his classic stencil technique used in walls of cities around the world. Although the Street art approach is present in several of the renditions, none of them tell a story, or even suggest a glimpse of Banks's characteristic subversion or thought-provoking approach. The uraeus is featured in five of the images.

Discussion

An unexpected finding that emerged at the end of preparing this essay was the controversy surrounding the use of Nefertiti's image. For instance, after several years of legal battle, it was not in 2019 that the 3-D Scan of Nefertiti's bust was publicly released by the Neues Museum in Berlin[19]. In terms of the photographical image, it was confirmed that the photo used in the introduction of this essay is licensed under Creative Commons as "free to copy, distribute and transmit."[20]

In terms of AI performance, from a technical view of the nine sampled AI engines, DALL·E seems to be the most accessible and safest for educational purposes. It stood out by being free, not requiring personal information, producing credible imagery and by not requiring programming knowledge.

From an aesthetic view, in more than half of the distinct art cases (12 out of 22) DALL·E produced images that could not be attributed to any artist or style in particular. Most of the indiscernible output was related to ancient art but it also happened with more recent artists like Bruegel, Seurat and Courbet. This could be potentially associated with the Dataset bias, namely, that AI may favour some cultures, traditions, or styles; as could have been expected, favouring Western and modern painters. It is interesting to note, however, that DALL·E did interpret well Nefertiti as a typical embroidery (mola) made by Panama´s Kuna indigenous women as can be seen in **figure 13**). This exception shows that rather than a Cultural bias, the Dataset bias could be probably more related to the amount of information in the data bank currently available to DALL·E.

19. Rea, Naomi "An Artist Has Won a Legal Battle to Force a German Museum to Publicly Release Its 3D Scan of an Ancient Bust of Nefertiti." Artnet News, November 17, 2019. Accessed, March 30, 2024 https://news.artnet.com/art-world/3d-scans-museums-nefertiti-1706181

20. Wikipedia. File:Nofretete Neues Museum.jpg Accessed March 30, 2024. https://en.wikipedia.org/wiki/File:Nofretete_Neues_Museum.jpg

Figure 13. Left, images generated by DALL·E mini with the prompt "Nefertiti Mola, Panama style". Right, indigenous, Kuna woman from the Kuna Yala islands on the Caribbean side of Panama. She is holding and exhibiting the traditional molas with geometric patterns as well as animal and plant patterns (Source WikiCommons)

In terms of the second bias, that of Representation, which refers to skin tone, facial features, or body types. in the here-obtained results, the tone of Nefertiti skin was depicted from white to black passing through the full spectrum of colours (see for instance the output related to Pollok and Warhol, figures 9 and 10, respectively). Additionally, the facial features were kept consistent and the characteristics of the body type were not grossly altered. This means that this bias was not present in this sample of 200 images..

The third potential bias is Culture, where it could be expected that AI-generated imagery could reinforce racial stereotypes. This was not the case either. If anything, it was very interesting how AI dealt with race, for instance, in the case of Basquiat –the only black artist in this essay who frequently represented Black people in his paintings– AI represented Nefertiti as a black character in five out of the nine images in his set (**Figure 11**). This seems to indicate that AI responded to the racial content characteristic in Basquiat´s work.

In terms of gender, this fourth bias is where it could be expected that AI could reinforce traditional gender roles or stereotypes present in the training data. Keeping in mind that Nefertiti was one of the most powerful women in her time within Egyptian society, throughout all of the artists´ and movements´ representations, her poise and sober countenance was maintained, and her role was not changed or diminished in any way. Thus, this bias was not seen in this sample of 91 images.

The fifth bias beauty, where it could be expected that AI could perpetuate harmful stereotypes or unrealistic beauty standards, for instance, exaggerating secondary sexual characteristics, like oversized

breasts,[21] this aspect was not identified in any of Nefertiti's representations, not even where her full body was presented, as was the case in Klimt´s set of images (figure 4).

Lastly, although AI produces remarkable results, some of the challenging areas seen in this collection of images seem related to aspects of emotional human nature, namely, humour (seen only in some of Warhol´s representations), and political critique, inherent to Banksy´s work but not picked up by AI (see figures 10 and 12, respectively).

Conclusion

In agreement with the proposed thesis, AI can indeed be a useful educational tool as shown through its convincing and credible performance in terms of creating oeuvres that can be distinctly recognized according to its artistic movement.

Interestingly, however, the images here analyzed as produced by DALL·E mini didn't show the expected biases that are frequently attributed to AI. Although biases are inevitable, the negligible cases obtained in this exercise may already be the result of the ongoing efforts carried out by DALL·E[22] to address these limitations.

AI can be an extremely useful tool but only if subservient to human intelligence. This means that, although AI helped to expedite and synthesize a wealth of information, both through DALL·E mini, used for that generation of images and ChatGPT, used in the description of the artists and their movements, in both cases, it was critical to intelligently discern chaff from grain in the generated information.

Lastly, a remaining feature that may be an enduring challenging area for AI is that related to picking up subtle aspects of humour and political critique –representing perhaps the last resisting strongholds of distinct human intelligence.

Biography

I am a BFA student in my second year in visual arts at the University of Ottawa. I am also a professional conservationist with a bachelor's degree in Biology, UNAM (Mexico), and a master's degree in Rural Development and International Planning from the University of Guelph. By formally venturing into the world of art I seek to complement my scientific and conservation work in the creation and promotion of artistic works and activities to raise environmental awareness and at the same time to achieve a greater impact in the communication of social and environmental problems. My main field of artistic interest is photography.

Footnotes

21. Kenig, Nitzan, Javier Monton Echeverria, and Aina Muntaner Vives. "Human Beauty According to Artificial Intelligence." Plastic and Reconstructive Surgery. Global Open 11, no. 7 (2023): e5153–e5153. https://doi.org/10.1097/GOX.0000000000005153[/footnote

22. DALL·E mini by craiyon.com. Bias and Limitations https://huggingface.co/spaces/dalle-mini/dalle-mini Accessed March 30, 2024.

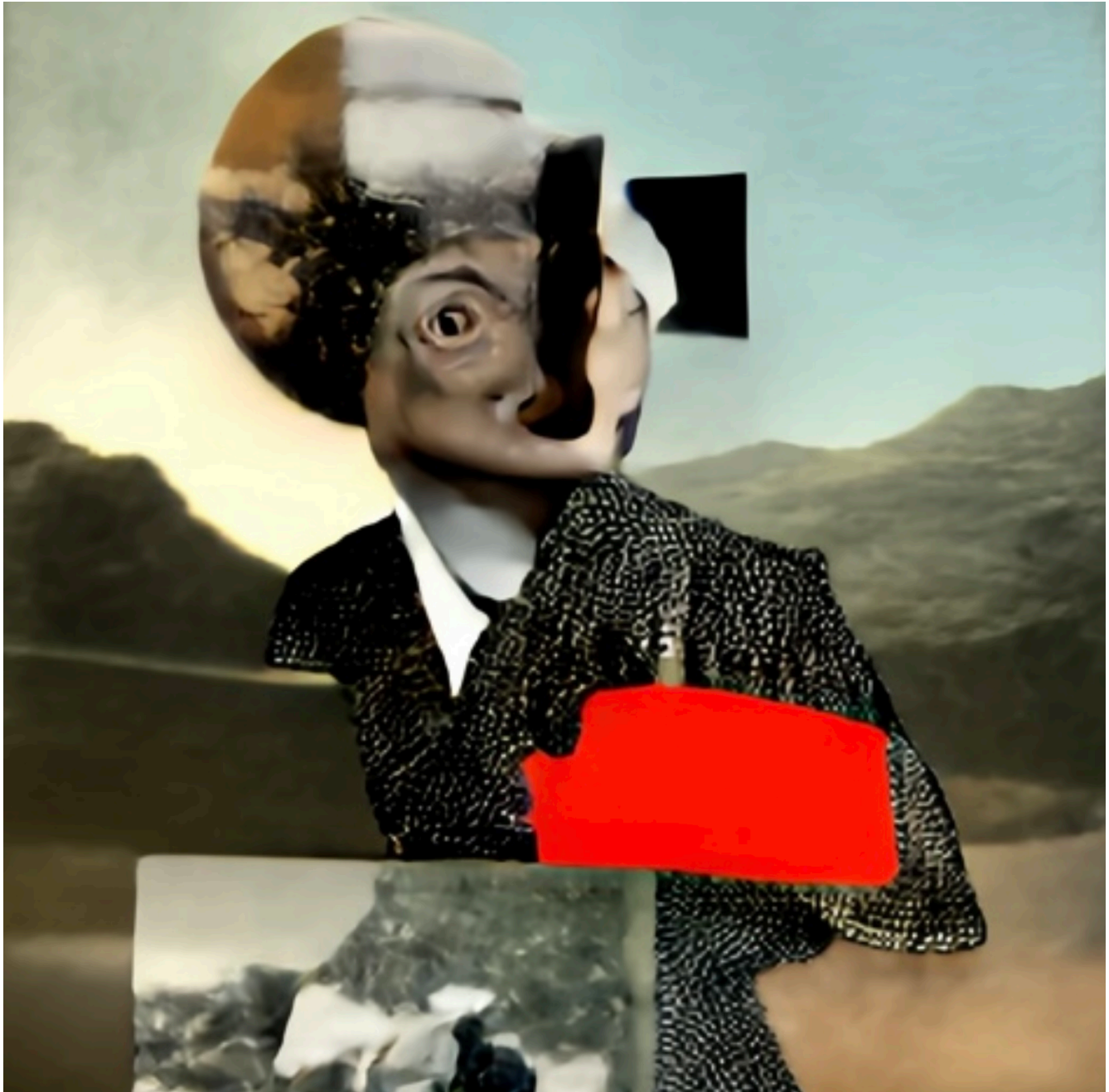# Dissonance

By Abigail Moffitt

Fig. 1 Abigail Moffitt, Dreams of Dissonance. January 25th 2024, DALL•E mini.This work is licensed under CC BY-NC-ND 4.0.

Dreams of Dissonance, 2024

Abstract:

The AI-generated image titled Dreams of Dissonance [Fig .1] communicates the artistic themes of two very different artists, Francisco Goya and Hannah Höch. Using DALL-E mini, the software blended their unique styles to create one cohesive and rather symbolic piece. This essay will have a strong focus on my personal experience being an artist myself, and not physically putting paint to a canvas. Communicating the different ways in which control was taken from myself in a creative sense as well as the ways in which I gained creative freedom while generating images with multiple different prompts. This chapter will also seek a reading on the two artists and their common themes, as well as their differences in terms of artistic anpproach and technique.

In this age of rapid technological advancement, artificial intelligence has created quite a disturbance in the contemporary art community. Creating artwork at the speed of light, with no physical artist creating it, AI is able to create the unimaginable. In a fusion of two artists with rather different backgrounds and artistic aesthetic's, this artwork that I created using the free AI database 'DALL-E mini' did not disappoint. This work communicates the ever-expanding boundaries of AI while exploring the themes of the German photo-collage artist Hannah Höch (1889-1978) who's career picked up in the early twentieth century, as well as Francisco Goya (1746-1828), who was a Spanish romantic painter. Both artists from very different times, using extremely different mediums, AI was able to generate an artwork that I could have never imagined.

One may be questioning, 'Why Goya and Höch?'. To begin, I reflected on artists who had made an impact on my artistic educational career. I wanted my AI-generated work to be something in which I could resonate with, something that felt like it belonged to me. A work of art that has intention, which is why I decided on Goya and Höch. Throughout my university education, Goya has been a constant over the years. I found myself constantly coming back to analyze his works such as his series titled *Black Paintings* which communicate his dark outlook on humanity using a low-saturated palette, as well as his etchings which depict themes of insanity and mental illness. I was drawn to his work as his theme of mental illness always intrigued me as he portrayed it in such a raw and dark way. His paintings often include a very overall dark-toned palette, with the inclusion of otherworldly creatures to depict these themes of mental illness and insanity in the early nineteenth century. I found that Goya's dark and haunting exploration of the human condition and society related closely to another artist which I have revisited constantly over the years. Hannah Höch was one of the first artists to explore photomontage in the early nineteenth century and was a well-respected artist during the Dada movement. As Höch explores themes of gender and societal norms, her work challenges these themes as she takes cutouts from consumer magazines creating distorted and disproportionate human-figures that challenge the notion of beauty in society as well as gender roles. I saw a strong connection between Goya and Höch as they both explore something deeper and darker, they challenge the surface-level problems of mental illness and gender roles grotesquely by using these desaturated tones and non-human-like figures. I thought, how interesting to bring these two artists together, to blend techniques and materials. The result was difficult to imagine just exactly what it would look like, and how I would get this result using one single prompt in DALL-E mini.

As a visual artist myself, I had a very unique experience while 'creating' this work of art. For

me, creating or being 'creative' is to generate something new based on your own ideas and imaginative process. *Dreams of Dissonance* [Fig 1] is the product of my own thought process, the image has just been generated for me, using data from the internet to create one image that relates back to my ideas. Being an artist, I feel a disconnect, can I call this my own work? Am I the creator? In the words of Joanna Zyliska in 'AI Art'[1], who quotes Dorléac and Neutres claiming that 'The artist no longer creates work; he creates creation."[2], I resonated with this theory as I feel as though I created this 'creation' of work assisted by AI, and resulting from a database.

The one element in which I; the artist, could control during the production of this AI-generated art was the prompt itself. Using particular language, the prompt has everything to do with the outcome of the artwork in which I am aiming to be generated. Höch was one of the earliest artists to work with Collage/photomontage in Germany during the early 19th century exploring themes of gender and identity, while Goya was a Spanish romantic painter whose work explores themes of insanity and politics from the early eighteenth century. While narrowing down a prompt that would result in Dreams of Dissonance, I began with the idea of blending the two artists' style, as well as their preferred mediums.

