EVERYTHING IS A MATTER OF DISTANCE

A Peer-Reviewed Newspaper, vol. 14, no. 1 (2025)

FREE

transmediale 2025

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Contents

Editorial: Everything is a matter of distance

Authors

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Liminal Data Lives: Aestheticising Trans (In)visibility as Algorithmic Distance

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1. Introduction: Algorithms >< Transness

Algorithms are told to fix, tweak, improve, and exponentially advance our lives, but to trans people, this promise is not a given; for trans people, algorithmic spaces are violent, and at worst, deathly. Behind the veil of neoliberal techno-optimism, algorithms perpetuate colonial and cisnormative legacies of violence that anchor a binary default (Amaro 2022; Hoffmann 2021), where the only possible 'human' within algorithmic systems becomes the white, cisgender human - forcing transness out of existence from not fitting the binary codes making up the valorisation of human life. Algorithms reinscribe automated colonial markers of gender essentialism through facial recognition software to reject trans faces, encode trans bodies as deviant threats in airport security scanners, deny trans people access to crucial welfare services, intimately surveil trans identities, delete trans health data and create messy bureaucratic problems, erase transness through binary digital identification systems, and enact transphobic feedback loops on social media (Andersen 2025; Costanza-Chock 2018; Keyes & Austin 2022; Rauchberg 2022; Shah 2023; Shelton et al 2021; Scheuerman et al 2021). Living with algorithms while trans presents an inescapable precarious unliveability.

Staring from this intervention, the question becomes, how do we carve out liminal spaces in proximity to, but away from the algorithmic gaze of death? How can we create productive spaces of distance to algorithmic violence in a world inherently entangled with algorithms? I suggest an alternative coded rupture from transness itself to conceptualise the aesthetics of trans lives as liminal data lives that enable a strategy of sensing distance to algorithms from the rebellious uncodeability of transness. How might this uncodeability allow us to consider (im)possible ways of living and distance as resistance towards encoding trans liveability?

2. Trans Flesh, Coded Death: Algorithmic Valorisation of Binary Life

Algorithms are technical instructions that order and classify objects and humans into fixed categories; embodied by humans that code them and through the humans implicated by them. Algorithms are immaterial infrastructures of predictions, yet "need to be embodied in some combination of human and/or machine […] in relation to the systems of interpretation and to the bodies that do the interpreting and reacting to the information they provide." (Wilcox 2017, 16-17). In relation to bodies, transness—with its infiniteness, messiness and mutability—works against the operational principle of algorithms and their binary definiteness, fixedness, and immutability, which renders trans people either hypervisible as a deviance or invisible and erased. This imposes a violent gendering of the human in accordance with colonial cisnormative rules of classification as the decision over life and distinction of who should live and who must die by "performatively enacting themselves/ourselves as being human, in the genre specific terms of each such codes' positive/negative system of meanings" (Wynter 2007, 30). Under the contemporary hegemonic code of the algorithmic, the white cisgender human represents a positive symbolic meaning of living, while transness characterises a negative impossibility of life.

Trans people exist as neither-nor in a liminal space within the computational order of life; on one side as *codeable* by being hypervisible in deviating from binary code, which positions trans people as a target for violence through failure to conform to the necropolitical norms and logics underlying the order of life and death in the algorithmic; on the other side, as *uncodeable* as algorithms cannot comprehend transness, but neglects and computes transness to not exist in the first place as a non-life left to die outside of the territory of life - in both instances of (in)visibility, transness is fundamentally uncodeable. In this sense, the algorithmic entitles "identifying norm and multiple deviations from the norm [by deploying] an "architecture of enmity", a drawing of the lines between self/other; us/them; safe/risky; inside/outside" (Amoore 2009, 51). These affective senses of 'improper life' stick to transness from its aberrations from binary structures, hence the trans body is subjected to coded operations of elimination that mark the flesh and strip the trans body of its human possibility as a *coded death*.

3. Liminal Data Lives: Aestheticising the Digital Trans Flesh as Algorithmic Distance

How do we utilise this liminal data space that trans people embody to create distance and inscribe another possible sensing of algorithms? As Fuller & Weizman (2021) argues, aesthetic investigations have a twofold aim as they "are at the same time investigations of the world [algorithmic violence] and enquiries into the means of knowing it [trans lives]" (15). Utilising the aesthetics of trans lives to sense the world of algorithms and critically question the embedded harmful colonial politics underlying its expansion involve "sensing – the capacity to register or to be affected, and sense-making – the capacity for such sensing to become knowledge" (33). Trans bodies, as Halberstam notes "offer fleshly blueprints for the unbuilding of binary understandings" (2018). This operationalisation of aesthetics thus enables us to attend to the affective facets of trans lived experiences with binary algorithms and translate these into productive knowledge for refusal and rebuilding of algorithmic systems.

Trans people—trapped within binary codes of life—inhabit a liminal yet powerful space of sensing the algorithmic world between the visible/invisible; codeable/uncodeable; liveable/unliveable. In this space, conditions of trans 'error' or 'erasure' in contrast to cisnormative data lives encode a distance that encourages strategic fugitive tactics of refusal for algorithmic infrastructures to be resisted and reimagined despite seeming impossible under the current neocolonial techno-optimism; a space where algorithmic infrastructures are troubled, delayed, distorted, and glitched from how transness exists in/against the code. Transness embodies a particular kind of 'in-betweenness' that at once infiltrates the binary code, renders it futile as a technical neutrality or universal truth and effectuates distance to the reductionist algorithmic readability of humanness towards redefining what it means to be(come) human. By not fitting into binary code, transness strategically falls through the coded cracks of life. In this way, transness activates a fugitive resistance against algorithmic violence from embodied investment in failure; cutting over, falling through, going against and obscuring binary flows of code towards building liberatory, autonomous and plural algorithmic futures.

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Comments

[Ruben] Let me caveat my comment by saying I am quite unfamiliar with gender studies literature. I really appreciate how you rethink the aesthetics of trans lives as an entrypoint to examine algorithmic violence. That seems a very powerful take.

What particularly stood out for me as central is how "transness is fundamentally uncodeable." It made me think that, naively(!), one might counter such a claim by saying "you know, Facebook [or instert your favorite social network here] has a neat little select box for that with tens of options to choose from." Thus, they might claim transness is codable. It might be interesting to explicitly contrast such an understanding of how transness is currently algorithmically encoded (which is still in binary terms), with the uncodable transness you describe. Which, for me really resonates when you write "Transness embodies a particular kind of 'in-betweenness' that at once infiltrates the binary code, renders it futile as a technical neutrality or universal truth and effectuates distance to the reductionist algorithmic readability of humanness towards redefining what it means to be(come) human." I would love to hear more about this infiltration of binary code as a mode of resistance you point at here.

For example, one of the cases of gender essentialism you mobilise in the first paragraph is the rejection of trans faces by facial recognition systems. However, would the software be more fair if it actually detects trans faces? Put broadly (and perhaps rather rhetorically), is a critique of algorithmic violence a bug report that can be resolved or does it do something else? For me, this tension becomes very prominent in the work of Mimi Onuoha on Missing Datasets. As a non-expert reader, I believe describing a bit more of the concrete cases of algorithmic violence such as those that you touch upon in your intro (and like Onuoha does) -- thereby getting out of "the algorithmic" as a broad term, and situate your critique in a more concrete algorithmic space -- might make even more tangible how the aesthetics of trans lives provides an entry point into algorithms and the violence they enact.

Choreographing Proximity

Daria Iuriichuk

In this essay, I aim to explore choreographic approaches to distance and proximity as a conceptual framework for engaging with the critical and creative potentialities of algorithmic thinking. Platforms and algorithms, much like choreographic systems, structure interactions by managing attention, (de)constructing affect and production of body taxonomies. Building on André Lepecki's notion of choreography as a 'technique designed to capture actions' (Lepecki, 2017), I examine it as a medium that abstracts movement into data, enabling further technical or creative processes. This perspective allows us to observe the history of body-capturing systems as a whole to examine how they redefine the epistemological status of the body as a pattern and movement as a score. By borrowing from choreography's capacity to render the dynamics of distance and proximity as visible and manipulable, we gain tools to critique how platforms mediate our attention, behaviours, and data. Choreography's historical engagement with questions of power, movement, and embodied agency provides a lens to expose and subvert these mechanisms.

