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Images That Hang Together

Both parts of the term "artificial intelligence" present us with certain expectations: first, that what we encounter is pure artifice; and, second, that it should be judged against norms of individual "human intelligence" – often depicted as exceptional yet inherently elusive. This has frequently resulted in a focus on the "purely machinic" nature of images (co)produced by generative algorithms. Such outputs are either praised as enchantingly alien (surprising, eerie, radically non-human) or dismissed because of their quantitative, computational nature (from Hito Steyerl's "statistical renderings" to Dieter Mersch's critique of algorithmic [un]creativity).

Similar binarism informs many debates about generative media, which often revolve around whether algorithms can match, surpass, or in other ways approximate human creative outputs. And while we continue to ponder if and how humanist categories of intelligence, creativity, imagination, or thinking can or cannot be ascribed to machines, generative materials have become ubiquitous. Within just a few years, the processes of our artistic or broadly creative production have increasingly come to rely on algorithmic generativity, and even traditional technological tools already incorporate elements of algorithmic reasoning, making complete opt-out nearly impossible. We are thus invariably implicated – either actively or indirectly – as our contributions unwittingly feed the growing infrastructure of machine learning. Generative media have already permeated our everyday experience in a manner that can be termed "environmental", in the sense of Erich Hörl's "becoming-environmental" of computational media (Hörl 2018) or even "metabolic" – a key notion explored below.

This issue of *ArteActa*, based on the open call "AI (and) Art: Poetics of Prompting", features diverse approaches in artistic research that challenge conventional expectations of algorithmic generativity. The emphasis on the *act* of "prompting" calls for frameworks that privilege the process of interaction *between* the artist and the technology, instead of merely considering the output. In addressing this process, the contributions draw on established artistic strategies and aesthetic concepts, explore the structural limitations of algorithmic operations, reflect on the affective dimensions of prompting, or adopt the perspective of "thinking-with" (in Donna Haraway's understanding) to tap into the inherently collective "making" of visual culture and systems of knowledge.

While the contributions differ in their aims and theoretical backgrounds, there is a joint articulation of the artistic exchange with generative algorithms as multilayered, opaque, open-ended, imperfect, and, most importantly, embedded in broader realities (from the technical principles of machinic production and interfaces of categorisation to deeply historical biases). In this sense, they all treat "poetics" not as a mere aesthetic quality of a work of art but as active, embodied *making* (poiesis) that transforms all agents involved. Such explorations into artistic collaboration with algorithms invoke issues that are inherently multiscalar: they pass across various domains, both in

terms of semantic meaning and media boundaries (seen in the now-common transformations between text, image, sound, etc.) and in entanglements of different materialities. In this context, artistic practice and imagination span scales, coupling cultural artefacts, organisms, technologies, and environments in a complex and heterogeneous manner.

In an often-referenced article, Adrian MacKenzie and Anna Munster advocate for a less vision-centric account of images in the age of digital platforms, suggesting that images must be treated not as standalone inputs or outputs but as "image ensembles" that are "not simply quantitatively beyond our imagining but qualitatively not of the order of representation" (MacKenzie and Munster 2019). Their observation that, even though we continue to speak of images, "the visual itself as a paradigm for how to see and observe is being evacuated" has been echoed by researchers such as artist Trevor Paglen and media theorist Jussi Parikka. We have long known that visual imagery carries operations that have little to do with what is displayed to our eyes, but generative images seem to bring this invisibility onto another level, as their operations devour and transmute visual culture itself.

In a recent essay exploring the issue of "artificial imagination", media theorist Shane Denson also reaffirms this fundamental invisuality of generative media. He observes that, unlike traditional software interfaces that can still be described through a set of semi-visual layers, "AI layers and their operations are not visual phenomena whatsoever; they are completely 'discorrelated' from subjective perception" (Denson 2024). Throughout his earlier writings on digital media, even before the upsurge in AI development, Denson has consistently argued that contemporary images have become "incommensurate with human subjectivities and perspectives", advocating for a "post-perceptual" account of (visual) media. In addressing these post-perceptual, pre-cognitive levels, he proposes the concept of "metabolic images": images that function not merely as representations or signifiers but as "metabolic processes", traversing diverse domains of living and non-living matter.

