AI as *other*: An art-as-research approach to generative AI art practice

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Abstract

This Art-as-Research explores emergent processes that develop between creative practitioners and artificially intelligent (AI) technology when an AI system is positioned as ontological *other* that an artist works *with* to produce an image. The authors, as artists and early adopters of AI image synthesis, create aesthetic artefacts and investigate the artistic process used to visualize and conceptualize creative praxis in this new media, critically examining how generative AI systems impinge on and enhance creative freedom, mediating the essential relation between self and practice. This process dynamic is employed as a phenomenological probe into AI generative art. The authors examine how artistic intention is reshaped by algorithmic transformation and re-presentation to question what is preserved, nurtured, lost, or irrevocably altered in the interplay of the autographic and the algorithmic. The study finds that *neural media*, as the authors term it, is a reflection of the ambiguous mediation of input and redirection of intention, motivating an *anticipatory aesthetics*. The non-deterministic processes in generative AI systems create an external perturbation of the artist's innate expression of the mental image. This disruption provides an ambiguous computational "other" in the artist's practice environment, expanding the field of interactive potentiality and augmenting embodied intentionality.

Introduction

In this paper we explore the experiential relations between the situated artist-researcher and artificially intelligent technology conceived of as distributed *ontological other*, a virtual collaborator co-involved in a dynamic interaction that the artist-researcher works *with* to produce an artwork.

We look at a supposed support technology (generative AI art software) and observe how it goes beyond support of intention and becomes a mediating influence embedded in the creative process. Our motivating concern is to show both the enhancement and limitation of a technology's shaping of us, by asking how generative AI systems impinge on and enhance the artist-researcher's creative freedom. It is this essential relation between self (our subjective emotive and intuitive being) and practice (our objective actions in the world situating and developing that being) that we employ as a phenomenological probe into AI mediated art process and the formulation of what we have called *anticipatory aesthetic praxis* (Choi 2021). In our research we ask how the intentions of the artist are reshaped by algorithmic mediation, a re-presentation that questions what is preserved or nurtured and what is lost or irrevocably altered in the agonistic polarity and interplay of the autographic (production from the artist's "hand" and "mind") and the algorithmic (production through computational systems).

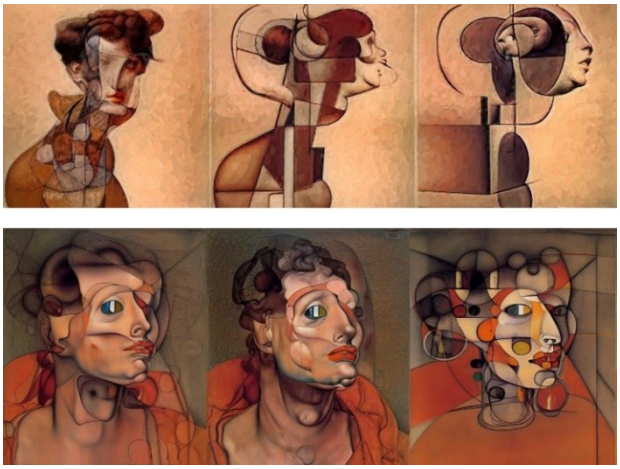

Figure 1: Two examples demonstrating movement through concept or style. Diffusion models allow for experimentation through complex association along any axis of image-concept in latent space. (Image © S. DiPaola 2023).

As established computational media artists, we explore newer technologies associated with machine learning, working for years with Deep Dream systems, then Neural Style, then GANs and more recently diffusion-based generative systems. Our initial approach to newer diffusion-

based “text to image” and “image to image” systems (that use NLP text prompts and large, trained datasets) started by attempting to mimic traditional autographic practices such as painting or sculpture. This alignment is perhaps to be expected as we approached the new experience based on a pre-existing set of assumptions about how one might proceed in a creative image space. The “errors of innocence” in this approach turned to an advantage, as we quickly ran into valuable instructive “perturbation” of our anticipations that were richly revealing of our entrance assumptions. An initial realization was that *neural media* as we have termed it (Choi, DiPaola, and Töyrylä 2021; but see also Choi 2018) reflects the ambiguous mediation of input and redirection of intention inherent in the human-AI relation. This embedded ambiguity drives the evolving composition forward in iterating cycles of divergence and convergence.