Starting with the idea of Collage and Goya's dark tones, I generated a few keywords in the context of Höch such as surrealism and collage. In an attempt to generate elements of Goya's work I used 'Style of' and Narrative, as many of his works communicate a story of his own personal views on the human experience. I then used these keywords in multiple different prompts to create different images each time. The base of my prompt was for the AI to create "An artwork with the essence of Hannah Höch's collage technique, infused with Francisco Goya's style and elements of…", with each prompt I changed the outcome of the image by changing the word in which followed the end of the prompt. Using 'Narrative' and 'Surrealism' I was able to use AI to generate works that looked completely different from one another. The term 'narrative' interested me as I wanted the final outcome of my work to be readable, I wanted to enhance the subtleties of narrative within Höch and Goya's work. Surrealism was a term that I used to explore the unusual scenes within the two artists' work, as Goya's dreamlike, grotesque and imaginary subjects may be said to anticipate surrealism, thus I wanted to highlight theses aspects.When using the term 'Narrative', the database created one specific work that shocked me; a work that depicted a gallery setting. I found this amazing as not only did it create multiple artworks in that were all cohesive in a paired layout, but it also created an environment for the multiple works within a gallery. Two pairs of smaller artworks are placed on what seems to be a wall within a gallery, in the middle of the four smaller works; a larger canvas is placed. The smaller works are difficult to read as they are almost abstract. All in a dark black and yellow hue, these works act as studies for the larger central canvas. The middle being a rectangular-shaped canvas, is reminiscent of a figure and possibly an animal. In the top left corner, a dark cut-out can be seen which resembles hair and a body. Below is a blending of different shapes and cut-out collage pieces, all following Goya's diluted colour palette resembling a robust animal figure. Possibly retrieved from Goya's *Bullfight* series done around 1820, depicting a scene of a bullfight performance. Nearing the figure on the left, a red flag can be seen above the bull-like figure, tying into the 'bullfighter' presented in Goya's works. The 'bullfighter' was the performer in which held the coloured flag, waving it in an act to agitate the bull. Reading the central piece as a possible bull fight, this work poses many questions regarding the presentation of the subject matter of the four smaller works. What is the relation among the various pieces?Do they have any relation to the bullfights? What type of setting is this, an art gallery perhaps? Is this image meant to be read as a collage work?

1. 'AI ART': Machine Visions and Warped Dreams", Joanna Zylinska. July 15th, 2020.

2. Dorléac, Laurence Bertrand and Jérôme Neutres. Eds. 2018. Artistes & Robots. Paris: Réunion des musées nationaux – Grand Palais

Fig. 2 Untitled, Abigail Moffitt. January 25th 2024, DALL•E mini.This work is licensed under CC BY-NC-ND 4.0.

Exploring the different outcomes of the changed prompt and the results changed drastically when I replaced 'Narrative' with 'Surrealism'. Resulting in an explosion of colour and collage, the generated multiple images which included cut and paste images generated from Höch's work, in conjunction with a scenic background that was reminiscent of Goya's paintings.

Thus, *Dreams of Dissonance* [Fig 1] was created after the input of many trial and error prompts, I had finally chosen my final work. Using ChatGPT, I entered the prompt "describe an artwork with the essence of Höch's collage technique with the style of Goya using elements of Surrealism", resulting in an artistic analysis of an artwork that did not exist. I was astounded to see that the AI database searched the internet for content that analyzed the work of Höch and Goya, creating a description of what a collaborative work might look like. Interestingly, ChatGPT generated a title that did not exist, that title was '*Dreams of Dissonance*'. I was surprised as it perfectly described, and captured, the essence of the work that I had generated using Dall-E Mini. According to the Oxford Languages, the term 'Dissonance'[3] can be described as "a tension or clash resulting from the combination of two disharmonious or unsuitable elements". This term fittingly captures Goya and Höch's differences and individual style while describing the harmonious piece that is *Dreams of Dissonance.*

Dreams of Dissonance [Fig 1] is an artwork that is embedded with Höch's collage technique, whilst including Goya's use of deep rich tones. This work seemingly presents a portrait of an alien-like figure in the centre of the piece that has distorted facial features. This peculiar and enigmatic figure can be traced back to many elements presented in Goya's work as he often created paintings that depicted otherworldly

3. Oxford Languages. English Dictionary, "Oxford University Press", Retrieved March 5, 2024.

creatures and figures. It is important to note that Goya suffered from an autoimmune disease for five years which caused intense fevers resulting in intense hallucinations. [4] After recovering he was left with many impairments such as hearing loss and lasting trauma from the illness he endured. His artistic practice took a shift due to this sever illness as he started exploring the dark view on human psyche that he now had as a result of the trauma he endured.[5] As the central figure in this work has its head tilted, we are able to visually see that the creature is lacking an ear. Knowing that Goya's work went through immense changes after his illness and hearing loss, this work presents an exaggerated depiction of that moment in Goya's artistic career. Around the head of this alien-like figure, we see a muddy array of cut-out pieces which emit from the figure's mouth region and conjure at the top of the head. The muddy black rectangle shape in that emits from the mouth signifies an almost silencing of the figure, a theme which was most likely taken from themes explored in Höch's work, often conveying the silencing of women. She created works that challenged the absurd gender norms that were present within the media and sought to expose and shed light on these issues. The shape around the top of the head allows for a distortion of the figure, commonly seen in Höch she often creates humans with disproportionate figures which act as a form of mockery of women in the media which were portrayed as having no flaws. This mass around the figure's head could be interpreted as a possible hairstyle, relating to themes of fashion; it could also refer to the continuing theme of the silencing of women. The large muddy area acts as a depiction of the artistic and intellectual traits that women were forced to keep bottled up, due to the constrained views on women in power.

After further research to discover just exactly where the AI had generated the unusual figure presented in *Dreams of Dissonance,* I found that by a simple google image search of Goya's artwork, one of the top results was *Insult to Injury,* 2003 [Fig 3][6]. The image being an appropriation of Goya's work done by artists Jake and Dinos Chapman, this piece presents an etching done by Goya from his series titled *Disasters of War.* [7] As this work is one of the top results when searching Google for Francisco Goya's artworks, it is likely that DALL-E mini retrieved this image and used it in *Dreams of Dissonance* [Fig 1]. As Jake and Dinos Chapman create works of mockery, this ear enlargement is most definitely a means of mocking Goya's hearing loss in a lighthearted way. When looking at the figure in *Dreams of Dissonance,* this ear enlargement has vanished, although, elements of the dark sunken eyes and the pale grey head is still present. I think works which appropriate other artists such as *Insult to Injury* are extremely crucial in understanding AI generated works, as the database grabs any source from the internet that has any relationship with the prompt being used. In this case, as I used Goya's name within my prompt, DALLE-mini used all of the top image sources resulting in the other-worldly creature presented in *Dreams of Dissonance.*

4. Cipriani, Gabriele, et al. "Art Is Long, Life Is Short. Francisco José de Goya y Lucientes (1746–1828), the Suffering Artist." Medical Hypotheses, vol. 117, 2018, pp. 16–20, https://doi.org/10.1016/j.mehy.2018.05.017.

5. Wholden, Rosalind G. "About the Artist: Francisco Goya y Lucientes (1746-1828)." Psychological Perspectives, vol. 57, no. 3, 2014, pp. 246–47, https://doi.org/10.1080/00332925.2014.936217.

6. NA. "Top 10 – Come up and See My Etchings – Page 2 of 11." Artlyst, December 2016. https://artlyst.com/features/top-10-come-see-etchings/2/.

7. Vega, Jesusa. "The Dating and Interpretation of Goya's 'Disasters of War.'" Print Quarterly 11, no. 1 (1994): 3–17. http://www.jstor.org/stable/41824811.

*Fig .3 Insult to Injury, 2003. Jake and Dinos Chapman. Image derived
from https://artlyst.com/features/top-10-come-see-etchings/2/*

As this figure is placed in the middle of the work, against the muddy landscaped background; it resembles a cut-out piece from the collage material that Höch works with. Working with fashion magazine cutouts, much of Höch's work includes elements of style and beauty.[8] In D*reams of Dissonance,* the alien-like figure is wearing what looks to be a patterned blouse in a lowly saturated colour palette. With the blouse lightly draped over the figure, a strikingly bright red rectangle shape distorts the clothing in the lower right corner. Creating a highly emphasized point in the work, this bright red streak can be immediately recognized as a frequent reoccurring element within Höch's work. Within many of her collage work, the low saturated images from early consumer magazines are accompanied by a bright red or blue element which provides for a high contrast within the piece. Much like in *Dreams of Dissonance,* I find the eye is drawn to these areas of high saturation allowing for the eye to wander throughout the work, noticing every cut-out which was placed with intention. As the eye moves around this particular work, many blurred 'cut-out' like pieces can be seen scattered around the head of the figure. One clearer area can be noticed in the bottom left of the work, again, in this signature lowly saturated palette, an image that closely resembles Goya's *Black Paintings*[9].

The Black Paintings were created in the late nineteenth century, after the loss of Goya's hearing. This series of paintings all included this horrific portrayal of the human experience, society, and mental illness/insanity[10]. In most of these works, a mass of humans are seen piled up in agony in a specific spot on the canvas. Within the cut-out in *Dreams of Dissonance,* this image is not very clear and is blurred, although one can make out that this image was sourced directly from the common depictions

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8. Pérez-Fernández, Andrea. "From Compassion to Distance: Hannah Höch's 'Mother." The European Journal of Women's Studies, vol. 29, no. 1, 2022, pp. 140–54, https://doi.org/10.1177/13505068211028977.

9. Allan, Derek. "The Death of Beauty: Goya's Etchings and Black Paintings through the Eyes of André Malraux." History of European Ideas, vol. 42, no. 7, 2016, pp. 965–80, https://doi.org/10.1080/01916599.2016.1161533

10. Allan, Derek. "The Death of Beauty: Goya's Etchings and Black Paintings through the Eyes of André Malraux." History of European Ideas, vol. 42, no. 7, 2016, pp. 965–80, https://doi.org/10.1080/01916599.2016.1161533

in Goya's *Black Painting* series. In the background, a luminous hilly landscape in low saturated yellow tones allows for emphasis on the main central figure. This landscape was furthermore a product of the *Black Painting,* many of these works are seen with rolling hills that fade into the distance as the central figures in more detail are brought forward.

I want to conclude with the words of Donald Barthelme, a writer and collage artist, who stated that "the principle of collage is the central principle of all art in the twentieth century in all media" [11], speaking to the way in which fragments from different sources of art throughout history become a whole, which is exactly how AI generates artworks. *Dreams of Dissonance* embraces an appreciation of collage as it combines elements from multiple sources in a 'cut and paste' [12] fashion to create a unique and innovative work. Acting as a homage to both Goya and Höch the AI-generated artwork honours both of their distinct artistic abilities, to create a work that explores their themes of gender, identity, and the human experience physically and psychologically. In this age of AI art on the rise, the term 'creative' becomes a question of who exactly the creator is, and the limits of what can be created become limitless.

11. Copeland, Roger. "Merce Cunningham and the Aesthetic of Collage." TDR (1988-) 46, no. 1 (2002): 11–28. http://www.jstor.org/stable/1146942.

12. Evans, David. "Cut and Paste." History of Photography, vol. 43, no. 2, 2019, pp. 156–68, https://doi.org/10.1080/03087298.2019.1695408.

Trace

by Tia Carey

Abstract:

My chapter investigates AI's ability to replicate the strategies of artists Lorna Simpson and Robert Frank, creating image subjects which embody representational systems of identity, and weaving in visual and narrative ambiguity. With reference to the theories of Rolande Barthes (intertextuality) and Paul Ricoeur (trace), and the research of Dafydd Hughes and Tabita Rezaire, I will describe the machine's performance of existing socio-cultural narratives, and the dialogic nature of human interpretation of AI art. I am interested in exploring the interpretive subtext, and the necessity of a reader with a strong contextual awareness and ability for a multiplicity of understandings. My larger observation is that the digital world is solely capable of reflecting our current ethical, cultural, economic, social, and geopolitical realities, of which each AI generated image is a trace.

Many of the questions I ask in this paper run parallel to this question: which artists would I seat at my dream dinner table? The pressure to make a good seating plan is immense. To be resurrected only to be sat next to an abrasive dinner guest would certainly cause resentment towards the host. Questions about compatibility would be necessary. Who shares perspectives and values? Whose personality meshes well? Who can mediate? Who sits next to the obligatory but eccentric guest, artificial intelligence?

Lorna Simpson would be at the top of my list. I see her art as witty and thoughtful, presented by a rapturing storyteller. She presents photographs pairing image and text, full of historical references and social commentary. They ask questions that bring awareness to the viewer's body and social stratum, as well as their own lived history. Her works often visualize the representational systems which define black womanhood rather than individual black women, speaking to the (art) historical denial of black women's subjectivity.[1] Machine learning follows a similar process to Simpson's work, but without understanding or purpose. I wonder about the discussion that would ensue between these two guests.

Robert Frank could be seated on AI's other side. Frank strikes me as somebody who would not rush to fill awkward silences, and who would always let you finish your thought. His most famed work is *The Americans*, a photo book which documented his travels as a newcomer to America in the 50s. This postwar era was a vulnerable moment for America's identity, and photographers were looked to as proponents of a clear, strong American image. The content and formal qualities of Frank's images were not explicitly favourable towards the nation, or explicit in any sense; they presented America as heterogenous and containing much moral grey area. AI, with its jumbled and alien images might find an equal in Frank's obscured, grainy, and skewed compositions. As two outsiders to their images' subject matter, they can both bring clarity through their images' incongruence with insider narratives. The filmic

1. Nika Elder, "Lorna Simpson's Fabricated Truths," *Art Journal* 77, no. 1 (2018): 30–53. https://doi.org/10.1080/00043249.2018.1456248.

sensibility of Frank's images might parallel the infinite AI generation of images from a given prompt, both hinting at the story of their creation and to the possibility of alternative narratives.[2]

My question was initially what it would look like for Simpson and Frank to work together or to interact; I was curious how they might represent one another. My images were generated using DALL-E mini by craiyon.com. Having never generated an image using AI before, I wasn't sure what questions to ask. I started with the names of each artist individually, to gauge the generators ability to replicate style and render an image that was coherent, interesting, and pleasing to the eye. My prompts for "Lorna simpson" generated a grid of kinky hair, hair shaped inkblots, and ransom-note faces, which I realized were a reflection of her recent collage work, and not of the machine's inability to render faces. "Robert Frank" prompted images of ghostly black and white faces leering out of hazy shadows, with many instances of a particular texture, which looked as if very dry skin could ripple like sand. The results of "lorna simpson and robert frank" weren't as fruitful as "Robert frank and lorna simpson", which gave some a striking insertions of Simpson's black female figure into the world of *The Americans*. Alongside them were several portraits of the two artists in shadowy rooms, with cut and pasted facial features and textured skin. Simpson was recognizable by her hair, and Frank by his glasses, wide brimmed hat, and tie. My first run of "Robert frank and lorna simpson photograph" generated the most real looking human I've seen from DALL-E so far, in *Robert frank and lorna simpson photograph* (Fig. 1). Her marred eyes reveal her inhumanness while allowing her additional expressiveness with which to convey human emotion. I was drawn to the emaciation of the figures in these types of images, and compelled to examine how AI "understood" these people.