By abstracting bodily movement into data, choreography transforms it into systems of control and knowledge production, shaping behavior by training bodies to perform socially acceptable identities. In Orchésographie (1589), one of the earliest dance manuals by Thoinot Arbeau, choreography emerges as a written form of knowledge transmission. 'In Orchesographie, a young lawyer returns from Paris to Langres to visit his old master of "computation (...) Capriol asks for dance lessons to attain what Erving Goffman called a socially acceptable "performance of the self" – a performance that would give the young lawyer admission into social theatrics, into society's normative heterosexual dancing' (Lepecki, 2006: 25). During the Baroque era, choreography evolved further, functioning as a tool of propaganda (Maravall, 1986). By codifying steps, postures, and sequences, dance emphasized precision, symmetry, and control, aligning the disciplined body with a higher spiritual or intellectual order. As Susan McClary and Robert Isherwood stressed, Louis XIV used dance as a source of political control 'to regulate — and even synchronize — the bodies and behaviours of his courtiers' (McClary, 2023). Similarly digital data aggregated today to mobilize bodies within a fluid logic of surveillance capitalism, where movement itself is harnessed for commodification. In this sense, choreography and algorithms both function as technologies of subject formation, conditioning our behaviors and interactions in increasingly automated and commodified ways.

Responding to Olga Goriunova's political appeal to confront the erasure of the distance between 'digital subjects and the humans, entities, and processes they are connected to' (Goriunova, 2019), I want to focus on the ways of (de)constructing proximity and distance suggested by dance history. From Isadora Duncan's embrace of free movement to postmodernism's celebration of improvisation, 20th-century dance sought to liberate movement from the constraints of choreography. Within this history, a range of strategies emerged to critically reframe the score and construct affect. This choreopolitical approach (Lepecki) enables us to engage critically and creatively with this spatiality of how platforms choreograph our behaviours, distances, and proximities, offering tools not just to analyze but to subvert and reimagine these dynamics in late-capitalist contexts. To what extent can these strategies be applied to undermining the affective economy of platform cultures?

In her book Choreographing Problems (2015), Bojana Cvejić traces the evolution of how dance has engaged with affect, from the modernist focus on self-expression to the anti-expressive and anti-representationalist strategies of American postmodern dance. Cvejić identifies a contemporary synthesis of these opposing approaches in the work of choreographer Mette Ingvartsen. In her performance 50/50, Ingvartsen's naked body becomes a surface onto which various cultural constructions of affect are projected, functioning like a screen. This surface serves as an interface engaging affect not as a representation of artist's emotions but as a object oscillating between distance and approximation. The viewer experiences the affect, but then sees it created. Such post-dance strategies employ affect to subvert traditional notions of expression, using it instead as a means of deconstructing and reconfiguring relational dynamics.

On platforms like Instagram or OnlyFans, choreography of affect becomes a central tool for creating intimacy, often blurring boundaries between public performance and private connection. Some of OF bloggers cultivates a sense of closeness with their audience, by positioning themselves near the camera, constructing the experience, for instance, of lying next to the viewer in the early morning. The choreography is very distinct here: coming very close to the camera, smiling kindly, so that we can notice cute cheeks dimples, and maintaining unbroken eye contact. This technique of approximation creates a sense of presence that is almost uncomfortably intimate, leveraging the illusion of physical proximity to connect with thousands of followers. Though its still a distance. Similarly, technologies like Descript's Eye Contact Feature or NVIDIA's Eye Contact created to correct gaze in video calls, are designed to construct the sense of connection that transcends physical absence. That brings us back to Orchesographie. As Lepecki noticed, choreography as a practice of writing down the dance creates a chance to dance with someone who is no longer present, 'telecommunicational capacity to call the spectral' (Lepecki, 2006: 27).

In Candela Capitán's dance piece SOLAS, approximation techniques are examined from a sobering bird's-eye view. On stage, five webcam performers simultaneously execute their own erotic solos in front of their laptops, connecting with an audience via the Chaturbate platform while performing on stage. Capitán reveals the gap between the digital subject and the labor that sustains it, making this distance strikingly palpable. By exposing the fractured connections and isolating conditions of digital performance, SOLAS lays bare the mechanisms through which intimacy is manufactured, commodified, and consumed in virtual spaces.

Candela's critical gesture is achieved by revealing living bodies behind digital subjects. As Irit Rogoff noticed, the contemporary dance's statement is in insisting on corporeal presence (Rogoff, 2023). But does bringing the body into play necessary for critique? By foregrounding the corporeal presence of the performers, Capitán challenges the disembodied narratives of digital intimacy, raising critical questions about whether reclaiming the body is essential for meaningful critique in the age of algorithmic mediation.

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Comments

[Ruben] It is super interesting how you moblize the idea of choreopolitics to inquire platform work on websites such as Chaturbate and Onlyfans. In particular the relation between absence and presence of the choreographic subject ("a dance with someone who is no longer present") for me pushes me to think about the relationship between performer and audience, both in your case of SOLAS, but also of the platforms in general. It makes me wonder, who is the dance partner? I.e. is the audience of Chaturbate/Onlyfans (who intervenes in the performance by sending compliments, requests and even money) engaged in a dance with the performer? Thus who is the dance partner and who the audience, and how do these roles blur?

In that context, your final question of whether "bringing the body into play [is] necessary for critique?" makes me think of Dholakia and Zwick (2013) who examine a similar tension between (in)visibility of the body as they argue that *ultra-exhibitionism* "is not a negation of privacy but an attempt to reclaim some control over the externalisation of information."

Last is only a minor question for clarification around the relation between expression and affect you touch upon. They are different, but (not coming from the realm of choreography) I wonder how. This might become clear if you use one sentence to explain *how* "Ingvartsen's naked body becomes a surface onto which various cultural constructions of affect are projected", which sounds enticing, but I find it hard to visualise what that entails. For example, I have to think of Massumi's description of feelings, emotions and affects; is your use of affect related to his or is it something totally different?

Image Laundering: Warfare As Backdrop

Katya Sivers

Fig. 1. Screenshot from the Vremya program, Channel One, broadcast on March 14, 2022.

Fig. 2. The screenshot as published on 93.ru, an online media platform based in Krasnodar, on October 4, 2023, with the words "No war. Stop the war. They are lying to you here. Russians against war" pixelated (https://93.ru/text/incidents/2023/10/04/72774863/)

On 14 March 2022, three weeks after the full-scale invasion of Ukraine, Russian Channel One employee Marina Ovsyannikova walked in front of the cameras during the live evening news broadcast of *Vremya* programme, holding a poster with the slogan "No war. Stop the war. Don't believe the propaganda. They are lying to you here. Russians against war." Her gesture mirrored that of a hostage, but instead of a dated newspaper, the live broadcast itself became her alibi, serving as an unambiguous timestamp. Positioned between the anchor and the backdrop, she ruptured the seamless image that the audience had been conditioned to consume.

Ovsyannikova's five-second act, brief as it was, catalysed an immediate tightening of security protocols: live broadcasts were now subject to a mandatory one-minute delay. This adjustment marked the shift to a sanitised, risk-free presentation of the war, transforming it into a sterilised spectacle, much like an OnlyFans platform for viewers seeking safe gratification: "War, when it has been turned into information, ceases to be a realistic war and becomes a virtual war" (Baudrillard, p. 41).

The cynical and instrumental use of media has been fully appropriated by Russian state television channels, turning the war into a carefully curated spectacle. Fabricated backdrops, often digitally constructed, stand in for the reality of the battlefield, with news anchors reading scripts against these artificial settings. Even live segments from war zones are curated to exclude the human costs of war – refugees, suffering, death – while presenting an image of military might that is sleek, polished, and distant. The broadcast unfolds as a performance, where tanks, airplanes, and missiles are reduced to the status of graphic symbols, digital collages, and 3D renderings, as if they are part of an abstract, sanitised narrative. The hyper-saturated, impersonal nature of these representations transforms the war into an event devoid of empathy or human consequence, happening in a realm far removed from the viewer's immediate reality.

This media spectacle is not a new development. It has historical antecedents in Russia's cinematic and media history. One of the most well-known fabrications, Sergei Eisenstein's *October*, for example, reimagined the Revolution of 1917 a decade after it had passed. Commissioned by the October Jubilee Committee, the film became one of the Soviet Union's most ambitious cinematic endeavors, utilising unprecedented resources, including control over an entire city. Eisenstein's montage techniques – combining "montage of attractions" to elicit emotional reactions with "intellectual montage" to provoke deeper associations – produced a fabricated narrative of revolution. But even this idealised version was subject to censorship: Stalin demanded the removal of all scenes featuring Trotsky just before the film's premiere.