This process dynamic was initially frustrating but soon became a state of “serendipitous release” affording creative opportunities we would not have arrived at through the methods we assumed we might continue working but that were biased by those prior assumptions. An anthropomorphic sense of “playing against another perception” emerges though the growing awareness of a mediation taking place that is not exactly controlled but simultaneously in no way presents a feeling of randomness. This form of affective-technical interaction suggests that if computational output inspires reflection in interacting humans, then we have a technology that is already intersubjectively improvisational by nature: a complementarity of improvisational exchange emerges through the creative process where the artist does not control but only suggests (Figure 1). We found that the embedded “alterity” relation (Ihde, 1990) implicit within artificial intelligence research promotes creative practices that are expressly intertextual, simultaneously subjective and distributed, taking place at the multimodal interstice of image, text, and code. The singular source referent recedes to the background, and traces of the source images and textual input appear throughout a sequence of generated images but enter an ambiguous space of latency where representation and abstraction define horizonal limits to the *potentiality* of the image but do not enter into any explicit immediacy with the content of the output; instead, an imaginative, immanent image is suggested and the artist takes on a curatorial role, allowing some streams to proceed while terminating or modifying others speculatively. The artist becomes a finder of regions of cultural attraction (Buskell 2017) more than the author of singular experience. The artist-as-researcher examines the process-motivated transformative and ecological sources of this convergence on points of latent multimodal space through a phenomenology of AI mediated manifestation of the imaginary image.

The autographic and the algorithmic

In this research the anticipatory relation of the interacting artist with the digital aesthetic artefact is speculatively positioned as an externally mediated affective process accepting expressive actions and returning modulated reflections of creative intention. We draw from the phenomenology of this interaction that generative AI systems can be perceived as “life-like” precisely because interaction with them is non-deterministic and poses a distributed perturbation of the artist’s naturalistic/autographic seeking of the mental image. This disruption presents an ambiguous computational “other” in the artist’s otherwise familiar praxis environment. A phenomenology of existential distinction is therefore centralized in AI mediated aesthetic practice. Generative AI widens the environment of creative practice beyond the strictly intentional as there is always some undisclosed element that plays into the interaction which cannot be directly interacted *with*. This is unlike traditional autographic media such as oil painting where tactile interaction (of brush to canvas, or the multimodality of the scent of paint and the warmth of a beautiful day) is more immediately engaged with and embodied into praxis knowledge. The AI latent space is thus abstracted from lived experience but affords an expanded field of anticipatory potentiality *augmenting* embodied intentionality *through* disruption of situated expectation. The resulting anthropomorphic overlay of an implied “theory of mind” in the interaction with AI technology motivates an intentional stance (Dennett 1989) toward the tool and implies that artistic expression as an evolving process of self-apprehension leaves in its wake a data trace—a praxis narrative of affective intent in the multimodal ecology of creative practice—from which AI might learn about and reflexively extend human anticipatory acts. Although it is generally acknowledged that human-centered practices are extensively multimodal by nature—as evidenced for instance in the rising awareness of the essentiality of rich data in medical practice (Acosta et al. 2022)—there so far has been little development of robust frameworks of affect-oriented multimodality in AI network architecture. Recent work by Google Research (2023) on PaLM-E, a large language model coupled with an advanced vision model, attempts to demonstrate the potential of situated “embodiment” in AI robotics: Experiments show that the PaLM-E system model is capable of developing untrained viable real-world behaviors in complex tasks. Rich computational multimodality will be necessary to model and support human level causal behaviors and AI generative art praxis is an ideal testing ground for studies of affective response to human-centered generative technology deployed in an environment that is situated, persevering, non-destructive, and critically and aesthetically multimodal.

In traditional painting or drawing, the autographic artefact represents a set of past assumptions, informing the transactional nature of embodiment where the function of metaphor is to guide the accumulation of sensorimotor acuity and tacit knowledge, rather than establish schema for the manufacture of objects. The object of art obsolesces at the project’s completion as what the artist was looking for has been absorbed into being, encoded into future anticipatory projections while simultaneously released from concern. However, artificial intelligence development has obscured this distinction between imagination (potentiality) and virtuality (artificiality), offering in return a conjoined *hyperobject* (Morton 2013) composed of an ambiguous and

inseparable blending of technological and environmental epistemologies. We suggest that this hyperobject—an entity that is present but never completed/situated—constitutes the creative and ethical imperative of the *Anthropocene*, the perhaps limited "age of humans" (Crutzen and Stoermer 2000) that may be drawing to a close just as our most advanced technology emerges (Colebrook 2014). If we are not willing to question the horizonal extents of the post-human, then we have already opened the Trojan horse (or Pandora's box – pick your metaphor) of an AI mediated and predefined future. We conceive of this aesthetic hyperobject as a metaphorical warning myth and humanist critique of the ethical imperative we find ourselves in today with the AI entanglement of the virtual and physical environments, the one rising the other falling, but now conjoined and inseparable. We propose that "perspectival affordance" in an AI generative ecology of functional and embodied relations in the creative praxis of neural media may be instructively engaged with as reflective of the problematization of an unacknowledged ethics of the Anthropocene. The intent here is to sketch out a set of conceptual relations encountered in the phenomenology of neural media so that further analysis of the relation between embodied cognition and its AI representation might be grounded on more authentically experiential frameworks.