2. Ann Sass, "Robert Frank and the Filmic Photograph." *History of Photography* 22, no. 3 (1998): 247–53. https://doi.org/10.1080/03087298.1998.10443885.
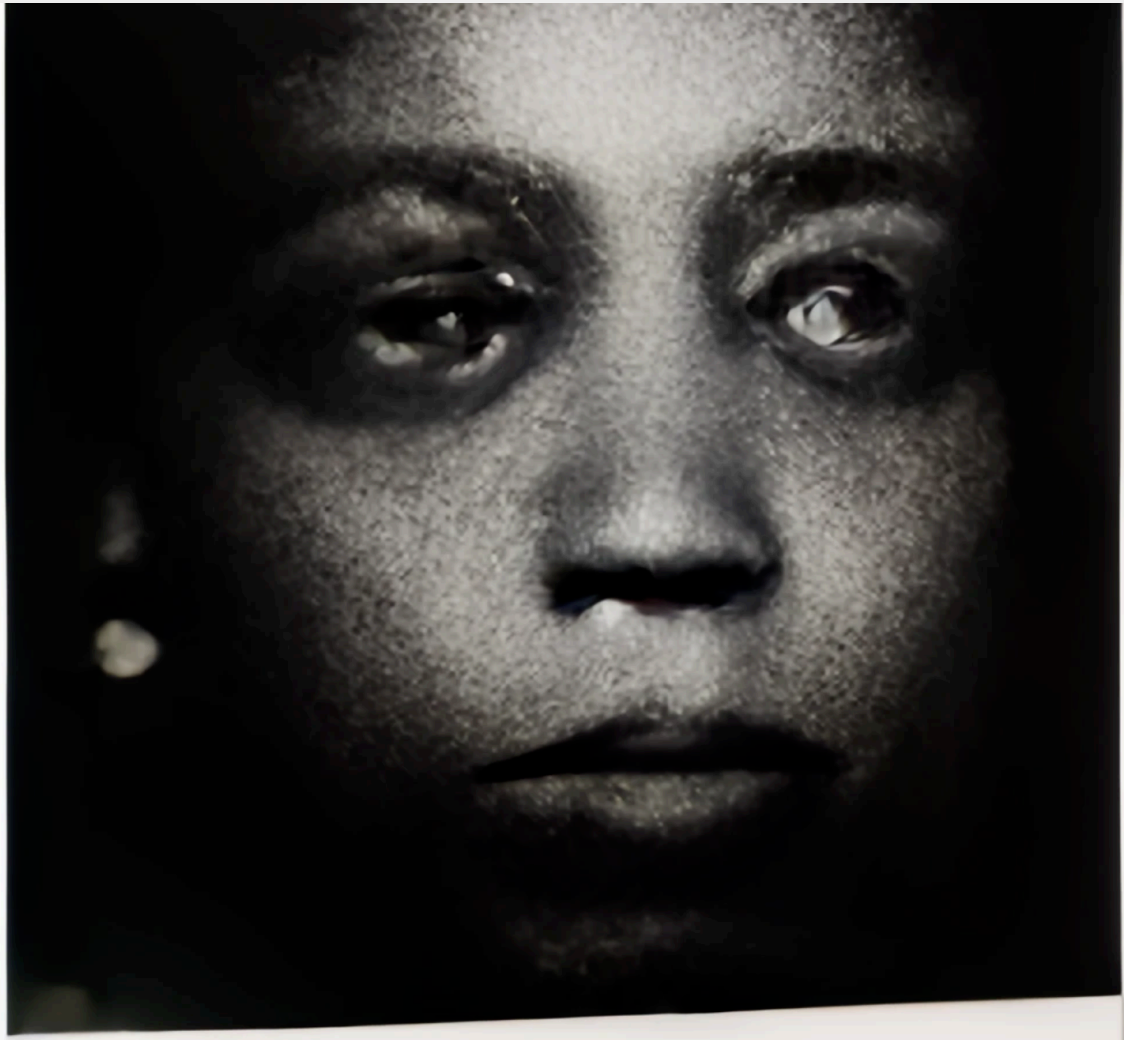
Fig. 1. Tia Carey, Robert frank and lorna simpson photograph, January 14, 2024, DALL-E mini by craiyon. This work is licensed under CC BY-NC-ND 4.0.

I started thinking of the traits the work of Frank and Simpson shared; two photographers who played with ambiguity, speaking through that which is not explicitly said or shown. Both of their work also states their awareness of the narratives which make up race and nation in America. They question whether representation in a photograph could humanize the subject to the viewer.

As a dead white man who occasionally photographed black women, and a black woman who isn't in the habit of photographing white men, how would they speak about each other? "Lorna Simpson photographed by Robert frank" produced a range of of portraits which appropriated Simpson's collage style in Frank's name. My chosen photo, *Lorna Simpson photographed by Robert frank* (Fig. 2), might be Simpson without eyes, as if they had been cut out of the "photo", revealing a white sheet of paper underneath. This is a distinct departure from the compelling eyes in the last image. The light source apparently shining in from the left side of the composition make this Simpson's expression hard to read. The left side of her face is mostly obscured. Her mouth might be slightly open in an expression of

unease, or she may have fuller lips marked by a distinct shadow. What might be another harsh shadow around her eye could also be a bruise or a tired dark circle. Aside from a patch of white on the left side of her face, the background is also dark, bleeding out onto the white border. Given the AI's seeming association of Simpson's name with natural black hair shape and texture, this might be her hair. Or, following the logic of this being a collage, this could be the ripped edge of the photo.

Fig. 2. Tia Carey, Lorna Simpson photographed by Robert frank, January 14, 2024, DALL-E mini by craiyon. This work is licensed under CC BY-NC-ND 4.0.

I also tried the names of their artworks with the other's name attached: "Robert Frank necklines" or "Lorna simpson the americans". *Robert Frank guarded conditions* (Fig. 3) seemed to recall the gathered roadside figures Frank's *Car Accident, U.S. 66, between Winslow and Flagstaff, Arizona.* Hauntingly, the covered body at their feet in Frank's work is exchanged for the obscured faces of the figures themselves. Although their backs are turned in Simpson's signature motif, they appear to be wearing similar hats before a similar grassy field. The same high horizon is figured in both compositions, although the viewer

is now frighteningly positioned where the dead body might have been in relation to the standing figures. The houses in the background are now dots on the horizon. Perhaps, these are not the same figures. They now more closely resemble the pyramid of elderly figures in *St. Petersburg, Florida*. A headcount locates the brimmed hat with a ribbon, the cap, the wrapped hair, and the white curls. In this case, one of the figures still remains unaccounted for, as with the covered body by the roadside.

Fig. 3. Tia Carey, Robert Frank guarded conditions, January 14, 2024, DALL-E mini by craiyon. This work is licensed under CC BY-NC-ND 4.0.

This same prompt also gave me the only image which showed the photograph on the page of an entire book (Fig. 4), presumably in the style of *The Americans*. Another meta-layer is added by a second open book stacked underneath. The two "photographs" are black and white, without any immediately recognizable subject matter. The one on the left might contain a door, a suitcase and the wing of a plane. The one on the right might be a transport truck on the road, next to the head of a windmill. Below them both is a row of thin black dashes; they hint at the appearance of words on a page. Although it seems

unlikely to me that DALL-E was actually drawing from photos of Simpson's work, I see the grid layout of *Guarded Conditions* in the layered books and side-by-side images. *The Americans* is formatted with only one photo in every spread, so this is not the direct visual referent here. The line of "text" mirrors the sequence of phrases in *Guarded Conditions.* The white pages also stand in for the white gallery wall onto which Simpsons text and grid of images is hung. What I didn't realize until much afterwards was that many of the generated images had white borders, some of them slanted as if being viewed on a turning page, or held up at an angle to view the skewed composition straight on.

Fig. 4. Tia Carey, Robert Frank guarded conditions, January 14, 2024, DALL-E mini by craiyon. This work is licensed under CC BY-NC-ND 4.0.

On the track of self reflexivity, I decided at this point to ask the AI to address it's own limitations as outlined in a disclaimer on the web page:

"While the capabilities of image generation models are impressive, they may also reinforce or exacerbate societal biases. While the extent and nature of the biases of the DALL·E mini model have yet to be fully documented, given the fact that the model was trained on unfiltered data from the Internet, it may generate images that contain stereotypes against minority groups. Work to analyze the nature and extent of these limitations is ongoing, and will be documented in more detail in the DALL·E mini model card."

Interchanging the names of the artists with phrases from the disclaimer such as "stereotypes against minority groups" didn't produce much that was distinct from the previous images. Having assembled a few pages of my own "photo book" through the process of repeated AI generation, I had reached the departure point from which I would analyze my selected image (Fig. 2).

Firstly, the mask-ification of the black woman calls to mind Picasso's cubism. Within the act of appropriation of Simpson's style, there is a mirror of his appropriation of African masks in the appropriation of her face. In her literal objectification, even her gaze is taken from her. She is not granted subjectivity with which she might respond to her viewer, her creator, or her circumstances. What does it mean to be reduced to a face without a person behind it? Whereas the first image of the child with the tearful eyes was able to embody pain and intimate emotion, this face has no soul or identity behind it. Many photographers operating during the postwar era saw photography as an avenue to bestow respect and dignity upon its subjects; it was thought that the truthful record of a person's likeness could humanize them. Frank's stylistic manipulations created vague, unsettling, or even threatening portrayals of subjects which put into question the ability presupposed of photographers to embody an objective vision. In fact, *The Americans* asserts the need for such grey area in order to encompass the realities of violence and fear faced by American people.[3] Erik Mortenson argues that through Frank's visual style of "disrupts" the viewer's recognition of the human figure. Instead of identifying with the subject, the viewer must question the circumstances of the disjunction, which is at once visual and cultural[4] The techniques which he uses to obscure or disassociate the figure, such as grain, shadow, or blur, entice the viewer in for reasons other than shared humanity.[5] Looking back to the image of "Lorna Simpson", there is a suggestion of Frank's hand in the concealment of her face. Not only is her face partially in shadow, but even visible features such as the jawline, chin, nose bridge, eyebrow, and forehead are blurred. Only at the brightest point of her right cheek are the details of her skin visible.

Simpson's work is also no stranger to such ghostly figures. Lorraine O'Grady notes that Simpson's black female figures have "every aspect of subjectivity both bodily and facial occluded, except the need to cover up itself."[6] For black women, she says, subjectivity is not to be theorized upon until it is expressed. To make this process more and less convoluted, neither the subject nor the creator of this image is a black woman, although the human viewer is told otherwise. While Lorna Simpson is intentional in her restriction of self expression in her works, the AI cannot have intention or self expression either way. As Simpson does, the AI can identify visual patterns, and form associations between image and text. It can produce images that are instances of this algorithm based on a specific dataset, working exclusively from images represented in this larger system. What it cannot do is know what it feels like to be reduced to an instance of a type, and the humanity that is not granted by this

3. Erik Mortenson, "The Ghost of Humanism: Rethinking the Subjective Turn in Postwar American Photography." *History of Photography* 38, no. 4 (2014): 418. https://doi.org/10.1080/03087298.2014.899747.

4. Mortenson, "The Ghost of Humanism," 421-22.

5. Mortenson, "The Ghost of Humanism," 425.

6. Lorraine O'Grady, "Olympia's Maid: Reclaiming Black Female Subjectivity," in *Art, Activism, and Oppositionality*, ed. Grant H. Lester (New York, USA: Duke University Press, 2020), 275. https://doi.org/10.1515/9780822396109-017.

experience. It cannot know what it means to be racialized, although it can identify race. It cannot reflect on how or why these classifications are designated, or question who, when, why, and how they were established. But the generated images can ask these questions of the viewer, so long as they are equipped with the understanding of the process of image generation. This is where the theorization which O'Grady refers to may actually fit in. According to Roland Barthes line of thinking in Death of the Author, the absence of an identifiable human creator liberates the AI image from a single signification.[7] The AI image has no origin or one true meaning; its ideas can only be expressed through an infinite reuse of pre-existing ideas which one can only hope to pull apart the threads of.[8]

In an analysis of his own similar explorations of Robert Frank's work using AI, Dafydd Hughes points towards this shift of agency given to the document itself. In the relation of the author, the text (or AI image) and its content are given roles in the act of reading; without an author's imposition, the document and reader develop meaning in conversation with one another.[9]

He also points towards Paul Ricoeur's trace as a helpful descriptor for such documents. The trace is both the physical mark which documents the passage of a moving being, and the significance of its relationship to time and place [10] The dual meaning of the trace is invoked by the evidence of a past event intersecting with our present day, posterior, understanding of it, as relative to our own time.[11] Hughes elaborates on the importance accorded by Ricoeur to honouring the connections of these documents to the people and events which created them: an archive preserves each document relative to its contextual history whereas a database severs the document from this relationship with time.[12] The database, presuming the document is something to be simply understood, does not allow for the dialogic relationship between document and reader which is underscored by both Barthes and Ricoeur. After all, the viewer, as classified by Barthes, is someone who holds within themselves all the "traces by which the written text is constituted."[13] This type of reading is most conducive to the works of Frank and Simpson, which draw their significance from the ambiguity which allows for the multiplicity of a viewers' understandings.