The methods that proved so successful in the early days of Soviet Russia were further exploited by the state with historical photographs. Those who fell out of favor with Stalin were erased, their figures scrubbed from the visual record one by one, while the faces of the "enemies of the people" were obscured with black marks (King 1997). This practice persisted for decades, as the image – now a malleable surface – became a tool for the state's narrative control, turning even death into a strategic intervention in the visual archive. With the evolution of media technologies, the dynamic between observer and observed has undergone a profound shift. In response, critical artistic interventions have surfaced, where individuals actively obscure their faces as a tactical resistance against surveillance and the pervasive reach of power structures.

Fig. 3. Obscured portraits from "10 Years of Uzbekistan", an album published in 1934 (Campbell and King)

Today, we witness an accelerated shift in this fabrication of reality. During an October 2024 broadcast, Margarita Simonyan, editor-in-chief of Russia Today (RT), unveiled a startling revelation: RT has abandoned human image editors, entrusting artificial intelligence to curate or create visuals. Moreover, many of the channel's news anchors are no longer human. These AI-generated figures, complete with hyper-realistic voices, appearances, and carefully calibrated personas, epitomize the merger of technological sophistication with narrative control.

Yet, the most convincing manipulations may still emerge from minimally altered footage of real anchors rather than entirely synthetic creations. This underscores a chilling development: the seamless mutability of digital imagery, stripped of detectable artifacts. Within the forensic community, this process is termed *image laundering*, where real visuals are transformed into synthetic counterparts, their original traces meticulously erased (Mandelli, Bestagini and Tubaro). But image laundering is not merely a technical phenomenon; it operates as a larger mechanism of obfuscation, an algorithmic sleight of hand that hides reality in plain sight.

Details are not just altered – they are erased, rewritten, and multiplied, leaving us with an unprecedented sense of disorientation.

Such disorientation profoundly disrupts relationships between participants in visual – and therefore political – communication, what Ariella Azoulay terms the *civil contract of photography*. She describes an image as a multifaceted political practice, and its civil contract as a "hypothetical, imagined arrangement regulating relations within a virtual political community" (Azoulay, p. 23). Yet today, this contract has become more complex. Intricate dynamics now unfold not only between viewers and image producers but also within the very strata of the image itself.

The background – both visual and informational – recalls Arjun Appadurai's notion of colonial photographic backdrops as instruments for experimenting with "visual modernity". Once passive yet pivotal, such backdrops now operate as silent agents of visual storytelling, functioning as "symptoms of power relations" (Anikina, p. 276). In the context of Russia's brutal military conflict, society seems to have become accustomed to living against a backdrop of a distant war, unfolding elsewhere. This learned indifference is fueled by image laundering: a process of meticulous fabrication where the layers of war imagery and the loci of attention are carefully curated and polished.

"[War] is beholden not to have an objective but to prove its very existence" (Baudrillard, p. 32), and yet – one of its purposes now seems to conceal its existence entirely, despite the millions of devices documenting it. State power enforces emotional and psychological demobilization through a new societal contract – one that is, in part, a revised contract of photography in this new type of cyberwarfare (Dyer-Witheford and Matviyenko), situated within the framework of "a world imagined and engineered during the Cold War" (Beck and Bishop, p. 24).

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Comments

[Megan] I found your text highly relevant to contemporary new media theory and analysis. It reads like a polished piece that could easily appear in journals of media-art theory that I frequent online. The opening effectively situates your argument for the rest of the text, providing a rich and engaging starting point for the reader. However, while some sentences in the first paragraph are strikingly clear and vivid, others lean toward being less descriptive, making it harder to grasp the details of the phenomenon you're referencing. For instance, the description of the protester holding the sign—"No war. Stop the war. Don't believe the propaganda. They are lying to you here. Russians against war."—followed by "Her gesture mirrored that of a hostage, but instead of a dated newspaper" could benefit from additional context or explanation. Including a sentence or two to ground the reader in the significance or history behind this event could further enhance its impact.

Your exploration of time-delay as a notion of 'temporal distance,' which facilitates the transformation of information into virtual war, is particularly compelling. It feels somewhat underdeveloped after being introduced though, as thought it was dropped. So, I would encourage to expand on this fascinating and promising concept, as I believe it could add valuable depth to your argument.

I also appreciate how you weave together broadcasting, cinematic techniques, and new media—a refreshing and insightful approach. That said, with the inclusion of photography (as a static medium), I wonder how you differentiate among these media forms. Do you see distinctions rooted in time (e.g., the acceleration of shifting backdrops), movement, or other aspects? Elaborating on this could clarify your analysis of these media disciplines and their interplay.

The concept of image laundering is fascinating, particularly your framing of the shift from the absence of the image to the production of synthetic images. This echoes Deleuze-Foucauldian discussions of the transition from 'societies of discipline' to 'societies of control,' which I found very compelling. Additionally, your exploration of the 'politics of disorientation' specifically caught my attention (as I am also interested in this), especially the following passage: "Such disorientation profoundly disrupts relationships between participants in visual – and therefore political – communication [...] Yet today, this contract has become more complex. Intricate dynamics now unfold not only between viewers and image producers but also within the very strata of the image itself." I would really love to hear more about what you mean by "strata" and how these dynamics have become more complex in your eyes.

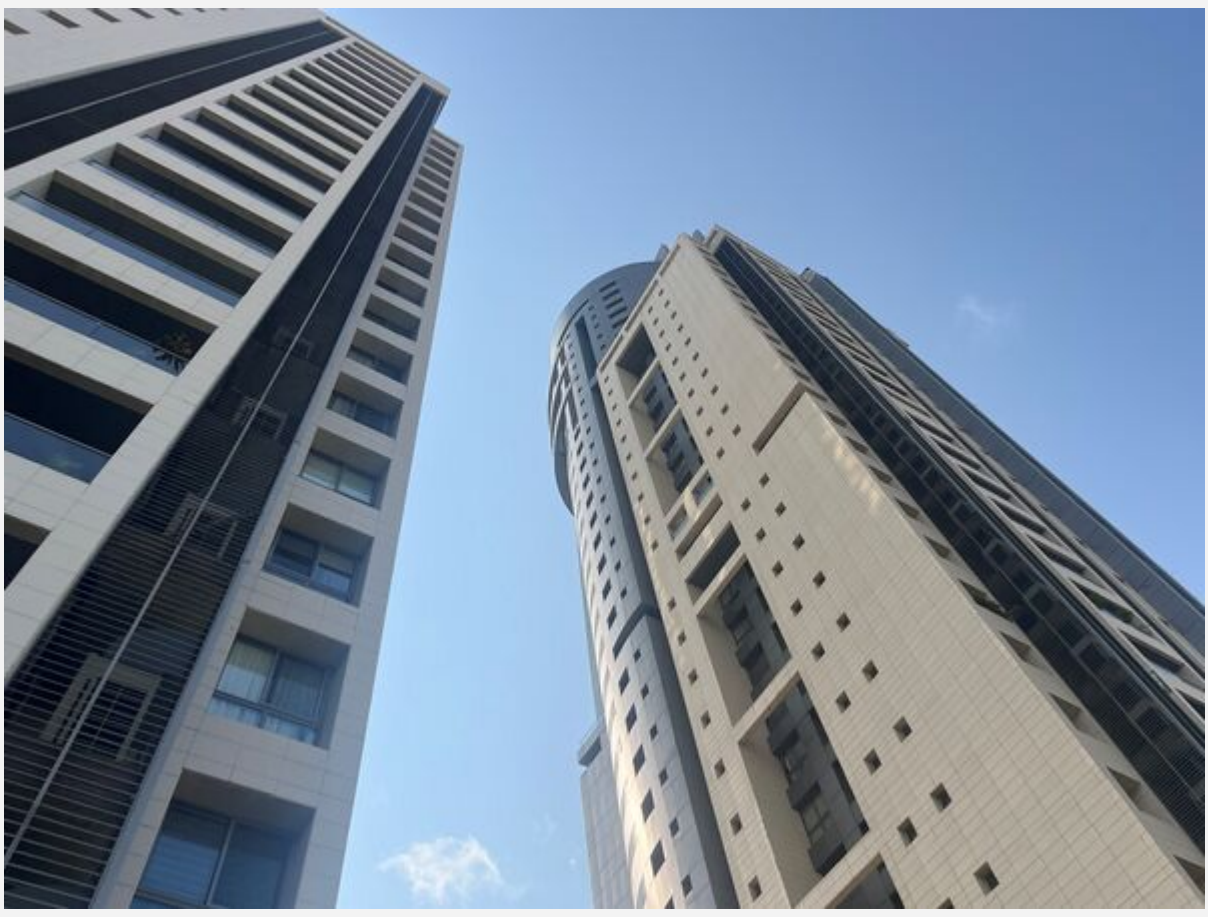
P.S. An angle you might find interesting is Asja Makarević's work on the politics of image construction, accessible here.

