Generative Art and Computational Imagination: Integrating poetry and art

Tula Giannini
Pratt Institute
School of Information
New York, USA
http://sites.google.com/view/tgiannini
giannini@pratt.edu

Jonathan P. Bowen
London South Bank University
School of Engineering
London, UK
http://www.jpbowen.com
jonathan.bowen@lmbu.ac.uk

This paper focuses on how generative art is poised to change the relationship of poetry and image as it veers from traditional practice, we explore the work of William Blake (1757–1827), Pablo Picasso (1881–1973) and Marc Chagall (1887–1985), artists who have merged their poetry and art, harmonizing these two forms of expression.

The use of generative art as a counterpoint to poetry is considered, especially using DALL•E 2. The authors posit that such artificial intelligence approaches to multimedia presentation of poetry and visual art will become more widespread in the future.

1. BACKGROUND

Since 2018, we have been witnessing a revolution in the arts by way of computational systems, driven by Artificial Intelligence (AI) and Machine Learning (ML), are designed to generate images, sound, music, video and writing from text prompts imagined by humans, thus combining human and artificial imagination. These systems build on the technology that has led to all media going digital, from images and sound to film and video, while this new iteration recasts the creative process as one shared by between the humans and computers and is already causing significant disruption to how we visualise and create art, while challenging foundational precepts.

New interest is evidenced by recent and upcoming museum exhibitions featuring work at the Tate in London and in Brooklyn, New York. By contrast, the absence, or rejection of images in contemporary poetry, raises questions around current practice. Taking for example, the first author’s own poetry collection entitled Poems for Digital Life and Love, one set in the expanding world of computational culture, this explores the relationship of poetry and image, observing that both are linked to thinking poetically, and seem intrinsic to poetic process.

Using the text to image generative model from OpenAI, DALL•E 2 (https://openai.com/product/dall-e-2), to illustrate poems, while in the past choosing images of other artists, allows the creation of images bypassing the requisite technical skills. Instead, other skills are brought into play. Seeing through the lens of aesthetics and experience, generative art reveals the need for curatorial, visual, and textual acuity.

Comparing images of the visual artists selected to illustrate poems, with those created with DALL•E 2, it is surprising how well the generated images express the poems. In the future, it seems clear that the new generative AI models based on rapidly developing computational AI frameworks, are poised to inspire the integration of new media while offering transformative ways to create and experience the arts, especially immersive and participatory experiences increasingly seen in galleries and museums, and significantly, both key aspects of the emerging Metaverse (Giannini & Bowen 2022; Giannini et al. 2022).

2. INTRODUCTION

Poetry and art as illustration flourished particularly with the Romantic and Impressionist movements in France, growing out of close relationships between poets, visual artists and composers, most notably, the poets, Baudelaire, Mallarmé, Rimbaud and Apollinaire, although poets illustrating their own works, or artists writing poetry to illustrate their visual works has been and remains an exception. For example, Picasso’s Poèmes et Lithographies of
1954 offers a powerful example of how the artist-poet can create emotionally charged interactions and integrated aesthetic qualities between these two art forms. The Museu Picasso, Barcelona featured the exhibition Picasso Poèta, 8 November 2019 to 1 March 2020 (Barcelona.cat 2019). Picasso’s insightful thoughts on the artistic commonalities of writing and painting are quoted in the exhibition catalogue, Alphabet.

“If I were Chinese, I would not be a painter but a writer: I would write my paintings. When it comes down to it, all arts are one. You can write a painting with words, just as you can paint feelings in a poem.” (Barcelona.cat, 2019)

In our new world of computational culture, silos of practice in the arts professions are breaking down as more artists adopt new computational tools that integrate the arts. This dynamic fusion is producing new art forms that are performative, interactive, immersive, participatory, and experiential, as they engage and often astound audiences.

Through archival and exhibition research, and exploring practical applications of the generative process, this paper explores public reception of both historical and current poem to image relationships, and makes observations on how generative arts tied to computational culture break down traditional boundaries of the arts professions and by so doing creates new forms of expression, while broadening the scope of what and how artists envision their work. Indeed, these developments portend to be an exciting and challenging period for the arts, in what is increasingly described as the age of Al generating hybrid human states of being as we live in the space between real and virtual, merging human and artificial life. Immersed in computational thinking and consciousness, we are becoming more in-tune with human digital identity, as it dominates our lived experience.

From the perspective of contemporary poets, it is now possible to use DALL E 2 and other generative AI applications for creating images from text as a means by which a poet can illustrate their poems, while seeking to understand how the creative process is influenced by using generative AI applications.