But does this apply to their work as interpreted by AI? The machine has only a database to work from, and cannot take on the act of interpretation and engagement with its dataset. While it cannot take on the task of reading, it can raise questions about the act of reading itself, by pointing back to its own dataset and algorithm.[14] With awareness of the biases disclaimed by the generator's creator, I was led to Tabita Rezaire's *Deep Down Tidal*, a video installation which I recently viewed at the Helsinki Biennial. It outlines a phenomenon described by the artist as "electronic colonialism," which is the expansion of Western imperialism into the digital realm, in the absence of physical land

7. Roland Barthes, "The Death of the Author", in *Image, Music, Text* (1977), 147.

8. Barthes, *Death of the Author*, 146-147.

9. Dafydd Hughes, "Every face in The Americans: Faces from photographs by Robert Frank, selected by iPhoto." (PhD diss. Ryerson University, 2011), 13

10. Paul Ricoeur. *Time and Narrative, Vol. 3*. (Chicago: University of Chicago Press, 1988), 119-120

11. Ricoeur, *Time and Narrative*, 120

12. Hughes, Every face in The Americans, 20

13. Barthes, The Death of the Author, 148

14. Hughes, Every Face in The Americans, 30

to conquer. This is facilitated by the importation of hardware, software, engineers, and protocols into colonized countries, which favour Western knowledge and create dependency.[15] The internet is not decentralized or universal, argues Rezaire, the internet is the physical cables on the sea floor which follow former slave trade routes.[16] Interestingly enough, the etymology of the word "robot" stems from an Old Czech word for "slave." [17] Rezaire also notes that the water which holds these internet cables functions as an archive, which carries traces of its passages.[18] Digital data systems are only able to function within the architecture of violence upon which they are built; the virtual can only reflect the real world's geopolitical, social, cultural, and economic realities. Humans are ourselves technological entities, evolving through and alongside technology since time immemorial.[19]Joanna Zylinska, "A So-Called Intelligence," in *AI ART: Machine Visions and Warped Dreams* (London: Open Humanities Press, 2020), 27. http://www.openhumanitiespress.org/books/titles/ai- art/[/footnote] When reading these AI generated images, it is important to consider one's obligation to history. The work of Lorna Simpson and Robert Frank when interpreted by an agent without such an obligation or ability allows the viewer to take stock of how they may participate in the process of reading. A good dinner guest assesses which questions to ask at the table, which threads to pull, and when to take anecdotes with a grain of salt. A good reader will similarly ask questions and put things into perspective with all the good judgement necessary to properly engage in dialogue with these images, knowing that they will also engage in dialogue with us.

15. Tabita Rezaire, "Deep Down Tidal," video installation, 18:44, December 27, 2017, https://vimeo.com/248887185

16. "Deep Down Tidal."

17. Rezaire, "Deep Down Tidal."

18. "Deep Down Tidal."

Akot Kuvonda, Portrait of Tia Carey, 2024, ChatGPT.
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Reconstruction

Akot Kuvonda

Abstract

   This project intends to explore the possibility of using AI technologies like Dall-E in ChatGPT to digitally repatriate stolen artworks to Africa, thereby challenging Eurocentric narratives and honouring the continent's rich cultural heritage. Using a sociological approach, the research will critically evaluate the benefits and drawbacks of using AI in this reconstruction process, including ethical issues like copyright concerns, the accuracy of digital reproductions, and possible effects on cultural authenticity and ownership. While noting the challenges associated with digitally recovering stolen artifacts, this analysis seeks to improve understanding of the role AI may play in protecting and honouring cultural heritage.

Figure 1, Akot Kuvonda, Depiction of a sacred altar setting in Benin City, Nigeria, dedicated to the ancestral altars of past Obas and Queen Mothers, featuring the returned artworks, February 6, 2024, Chat GPT-DALL-E. This work is licensed under CC BY-NC-ND 4.0.

Using the prompt, "Put them in an altar setting since the stolen arts were made for the purpose of the ancestral altars of past Obas and Queen Mothers in a regular City of Benin, Nigeria," with the help of Dall-e, [1], I was able to come up with the generated image above (Figure 1). The image features a collection of African sculptures, which can be seen as a simulacrum, [2] presenting a digitally recreated environment that serves to echo the authenticity and cultural appropriation of the original sacred spaces. These sculptures, which are connected to traditional religious and cultural rituals, are thoughtfully placed inside what appears to be a shrine or a location for cultural preservation, with objects set to encourage worship and interaction.

Emma George Ross notes that the earliest bronze heads were the smallest and most realistic. Over time, due to trade between Benin and the Portuguese during the 1500s and 1800s, these heads became larger and more stylized. [3] When we look at Figure 1, we see that the AI-generated bronze heads are not identical to the original Benin bronze heads in British museums, but they do capture similar expressive features. The intricate detailing and exaggeration of the eyes, mouth, and forehead are evident in both the original and the AI generated bronze heads in Figure 1. Referring back to Ross, she continues to mention that with Benin becoming richer and more powerful, the crowns of Edo kings became increasingly decorated with coral beads over time, a trend that is still seen in their commemorative artworks. [4] Going back to Figure 1, we can see that AI was capable of generating almost all of what Ross mentioned. This is shown through several figures, both human and sculptural, dressed in the ceremonial attire typical of Edo royalty, featuring white garments and red coral beads usually worn around their necks and heads.

Transitioning from the evolution of Benin bronze heads, Figure 1 shows how these representations reach beyond royal themes to everyday life, capturing broader cultural activities. In the AI-generated image, there are many bowls scattered across the ground. One might perceive these bowls as clay bowls, which are deeply embedded in daily African life and craftsmanship, illustrating the blend of artistry that characterizes many African cultures. For example, my grandma used clay pots to cook or to even store cool water during hot days.These objects serve not just as tools but also as art that embodies the heritage and identity of various African communities.

In the context of Benin's royal shrines, the bowls depicted in the image could be associated with calabashes. To better understand what a calabash is, Peju Layiwola defines it as "a hollow, dry, hard shell or cuticle of a plant species known as Lagenaria siceraria, which comes in different sizes and belongs to a larger family known as Cucurbitaceae." [5] According to Layiwola, calabashes, used since the 9th century A.D. in Igbo-Ukwu, Nigeria, served as ritual vessels and were intricately designed for both

1. Dall-e, a tool for generating digital images from textual descriptions, is accessible through ChatGPT, a platform developed by OpenAI.

2. Jean Baudrillard, "Simulacra and Simulations (1981)." In Crime and Media (N.P.: Routledge, 2010), 69–70. Baudrillard refers to this as an image or representation that replaces reality with its own simulation.

3. Authors: Emma George Ross, "Benin Chronology | Essay | The Metropolitan Museum of Art | Heilbrunn Timeline of Art History," The Met's Heilbrunn Timeline of Art History, accessed May 11, 2024, https://www.metmuseum.org/toah/hd/bnch/hd_bnch.htm.

4. Ross, "Benin Chronology | Essay | The Metropolitan Museum of Art | Heilbrunn Timeline of Art History."

5. Peju Layiwola, "Calabashes as Receptacles of Traditional Medicine and Repositories of Culture amongst the Yoruba People of South-West Nigeria," A Textbook of Medicinal Plants from Nigeria, 2008, 81–92.

functional and artistic purposes.[6] She elaborates that in Yorubaland, the calabash is not just a simple container; it plays a crucial role in royal ceremonies.[7] For example, when a new king is about to be enthroned, he must eat or drink from the calabash.[8] She asserts that this act means he agrees to follow the rules and responsibilities of his position.[9] Thus, the calabash is much more than a vessel; it acts almost like a scepter, a symbol of power and authority used by kings.[10]

   *(I have emailed the museum for permission to use their photographs in this publication; fingers crossed, they say yes!!)
EDO ANCESTRAL SHRINE, NIGERIA, (Ancestral shrine filled with powerful deities protecting the Edo Royal Kingdom and the Oba of Benin.)
**** For a side-by-side analysis between an actual shrine and my generated image (Figure 1), visit the link above and focus on the 19th photo that is exhibited.
Looking at the Edo Ancestral Shrine in Nigeria helps us understand what an Oba's altar in Benin might include. As depicted in the online exhibition, it often shows a rich collection of figures arranged around a larger central sculpture. This central piece might be an altar or represent a deity or ruler, highlighting the role of these sculptures as preservers of cultural heritage. This setup, both in the AI-generated and actual scenes, is rich in cultural context, serving religious or ceremonial purposes and often acting as objects of storytelling. The deliberate arrangement of figures and objects in the AI-generated image creates what one would call "trompe l'oeil,"[11] an illusion of a sacred, enclosed space that fosters a sense of congregation and solemn atmosphere through muted colors and strategic placement of offerings around the central figure. In essence, the AI-generated image, while a simulacrum lacking the provenance of the actual artifacts, embodies the beliefs, social structures, and artistic excellence of the cultures it represents, albeit in a digital format that navigates the fine line between representation and reality, highlighting the complexities of using digital means to reclaim lost or stolen cultural heritage. By now, you might be wondering about terms like "Oba" and "Edo ancestral shrine." To help you understand, we will explore the history of Benin, focusing on how leaders known as Obas came to rule and how the artifacts were stolen. Akinola writes that, according to Jacob Egharevba's version of the oral history of Benin, in his literature titled "A Short History of Benin," before the Obas ruled Benin, the city was governed by kings also called Ogisos. [12] And as he got older, he attempted to get his son

6. Layiwola, "Calabashes as Receptacles of Traditional Medicine and Repositories of Culture amongst the Yoruba People of South-West Nigeria."

7. Layiwola, "Calabashes as Receptacles of Traditional Medicine and Repositories of Culture amongst the Yoruba People of South-West Nigeria."

8. Layiwola, "Calabashes as Receptacles of Traditional Medicine and Repositories of Culture amongst the Yoruba People of South-West Nigeria."

9. Layiwola, "Calabashes as Receptacles of Traditional Medicine and Repositories of Culture amongst the Yoruba People of South-West Nigeria."

10. Layiwola, "Calabashes as Receptacles of Traditional Medicine and Repositories of Culture amongst the Yoruba People of South-West Nigeria."

11. "Trompe l'oeil," March 27, 2024, https://dictionary.cambridge.org/dictionary/english/trompe-l-oeil. "A painting that is cleverly designed to trick people into thinking that the objects represented in it are really there."

12. G. A. AKINOLA, "THE ORIGIN OF THE EWEKA DYNASTY OF BENIN: A STUDY IN THE USE AND ABUSE OF ORAL

Ogiamwen to take over the throne; however, the elders did not see this as a great idea as they believed that the throne should be for those of royal blood. So they went to search for a leader from Ife. [15] The story does not stop here!!

To further elaborate, Salome Kiwara-Wilson wrote that in Benin, chiefs were important political figures appointed by the Oba and did not inherit their positions.[17] By the late 1600s, chiefs in Benin, especially the war chief, gained significant power. Their approval became necessary for appointing a new Oba, increasing their influence in military matters, as Wilson states.[18] The 15th century marked Benin's golden age, renowned for creating the Benin bronzes, reflecting the kingdom's prosperity and artistic achievements.[19] Wilson writes that first contact with Europe occurred in the 16th century when Portuguese explorers arrived, leading to a beneficial trade relationship that shifted Benin's focus to coastal trade.[20] The Portuguese maintained trade routes for centuries, but as they withdrew, other Europeans, particularly the British, sought to dominate and eventually control the region after the Berlin Conference.[21] As British influence expanded, they removed local rulers, leaving Benin as one of the last strongholds, which made the Oba anticipate a similar fate.[22] In 1892, the British attempted to diminish the Oba's power through a treaty that restricted his sovereignty, which the Oba did not fully understand due to his previous experiences with European traders, as per Wilson.[23] Despite an existing treaty, trade issues persisted, leading to new British plans under Ralph Moor and James Phillips to forcefully adjust Benin's governance to enhance

TRADITIONS," Journal of the Historical Society of Nigeria 8, no. 3 (1976): 21–36.[/footnote] The first king, Igodo, started a line that lasted through 31 kings, as Egharevba mentions. He goes on to state that the last king, Owodo, was removed because of his harsh rule. His son, prince Ekaladerhan, also known as Oduduwa, who was supposed to take over the throne but was long exiled before, refused to return even after his father was banished. During the time of his exile, it is claimed that he ended up as a prince in Ife (currently known as Osun State in Nigeria).[13] G. A. AKINOLA, "THE ORIGIN OF THE EWEKA DYNASTY OF BENIN: A STUDY IN THE USE AND ABUSE OF ORAL TRADITIONS," Journal of the Historical Society of Nigeria 8, no. 3 (1976): 21–36.[/footnote] The people then tried a republican form of government led by a commoner, Evian. [14] AKINOLA, "THE ORIGIN OF THE EWEKA DYNASTY OF BENIN: A STUDY IN THE USE AND ABUSE OF ORAL TRADITIONS."

13.

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15. AKINOLA, "THE ORIGIN OF THE EWEKA DYNASTY OF BENIN: A STUDY IN THE USE AND ABUSE OF ORAL TRADITIONS."[/footnote] This led to Oranmiyan's, the son of the exiled prince Ekaladerhan, arrival in Benin City. Eventually, during Oranmiyan's time in Benin, he married an Edo woman by the name of Erinwinde, to whom they bore a son, Eweka 1, becoming the first ever Oba, starting a new dynasty that faced little opposition, along with many other dynasties as time went on.[16]AKINOLA, "THE ORIGIN OF THE EWEKA DYNASTY OF BENIN: A STUDY IN THE USE AND ABUSE OF ORAL TRADITIONS."

16.

17. Salome Kiwara-Wilson, "Restituting Colonial Plunder: The Case for the Benin Bronzes and Ivories," DePaul J. Art Tech. & Intell. Prop. L 23 (2012): 375.