Thank you for sharing this insightful work and I look forward to discussing these engaging topics more with you!

Luxury Under Construction

Kola Heyward-Rotimi

The contemporary development of planned city projects, i.e. new urban environments designed from top-down and built from scratch, bears an obvious lineage with modernist projects of the 20th century like Brasilia and Chandigarh, where national aspirations were expressed via architectural schematics that promised a seamless, calculated future. A good portion of contemporary planned cities[1] emphasize their exclusivity, paired with security methods for keeping the outside world at a distance. On the occasion that these self-described enclaves transfer from renderings and pitch decks into the physical world, the land that they are built on is used as if it were a blank slate, regardless of how "blank" it truly is. They peddle enclave fantasies that displace local populations. Hence, planned cities also inherit the lineage of the suburbs, the walled compound, the gated community. They sit between grandiose, new capital construction and the micromanaged design of planned neighborhoods. What warrants closer consideration is how seamlessness of aesthetic vision and lifestyle arises from a planned city and the relationships between its constituent materials, including the physical construction site, the architectural renderings, the engineering simulations, and so on.



Take Nigeria's planned city boom as an example. The country is no stranger to predetermined urban developments, with the capital, Abuja, being one of the most iconic examples, and Lagos having a history of new districts built on artificial land dredged from the ocean. Nigeria's contemporary wave of planned developments has a wide range, many of them being repurposed real estate projects marketed as full cities. Eko Atlantic is one of Lagos's planned neighborhoods, advertised as a full city independent from an older development project, Victoria Island, despite sharing a border. In development since 2013, Eko Atlantic is an active construction site slightly less than half the size of Manhattan. Emphasis on *active*: during my time visiting Eko Atlantic, there was never a view of the horizon that was clear from tower cranes. I took many pictures from the decks of the Eko Pearl Towers, twin skyscrapers in the middle of the construction zone. The Pearl Towers include restaurants, a massive pool, and apartments for sale.

Eko Atlantic has embedded its construction zone within active cycles of social and commercial flows to and from Lagos. This is an act of creating seamlessness, bridging the physical gap between what remains incomplete and what has already been built, and making the concept of "incomplete" irrelevant. What has been built and opened to (rich segments of) the public functions in Lagos's social sphere as a fully realized, high-class destination. Luxury living is made possible in Eko Atlantic through creating an aesthetic seamlessness that does not deny the physical environment's fragmented nature, but perhaps relies on that fact of the ragged edge, the bulldozers and piles of concrete, to contrast the cosmopolitan dining and photo booths.

Creating seamlessness out of a fragmented place could be framed as a generative act, because seamlessness exists as a tangible affect solely through developers and residents successfully imprinting their desired lifestyle across the myriad layers that constitute the city. In the context of the planned city, seamlessness is truly an act of aesthetic transmutation. Writing about how planned cities achieve their aesthetic lends itself easily to "worldbuilding"/"worlding" as verbs of choice, especially in the face of their popularity in art/design scenes ever since their escape from Science Fiction and Fantasy craft terminology. However, it would be misleading to frame this seamlessness as generative without bringing attention to lives that must be displaced, destroyed, or ignored for it to come into being.

The creation of seamlessness in planned cities, which in this case is synonymous with the creation of the "illusion" of seamlessness in planned cities, is the same mechanism which coheres Fanon's white "settlers' town" and black "native town" into the "bifurcated" place of the colony.[2] It is an agent of displacement. The creation of seamlessness in planned cities makes violence more palatable to global media networks, like Netanyahu's architectural pitch deck to replace the cities and lives that Israel burns to the ground in Gaza[3]; Saudi Arabia's NEOM planned city hushing over the exploitation of construction workers and the displacement and killing of locals[4]; the displacement crises occurring across Lagos for new planned developments[5]; and the Thiel-backed "city startup," Praxis, voicing public excitement over Trump's threats to invade Greenland, which would secure them the land to construct their "free city" experiment based on "Arthurian myth."[6]

In an effort to frame the creation of seamlessness in planned cities so that its *displacement* and *violence* is centered, instead of its ability to *create* an affect, it is useful to understand the planned city as a topology of repression. Instead of an aesthetic emerging from the constituent parts, including the people who build, work, and live there, the negative imprint of the land is what truly makes the aesthetic. A planned city that relies on terra nullius logic to justify its existence can only function by suppressing whatever may contradict its claim to the blank slate. Seamlessness is created through tight, interlocking acts of repression embedded within the material, virtual, physical, and psychosocial layers of the planned city.

[1] "Planned cities" is one name out of many for this type of urban development. Depending on the audience and what they are trying to convey about the project, "planned cities" might be referred to as "new cities," "smart cities," "charter cities," etc. I have typically referred to them as "smart cities," mainly to emphasize the technodeterminist ethos that drive their construction. In this piece I mostly use "planned cities" to highlight these projects' historical precedent within urban design.

[2] Frantz Fanon, "Concerning Violence." *The Wretched of the Earth.* (LaVergne: Grove/Atlantic, Inc., 2007).

[3] Daniel Jonas Roche, "Netanyahu unveils regional plan for "free trade zone" with trains to NEOM," The Architect's Newspaper, May 21st 2024, https://www.archpaper.com/2024/05/benjamin-netanyahu-unveils-regional-plan-free-trade-zone-rail-service-neom/.

[4] Human Rights Watch, ""Die First, and I'll Pay You Later": Saudi Arabia's 'Giga-Projects' Built on Widespread Labor Abuses," December 4th 2024, https://www.hrw.org/report/2024/12/04/die-first-and-ill-pay-you-later/saudi-arabias-giga-projects-built-widespread.

[5] Oluwafemi Olajide and Taibat Lawanson. "Urban Paradox and the Rise of the Neoliberal City: Case Study of Lagos, Nigeria." *Urban Studies* 59, no. 9 (July 1, 2022): 1763–81.

[6] Praxis (@praxisnation), “How to transform Greenland into a technological powerhouse, terraforming experiment, and US strategic asset founded on Arthurian myth,” Twitter/X, January 8th 2025, https://x.com/praxisnation/status/1877038352412680567

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Comments

Dead Glitch

Maja Funke

»Dead Glitch« is a research project and a multimedia body of work that was initiated in the forefront of the global event of the 2024 Olympic and Paralympic Games in Paris. In addition to the economic and social damage that this megalomania will have or has already caused in the French capital, the project places the issue of comprehensive algorithmic video surveillance at the center of attention.

Faster [citius]

From July 26 to September 8, 2024, the Olympic and Paralympic Games took place in Paris and other parts of France. In preparation, the French government passed an exceptional law on March 19, 2023 that includes provisions to improve security, situational (crime) prevention and counterterrorist measures (Article 9 to 19).[1] Among them is the »experimental [sic!]« use of algorithmic video surveillance to control crowds at sporting, leisure and cultural events. The trial will run until the end of March 2025 – 6 months after the end of the Olympics, which prompted the increased security needs.

Algorithmic Video Surveillance (AVS) consists of the installation and use of software that executes the analysis of videos to detect, identify or classify certain behaviors, situations, objects and people. The various machine-learning-based applications[2] are mainly used by the police in conjunction with surveillance cameras: either for real-time detection of certain suspicious or risky 'events' or retrospectively as part of police investigations. State-owned railway operators SNCF and RATP are also authorized to use these systems. In practice, AVS aims by law to recognize objects (a suitcase, rubbish), personal characteristics (people lying on the ground, clothing) or events (line-crossing, grouping, arson).[3] Biometric identification allows a person to be recognized in a sample of people on the basis of physical, physiological or behavioral patterns.

While a set of actions and instructions in security infrastructure (or, in new speak: protection infrastructure) sometimes falls into the category of security theatre[4], CCTV at least manifests the increase of state surveillance power.[5] Even with a human in the loop[6], responsibility and jurisdiction are increasingly shifting from humans to machines. However, the mediated image[7] in the security apparatus, among other tools, is meant to control bodies in cities and causes the political, social and emotional detachment of the observer.