3. GREAT ARTISTS ILLUSTRATE THEIR POEMS

Some iconic examples of the artist-poet, creating both poem and image that provides historical context are presented by way of recent exhibitions and published works. We consider the artists William Blake (1757–1827), Pablo Picasso (1881–1973) and Mark Chagall (1887–1985).

William Blake (1757–1827)

In the first instance, we consider the William Blake Exhibition at Tate Britain, 11 September 2019 to 2 February 2020 (Tate 2019a) which ran in tandem with an immersive performance celebrating Blake’s poetry presented with images, music and dance featuring works by illustrious artists as Benjamin Britten, Ralph Vaughan Williams, and Bob Dylan. Alongside the readings of Blake’s poems were projections of his visual images and a range of performers including a live band. The exhibition and immersive performance came together with great effect while underscoring the power of computational frameworks to support blending new media in ways that encourage public participation (Tate 2019b).

Figure 1: Songs of Innocence and of Experience: Shewing the Two Contrary States of the Human Soul by William Blake, book cover. 50 pages of poems and illustrations, facsimile copy of the “coloured” and gilded copy, first edition, British Library, published 1789. The British Library copy can be viewed in full online. The British Library’s digitised facsimile copy of Blake’s Songs of Innocence and of Experience can be viewed in its entirety online. (Blake, British Library.)

Each of the 50 pages of this extraordinary book offers the reader a poem and illustration, making it both a visual and literary work of art. Using the word, “Songs” as the first word of the title, shows that Blake was connecting to the sound elements of his
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poetry. “Blake invented a new way of printing, designing the work in reverse with varnish on metal plates, which were then etched with acid to produce relief printing surfaces; these were printed in brown ink, and the prints were coloured by hand. Only a small number of copies were made, and sold privately to friends and collectors,” and at the same time, Blake considered it a book for children.” (Blake British Library) Blake’s title phrase, Two Contrary States of the Human Soul, linked to the words innocence and experience when set in our digital world seems to take on new meanings about our states of being as we live in a state of extended reality (XR) and in a more than human body augmented by artificial intelligence, leaving us to question the states of our body and soul.

Blake’s Songs of Innocence and Experience published in 1789 (see Figure 1) coincides with the year the French Revolution launched, so that his world was caught in the midst of the ultimate battle for freedom of expression, “liberté, égalité and fraternité,” and most importantly according to Blake, the fate of the human soul which can be sensed from the excerpt below from Blake’s multivolume book, The French Revolution, published in 1791 (Blake Archive n.d.: Blake 1791). Conceived as a series of seven books of which only the proofs of the first book survive, as work on the series was cut short when in 1799, his publisher, Joseph Johnson, among the most prominent publishers in England, “spent six months in prison for seditious libel.” (Blake Archive n.d.).

I awake, but my soul is in dreams
From my window I see the old mountains of France,
Like aged men, fading away
Can the fires of Nobility ever be quench’d, or the stars by a stormy night? (line 180)
Is the body diseas’d when the members are healthful? can the man be bound in sorrow
Whose every function is fill’d with its fiery desire?
can the soul, whose brain and heart
Cast their rivers in equal tides thro’ the great
Paradise, languish because the feet,
Hands, head, bosom, and parts of love follow their high breathing joy?
And can Nobles be bound when the people are free, or God weep when his children are happy?
(Blake 1791)

The duality of human states of being that Blake compares in his verse, speaks to contemporary dilemmas of human identity now challenged by AI, what Turing referred to as machine intelligence, which in the computational age evokes XR, where we share our own beyond human self with chatbots, robots or generative AI, all developing at lightning pace, raising fears that humans will become overwhelmed. Ultimately, will the AI revolution be a battle for the human mind, body, and soul.

Pablo Picasso (1881–1973)
Illustration for poetry collections is quite uncommon among artists especially for artists of the stature of Picasso and Chagall. Poets can envision their work with illustration, and this long tradition that flowered in the Middle Ages, memorialized by the first female French poet, Christine Pizan whose epic poems were illustrated with illuminations in medieval manuscripts by miniaturist artists, when poet’s painting illustrations still remains limited by the boundaries between these two arts, so that poets seek a recognized illustrator to take that role. As we delve deeper into AI parameters, traditional boundaries give way to integration across the arts. What was incredibly difficult to master, can now be a click away, often embodied in text, as a new model of art production is emerging, although one that shifts focus from technical skills, while raising the bar for conceptual thinking and imagination.