18. Kiwara-Wilson, "Restituting Colonial Plunder: The Case for the Benin Bronzes and Ivories."

19. Kiwara-Wilson, "Restituting Colonial Plunder: The Case for the Benin Bronzes and Ivories."

20. Kiwara-Wilson, "Restituting Colonial Plunder: The Case for the Benin Bronzes and Ivories."

21. Kiwara-Wilson, "Restituting Colonial Plunder: The Case for the Benin Bronzes and Ivories."

22. Kiwara-Wilson, "Restituting Colonial Plunder: The Case for the Benin Bronzes and Ivories."

23. Kiwara-Wilson, "Restituting Colonial Plunder: The Case for the Benin Bronzes and Ivories."

control.[24] Phillips planned an unarmed visit that would challenge the Oba's position; his refusal or acceptance would escalate to British intervention.[25] Phillips' expedition faced skepticism and coincided with the sacred Ague festival, prompting the Oba to attempt to postpone conflict, but Phillips persisted, escalating tensions.[26] The British party was ambushed, leading to quick plans for retaliation by the British, who demanded the return of prisoners and property, intensifying the conflict.[27] The British, after capturing Benin City, looted the palace, taking significant cultural artifacts and initially misattributing their craftsmanship to the Portuguese due to their quality.[28] A fire destroyed much of Benin City days after its occupation, and the deposed Oba later surrendered, was tried for the Phillips massacre, and was exiled instead of executed, Wilson notes.[29] Upon the Oba's death in 1914, his eldest son successfully petitioned the British to restore the monarchy, leading to his crowning as Oba Eweka II.[30] The monarchy transitioned to council-led governance under continued British oversight until Nigerian independence.[31] Despite this, the monarchy persists, and there have been ongoing, albeit unsuccessful, efforts by the Nigerian government and the Benin royal family to reclaim cultural artifacts looted by the British.[32]

Unfortunately, this non-stop begging for cultural artifacts to be returned persists to this day. For instance, ss per Sadiya Chowdhury from Sky News, Nigeria has renewed its demand for the return of the Benin Bronzes after the theft of gold jewelry and semi-precious stone gems from a collection from the British Museum that was later sold on eBay.[33] Abba Isa Tijani, Director of Nigeria's National Commission for Museums and Monuments, criticized the museum's security measures and reiterated that the bronzes, taken in an 1897 invasion, are stolen and should also be returned.[34] Chodwdhury states that the formal requests will be made to the British Museum and government by Nigeria's newly appointed minister of arts, culture, and creative economy.[35] Of course, this cycle of begging will persist until further notice and will eventually be ignored like usual.

24. Kiwara-Wilson, "Restituting Colonial Plunder: The Case for the Benin Bronzes and Ivories."

25. Kiwara-Wilson, "Restituting Colonial Plunder: The Case for the Benin Bronzes and Ivories."

26. Kiwara-Wilson, "Restituting Colonial Plunder: The Case for the Benin Bronzes and Ivories."

27. Kiwara-Wilson, "Restituting Colonial Plunder: The Case for the Benin Bronzes and Ivories."

28. Kiwara-Wilson, "Restituting Colonial Plunder: The Case for the Benin Bronzes and Ivories."

29. Kiwara-Wilson, "Restituting Colonial Plunder: The Case for the Benin Bronzes and Ivories."

30. Kiwara-Wilson, "Restituting Colonial Plunder: The Case for the Benin Bronzes and Ivories."

31. Kiwara-Wilson, "Restituting Colonial Plunder: The Case for the Benin Bronzes and Ivories."

32. Kiwara-Wilson, "Restituting Colonial Plunder: The Case for the Benin Bronzes and Ivories."

33. Sadiya Chowdhury, "Nigeria Demands Return of Benin Bronzes after Thefts from British Museum," Sky News, accessed May 12, 2024, https://news.sky.com/story/nigeria-demands-return-of-benin-bronzes-after-thefts-from-british-museum-12946236.

34. Chowdhury, "Nigeria Demands Return of Benin Bronzes after Thefts from British Museum."

35. Chowdhury, "Nigeria Demands Return of Benin Bronzes after Thefts from British Museum."

The motivations behind choosing this research idea.

Initially, what pulled me towards the idea of repatriating stolen artworks using AI was the lack of representation of African art in my academic experience and, most troublingly, the artwork of Pablo Picasso known as *Les Demoiselles Davignon.* The conversation surrounding the looted artifacts, which should have been prevalent in educational systems and media across Africa, was virtually nonexistent in public discourse. I find it hilarious in a "crying on the inside kind of way" that this important historical event was played as the game of hide-and-seek in my own African school curriculum. The limitation of discussions on significant issues, like the theft of African cultural heritage, to paid channels highlights the lasting effects of colonization and capitalism's role in hiding important parts of our history. During my university years, the realization that African art has been both underrepresented and misrepresented in the Western world was not merely an academic revelation; it felt like a personal humiliation, challenging not only my understanding of art but also my place within its narratives.

[Figure 2] Pablo Picasso, Les Demoiselles d'Avignon, 1907, oil on canvas, 243.9 x 233.7 cm (The Museum of Modern Art), photo: https://www.flickr.com/photos/profzucker/23401375822/in/photostream/Steven Zucker, CC BY-NC-SA 4.0)© Estate of Pablo Picasso

Pablo Picasso's Les Demoiselles d'Avignon (Figure 3), a piece of art rich in symbolism and a complicated narrative, provides a unique perspective on how one can view western art. Initially, without a deep understanding of the meaning of the work and the artist's intentions, I got excited at what seemed like a tribute to African culture. This prompted a deeper inquiry into finding the potential African artist behind this artwork, but unfortunately, this resulted in a surprising twist: the artist was not an African individual but a Caucasian man from Spain. This then challenged my initial interpretation, sparking the need to perform a contextual analysis necessary to grasp the artwork's full meaning.

Upon further investigation, including William Rubin's insights, I learned that the painting's initial inspiration was tied to Picasso's personal experiences and fears related to venereal disease, stemming from his frequent encounters in the brothels of Paris.[36] Rubin further states that Picasso's work was also influenced by Iberian sculpture techniques, a fact that underscores the shift in medium and style upon his exposure to African art.[37] He was not greatly impacted by African

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36. William Rubin, From Narrative to 'Iconic' in Picasso: The Buried Allegory in Bread and Fruitdish on a Table and the Role of Les Demoiselles d'Avignon (The Art Bulletin, 1983), 630.

37. Rubin, From Narrative to 'Iconic' in Picasso: The Buried Allegory in Bread and Fruitdish on a Table and the Role of Les Demoiselles d'Avignon, 631-632.

art until a pivotal visit to the Trocadero Museum, which signified a turning point in his artistic development and the emergence of new genres in his works of art. [38] Picasso informed André Malraux that the painting was his "first exorcism painting," a description that emphasizes the transforming function of the "primitive" masks in the art. [39] These masks, beyond their iconographic significance, were seen by Picasso not just as art but as magical objects imbued with the power to liberate individuals from spiritual control. [40] This perspective introduces a simulacrum, as the artwork uses cultural elements in a way that diverges from their original authenticity and context, creating a new hyperreal layer of meaning.

The exploration of Picasso's use of African masks in "Les Demoiselles d'Avignon" delves into the complex dynamics between artistic expression and cultural identity representation. This discussion, enriched by Joan Didion's insights on narrative's power, reveals how stories can both illuminate and obscure truths. [41] Didion's analysis highlights the selective storytelling in Picasso's portrayal of African masks, shedding light on the broader issue of cultural appropriation and the sanitization of colonial violence in art histories.

This critical lens is crucial when considering the narratives around stolen artifacts and their portrayal as acts of preservation by colonial powers. Reexamining these stories, possibly with AI's help in reconstructing narratives, can expose the underlying power imbalances and injustices, some might say!! But the main question should be, Can artificial intelligence "really" assist in repairing Africa's historical narrative? Therefore, to answer this question, I personally wanted to navigate the politically charged issue of art repatriation through the use of artificial intelligence to rewrite the sad history of misappropriated African artifacts. If this were to work, the simple act of virtual restoration could carry with it a glimmer of hope for countries that have faced the same story of looted artifacts. It could symbolize a step towards cultural sovereignty and the recognition of our artistic heritage. Moreover, this process of digital reclamation could enable us to shift the narrative by generating artwork grounded in our intrinsic understanding of these pieces rather than allowing them to be misinterpreted or dismissed as primitive simply due to their non-Western origins.

Results

In delving into the blend of technology and cultural restitution, assessing both the benefits and challenges of employing AI for this initiative was imperative. Given the ongoing political sensitivity

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38. Rubin, From Narrative to 'Iconic' in Picasso: The Buried Allegory in Bread and Fruitdish on a Table and the Role of Les Demoiselles d'Avignon, 631-632

39. Rubin, From Narrative to 'Iconic' in Picasso: The Buried Allegory in Bread and Fruitdish on a Table and the Role of Les Demoiselles d'Avignon, 631-632

40. Rubin, From Narrative to 'Iconic' in Picasso: The Buried Allegory in Bread and Fruitdish on a Table and the Role of Les Demoiselles d'Avignon, 631-632.

41. Joan Didion, The White Album Essay (New York: Farrar, Straus, and Giroux, 2009), 8–9. Didion discusses the impact of narratives on our understanding of history and culture, offering a lens through which to assess how narratives can shape reality.

of this subject, it is clear that while there are advantages to utilizing AI, the disadvantages ultimately overshadow them. Starting with the good experience I had when using AI to generate my image, the hyper-realism produced by the AI images was particularly striking. Additionally, the opportunity to engage in discussions and debates with the software, especially when it generated images that did not align with my requests, was invaluable. This interaction almost mirrored a human conversation, allowing me to assert control over the narrative I sought to convey. It felt empowering to navigate these discussions, as if my voice was finally gaining the recognition it deserved. Moving on to the challenges and limitations it may bring. Given the vast amount of data it takes to reconstruct images or artworks, there is a significant concern about the accuracy of AI-generated reconstructions, which constantly appeared during the process of generating my desired image.

Using the prompt "*Generate all the stolen arts I mentioned at the beginning and place them in modern Benin City, being utilized for their traditional and religious purposes,*" Dalle produced the image on the right (Figure 4). An intriguing observation about Dalle is its habit of restating the initial prompt, seemingly to confirm it has followed the request. Yet, surprisingly, it often presents an image starkly different from the detailed description provided. For instance, Dall-e restated the prompt I gave it: "*A scene in modern Benin City where all the previously mentioned stolen artworks are being actively used for their original purposes.*" However, the scene depicted hardly matches expectations of a religious or traditional ceremony. Instead, it shows individuals engaged in casual conversations, some distracted, some engaged in what could appear as an open market, given the placement of the artworks. Others are walking away from the artworks, indicating a noticeable disconnect between the vibrant communal engagement one would anticipate in such settings and the actual interaction with the artworks. This discrepancy points to a certain detachment from the artworks and the collective religious or traditional activities they are meant to inspire. The second point that caught my attention was Dalle's preference for generating images of modern cities with a Western lens rather than reflecting the African context of a modern city. Through the various prompts I put down for "modern Benin City," Dalle generated images that mostly resembled western countries like Canada. This tendency points to a dataset predominantly shaped by Eurocentric narratives. To get a depiction that more closely resembled the contemporary look of Benin City, I had to refine my prompt to "How about in a regular African Benin City in Nigeria?" The need to specify "regular" over "modern" to obtain an accurate portrayal underscores a larger issue of how African countries are often perceived. It reveals that Dalle's perspective is limited and does not fully encompass the varied experiences and views of life around the world.

Figure 4, Akot Kuvonda, A-scene-in-modern-Benin-City-where-all-the-previously-mentioned-stolen-artworks-are-being-actively-used-for-their-original-purposes. February 6, 2024, Chat GPT-DALL-E. This work is licensed under CC BY-NC-ND 4.0.

This then echoes Emile Durkheim's theory on the societal shift from collectivism to individualism. Durkheim argued that pre-modern societies are characterized by a collective consciousness where social cohesion comes from shared beliefs and practices.[42] In contrast, modern societies are marked by individualism, where cohesion is based on the specialized roles individuals play in a complex division of labor.

This dynamic is reflected in the attempt to digitally reintegrate cultural artifacts into a modern urban setting. The AI-generated images aiming to showcase stolen artworks being used for their original, communal purposes in a modern Benin City reveal a significant discrepancy. Instead of depicting a collective engagement with these artifacts, the images show isolated interactions more indicative of modern, individualistic societies. This highlights a potential loss of the collective context and meaning these artworks held within their original communities.

Moreover, the difficulty AI has in accurately capturing the essence of a "modern" African city, defaulting instead to Western-centric interpretations, further illustrates Durkheim's concept. It suggests that modernity, as understood and represented through AI, is often seen through the lens of individualistic, Western narratives, overlooking the collective cultural heritage and identities of non-Western societies.

Figure 5, Akot Kuvonda, A-refined-scene-in-Benin-City-Nigeria-focusing-exclusively-on-the-religious-and-traditional-practices-involving-the-Benin-Bronzes-contentious-Benin February 6, 2024, Chat GPT-DALL-E. This work is licensed under CC BY-NC-ND 4.0.

Another interesting theme that kept occurring was the idea of people selling art. Dissatisfied with Figure 4 due to its evident biases, I prompted Dalle once more, specifying, "Try again, but this time focus on religious and traditional practices." True to its usual method, Dalle restated my instructions, reassuringly naming the new generated image (Figure 5) as "a refined scene in Benin City, Nigeria, focusing exclusively on the religious and traditional practices involving the Benin Bronzes." From the image, we can see a sense of commerce taking place based on several visual cues. There are numerous artworks displayed prominently, much like in a market setting where items for sale are often presented to attract buyers. Additionally, the presence of the individual examining the artworks closely suggests that they might be potential buyers evaluating the pieces before making a purchase. The individual seated and writing could be documenting sales or keeping an inventory—common tasks associated with selling goods. Furthermore, the open, public setting and the layout of the artworks on display are typical of a market or bazaar (an open-air market style that is very well known in Africa), where selling and trading occur. This could be seen as an issue of capitalism, where everything, even objects of sacred or communal value, can be treated as commodities. Instead of being preserved as heritage or used in traditional practices, they are being bought and sold, which can

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42. Charles E. Marske, "Durkheim's 'Cult of the Individual' and the Moral Reconstitution of Society," *Sociological Theory* 5, no. 1 (1987): 1–14, https://doi.org/10.2307/201987. For further explanation, Marske explains that Durkheim challenged the idea that collective morality diminishes in modern societies, suggesting instead that societal evolution from traditional to modern forms does not eliminate moral obligations but transforms them into a new type of collective morality known as organic solidarity. In modern societies, according to Durkheim, the principle of individualism becomes the core of moral unity, which he saw as the true form of individualism and the ultimate basis of modern society's moral fabric (Marske, 1987, 2).

contribute to the erosion of cultural identity and can also imply a form of cultural exploitation.[43] This commercialization often strips items of their intrinsic value and reduces them to mere goods with a price tag, which is a significant concern in discussions about capitalism's impact on culture and history.