Variations de lampadaires, Paris 2024 (*L'infrastructure s'appuie sur l'infrastructure*).

Urban design is updated in the Parisian gaze. What seems to be a streetlamp is no longer a distributor for romantic light, but a surveillance instance in empire green or anthracite. Some five-eyed sentries are special in their materialization of control and freedom and – other than white-bodies cuboids – may not seem dissuasive but rather belonging. A security enforcement with symbolic aesthetic, in the heritage of the penetrability of the urban space in Louis' XIV »Ville Lumière«[8].

Videostill, cropped and sped up. (gif)

While walking Paris in dérive, one might sense the onset of normalization of the New Military Urbanism[9]. Counter observation reveals the banalization of a city who is watching me.

Higher [altius]

Historically, antifascist countermovements emerge in response to a tightening of state security, which often escalates into repressive policies and police violence. While some actors adopt symbolic and sometimes destructive anti-tech resistance, others employ more strategic, system-integrated approaches. With national, legal and investigative powers, »La Quadrature du Net«, in collaboration with local »Technopolice«[10] groups, monitors and campaigns against the expansion of surveillance infrastructure and AVS's spreading . Both work against social control and for a Polis in the sense of a democratic city and pluralistic space as well as freedoms in the digital world.[11]

Anonymity and privacy are vital for freedom like demonstration, movement and expression. Yet, as states adopt surveillance and control systems designed for warfare[12] – driven by security concerns, economic interests, and political goals – privacy violations become the norm. These measures, initially temporary, often become permanent after the state of emergency, treating all citizens as suspects and placing AVS in fundamental conflict with democratic values. The network of dataveillance veils and collective knowledge helps to deconstruct their actions and go beyond the panoptic understanding[13] of surveillance to also include elements of governance.[14] Investigative methods include, but are not limited to, monitoring of decrees, *demandes CADA*[15], *plaintes CNIL*[16], metadata analysis, (technical) jailbreaking, public political debates.

Surveillance video by SNCF, masking in original, cropped and sped up. (gif)

The current legal situation in Paris allows exercising rights by claiming your video data when captured during AI experiments. You must identify when and where these experiments occur to actively participate. The engagement enables the creation of a performative figure in public spaces and becoming acutely conscious of the resulting *Instruments of recognition*[17].

In »Dead Glitch«, a performative character sits with a cat on her lap, a purring robot for people with dementia. Her appearance is shaped by the essence of two literary figures.

Donald Pleasence as Blofeld in *From Russia with love*, 1963 and *You only live twice*, 1967. *The Oracle*, oil on canvas by Camillo Miola, 1880 and *Delphic Sibyl* by Michelangelo Buonarroti, ca. 1509.

First, Ernst Stavro Blofeld, the criminal mastermind with ambitions of world domination and arch-enemy of the fictional MI6 agent James Bond. His white, blue-eyed Persian cat, tenderly stroked, contrasts with his brutal orders, violent actions, and imposing stature. As the head of SPECTRE, Blofeld represents the mastery of information, surveillance, and terror.

Exhibition view, *Voltage! Voltage!*, Westwerk, Hamburg 2024.

Second, the priestesses of Delphi's Oracle , embodying ambiguity and foresight within the world of Ancient Greece. They provided cryptic riddles, with Cassandra cursed never to be believed. Their prophecies, shaped and delivered by priests in a structured format, conceptually mirror how modern data systems process raw information into actionable insights.

Stronger [fortius]

The title »Dead Glitch« alludes not least to the deadly potential for error entailed by trust in these technologies. »Warfare, like everything else, is being urbanized«[18] and the boomerang of urban data surveillance is returning to state borders and war zones[19].

In the EU, migration is treated as a security issue, with the EU Commission intensively researching automated technologies to 'defend' the Mediterranean, one of the world's deadliest border regions, using dehumanized AI-supported methods.[20] In the Gaza Strip, systems like *Lavender* target individuals for killing by disclosing their identities and locations.[21] Concurrently, Russia and China are advancing automated weapon systems, prompting the US and EU to develop similar technologies through NATO. This digitalization of warfare is transforming the role of citizens under the Geneva Conventions.[22]

Script excerpt for a spoken-word performance.

Promoting ethical technology use today does not guarantee that these guidelines will endure. As a comprehensive AI legislation, the European AI Act bans AI systems which exploit specific group vulnerabilities to influence behavior and cause harm, especially those that continuously assess or classify individuals based on personal or social traits over time.[23]

»Video *surveillance* is not a material apparatus, but a practice.«[24]

y/[n], ceramic prototype, Studio view at Cité Internationale des Arts, Paris 2024.

By considering how systems of control are embedded in our daily lives, the research project »Dead Glitch« is working on creative practices that can actively contribute in proximity to social justice and individual autonomy in the age of surveillance. It critiques the shifting responsibility from human oversight to autonomous AI systems in surveillance practices in these expanding, extrastatecraft[25] visions. It acknowledges surveillance images as *actants*[26] emphasizing that their imaginary sphere of phantasms, superstructures, and ulterior worlds exerts a tangible, worldmaking effect on the real.

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Comments

[Ruben] I really like how you describe how the concept of the city as a public space is changing. The fact that by adding cameras, the idea of the romantic city, the city of the flâneur, has shifted. Contemporary city management seems to have different expectations of what public space is and does.

Your description of how you claim CCTV data by using GDPR regulations sound like a wonderful strategy of resistance. I would love to hear more about how this is a laborious endeavour, both for you *and* the city; thereby slowing down the cogs of the surveillance machine. As it functions as a strong example of what "surveillance as a practice" entails, and how CCTV is so much more than mere technology, but a site of contestation.

Matīss Groskaufmanis

An image is not a building, and a building is not an image. Yet, the ongoing enmeshment of computational and material worlds suggests they may not exist too far apart either. The realm of corporate software platforms—whether digital twins of buildings, cities, landscapes, or even the entire planet—relies on increasingly accurate replicas of reality. More fidelity means more data, which, in turn, means better information. Increasingly, every object in the world, no matter the scale, type or form, is mirrored by an operational version of a digital twin—proteins, pacemakers, microchips, wind turbine blades, cars, rainforests, and buildings and cities can this way participate in management, simulations, and stress-tests independent of the laws of physics, space, or time. In other words, while it remains speculative whether our social reality is itself a computer simulation, it is already certain that we live within a constellation of simulations that replicate parts of the material world.

Such replicas of reality depend on software. Over three decades ago, during the utopian enthusiasm for cyberspace, David Gelernter (1992) predicted that fractions of reality would be subsumed by simulated environments. He termed these software environments "mirror worlds," i.e., worlds that would mirror reality and contain information akin to a database run as a simulation. When describing the user experience of the mirror world, Gelernter identified five conceptual building blocks: (1) deep pictures, (2) agents, (3) history, (4) experience, and (5) a connective idea that ties these elements together. The most fundamental building block, deep pictures, functions much like a digital twin model of a building; they can be interacted with at multiple zoom levels, perspectives, and time scales, including the ability to rewind and accelerate time. Deep pictures are dynamic databases containing entire living worlds that never remain static, and from today's perspective, they are not different from software platforms and protocols that shape most of today's built environments.

Architecture's deep pictures can also be inhabited; they can contain cities. In 1998, the Dutch architecture practice MVRDV presented a speculative urbanism project, "Metacity/Datatown," which envisioned a digital twin of a hypothetical city "based only upon data." (Maas 1999, 58). Unlike today's smart cities or smart landscapes—infused with sensors and tethered to metrics and dashboards—this project relied on the premise that the increasing density of communication infrastructures and computational power would likely alter the meaning of urban space itself. As the architects' imagery suggested, converging cities around the globe might merge into a global "metacity," with its data footprint constituting "Datatown," governed entirely by statistics, diagrams, and information. In this way, "Metacity/Datatown" exemplifies a built environment where representation and operation converge. While none of the 1990s cyberspace utopias have fully materialized in contemporary built environments, the influence of these ideas on today's corporate software platforms is undeniable.