We use art-as-research to both create artefacts and investigate the process we engage with to understand and conceptualize praxis in this emerging media environment. Art-as-research (Barone and Eisner 2012; Biggs and Karlsson 2010; Klein 2017) is a field of study that is growing along with the realization that "big data" alone may not be enough, or the right kind of data, to teach creativity to artificial intelligence or even to train statistical inference engines (Mitchell 2019; 2020; but see also Shilo, et al. 2020 for similar issues raised in healthcare). The establishment of "point of view" of situated cognition is central to practice-based research where iterative granular interaction with an emerging artefact of expression may only be perceivable at close range by an involved but detached observer. We argue, in this contemporary explosion of AI advancement, for the possibility of *metaphoric alignment* of the subjectivity of art-as-research with the objectivity of intelligent technology development. The *metonymic* sources of AI mediated *affect* are only minimally present (if at all) in mediated connectivity because the immanent potential of any "intelligence" is beyond the event horizon of another intelligence. We simply do not see our own bias to begin with (Greenwald and Krieger 2006), so it is virtually impossible without critical reflection to see the extension and mediation of that same bias by external technologies.

Therefore, in our investigations we position the computational *apparatus* (Flusser 1984) as "other," speculatively adopting an intersubjective theory of mind that is presumed to originate from the network of programmers, engineers, and entrepreneurs that have already left their mark in the depths of the black box, but which may present an emergent gestalt intelligence beyond what can be known from the outset. As Ranulph Glanville has observed, "inside every white box are two black boxes trying to get out" (Glanville 1982), meaning that the description (observation) and the model (implementation), transparent to themselves, are opaque to each other (Figure 2).

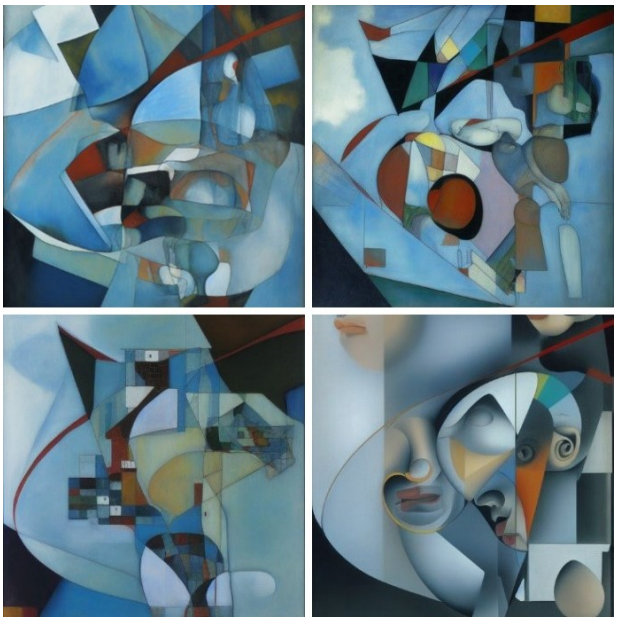

Figure 2. A grouping of images from the same region of latent space. The intersection of several aesthetic vectors reveals a diverse region of related affective stimuli that is not necessarily transparent to the interacting artist. (Image © S. DiPaola 2023).

Discussion

From the cognitive framework set out in this research several questions and findings are identified:

1. What is the existential nature of the emergence of the aesthetic mental image in a praxis of artificially intelligent image synthesis?

We found through immediate subjective interaction apart from all but the most basic operational scripting that artistic process "loses touch" by which we mean that compositional intention is distanced from tactile interaction with the body and refocused on the intellectual, and in some displaced way a transformed-emotive, interaction. The technology thus—and rather curiously—reinforces by design the Cartesian metaphor of the separation of mind (as "software") and body (as "hardware"), a reflection of the machine metaphor adopted early in the development of computation and still prevalent today (Searle 1990).

2. How do artificially intelligent image synthesis technologies mediate the embodied intention of the artist in manifesting the tacit image?

After working extensively through the experimental creation of many AI images while concurrently maintaining

our other more traditional art practices, we observe that there is an agonistic divide between the autographic and algorithmic. The two may be exchanged but never lose their individual mediation. The neural media artist is constantly in a state of translation between media rather than at play with an emergent (blended) third state. This is not a restriction as much as an apparently ontological feature of the variant latent spaces that emerge from the two media ecologies. There appears to be a relation of space and time that is divergently emphasized; autographic painting weighs toward space, algorithmic painting toward time. This is reflected in the constraints of the body as foundational to the former and velocity of information as definitive of the latter. Moreover, "speed" of information is associated with interconnectivity as information density promotes an intertextual hermeneutics where creative agents sample from, remix, and recontribute to the global networked data flow (Jenkins 2006) in a transient flux of non-linear association emphasizing the "systemic 'malleability' of digital information" (Rigney 2010, p. 112). This "malleability" however exhibits a certain polarity, that is, space is drawn into time more than time is drawn into space. So, digital information captures the autographic through data sampling, extending and augmenting its presence, whereas autographic expression is limited to the physical dimensionality of the medium and some specified partition of time allotted to the interaction.