Picasso’s book Poèmes et Lithographies, composed in 1949 and published in 1954 (see Figure 2), is held in the collections of the Museum of Modern Art (MoMA) in New York. Although not currently on view in the Museum, the entire illustrated book containing poems and 14 lithographs by Picasso can be viewed online (MoMA Poèmes n.d.). According to MoMA:

“In 1935, during a period of turmoil in his personal life, Picasso gave up painting for about a year and began writing poetry. Between 1935 and 1959 he wrote some 340 poems. These examples from 1941 appear in his handwriting; he made the text and image arrangements later. Picasso’s stream-of-consciousness writing style, filled with outrageous juxtapositions, was much appreciated by the Surrealists.” This shows all 14 poems and lithographs. (MoMA n.d.)

On 4 December 2019, Bonhams, London Knightsbridge auctioned copy 46 of 50 copies of Poèmes et Lithographies for £11,312.50 (Bonhams 2019). Below is the auction catalog description providing detailed information on the book’s physical materials, size, condition, publisher, and justification leaf signed by Picasso (see Figure 3).

LOT 303 – Pablo Picasso number 46 of 50 copies, from an overall edition of 52 copies, signed by Picasso on the justification leaf, 14 lithographed plates by Picasso (juxtaposing images and text), on ‘Vélin d’Arches’ wove paper, each numbered “46/50” in pencil in corner, with the printer’s signature on the verso, justification leaf toned, loose in original half cloth portfolio, ties with some loss [Cramer Books 69; Bloch I, 615–628], folio (665 × 510mm.), [Paris, Galerie Louise Leiris, 1954] Limited to 50 copies, this suite of 14 lithographs juxtaposing Picasso’s illustrations and free-style poems, written by him in 1941 is signed by Picasso on the justification leaf and published Paris, Galerie Louise Leiris, 1954. (Bonhams 2019)
Figure 2: Detail from in-text plate (folio 3) from Poèmes et Lithographies by Pablo Picasso, 1949, published 1954. (MoMA, Poèmes et Lithographies.)

Figure 3: Justification leaf for copy 46 of Picasso’s Poèmes et Lithographies, signed by Picasso. (Bonhams, 2019.)

Figure 4: Letter by Pablo Picasso to Guillaume Apollinaire, 24 April 1915 (Picasso 1915).

Picasso’s letter (see Figure 4) beautifully illustrates his close ties with poets and artists of his time, being in regular communication on the comings and goings of the Paris arts community, which in 1915, was during World War I. He writes to the poet, Guillaume Apollinaire:

“I am working very little and think of you often and wait for your letter with impatience;” adding, “I don’t have much to tell you. I see Max [Max Jacob, poet] from time to time.”

killed, write me as often as possible.”. He draws a hand to say hello to Apollinaire. It reads, “my hand becomes a flag,” reflecting on WWI’s presence.

In 2019, the Musée Picasso, Barcelona, mounted an exhibition featuring the artist as poet and illustrator under the title Picasso Poeta, 8 November 2019 – 1 March 2020. The exhibition catalogue, under the title Alphabet, comments that:

“Picasso emerged as a full-fledged writer starting in 1935; André Breton had then consecrated him in his text “Picasso poète”, which was published in Cahiers d’art that same year. Even so, his inclination for words, for writing, poetry and language, goes back to when he was a young adult, when he created small newspapers and sent them by post to his parents. (Musée Picasso 2019)

The Musée Picasso Paris mounted the exhibition, Picasso Poète, Paris: 21 July 2020 – 3 January 2021 which marked 30 years since its first such exhibition in 1989–1990, Ecrit Picasso, both focusing on the intricate connections Picasso makes between his visual and textual works (Musée Picasso Paris 2020a; 2020b).

Picasso wrote some 340 poems from 1935, the year he set painting aside due to emotional difficulties, to 1959. The Musée’s “Introduction” to Picasso highlights how the artist integrated his painting and poetry as two languages coming together. Poetry was essentially part of his everyday life maintaining friendships with leading Paris poets as Guillaume Apollinaire, Max Jacob, André Breton, and Paul Eluard, and illustrated some of their poetry collections (Musée Picasso Paris 2020a).

2023 marks the 50th anniversary of Picasso’s death in 1973, age 91, which is being celebrated around the world with exhibitions, while also re-thinking his artistic legacy, which set in contemporary contexts, focuses on “interconnected issues of misogyny, masculinity, creativity, and ‘genius’” (Artnews 2022).

As we enter the age of AI, text and images created with generative art makes us think more deeply about the relationship between these two artistic media, and how artists can cross the boundaries between them. In her article on 20th century poet illustrators, Geraldine Bell points out that, “Only a handful of twentieth-century poets have published their own illustrated verse for a literary readership,” naming the poets, Günter Grass, Stevie Smith, and Thomas Hardy, then adding that beyond first editions, publishers often left out their illustrations (Bell 2018).