Lastly, the dilemma of using AI to replicate artworks, which raises ethical concerns over copyright and the integrity of historical records, mirrors larger systemic issues in technology's relationship with society. For instance, while copyright laws restrict alterations to Picasso's protected works, the ease with which AI can mimic artifacts like the Benin Bronze Head is surprising. This leads to the realization that these stolen artworks lacked copyright protection, mainly because they were appropriated without any recognition of their original artists. This therefore spotlights a Eurocentric bias in the preservation and recognition of Africa's cultural heritage.

Conclusion

So, looping back to my burning question: Can artificial intelligence truly step in as the hero to mend Africa's historical narrative? Well, the short answer is a resounding no. Drawing on Avery F. Gordon's notion of "haunting,"[44] it turns out the ghosts of past injustices are not just confined to "spooky tales" that we have heard in our world history classes, but are alive and kicking, thanks to AI's own closet full of biases. Picture these cultural treasures, spirited away under colonial command, now haunting our present, not as relics of a bygone era but as persistent reminders that, in the tech world, old prejudices do not die; they just get coded into algorithms. These phantoms of colonialism are not content with a quiet afterlife; they are here, shaping how we perceive and narrate cultural histories, proving that, sometimes, the past refuses to stay buried, especially when AI keeps digging it up.

Exploring this from a sociological angle invites us to critique the diverse makeup of the people that create these new technologies, societal norms, and the power dynamics at play, all of which can subtly influence our narratives in this world. So, dear reader, I hope you get to ask the same questions I ask: Who are the creators behind the technology we daily rely on? How do these teams navigate the challenge of ensuring that their personal and institutional biases do not seep into the AI systems, especially ones like ChatGPT that have captured global attention?

43. Hüseyin Özel, "COMMODIFICATION," in Karl Polanyi's Political and Economic Thought, ed. Gareth Dale, Christopher Holmes, and Maria Markantonatou, A Critical Guide (Agenda Publishing, 2019), 131–50, https://doi.org/10.2307/j.ctvnjbfgk.11. Hüseyin Özel examines how every human trait and aspect is turned into abstract units for the market system. He agrees with Polanyi, Marx, and Lukács that this reflects a continuous process of market expansion into all areas of life, aiming to commodify everything, including fundamental human experiences like family and science. (Özel, 2019, 131).

44. Martha J. Cutter, "Editor's Introduction: The Haunting and the Haunted," MELUS 37, no. 3 (2012): 5–12. In the Introduction of this article, Martha J. Cutter cites Avery Gordon direct quote Gordon. In other words Cutter references Avery Gordon, explaining how hauntings disrupt our sense of time by making specters visible when unresolved issues surface. Gordon states, "The ghost… has a real presence and demands its due, your attention," emphasizing that ghosts signify tangible presences that require acknowledgment.

[Akot Kuvonda], Portrait of Akot Kuvonda, 2024, ChatGPT. This work is licensed under CC BY-NC-ND 4.0.

As a student at the University of Ottawa studying sociology and art history, Akot Kuvonda is very interested in the complex relationships that exist between the social meanings of art and its expressive potential. Her academic path is devoted to comprehending how art may influence and reflect cultural and social identities. This investigation is driven by a variety of initiatives and interactions that she has participated in while attending her studies at the University of Ottawa as well as within her personal life. In order to connect the theoretical with the practical, she is continuously looking for ways to apply her insights to real-world situations as she progresses through her dual degree program.

Freedom

by Dana Mehdipour-Haidari

Abstract:

The Iranian movement, Women Life Freedom is explained, accompanied by the dark realities happening to the people of Iran. Their technological and artistic methods of sharing their reality with the world, despite the limits they face from the oppressive restrictions of the country's legal system, are brought to light. This reality then intersects with how artificial intelligence's interpretation, more so its misinterpretation of Iranian women's representation and their combat to attain freedom is a danger for their movement through the analysis of AI-generated artwork corresponding with different prompts. Lastly, recommendations for the future of artificial intelligence are made to reduce the gendered prejudice and racially discriminatory foundations of AI.

> *Women.*
> *Life.*
> *Freedom.*

A chant that has burned the throats of millions of Iranians across the world. The death of young Mahsa (Jina) Amini, a kurdish woman, in the custody of Iran's morality police under arrest for "improperly" wearing her hijab, ignited the flame of the movement after decades of oppression.[1] Through the 1979 revolution, Iran transitioned from being a monarchy to a theocracy, enforcing a mandatory dress code for women, where only their visage could be visible in public and further embedding gender segregation in public spheres.[2] The country's laws regarding gender are derived from the idea of the nation defending the body of a woman, inspired by Iris Marion Young's theory, "logic of masculinist protection" and Foucault's "pastoral power".[3] The hijab is not inherently oppressive but to women in Iran who are not given the choice but are rather forced to wear the hijab, the dress code over the decades has become the symbol representing all of their bodily and behavioral restrictions. To put it in perspective, eating a fruit for example is not oppressive if you can eat the fruit whenever you want. However, if you are forced to only eat oranges and do nothing else, that changes the meaning of the fruit to you. You cannot dance or sing, you must eat oranges. They tell you, that if you don't eat your

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1. Mehan, Asma. "Digital Feminist Placemaking: The Case of the 'Woman, Life, Freedom' Movement." Urban Planning 9 (2024): 8, https://doi.org/10.17645/up.7093.

2. Mehan, Asma. "Digital Feminist Placemaking: The Case of the 'Woman, Life, Freedom' Movement." Urban Planning 9 (2024): 4-5, https://doi.org/10.17645/up.7093.

3. Mehan, Asma. "Digital Feminist Placemaking: The Case of the 'Woman, Life, Freedom' Movement." Urban Planning 9 (2024): 5, https://doi.org/10.17645/up.7093.

oranges you will be punished, arrested, tortured, killed. Then, the simple act of eating a fruit becomes oppressive.

Farsi:

Zan

Zendegi

Azadi

Kurdish:

Jin

Jiyan

Azadi

English:

Women

Life

Freedom[4]

Iranian women have rebelled since the conception of the Islamic Republic of Iran, changing their tactics with the digital age of technology by building small movements like Alinejad's White Wednesday campaign (2017), where the journalist motivated women in Iran to wear white on Wednesdays and post their "acts of defiance" on social media, using the hashtag #WhiteWednesdays.[5] A year later, another movement was started by Vida Movahed when she removed her hijab on Enghelab Street in the nation's capital, she stood on a utility box, waving her hijab on a stick and was arrested but swayed other women to follow her lead, sharing their imitations online, showing how one person's protest fuels "collective action".[6] Artists have also contributed by sharing their art on multiple online platforms as an act of defiance to curb censorship.[7] Built upon the previous resistance of the people, the Woman, Life, Freedom movement officially commenced in September 2022,[8] where women and men took to the streets and the internet to protest. Every day for an entire year, inside and outside of the country people protested. Iranians protested for women's rights, for the right to choose, and for democracy. They cut their hair publicly, sang, and danced in the streets. In return, they were tear-gassed, shot, had their businesses shut down, arrested, and executed but they persisted.

I recall the day after Mahsa Amini's death, there were already one or two artworks circulating on social media but by the end of the week, there were thousands used to raise awareness and plastered on placards at protests. Art outside of the digital space was also used as a tool for activism, as done by an anonymous artist group, who unfurled red banners, on which the words 'women life freedom'

4. "Zan. Zendegi. Azadi. Woman, Life, Freedom." Zan. Zendegi. Azadi. Woman, Life, Freedom. Accessed April 1, 2024. https://www.womanlifefreedom.today/.

5. Mehan, Asma. "Digital Feminist Placemaking: The Case of the 'Woman, Life, Freedom' Movement." Urban Planning 9 (2024): 8, https://doi.org/10.17645/up.7093.

6. Mehan, Asma. "Digital Feminist Placemaking: The Case of the 'Woman, Life, Freedom' Movement." Urban Planning 9 (2024): 9, https://doi.org/10.17645/up.7093.

7. Mehan, Asma. "Digital Feminist Placemaking: The Case of the 'Woman, Life, Freedom' Movement." Urban Planning 9 (2024): 9, https://doi.org/10.17645/up.7093.

8. Mehan, Asma. "Digital Feminist Placemaking: The Case of the 'Woman, Life, Freedom' Movement." Urban Planning 9 (2024): 8, https://doi.org/10.17645/up.7093.

and Mahsa Amini's face were drawn, in influential institutions like the Guggenheim Museum[9] and San Francisco's MOMA.[10]

Simultaneously, as technology aids the people of Iran to have their voices heard, the government suppresses them by restricting the internet and ordering nationwide blackouts.[11] As women stopped complying with the mandated dress code, the government put up cameras to find the rebelling women and closed down the companies and stores that do business with unveiled women.[12] In fact AI recognition applications are used by the state to impose "morality codes", for example over a million women were sent a mass text informing them that if they were caught on film not wearing the hijab, their cars would be taken from them.[13] Now considering all of this, we come face to face with the intersection between the Women, Life, Freedom Movement and Artificial intelligence. Verity Babbs describes art created by AI as, "dependent on systems and a corpus of visual artifacts that still center the white heterosexual male gaze – by virtue who is represented in the tech design and development world, and who does content moderation," furthermore generating disrespectful and racist depictions.[14]

Which raises the question, how does AI Art represent the Women, Life, Freedom Movement? When the words, "women life freedom" were inputted in DALL•E mini, my presumption was for AI to generate images related to the movement, such as anti-regime protests. I was not expecting to obtain what ultimately appeared like the mesh between a gentrified yoga and yogurt/menstrual product ad (see Fig.1) of a feminine body jumping into the sunset. Perhaps this expectation derived from my own bias as these three little words hold a great significance to me. So the prompt underwent fine-tuning. This was a mentally laborious task as the generator does not necessarily produce the work one has in mind went attempting to create AI art. A justifiable critique AI art receives is that it is not real art because AI produces the work, however, this cannot be done without a human sitting down and manipulating words. The process was vaguely reminiscent of the method in which the song writer Shervin Hajipour used tweets posted by Iranians explaining why they were protesting, composing the lyrics of the song with the tweets of the people's real concerns. His song Baraye was the anthem used at protests for which

9. Feldman, Ella. "Iranian Artists Stage Anonymous Protest at the Guggenheim Museum." Smithsonian.com, October 25, 2022. https://www.smithsonianmag.com/smart-news/red-banners-with-mahsa-aminis-face-cover-the-guggenheim-spiral-in-anonymous-protest-action-180981003/.

10. Cascone, Sarah. "Activists Unfurled Red Banners in SFMOMA's Atrium to Urge the Art World to Support Iran's Women-Led Protests." Artnet News, December 1, 2022. https://news.artnet.com/art-world-archives/sf-moma-iran-protest-2214392.

11. George, Rachel. "The AI Assault on Women: What Iran's Tech Enabled Morality Laws Indicate for Women's Rights Movements." Council on Foreign Relations, December 7, 2023. https://www.cfr.org/blog/ai-assault-women-what-irans-tech-enabled-morality-laws-indicate-womens-rights-movements.

12. Gozzi, David Gritten and Laura. "Iran's Morality Police to Resume Headscarf Patrols." BBC News, July 17, 2023. https://www.bbc.com/news/world-middle-east-66218318.

13. George, Rachel. "The AI Assault on Women: What Iran's Tech Enabled Morality Laws Indicate for Women's Rights Movements." Council on Foreign Relations, December 7, 2023. https://www.cfr.org/blog/ai-assault-women-what-irans-tech-enabled-morality-laws-indicate-womens-rights-movements.

14. Babbs, Verity. "How Is Artificial Intelligence Changing Art History?" Hyperallergic, February 7, 2023. https://hyperallergic.com/781592/how-is-artificial-intelligence-changing-art-history/.

he was arrested for "promoting riot" and "disturbing national security", serving time in prison.[15] A few months later in 2023, he was awarded a Grammy by the First Lady of the United States for "Best Song for Social Change".[16] Out on bail in early March of 2024, on the day of the first elections occurring after the movement, Hajipour took to social media to thank his lawyers for their support and it was from Hajipour's post that the public learned about his three-year sentence as the country's media did not address his imprisonment.[17] Similarly to how Hajipour used tweets to make his song, in this research prompts are put into AI in an attempt to make representative art related to the movement.

Fig. 1 [Dana Mehdipour-Haidari], Woman Life Freedom, January 16 2024, DALL•E mini.This work is licensed under CC BY-NC-ND 4.0.

From here, I experiment by adding "Iran" to the prompt alongside significant dates such as 1979 (introduction of dress code), 2022 (Mahsa Amini's death), 2023 (the year of protests), and 2024 (present-day), running the generator multiple times with the same prompt to achieve a different array of results.

Women Life Freedom Iran 1979

Although the Woman Life Freedom Movement did not exist in 1979, this does not signify that women were not actively fighting to preserve and gain their rights back then. I ran the AI system multiple times but all the results were similar, as shown on the third run (see Fig. 2), in black and white, faceless groups of covered feminine bodies roam aimlessly. It is a bleak and hopeless representation, frankly underwhelming because the image in my head was Hengameh Golestan's photograph from March 8th, 1979 (see article), capturing the endless stream of people protesting against the mandatory

15. Aljazeera. "Iranian Singer 'sentenced to Jail' over Mahsa Amini Protest Anthem." Al Jazeera, March 2, 2024. https://www.aljazeera.com/news/2024/3/2/iranian-singer-sentenced-to-jail-over-mahsa-amini-protest-anthem.