3. Given what has been revealed, what kind of conjoined entity is the algorithmic aesthetic artefact?

We find that situatedness takes an ontological shift to an alternate computational aesthetic. When properties become distributed across a network of perpetually reconfiguring relations, and the objects of attention themselves are virtual, transient, and simultaneously ubiquitous, then a new *anticipatory aesthetics* that is more computational than singularly human emerges. That emergence poses an affective relation with the virtual artefact that is as much (if not more so) temporal than locative and physical, and the aesthetic is then extended across time, widening the existential horizon of the aesthetic experience. We therefore observe that situated accounts emerge from *transactional selves*. The algorithmic artefact appears as the trace of resonance in a latent space of possibility, a multimodal intersection of ongoing processes rather than a constitution of situated materials.

4. Why does algorithmic art need an artist?

This question forewarns that the Anthropocene may become mediated by some higher form of semi-intelligence and humans will be "none the wiser" –a situation that could too easily lead to a legislated devolution of consciousness and which may already be entering the historical record (Crawford 2021; Harari 2023). In response, the pragmatic critique draws from a certain amount of skepticism that asks whether science has yet been able to save us from our seeming wish to destroy our home world. Therefore, "machine art" for the foreseeable future is likely to consist of human-directed algorithmic manipulation of data, or automated routines running on fallible hardware producing virtually endless variations on the same piece of code they started from. Despite the fear and fandom surrounding the technical "singularity" (Vinge 1973), and importantly in terms of the themes of our work, an ethics of algorithmic autonomy is centralized because it is still existentially horizonal, that is, we still have time to learn to perceive it from a distance. Here we might coin the term "computational subjectivity" meaning not to suggest that the machine is likely to start offering considered critique back to its human "collaborators" but rather to suggest that subjectivity may be studied in a new way when reflected through a technology which mediates the expression of that subject in ways that are reflective of intent, yet which may be opaquely shifted in unpredictable directions. This shift affords a phenomenology from which we may learn about our subjective bias and probe the black box in a tactical engagement with AI media that "mobilizes AI's emergent capabilities for interrogating, exposing, problematizing, and challenging the aesthetic, ideological, or technological frameworks driving the commodification and propertization of creative expression" (Zeilinger 2021, p. 27). Or, as Marcus du Sautoy puts it "machines might ultimately help us, as humans, to behave less like machines" (Du Sautoy 2019).

But reflective AI requires reflective humans, and reflectivity implies a process of deep introspection that Merleau-Ponty calls hyper-reflection (Toadvine 2014), a reflection that is not a "temporal exercise" but a reflection *on* reflection (Daly 2016, p. 294, 295), a deepening awareness of one's self-looking, from "outside" as it were, an introspection that prioritizes the subject through its self-removal. This is the importance of subjective studies, for when the subject becomes objectified—through an insistence on generalization as reinforced by algorithmic media—then we are pre-defined by a set of externally mediated cultural controls. Is this the AI we want to live with? What might algorithmic introspection look like—the deep reflection of the technically embodied subject, an *apparatus* of self-awareness? We want to suggest these questions insist on an empathic resonance with technology conceived of as self *as* other.

Conclusion

For better or worse we are now irrevocably entangled with technologies that insert highly abstract and invisible codes into every gesture. Tactility, if not lost, is taking on different relations with the body-mind, reprogramming embodiment with every communication. Martin Zeilinger proposes that this "post-human agential assemblage" might be turned back on itself to offer a strategic disruption of the systemic assumptions of ownership that have instituted the tools of its arising and therefore "[t]he emergence of the posthumanist assemblage in which the agency for expression, creativity, or authorship might be distributed across multiple entities (human and non-human alike) hinges on a radical rethinking of what property means and how it operates, what we mean by cultural ownership, by creativity, by calling something a creative expression" (Zeilinger 2021, p. 173). This distributed subjectivity, we argue, if it is to survive as creative

human spirit in the AI Anthropocene, must couple deep reflection with an anticipatory aesthetics of inter-subjectivity, so that we might perceive the existential horizons collapsing around us as we imagine beings of endless virtuality. A radical rethinking of property is a radical rethinking of self.

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