Now in the 21st century, that same disregard for poetry illustrations still holds sway. As the development of AI accelerates continuously, shedding light on how generative AI turns text prompts into images, the first such foray, now includes essays, programming, algorithms, music and more. This newly gained power of expression offers poets a fresh opportunity to create images for poems designed to match the text’s intentions become a reality – and it seems to be going viral (Kelly 2022).

Marc Chagall (1887–1985)

The exhibition Chagall: World in Turmoil was on view from 4 November 2022 to 19 February 2023 at the Schirn Kunsthalle Frankfurt and sheds new light on Marc Chagall’s work from the 1930s and 1940s, during times of conflict and war (Artdaily 2023). The darker tones of his subject and colour palette reflect emotions familiar to us in our post-Covid world steeped in cultural and political conflict.

According to Gérald Cramer, the publisher of Chagall’s Poèmes (see Figure 5), the artist created 24 woodcuts for 31 poems. More than illustrations, they provide a sense of visual imagination and sensorial language. The texts originally written in Russian and Yiddish were translated by Moshe Lazar and later by Philippe Jaccottet who used a more poetic style. The poems engage with Chagall’s Russian heritage and Jewish family life etched by themes of love and loneliness. It took 10 years from Cramer’s first efforts in 1958 to have Chagall illustrate his poems for their publication in 1968, and in 1970, Chagall was awarded the Diana Marina Book Prize (Chagall 1968).

Figure 5: Poèmes, original lithographs on wood by Marc Chagall, 1968, detail from a complete copy of the book held by the Museum of Art and History in Geneva. 
Top: Title page. Bottom: First page. 
https://collections.geneve.ch/mah/oeuvre/poemes-e-80-0236

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It must be noted that Chagall’s lithographs done in association with his poetry, are generally separated from his poems, making his poetry difficult to contextualize. Dealers sell the images disregarding the poetry, so that finding an original copy of his Poèmes becomes a treasure hunt, especially since poetry publishers do not favour images, and art dealers and museums do not rate the poetry! Chagall’s Poèmes, dated 1968, was sold at auction by Phillips in October 2022 for the price of $31,500. The copy sold included:

“The complete set of 24 woodcuts in colours, six with collage, on Rives BFK paper watermark Chagall, loose and folded (as issued), poems in French by the artist, with paper wrappers, title and justification pages, all contained in the original beige cloth-covered portfolio with gold printed title and artist’s name on the spine with the original slipcase.” (Phillips 2022)

Clearly, the presence of the Chagall original woodcuts, part of the elaborate book ensemble, increased the price, which begs the question as to whether poems with AI images might attain greater value, and how AI art will be evaluated in the marketplace. Perhaps, the answer rests with NFTs or other crypto forms.

4. TWO POEMS BY TULA GIANNINI WITH ILLUSTRATIONS USING GENERATIVE AI

**The Digital Abyss (June 2021)**

The past fades
As we wade
down into a rabbit hole
der the grassy knoll
of the digital abyss
Following Alice into Wonderland
take my hand
entering remote identity
in virtual reality

It’s all a sham
Can’t recognize where I am
Virtual life seems out of hand
Exhibitions and legacy systems
Old traditions
falling apart
Reimagining art
Cancelled ambitions
New renditions
disappearing the past

The die is cast
Can’t hear your voice
No choice
Time’s run out

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The first poem, *The Digital Abyss*, conjures the image of Alice in Wonderland illustrated in the first instance with the 1865 drawing of John Tenniel (see Figure 6), while Figure 7, also picturing Alice, is an illustration created by Giannini using Replicate, Pixray with the text prompt, “Following Alice into Wonderland – take my hand – entering remote identity – in virtual reality.” (verse 1, lines 6–9). The imaginative and colourful resulting image rings surprisingly true to the poem’s text, and as a reflection of the author’s vision and aesthetics.