Most buildings nowadays are built at least twice—first as a model, then as a physical object. Both instances contain identical information, with the difference being how the information is stored: as data or as physical matter. The first instance of a building relies on sophisticated data structures, software platforms, and networks. The second instance, the physical building, involves coordinating material resources and labor to assemble objects in accordance with the prescriptions of its digital replica (Bernstein 2017, 35). This setup differs from traditional conceptions of architecture, where sets of drawings and specifications eventually materialize into a built form. John May (2017) attributes this shift to the adoption of electric media and computation, resulting in the displacement of the architectural drawing by a real-time image sustained by technical systems. Unlike physical gestures inscribing information onto paper, the real-time image exists as an electric signal, statistics, data processing and storage, and networked software infrastructures. May (2017) frames this as a shift from ortography to post-ortography, where images and models are the same thing, and are no longer based of physical gestures (of drawing, reading), but rather on electronic signals stored as data. In other words, all architecture is a simulation and an abstraction of the reality through computation.

An example of real-time architectural imaging is building information modeling (BIM) technology. Cardoso-llach (2017) has termed BIM files as "structured images" that are both numeric and visual at the same time. When completed, the first instance of the building exists as multi-dimensional image, where every door knob, floor tile, column or window is held together by parametrically defined interdependencies. Not unlike an MMORPG video game, BIM functions as a network where actors interact by manipulating symbolic representations of buildings and their components. All interactions—and conflicts between intersecting building elements and systems (known as "clashes")—are mediated by the central model, which serves as a register of truth. BIM models form the foundation of digital twins; they contain all possible information about a building, including material composition, quantities, and dimensions, extending into time-based simulations, carbon accounting, automation, cost, and other performance metrics. However, in BIM and other environments like neural networks, the representation of any material object as data, as K Allado-McDowell (2023) points out, requires "reducing the object to its dimensionality." A house, for instance, can exist in virtually infinite dimensions as data. Yet, to make it legible as a space, it must be reduced to three dimensions—and further reduced to two or even one dimension to represent its value or other parameters. (Ibid)

It is no coincidence that architecture and video game industries increasingly share techniques (rendering, modeling), software (Blender, Unreal Engine), and concepts. For instance, "Level of Detail" (LOD) describes the degree of detail in digital assets. In video games, LOD values depend on polygon counts, texture resolution, and overall graphics performance. Similarly, in the mirror worlds of architecture, LOD measures realism or the degree to which a model represents reality. In BIM environments, an LOD of 100 suggests approximate geometry, while an LOD of 500 corresponds to "as-built conditions" and may function as a legally binding register of construction quality. A high LOD in a digital model is analogous to high resolution in a digital image; a higher value implies a more accurate representation of reality.

Yet even the highest LODs of mirror worlds fall short of matching the material reality governed by the laws of physics. Tethering more material and finer scales to real-time electronic images remains a fundamental challenge, if not an impossibility, for the technological project of the mirror world. Physics dictates that atomic and subatomic structures of matter function differently from computational concepts like pixels, vectors, meshes, textures, and simulation engines. While the mirror world is computed via electronic signals, rendered in polygons, and displayed on grids of illuminated squares, the second iteration of the building contains information encoded not as data but as the properties of physical matter and the techniques for manipulating it. Despite the connections between cyberspace, digital twins, and the material realities of the world—via data flows, sensors, robots, screens, and more—they often operate on incompatible protocols and systems. This divide is more than a technical obstacle; it underscores a fundamental dissonance between the tangible and the symbolic. Perhaps, forms of deep pictures already have come to life, and what architects need are deep infrastructures to make a meaning of them.

✺✺✺

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Comments

Fused Horizons: Narrating Pain, Toxicity and Unavoidable Intimacy in the Anthropocene

Maya Erin Masuda

We live in the age of bio-molecular politics: bodies and desires are designed and controlled by pharmaceutical and pornography industries, which Paul B Preciado refers to as “pharmacopornographic regimen”(Preciado, 2013). While Preciado emphasizes the semiotic and biotechnological interventions into individual bodies, Michelle Murphy turns to the (un)even spatio-temporal distribution of chemicals across specific sites —yet, the two theories exhibit a significant resonance. Murphy defines “chemical infrastructure” (Murphy, 2015) as "the spatial and temporal distributions of industrially produced chemicals as they are produced and consumed, and as they become mobile in the atmosphere, sele into landscapes, travel in water ways, leach from commodities, are regulated (or not) by states, monitored by experts, engineered by industries, absorbed by bodies, metabolized physiologically, and as they bioaccumulate in food changes, break down over time, or persist. "(Murphy, 2015) . What unites these two theoretical perspectives is that they both understand more-than-human bodies as the socially constructed artifacts of larger biopolitics and molecular intervention. Mel Chen calls such interconnectedness of body and chemical as “molecular intimacy” (Chen, 2012) shedding light on the autonomous behaviour of toxins that circulate, fuse and destabilize the existing systematic order. Chen writes, "Environmental toxicity and environmental degradation are figured as slow and dreadful threats to flesh, mind, home, and state. Myths of immunity are challenged, and sometimes dismantled, by transnationally figured communicable diseases, some of them apparently borne by nonhuman animals. (Chen, 2012)".

Drawing on the above discourses, vibrant matter such as radioactivity that mutates and transforms bodies could be considered as an example to the “molecular intimacy” (Chen, 2012), which in other words, what Chen calls “marriage of body and chemicals” (Chen, 2012). The significance of these discourses lie in their ability to foreground the large-scale body of systems that impose chemical intervention into each material body. For example, Chen’s investigation into mercury contamination underscores how these interventions, though localized, are symptoms of larger, concealed systems. (Chen, 2012) The Fukushima Daiichi power plant explosion, which I have been investigating, also revealed the colonial dynamics of energy extraction, transferring resources from the marginalized regions to the municipal center of Tokyo (Nakajima, 2017).

My artistic question revolves around the negotiation between such large scale biopolitics and each of the situated, material bodies. As an interface of such negotiation of scales, through my creative practice I have explored the many ways in which more-than-human surfaces such as human, animal, or landscape, planetary skin, serves as a witness to the surrounding biopolitical conditions. As bodies’ primary interface with the environment, skin plays an essential role in sensorial, immunologic, barrier functioning, exposing bodies’ inevitable intimacy, vulnerability and interconnectedness with the environment (Zhang et al., 2022). Unlike any other material evidence, skin also reflects on personal, psychological aspects of environmental trauma, enabling intersectional experiences to be registered on its surface. In addition, following the vast utilization of satellite images in court cases concerning polltions (Purdy & Leung, 2013), the notion of skin has a potential to be expanded reflecting on more-than-human gaze, including planetary surface and landscapes.

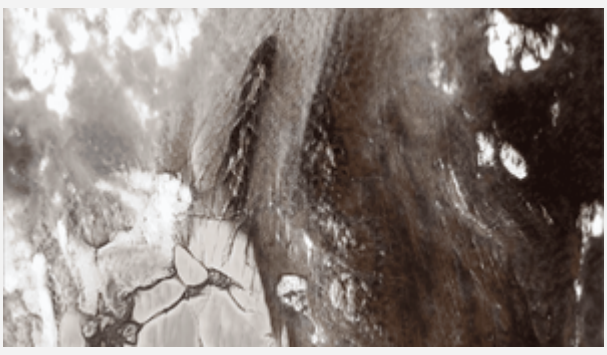

Figure01, excerpt from The Borderers (2024). courtesy of Maya Erin Masuda

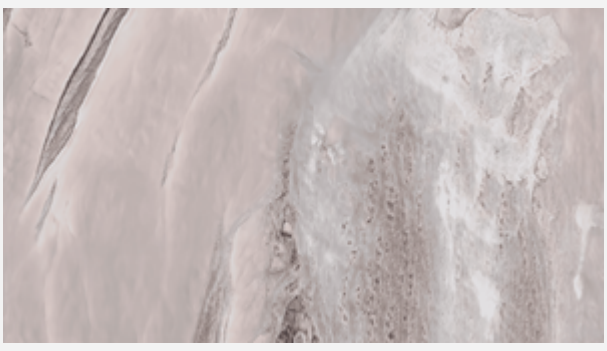

Figure02, excerpt from The Borderers (2024). courtesy of Maya Erin Masuda

The Borderer, the work which I presented in collaboration with Daiwa Japan Foundation, was a work to problematize the unavoidable multispecies intimacy in the anthropocene through formulating speculative surfaces of an anonymous land. In my artistic investigation, I trained a generative AI model using 2,500 microscopic photographs of skin abnormalities from animals left behind after nuclear catastrophes and 2,500 satellite images of planetary surfaces where historically severe contamination has been experienced. This process generated over 5,000 photographic outputs, residing in the ambiguous grey spectrum between skin and landscape[figure 1.2]. What struck me most was how the computational gaze of generative AI—through its pattern recognition capabilities—constructed an alternative skin, perceiving and formulating it with an intimate, almost caressing gaze. In their eyes, blue bruises on the body and blue container of contaminated soil function in a similar manner: the scales fused, therefore critically examining the gravity of anthropogenic activities that often transforms the entire landscape even departing from molecular level. The photographs blur the lines between tumors and mountains, producing uncanny surfaces where beauty and toxicity coexist, leaving room for speculation.