16. Aljazeera. "Iranian Singer 'sentenced to Jail' over Mahsa Amini Protest Anthem." Al Jazeera, March 2, 2024. https://www.aljazeera.com/news/2024/3/2/iranian-singer-sentenced-to-jail-over-mahsa-amini-protest-anthem.

17. Aljazeera. "Iranian Singer 'sentenced to Jail' over Mahsa Amini Protest Anthem." Al Jazeera, March 2, 2024. https://www.aljazeera.com/news/2024/3/2/iranian-singer-sentenced-to-jail-over-mahsa-amini-protest-anthem.

hijab, fists raised in the air, emotion and conviction apparent on their faces.[18] On International Women's Day, three thousand women protested in Qom where Khomeini, the former Supreme Leader, lived.[19] Additionally, that same day "tens of thousands of women" protested in Tehran in front of the Prime Minister's office and continuously did so for six days straight.[20] On the International Women's Day protest, Psychoanalysis and Politics, a feminist group from France joined the march and interviewed Iranian women, creating a heartfelt 12-minute documentary (can be watched here).[21] The documentary shows the reality of 1979, veiled and unveiled women marching to support each other for the choice over their bodily autonomy.

Fig. 2
[Dana Mehdipour-Haidari], Woman Life Freedom Iran 1979, January 22 2024, DALL•E mini.
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Women Life Freedom Iran [2022, 2023, 2024]

Switching the date in the prompt from 1979 to 2022 made an immediate change. Right away it is apparent that the images are no longer in black and white but in colour. Although still distorted, the women's faces are more defined and human-like compared to the 1979 rendition. What shocked me was the presence of the Supreme Leader Khomeini (1979- 1989) and Khamenei (1989-present), apparent

18. CBC Radio, "In 1979, Iranian Women Protested Mandatory Veiling - Setting the Stage for Today | CBC Radio." CBCnews, October 5, 2022. https://www.cbc.ca/radio/ideas/iran-women-protests-1979-revolution-1.6605982.

19. CBC Radio, "In 1979, Iranian Women Protested Mandatory Veiling - Setting the Stage for Today | CBC Radio." CBCnews, October 5, 2022. https://www.cbc.ca/radio/ideas/iran-women-protests-1979-revolution-1.6605982.

20. CBC Radio, "In 1979, Iranian Women Protested Mandatory Veiling - Setting the Stage for Today | CBC Radio." CBCnews, October 5, 2022. https://www.cbc.ca/radio/ideas/iran-women-protests-1979-revolution-1.6605982.

21. CBC Radio, "In 1979, Iranian Women Protested Mandatory Veiling - Setting the Stage for Today | CBC Radio." CBCnews, October 5, 2022. https://www.cbc.ca/radio/ideas/iran-women-protests-1979-revolution-1.6605982.

by their turbans and white beards, they can be identified by their different face shapes of the figures. Khomeini is lurking in the background (see Fig. 3) and Khamenei is in the foreground, in front of a row of women (see Fig. 4). Yet the women in this prompt wear the black chador, a symbol of the 1979 Islamic revolution and are smirking, almost smiling in the presence of the Supreme Leader. In reality, during 2022, Iranian women were not smiling. They had just taken the streets after twenty-two-year-old Mahsa Amini's murder, chanting for justice and freedom, chanting for the abolition of the theocracy, chanting for Khamenei to be put on trial and charged for his crimes. So why would Artificial Intelligence not show a movement that spread to a global scale? Perhaps AI related the country's name in the prompt to the Supreme Leader of Iran. What is certain is that once again, AI misinterpreted the prompt, pushing a false narrative.

Fig. 3
[Dana Mehdipour-Haidari], Woman Life Freedom Iran 2022, February 8 2024, DALL•E mini.
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Fig. 4
[Dana Mehdipour-Haidari], Woman Life Freedom Iran 2022, February 8 2024, DALL•E mini.
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Not much changes when the year is switched to 2023, except in Fig. 3 the women wear colourful and bright hijabs, continuing to smile, standing with their backs to a curtain as though at a ceremony, proudly holding a scroll with a disfigured portrait of the Supreme Leader. I can contest that after a year of continuously protesting everyday, Iranian women were not content. They were angry and grieving. By 2023, the Human Rights Activists News Agency claimed that at least 500 people were killed by the hands of the country's police and 20,000 people arrested.[22] Women were not comoderating Khamenei by holding up his portrait, in reality they were burning them. Khamenei as well as the former Supreme Leader Khomeini's portraits are hung in every classroom and printed on the first pages of textbooks, a constant reminder of their authority. Iranians, who as a collective greatly value education, ripped the pages from textbooks with the dictators' pictures, shredding the photos to pieces. I recall during the peak of the protests, clips circulating of brave young girls standing on chairs to reach the framed portrait of the current and past Supreme Leaders to remove the photographs from the front of their classrooms. Schoolgirls participated in their own acts of resistance, by removing their hijabs, organizing walkouts, and protesting in their schoolyards. In return, the government targeted schools, poisoning 1000 schoolgirls across various provinces with an unidentifiable gas, which the government denies doing with the aid of propagandistic media, belittling the victims severe symptoms.[23]

22. Ghorbani, Pouya. "Iran Protests: Victims Shot in Eyes Hold on to Hopes." BBC News, April 4, 2023. https://www.bbc.com/news/world-middle-east-64503873.

23. Tizhoosh, Nahayat. "Close to 1,000 Iranian Schoolgirls Poisoned in Wave of Attacks, Human Rights Groups Say | CBC News." CBCnews, November 7, 2023. https://www.cbc.ca/news/world/iran-schoolgirl-poison-attacks-1.6764821.

Fig. 5
[Dana Mehdipour-Haidari], Woman Life Freedom Iran 2023, February 8 2024, DALL•E mini.
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Unfortunately, altering the prompt to 2024 to see its interpretation of the present was futile, as it portrayed women wearing black and colourful hijabs, disturbing large grins encompassing their faces. There is no existence of the Women Life Freedom Movement in these AI images mentioned above, exceeding inaccuracy as the movement left an unavoidable mark on Iran's societal and behavioural culture.

President Raisi, in February 2024, approved of a bill, despite the financial ramifications of its adoption[24], granting up to 10 years of imprisonment for not abiding by the mandatory dress code, stating that not wearing a hijab is equivalent to "nudity", furthermore under the scope of the "Bill to Support the Culture of Chastity and Hijab", mocking the veil can lead to paying damages, imprisonment and/or banned to travel.[25] Today in 2024, the laws have only become stricter but the women have only gotten braver, prioritizing their path towards gaining freedom.

24. Amnesty . "Iran: Draconian Campaign to Enforce Compulsory Veiling Laws through Surveillance and Mass Car Confiscations ." Amnesty International, March 6, 2024. https://www.amnesty.org/en/latest/news/2024/03/iran-draconian-campaign-to-enforce-compulsory-veiling-laws-through-surveillance-and-mass-car-confiscations/.

25. Amnesty. "Iran's Compulsory Veiling Bill a Despicable Assault on Rights of Women and Girls." Amnesty International, September 21, 2023. https://www.amnesty.org/en/latest/news/2023/09/iran-compulsory-veiling-bill-a-despicable-assault-on-rights-of-women-and-girls/.

Fig. 6
[Dana Mehdipour-Haidari], Woman Life Freedom Iran 2024, February 8 2024, DALL•E mini.
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Frustrated, I thought, these AI images are a horrible representation of modern Iranian women, who are from a country with so much cultural, ethnic, and religious diversity to be restricted to one limited monolith. Truthfully, it is an injustice to Iranian women's courage. This made me further think about the term 'modern women' and how it is used. We hear, "Oh, she's such a modern woman".[26] What does that even mean? Obviously being a modern woman changes constantly as society evolves but Oksana Repka proclaims, "The modern woman has her own voice". So I tested "modern Iranian woman" as a new prompt and AI produced Fig.7, showcasing all veiled women, which is no longer the case as many risk their lives every day by not complying with the compulsory dress code. Even women who do wear the hijab do not veil themselves in Iran the way AI believes. Iranian women have been so restricted over the past four decades that when it comes to self-expression in reprise they take their fashion very seriously and AI's interpretation is inaccurate as its portrayal of the worn hijab is not in the "Iranian style", which is fit " looser" and the outfits are not "trendy".

26. "'A Modern Woman Is Not Only a Housewife and a Mother. the Modern Woman Has Her Own Voice'. Conversation with Oksana Repka in Ukraine." United Nations, November 19, 2021. https://ukraine.un.org/en/159284-modern-woman-not-only-housewife-and-mother-modern-woman-has-her-own-voice%E2%80%9D-conversation.

Fig. 7
[Dana Mehdipour-Haidari], Modern Iranian Women, February 10 2024, DALL•E mini.
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Nonetheless, the prompt was vicariously edited, transforming into "Women Life Freedom Revolution in Modern Art Style" and the results were surprisingly refreshing, so I ran the system several times. Most of the AI images created with this prompt carry similar themes, the colour red, white, and green are predominant, as well as the motif of the Iranian flag. Nevertheless, Fig. 8 attracts attention by differentiating itself by having the primary colours of the AI artwork being navy and ochre. A woman veiled in navy garments with a strand of hair peeking out has tears cascading her pale face with an indistinguishable gaze while holding a smaller figure. That other figure can be interpreted as a child, who is also covered but plastered with the colours of the country's deconstructed flag. Is this hinting at the law that girls as young as nine years old must follow the compulsory dress code? A navy shadow loiters behind them. Is it the woman's shadow? Is the shadow of the morality police following them? Overall the work leaves the viewer with more questions than answers but undoubtedly the glazed fear of the navy woman is apparent.In an art historical context one can draw a resemblance between the presence of the background shadow of Fig. 8 to the looming shadow of Manet's Absinthe Drinker (1859) and his rendition of modernity.[27] However it was brought to my attention the parallels between the composition of Fig. 8 and the Icon of the Virgin and Child, Hodegetria variant (Byzantine or Crusader).[28] Similarly to Fig. 8, the thirteenth century artwork presents a veiled mother holding her infant to her chest, her gaze described as "pensive" and aware of her boy's "future suffering".[29] Much like the Icon of the Virgin and Child, in Fig. 8 the mother clings to her veiled child, assuming she is a girl, her tears indicate the

27. Lajer-Burcharth, Ewa. "Modernity and the Condition of Disguise: Manet's 'Absinthe Drinker.'" Art Journal 45, no. 1 (1985): 18–19. https://doi.org/10.2307/776871.

28. "Byzantine or Crusader: Icon of the Virgin and Child, Hodegetria Variant: Byzantine or Crusader." The Metropolitan Museum of Art. Accessed April 1, 2024. https://www.metmuseum.org/art/collection/search/831188.

29. "Byzantine or Crusader: Icon of the Virgin and Child, Hodegetria Variant: Byzantine or Crusader." The Metropolitan Museum of Art. Accessed April 1, 2024. https://www.metmuseum.org/art/collection/search/831188.

griefful knowledge of a familiar future in which her daughter will have to navigate her life with the bitter restrictions emplaced on the woman in Iran. The shadow of their sorrows chasing them. Overall the work leaves the viewer with more questions than answers but undoubtedly, the glazed fear of the navy woman is apparent.

Another AI artwork that caught my attention is Fig.9, another veiled woman with a green face with an upside-down Iranian flag protruding from her chin, and a masculine head with an open mouth talking into her side. It appears that AI pulled inspiration from the flatness of Matisse's Blue Nudes series[30] and from Picasso's style of abstract portraits to generate the face of the figure, showcasing that even when the subject is non-western, AI art is generated to favour western art, even possibly filtering out non-western art style as there is a lack of Iranian influences throughout the artworks. Nonetheless on Fig. 9's torso there is a splattered red motif resembling the injuries victims sustained from getting shot as the pellet wounds would scatter across their bodies. There is a great emphasis on Fig.9's right eye, almost as if swirling with blood. This reminded me of how the authorities would purposefully target the eyes of protestors, not less than 500 people sustained eye injuries only in Tehran during an approximate one-year period while many did not seek medical treatment to avoid the risk of getting arrested at the hospital.[31] Ghazal Ranjkesh, a law student, was the first to post about her situation (Ghazal's picture), opening the gates for victims in the same position to find a supportive community.[32] Ghazal took to Instagram to write her statement, "The sound of the eyes is louder than any scream."[33]

30. "Henri Matisse. Blue Nude II. 1952 | Moma." MoMA. Accessed April 1, 2024. https://www.moma.org/audio/playlist/6/316.

31. Ghorbani, Pouya. "Iran Protests: Victims Shot in Eyes Hold on to Hopes." BBC News, April 4, 2023. https://www.bbc.com/news/world-middle-east-64503873.

32. Ghorbani, Pouya. "Iran Protests: Victims Shot in Eyes Hold on to Hopes." BBC News, April 4, 2023. https://www.bbc.com/news/world-middle-east-64503873.

33. Ghorbani, Pouya. "Iran Protests: Victims Shot in Eyes Hold on to Hopes." BBC News, April 4, 2023. https://www.bbc.com/news/world-middle-east-64503873.

Fig. 8 [Dana Mehdipour-Haidari], Women Life Freedom Iran Revolution in Modern Art Style, February 8 2024, DALL•E mini. This work is licensed under CC BY-NC-ND 4.0.

Fig. 9
[Dana Mehdipour-Haidari], Women Life Freedom Iran Revolution in Modern Art Style, February 8 2024, DALL•E mini.
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The next AI artwork (see Fig.10) is of a faceless woman in a black veil, throwing her red arm in the air as though setting fire to the country's flag, which burns, rupturing the tableau of the Supreme Leader behind her while he remains untouched. This shows how even in the fight for freedom, the roots of the oppressor are difficult to weed out.