The concept of metabolism is employed to emphasise that a process is neither subjectively controllable nor confined to an individual body but rather "articulates organism and environment *together* from the perspective of a preindividuated agency" (Denson 2020, my emphasis). To summarise, our interactions with most contemporary audiovisual materials unfold largely below the level of conscious perception, while at the same time irreversibly transforming our cognition, sensibility, bodies, cultures, and entire ecosystems. According to Denson, the metabolic image is thus "the quintessential image of change", "the zero degree of transformative agency", or the "very medium of transitionality", exactly because it links *together* categories we otherwise tend to see as opposed: "intimately familiar and terrifyingly alien, conjoining inside/outside, me/not-me, life/death, old/novel" (Denson 2020).

The concept of "metabolism" for describing the mutual transformations of human societies, machinic infrastructures, and natural ecosystems originates with Karl Marx. As philosopher Thomas Nail writes in his book *Marx in Motion*, the German word *Stoffwechsel*, used for metabolism, directly translates as "material transformation", which he further traces to Marx's earlier expression of the concept: a mutual "hanging together" (*Zusammenhängen*) (Nail 2020). Nail posits this notion of metabolism as a dynamic pattern of exchange that moves beyond static, input–output conceptions in favour of a kinetic model of perpetual shared movement of humans, technologies, and nature.

In a more recent book, Denson further develops this Marxian background of the notion of metabolic images, describing the contemporary condition as an "electro–metabolic–attentional–economic system" or directly "metabolic capitalism". He concludes that the far-reaching processes of (ex)change unfolding below the threshold of human perception require a new type of "interface", which involves "nothing less than the operationalization of affective or metabolic embodiment" (Denson 2023). Perhaps artistic practice, expert in the affective, embodied, or even non-cognitive types of processing, offers an ideal testing ground for developing such an "interface": an interface that cannot be composed of any given sum of individually nested "layers" but which itself remains mutable and shifting – a transductive movement across carriers and scales.

In a less theoretically abstract manner, the "metabolicity" of generative technologies has also been emphasised by AI researcher Kate Crawford, who claims that "generative AI is *fundamentally a metabolic technology* – burning electricity and evaporating water at an exponential rate to keep the ingestion, digestion, and production of data going". She thus underlines the urgency of the environmental and economic costs of images produced "by digesting billions of other images" absorbed by generative models, "which then excrete out streams of processed images," suggesting that the current technical infrastructure is so demanding that it already competes with us for basic resources such as water, energy, and land (Crawford 2024, my emphasis). This is yet another aspect in which our deliberate collaborations with generative algorithms present only a fraction of the overall metabolic exchange. Speaking of prompting from this perspective, we might recall the mediatised statement of OpenAI CEO Sam Altman that polite words such as "please" and "thank you" cost the company tens of millions of dollars in electricity (Wilkins 2025). Every word counts when every image is already an ecosystem.

While "environmentalitarian" and ecosystemic approaches remain broadly relevant to contemporary media theory, generative technologies perhaps necessitate a directly "metabolic" perspective, because their operations link *together* massive sets of data and social flows on an unprecedented scale, while at the same time accelerating the already impending ecological crisis, with every letter and every pixel digesting resources and excreting more pollution

and value. In such an "environment", where "human" creations become metabolised by algorithms that further infect the ecosystem of networked images and collective imagination, the choice between "human" genuineness or "pure artifice" entirely misses the point. Rather, imagination itself increasingly becomes a materially distributed process – an "infrastructural substrate out of which artifice – the artificial, the common ground of art and technics – arises in the first place" (Denson 2024).

In this unstable terrain, artistic research seems to be especially well-equipped for exploring the many metabolic couplings, as it unites conceptual thinking with practice-based experimentation, embodiment, affective responsiveness, and processual documentation. As Pamela Burnard and Carolyn Cooke aptly underline, artistic research can help us recognise "a human/nonhuman entangled phenomenon", as it moves "away from siloed discourses and the colonising binary logic which essentialises and falsely separates research and practice, science and arts, matter and meaning, human and nonhuman" (Burnard and Cooke 2023). The issue at hand thus presents a multiplied joining, not only of arts and theory, affect and concept, but especially of the human and the machinic as they continue to "hang *together*" in multiscalar, metabolic, and increasingly precarious ways.

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