How could we comprehend such uncanny surfaces created by human-AI collaboration on more-than-human skin? Mel Chen’s theoretical framework might again offer a vital lens. Chen’s concept of animacies critiques the stigmatization and exclusion of mutant bodies, particularly their deformities, illnesses, and toxicity, which Chen conceptualizes as “toxic queerness.” (Chen, 2012) Chen’s interpretation of queerness resonates with another environmental scholar, Heather Davis’s discourse on a future based on non-reproduction (Davis, 2022). By focusing on the inheritance of spatiotemporal distribution of chemicals, Davis opens a pathway to perceive various non-human entities impacted by the Anthropocene as “queer kin” (Davis, 2022) of humankind. This reimagining of kinship, untethered from reproduction, allows us to understand ecosystems as networks of circulating molecules and explore the ambivalent intimacy that emerges within these entanglements.

Recapitulating Chen and Davis's insights, this 'queer' inheritance does not abject the historical traces of toxicity it bears. Instead, it highlights an Anthropocene where the very constructs of 'distance' and 'scale' are disrupted and reimagined. This unsettling, speculative skins generated with AI, may uncover this painful intimacy—one inevitably intertwined with the presence of toxicity.

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Comments

[Ruben] Your work on the Borderers is fascinating! Taking the "surface" to draw a parallel between the human skin and the landscape as planetary skin is very powerful. "Mother Earth" becomes almost literal. I love this description of the effects of your work: "The photographs blur the lines between tumors and mountains, producing uncanny surfaces where beauty and toxicity coexist." I think it is great you explore the link between critical work on normal/abnormal bodies (in addition to the work you mobilise I have to think of the work by Canguilhem and Annemarie Mol) and the planet's surface.

If anything, I was wondering what your take on the notion of "toxicity" is. In the first paragraph you describe chemicals and toxins that circulate and accumulate in food chains. Pushing your argument of queer kin, you could even argue that from a more-than-human perspective denoting particular chemicals as desired and others as toxic/foreign/unwanted is a political act. E.g. toxic for who? I have to think of how in the aftermath of Chernobyl the area actually rewilded. In a similar vain, the line between toxin and medicine is a thin one, and often merely a matter of degree. Thus, what is "healthy" nature and what is toxic is not black and white but often dictated by us/humans.

Folded Distances, Techno-Rhythm, and Networked Aesthetics

Megan Phipps

Intimacy and Distance in Networked Rhythmic Space

The techno-aesthetic experience of the networked rave is a dialectic of intimacy and distance, a dance of spatial and rhythmic dynamics that oscillate between proximity and separation, individuality and collectivity.The foggy dancefloor, saturated with recursive rhythms and stroboscopic flickers, exemplifies what Henri Lefebvre terms *rhythmic space*: a site where collective resonance dissolves rigid spatial boundaries while simultaneously reasserting the interplay of center and periphery. Distance here is not erased but folded, stretched, and reframed within industrial-mechanical recursive cycles of sound and light, producing what Gilles Deleuze describes as *potentialized spaces* within expanded multimedia environments or what Fred Turner deems 'democratic surrounds' (Turner, 2013). Techno-aesthetic events transform physical space into rhythmic space by creating transitional virtual territories that blend land, space, and cultural identity—as seen in Germany's Tekknozoid (see Fig. 1-2) and Mayday festivals. These spaces operate on a logic of potential emergence, where rhythm as recursive movement serves as both structuring force and site of disjunction—a deterritorialized zone of molecular motion where identity, agency, and perception are rendered as buffer elements and recalibrated. The techno surround-sound is once liberating and oppressive: it promises escape from the external forces of surveillance, capitalist time, and social judgment, while simultaneously demanding submission to its mechanical rhythmic recursion.

Figure 1: Tekknozoid Flyer from the year 1991. The Peter Rubin Collection. Amsterdam: Eye Filmmuseum Collections Center.

Figure 1: Tekknozoid Flyer from the year 1991. The Peter Rubin Collection. Amsterdam: Eye Filmmuseum Collections Center.

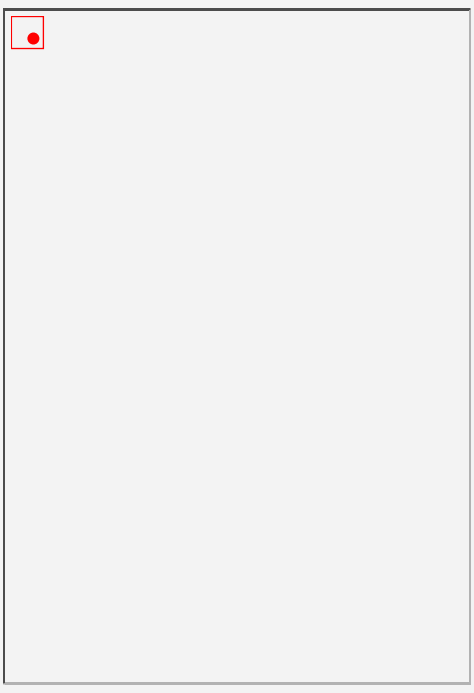

Figure 2: Tekknozid Flyer aus dem Jahr 1991, Archiv Mike Riemel

In these techno-events, virtual augmentation as modes of communication reconstructs proximity through rhythmic entrainment, transforming collective movement into shared sensory experiences—a *distributed intimacy* mediated by rhythm and audiovisual affect (Reynolds, 1998; St. John, 2009; Butler, 2006; Garcia, 2020; Thornton, 1995; Gaillot, 1999; Holl, 2017). Simultaneously, distance manifests as resonant intervals—liminal suspensions of flickering beats, fragmented gestures, and remixed imagery. Layered visuals and recursive oscillations that evoke a liminal Fold, compressed in density and entangled across movement, time, and space (Deleuze, 1988). Teetering between proprioception and vertigo, these folded distances exemplify what Anna Munster calls "network anesthesia," (Munster, 2013) where rhythmic ecstasy and numbing simultaneity converge. This network-disorientation functions as both 'techniques of ecstasy,' granting access beyond everyday 'real' experience, and the numbing simultaneity of nodes, links, and flows, which obscure uneven relationalities from local to global. Rooted in a lineage of sampling and splicing, such techno-aesthetics transcend the traditional cinematic *dispositif*, redefining mediated spatial boundaries within a vast, liquid network of virtual visuals. In these recursive configurations, ambiguity becomes both a provocation and a site of potentiality, reframing the audiovisual image as an abstract-virtual phenomenon.

In addition to representational aesthetics of promotional materials (see Fig 3.), experimental filmmaker and video/media artist Peter Rubin's organizational contributions and experimental visual encapsulate these dynamics. Featuring split-screen panels and rapid rhythmic alternations, Rubin's video works, such as *Mayday VisionMix 1* (see Fig. 4), anticipated today's techno-aesthetics: hypermodulated, synthetic visuals traversing a "sea of data" (Steyerl, 2016) —a corpuscular media-ecological fog (Massumi, 2002; Gibson,1952) of disarray. These slippery, sticky (Rushkoff, 1996; Munster, 2013), over-saturated and hypermodulated techno-images float within vast networked assemblages as 'groundless' (Gil-Fournier & Parikka, 2024) configurations layered with ambiguity and abstraction. Depth maps, shadow buffers, and texture layers reimagine optical phenomena, producing visuals oscillating between hyperrealism and abstraction, functioning as "living surfaces" (Gil-Fournier & Parikka, 2024) merging cybernetic principles with expanded audiovisual ecologies.

Figure 3: Dreamscape Flyer from the year 1995. The Peter Rubin Collection. Amsterdam: Eye Filmmuseum Collections Center.