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**Figure 6:** 1865 illustration by John Tenniel for Alice in Wonderland, 1st edition.
[https://commons.wikimedia.org/wiki/File:De_Alice%27s_Abenteuer_im_Wunderland_Carroll_pic_06.jpg](https://commons.wikimedia.org/wiki/File:De_Alice%27s_Abenteuer_im_Wunderland_Carroll_pic_06.jpg)

**Figure 7:** Image for poem, *The Digital Abyss* by Tula Giannini. Generative art, Pixray app, prompt from poem.
[https://replicate.com/pixray/text2image](https://replicate.com/pixray/text2image)
A New Age of Anxiety (2022)

Leaving reality
No materiality
Heading for the metaverse
in virtuality
My anxiety
gets worse

No rest
for my avatar
floating on a cloud
passes the Turing test
No life vest
No parachute
Can’t compute
nor refute
The Age of Anxiety is back
We’ve been hacked
Our life sacked

Auden’s poem
rings true
Anxiety anew
Going back
to Hopper, Bernstein and Robbins
Interpreting anxiety
in art, music and dance
puts me in a trance

Nighthawks
Talks to me
Shows the anxiety
of our computational society
in this new age of AI
undeniably

Feelings of isolation and loneliness have taken on
global proportions, from New York City to London,
Paris and Dubai, and appear in wall texts of Dubai’s
Museum of the Future under three themes:

(i) A Salve for your Senses and Spirit;
(ii) A Source of Calm and Connection;
(iii) A Place of Happiness and Wellbeing.

“Despite our technological abundance,
depression, anxiety, loneliness and addiction
remain common. [Museum’s prediction] In 2030,
depression passed obesity as the world’s
greatest health risk.”

Exiting the pandemic, we have entered a period of
rapid change that is reordering our ways of living and
working. What it means to be engaged in the arts
and education in large part will depend on how we
engage with computing and technology and how
they reorder our priorities and values. The power of
AI, as it extends human ability to engage in the arts
while accelerating its scope and reach, is positioned
to have massive impacts in the cultural sector
globally.

Curating Computational Imagination

Computational imagination (CI), a human state
of mind fast emerging when the creative process
corporates both human and artificial intelligence
creating images, design, interaction, participation,
experience and function across time and space,
where space defined broadly can be museums,
galleries, public squares, streets, transportation,
parks, and more. CI is created throughout the lived
environment, real and virtual, from the physical world to the Metaverse.

2022 has been one of the most eventful years in the history of AI and technological breakthroughs, while Moore’s law seemingly fades as we see the launch of the first ever humanoid robot Optimus, and the most recently, OpenAI’s ChatGPT (https://chatgpt.org) stuns users by writing essays and much more, and has already become popular owing to its natural language processing and unsupervised learning model (Lee 2023).

Generative AI images will no doubt encourage poets to illustrate their own poetry, especially as the visual arts takes centre-stage across the spectrum of film, video, digital photography, etc.

So, let us ask ChatGPT a speculative question about the future of generative art:

**ChatGPT Prompt:** How will generative AI impact and or change the arts and artists?

Generative AI has the potential to impact and change the arts and artists in many ways. Here are some of the ways:

1. New forms of expression: Generative AI can generate novel forms of art that have never been seen before. By providing artists with new tools and techniques, generative AI can help them create art that is entirely unique.
2. Enhanced creativity: Generative AI can help artists explore new creative possibilities that they may not have considered before. It can also help them generate ideas more quickly and efficiently, allowing them to experiment with more ideas in a shorter amount of time.
3. Collaboration: Generative AI can facilitate collaboration between humans and machines. Artists can use AI algorithms to generate ideas, and machines can assist in creating the final product. This can result in a fusion of human and machine creativity.
4. Automation: Generative AI can automate certain aspects of the creative process, such as generating sketches, composing music, or even writing literature. This can save artists time and energy, allowing them to focus on other aspects of their work.
5. Accessibility: Generative AI can democratize the arts by making it easier for people to create and enjoy art. People with little or no artistic training can use AI-powered tools to create art, and audiences can enjoy a wider range of art generated by AI.

Overall, generative AI has the potential to revolutionize the arts and the way we create and experience art. While it may not replace human creativity, it can enhance and augment it in ways that were previously impossible.

ChatGPT’s response appears quite adequate, especially seeing that it was produced in minutes. Yes, it lacks depth, detail, and a deep understanding of issues and diverse perspectives, but it is still a young bot.

5. CONCLUSION

Generative AI tools foretell sweeping changes in the conceptualization of the materials and production of poetry and art, that now extends to the arts generally. Old school terminology and boundaries are fading and being replaced with computational thinking and creating. The age of AI opens the gates holding at bay broad sectors of human creativity, as it brings to the fore new models and ways of doing and being in the arts. More and more, we see artists partnering with Al, robots, and virtual beings in our more than human world.

Beyond generative Al creating images to illustrate poetry, AI poetry is being generated from images, while text to poetry is also being generated by Al machine-intelligence, a process that still falls short of the Turing test. Given the complexities of poetry’s nuanced and creative language associations tied to the psychological nature of human interpretations of words and symbols, traversing conscious and unconscious states of mind, might text to poetry be a litmus test of sorts for human creativity thriving in an AI framework?

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6. REFERENCES


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