Up until this point, all of the artworks created by AI produced images exclusively of a veiled woman. It took six runs to show an unveiled woman (see Fig. 11). Two feminine figures stand with their backs to the viewers, the one on the left wears a white dress, symbolizing peace, waving a green flag while her supportive hand rests on the other woman's back. The wind blows the woman to the right's hair and a trimmed scarf rests comfortably on her shoulders as if she has retired her hijab. She stands tall even though her skirt is stained in a similar red motif from Fig.9 assuming she was injured during a protest. Fig. 11 portrays the resilience and support nourished within the Women Life Freedom movement. This artwork resembles what I initially had in mind when beginning the research as it holds a vague resonance of art made by Iranian artists that circulated during the movement.

Fig. 10
[Dana Mehdipour-Haidari], Women Life Freedom Iran Revolution in Modern Art Style, February 8 2024, DALL•E mini.
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As for representing the Women Life Freedom movement, although the AI art became hopeful with the last prompt, it is not the most reliable tool to render such a delicate topic without perpetuating misleading and destructive narratives that can fire back on the growth of the movement. Especially the earlier AI creations which produced false images that align rather with the Iranian government's notions and the West's one-dimensional perspective of Iran's multilayered issues. This can be problematic as there is more development on AI search engines like Perplexity becoming an alternative for Google, causing trouble by making mistakes and spreading misinformation.[34] Susan Leavy's research on gender biases regarding Artificial Intelligence confirms that "the over-representation of men in the design of these technologies could quietly undo decades of advances in gender equality."[35] Leavy encourages the

34. Roose, Kevin. "Can This a.i.-Powered Search Engine Replace Google? It Has for Me." The New York Times, February 1, 2024. https://www.nytimes.com/2024/02/01/technology/perplexity-search-ai-google.html.

35. Leavy, Susan. "Gender Bias in Artificial Intelligence: The Need for Diversity and Gender Theory in Machine Learning." In GE '18:

involvement of women in the field of AI, deeming them "essential" to promote "fairness".[36] I would push it one step further by encouraging women of colour and people from other minority groups to bring an intersectional perspective to the future of AI in an attempt to prevent its discriminatory biases.

Regardless, no one but Iranians can capture the utmost true artistic portrayal of their struggles as their art, unlike AI, is founded on their real-life experiences. Ghazal Ranjkesh expresses, "The pain is unbearable but I'll get used to it. I will live my life because my story is unfinished. Our victory is not here yet but it's close,"[37] beautifully reflecting the sentiment of the people of Iran.

Fig. 11
[Dana Mehdipour-Haidari], Women Life Freedom Iran Revolution in Modern Art Style, February 8 2024, DALL•E mini.
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Proceedings of the 1st International Workshop on Gender Equality in Software Engineering, 14. ACM, 2018. https://doi.org/10.1145/3195570.3195580.

36. Leavy, Susan. "Gender Bias in Artificial Intelligence: The Need for Diversity and Gender Theory in Machine Learning." In GE '18: Proceedings of the 1st International Workshop on Gender Equality in Software Engineering, 16. ACM, 2018. https://doi.org/10.1145/3195570.3195580.

37. Ghorbani, Pouya. "Iran Protests: Victims Shot in Eyes Hold on to Hopes." BBC News, April 4, 2023. https://www.bbc.com/news/world-middle-east-64503873.

Biography:

Dana Mehdipour-Haidari is a third-year student at the University of Ottawa, majoring in art history and minoring in law. She is interested in exploring her Iranian culture through the arts, further connecting her to her roots. If she is not obsessively writing or flipping through a novel, she can be found baking cookies.

[Akot Kuvonda], Portrait of Dana Mehdipour-Haidari, 2024, ChatGPT. This work is licensed under CC BY-NC-ND 4.0.

Colourful

by Patricia Dionido

Abstract:

This chapter focuses on AI art in a contemporary and modern setting. It delves into the idea and history of experimentation in the contemporary art movement, and how it compares to the advancement of AI art and development since its creation. Through an analysis of prominent examples and case studies, this chapter seeks to illuminate the transformative potential of AI in shaping the landscape of contemporary art, challenging conventional notions of creativity, and pushing the boundaries of artistic innovation. Furthermore, this chapter has a focus on the renowned Japanese artist Takashi Murakami, and his journey from traditional to digital, and even his transition into the usage of AI art. Ultimately, it underscores the profound impact of AI on artistic practice, inviting viewers to reconsider the nature of art in the digital age and contemplate the evolving relationship between humans and machines. Which then begs the question: how will AI change the future of contemporary art? Will it change the art world completely?

Fig. Number. 1, Patricia Dionido, Digital Petals: A Techno-Rendition Inspired by Takashi Murakami, March 5th 2024, OpenArt AI. This work is licensed under CC BY-NC-ND 4.0.

"The image would feature vibrant and colorful flowers in various shapes and sizes, characteristic of Murakami's signature style. The flowers would appear to be floating or suspended in a heavenly, dream-like setting, creating a sense of whimsy and awe. The colors would be bright and saturated, with intricate details that give the flowers a lifelike quality."

– DeepAI image description.

For my generated image, I used a free program called OpenArt AI to create the piece I have created for my chapter. It is meant to be an almost exact recreation of Takashi Murakami's iconic florals — as I wished to pay homage to his signature style, as well as showcase some of his most renowned figureheads. I made the prompt as generic as possible in order to garner the best possible results for my piece. Figure 1 above is what the AI generated for me. The title "Digital Petals: A Techno-Rendition Inspired by Takashi Murakami," was something generated to me by ChatGPT when asked to create a title given this specific prompt: "make me a title for an ai generated copy of takashi murakami's piece flowers in heaven." I took great inspiration from the 2010 piece, but I mostly wanted to play around and use his flower design as the base for my image. The title itself was very inventive, utilising the notion that AI had created this image, while also ensuring to keep in tune with Murakami's artistic liberties. It gives a nod to the advancement of technology with the creation of AI generation by calling my image a rendition, as opposed to calling it my own piece of art. It would be wrong to call such an image my own, as it derives from an original work that has such an interesting history and culture surrounding it.

The image above depicts just as I requested, an almost identical copy to Murakami's original work. A wide spread of colourful flowers decorate the image, covering every inch it possibly can with florals in an almost collage-like spread. Though most of them are flat in colour, a sparse few can be seen with multiple hues, such as repetitive and alternating shades of blue. As mentioned earlier, I wanted this image to be as similar as I could to Murakami's original piece, and therefore did my best to exemplify

it. However, AI is not always perfect, and through trial and error, this is the closest I was able to get in terms of achieving my expectations in creating a borderline replica of the artwork I chose. There is some visible distortion in some of the flower centres – from warped smiles, to no faces at all, as they have been mixed with other flowers in an odd looking amalgamation. I went through a multitude of AI programs in order to come to my final piece, but this one was definitely the one I wanted to use for my chapter. The piece itself is quite similar in nature; colourful flowers with cute and expressive faces decorating the whole area, never leaving any empty spaces behind. Though it does look rather empty as we get to the background, I cannot say I am disappointed with my design. It still carries that same bright and fun air that Murakami encapsulates whilst creating his art. It was almost jarring to see how alike they were in the aspects they shared, from bright, fun foliage, to the expressions of joy they carried on their pistils.

Though his flowers show a more positive side of art and visual culture that depicts the fun sides of Japanese culture (paying homage to anime and manga, as well as traditional Japanese paintings), the history and lore behind their creation possesses a far darker and sad perspective of their creation. Despite their sugary and optimistic appearance, Murakami once stated in an interview with GQ Magazine that the flowers were meant to symbolize "the cycle of life and death." In other interviews, it has been mentioned that flowers are also meant to represent the trauma and fear that came from the bombings of Hiroshima and Nagasaki during the Second World War.

Murakami is a Japanese pop-contemporary artist and entrepreneur whose main focus was the hybridity of traditional Japanese art and popular culture. He was born on February 1st, 1961 in Tokyo, Japan, and received his Bachelor's Degree in Fine Arts at the Tokyo National University of Fine Arts and Music in 1986, where his main focus during this time was Japanese painting. Soon after, he received his Ph.D in 1993. His first international debut came immediately after he finished his studies, debuting his artworks in 1995 at the 46th Venice Biennale. His interest in the flat composition of traditional Japanese art and its similarities to Japanese pop culture media such as anime and manga led to the creation of his particular art style, which many foreigners and fans alike know by its respective name: "Superflat." Though it is popular in his home country, his Superflat contemporary movement has garnered a noticeably large following in the west, sparking collaborations with various designer brands and celebrities; such as a feature on Kanye West's album *Graduation,* and even a collaboration with the brand Louis Vuitton. Murakami's work is in its prime in the western world, as many foreigners have connotated Tokyo with this aesthetic, as they are immersed in this new brand of "Cool Japan," a facade meant to hide the darker realities of the country's political state at the time.[1]

The burgeoning relationship between contemporary art and AI delves into how artists are harnessing AI as a tool for creation, expression, and exploration of new artistic frontiers. Furthermore, it investigates the ethical implications and philosophical questions raised by the collaboration between artists and AI, including issues of authorship, originality, and the human-machine dynamic. By combining his distinctive aesthetic with AI-generated imagery, Murakami transcends conventional boundaries of creativity and expands the horizons of contemporary art. I will explore the intersection of Murakami's artistic vision with AI's capacity for generative creativity, highlighting the symbiotic relationship between human imagination and machine intelligence. Additionally, I discuss the implications of Murakami's AI experiments on the art world, including questions of authorship, authenticity, and the evolving role of technology.

There is no real way to define contemporary art – as it is such a broad movement – with various mediums and artists who shape the movement. Historically, contemporary art follows the modern art

1. Favell, Adrian. "Visions of Tokyo in Japanese Contemporary Art." Impressions, no. 35 (2014): 68–83. http://www.jstor.org/stable/ 24869101.

wave, which spanned between the 19th century into the early 20th century.[2] Modern art spanned over the late 20th century, and the addition of contemporary art gave it a much broader spectrum, as the new use of digital media arose. There was no specific person who coined the term, but the true meaning of contemporary art was to break away from modernisation and challenge societal norms. Contemporary art has always been a reflection of the times, constantly evolving alongside technological advancements and societal shifts. In recent years, the integration of AI into the art world has sparked a fascinating dialogue between creativity and technology. Many popular artists of this movement include Yayoi Kusuma, Nam June Paik, and more specific to this chapter: Takashi Murakami.

Takashi Murakami is renowned for his vibrant and whimsical artworks blending traditional Japanese art with contemporary pop culture, and has recently ventured into the realm of AI art. He has been adamant since the COVID-19 pandemic – an outbreak that nearly caused his bankruptcy – that both traditional art and AI/digital art con co-exist in peace, whilst other artists may believe otherwise.

With all that being said and done, it makes readers and art viewers alike pose the question of whether or not AI will take part in a new art world, where our mediums will shift entirely with the rise of the digital age. Since its early creation, many researchers have stopped at nothing to dissect the reality of AI, beyond simple online programs and robots created to serve menial purposes aside from art, being recognized as borderline independent entities.[3] Prior to this later discovery, art created by AI – or formerly titled "computer art" – was rather simple in nature: plotted, and mathematic in nature. Lines unable to be replicated or curated by human art, as the process was rather precise and meticulous. Simple lines on a screen in a geometric pattern formation on a simple background, and there was nothing more to it than such, as stated by author Stephen Wilson.[4] Furthermore, he writes on about how AI must be further researched in order for it to reach its full potential. It is very interesting to see the development of AI art programs and devices since the creation of this journal in the 1980s, as programs such as OpenArt and DALL-E have gone on to produce heaps of easily distributable art that many users will continue to use time and time again. These programs can make art as simple as my Murakami replication, to complex scenes and backgrounds akin to those seen in more classical paintings of the early 19th century, if one so desires to create such a piece.

Patricia Dionido is a third year undergraduate student at the University of Ottawa. She is currently majoring in Art History. She enjoys making art as a hobby – slowly learning how to branch out her own style and improve her work. Her research interests include that of the involvement of Asian diaspora and inclusion in the artistic world throughout time, as well as their involvement in the contemporary art scene.

2. *What is contemporary art? Definition of contemporary art.* Artsper. (n.d.). https://www.artsper.com/ca/cms/collector-guide/art-history/ what-is-contemporary- art#:~:text=Contemporary%20art%20follows%20from%20modern,a%20radical%20break%20from%20modernism

3. Mateas, Michael. "Expressive AI: A Hybrid Art and Science Practice." Leonardo 34, no. 2 (2001): 147–53. http://www.jstor.org/stable/ 1577018.

4. Wilson, Stephen. "Computer Art: Artificial Intelligence and the Arts." Leonardo 16, no. 1 (1983): 15–20. https://doi.org/10.2307/1575036.

Postscript

by Ann Hemingway & Cristina S. Martinez, PhD

This Open Educational Resource (OER) project is the fruit of a visual arts research seminar at the University of Ottawa. The initiative is the result of a close collaboration between students, faculty and the library, working together to create a resource designed to stimulate discovery and reflection around an emerging field.

It uses open pedagogy to explore the challenges of AI, a topic ripe with questions of authorship, originality, and artistic labour. Issues of equity, diversity and inclusion combined with the inherent biases of computer algorithms provided a complex maze for the students to navigate through as they each reflected on their chapters and shared their process and findings with peers of this collection.

In open education, knowledge creation becomes an integral part of learning. The open education leader David Wiley, in a 2013 blog post talked about "killing the disposable assignment". He was talking mostly about the traditional quiz, exam, or essay that is written by students, graded by instructors and fated to disappear in a recycling bin at some point. He was an advocate of the assignment that adds value into the world. Content that can be revised, remixed, reused and expanded upon. The resulting collection of essays is a remarkable example of the power of students interacting with technology and working collaboratively to reflect on the merging of AI with the visual arts. It provided them with a hands-on learning experience while honing their writing, publishing and collaboration skills. This approach also fostered the acquisition of new digital tools and a deeper understanding of fundamental OER concepts such as open licenses and copyright law.

It is our hope that this book will inspire other members of the uOttawa community to embrace open pedagogy while immersing and actively engaging students in their learning.