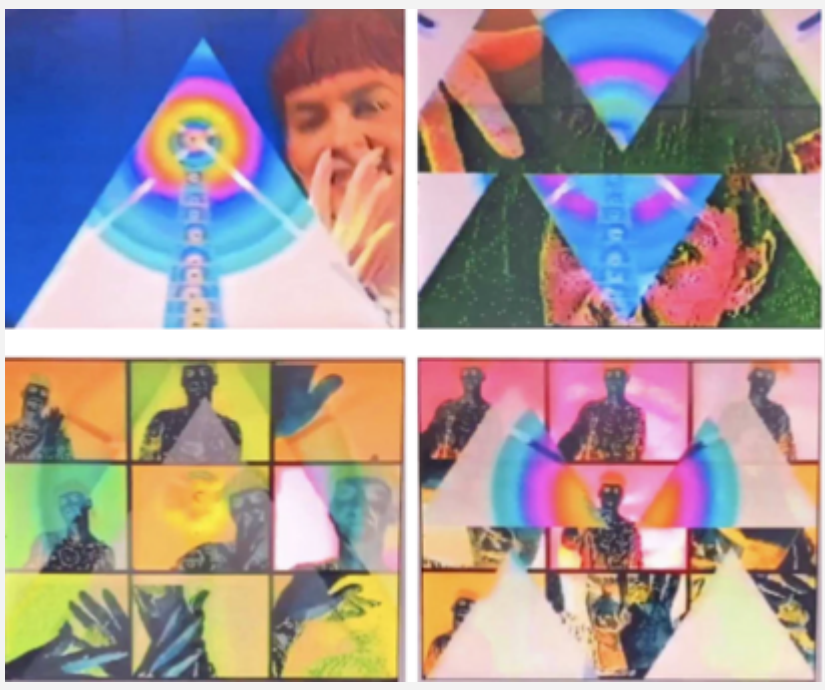

Figure 3: Dreamscape Flyer from the year 1995. The Peter Rubin Collection. Amsterdam: Eye Filmmuseum Collections Center.

Figure 4: Peter Rubin. Mayday Visionmix 1 (curated selection of stills). The Peter Rubin Collection. Amsterdam: Eye Filmmuseum Collections Center.

The Pulse of Techno: Biological and Digital Rhythms

Rhythm, however, extends beyond the temporal patterns of a techno beat; it embodies Gilbert Simondon's concept of "allagmatic operations," systems of internal resonance mediating the interplay between organic and machinic domains (Simondon, 1989). These operations emphasize the dynamic process of individuation, where rhythm acts as a connective tissue bridging disparate systems. Luciana Parisi expands this framework, situating networked sensation within transductive interactions of biological and digital rhythms, described as "technoecologies of sensation" (Parisi, 2009)—snapshots of perpetual motion in which "the residual rhythm" traverses "the sensing-thinking regions of a body." Historically, rhythm has served as a critical mediator of these intersections, as illustrated by Étienne-Jules Marey's 19th-century sphygmograph (Fig. 3), a device that transformed the imperceptible rhythms of the body into visible, quantifiable traces (Cowan, 2013). Marey's work not only externalized internal processes but also laid the groundwork for understanding rhythm as a transductive force, connecting physiological flows with technological systems—a precursor to the recursive interplay seen in contemporary techno-culture.

Figure 5. Étienne-Jules Marey, sphygmograph for the direct transcription of pulse curves. (Source: Wikipedia)

This transcriptive logic dominates virtual-digital networked environments, where rhythm governs data flows. Foundation models like OpenAI's GPT-4 and Google DeepMind's Gemini abstract knowledge through recursive feedback loops, uncovering patterns across chaotic datasets. Notifications, curated feeds, and gamified attention exploit haptic surveillance of bioinformatic rhythms to perpetuate capitalist desire and manipulate psychological responses. Geolocation tracking in apps like Google Maps or Strava syncs organic movement with machinic processes, reinforcing proximity, control, and mediated experience. Social media platforms foster reconfigured intimacies through rhythmic cycles of asynchronous interactions, while real-time platforms like Twitch enhance presence through shared temporal pulses. These techno-rhythms blur distinctions between physical and virtual, organic and mechanic, challenging notions of embodiment and agency, and redefining non-verbal communication as individual boundaries expand within a *techno-sensory web* at networked planetary

scale (Hui, 2024), a web that risks technocratic commodification admist platform capitalism.

This political-aesthetic history highlights the media-epistemological shift from linear input/output models to recursive feedback loops that traverse expanded distances and foster networks of distributed intimacies. New media communication technologies and networked sensorial techno-aesthetics reshapes potentialized space by decentralizing the cinematic frame, dispersing images across interconnected systems. Techno-rhythm mediates the entanglement of proximity and distance, reshaping intimacy, communication, and collective experience in networked environments. From historical technologies like Marey's sphygmograph to Rubin's experimental visuals and contemporary AI, techno-culture redefines the interplay between organic and machinic systems. Recursive feedback loops, algorithmic flows, and interactivity enable dynamic, non-linear assemblages of perception and meaning extending beyond the screen into immersive environments. These techno-images destabilize fixed sensory frameworks, functioning networks of communication that pulse rhythmically and merge cybernetic principles with expanded audiovisual ecologies. This shift marks a transformation in the ontology of trance: from bounded cinematic frames to pervasive networked conditions embedded within *folded distances*.

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Comments

Induction of Sonic Distance

Nico Daleman

The current text examinates the concept of induction, both from a technical and a theoretical perspective. This inquiry stems from a personal interest in noise reduction algorithms– such as those found in Active Noise Canceling (ANC) headphones– and their increasing prevalence in our everyday lives. Unlike conventional headphones, noise-canceling algorithms employ a miniature microphone to capture ambient sound, which is then processed and "removed" from the desired signal. This requires a two-step process of transformation: first capturing an environment sound and converting it into digital data, and later reproducing the processed digital data into sound. The resulting signal comprises the "desired signal" (e.g. music, speech) and the environmental information in its inverse negative "denoised" form.

The central argument of this project is that by artificially *reducing* acoustic noise and cleansing sonic environments, ANC algorithms are *inducing* a different kind of noise into our perception of reality, manifested in a parallel sonic reality, a sonic distance, which, although sensible, is contingent to the biases imposed by the algorithm. In order to develop this argument, it is necessary to introduce a few (re)definitions.

First, noise refers to a broader categorization that goes beyond the acoustic and the informational and encompasses social and cultural dimensions. Cécile Malaspina differentiates between noise as a qualitative measure of sound and a quantitative measure of information in relation to noise, where the first measures noise as an object of perception, the latter measures a relation of probability. (Malaspina 2016, 154). As a perceptual phenomenon, noise is always culturally and historically contingent, as Mark Hagood notes: "Noise is *othered* sound, and like any type of othering, the perception of noise is socially constructed and situated in hierarchies of race, class, age, and gender." (Hagood 2011, 574). Consequently, noise-cancelling algorithms have the potential to reconfigure our sensory experience of noise's socially constructed demarcations. For Jacques Attali, noise is an act of violence, disruption and disconnection, an interruption of a transmission (Attali 1979, 26). Within ANC algorithms, the violence and disruption is found in the compulsory modification of the inherent environmental sounds of our everyday life (crowds, traffic, soundscapes, etc), which might or might not be *perceived* as noise.

Second, induction is considered within the context of Gilbert Simondon's theories of individuation. This in contrast to a more technical definition, of electromagnetic induction, which nevertheless also relates to technical functionality of audio technologies such as speakers and microphones. Technically, induction refers to an electromagnetic phenomenon in which a changing magnetic field generates an electrical current. This form of induction is also the underlying principle through which unwanted signals (i.e. noise, disturbance) are generated into an electromagnetic system (c.f. electromagnetic interference). Conversely, Simondon considers induction within his philosophical theories of individuation, a process which is afforded by a transductive method (Simondon 2020). For Simondon, induction is a unidirectional process: it generates plausible realities for individual observations and cannot content with heterogeneity. In ANC, the unidirectional inductive process is exemplified by the transformation of environmental sound into a simulacrum of reality. The outcome of this process is pre-predetermined by the algorithms' embedded observations and presented afterwards as a virtual reality.

The inductive algorithms that process the noisy environment introduces noise into the resultant reproduced listening signal, by negating the processes of *transduction,* defined by Simondon as "a physical, biological, mental, or social operation through which an activity propagates incrementally within a domain." (Simondon 2020, 13). Transduction provides the basis for an explorative thought which is not necessarily teleological or linear, and which allows for reconfigurations of new structures without loss or reduction (Simondon 2020, 15). In Simondon's words: "the veritable limit of induction is plurality in its simplest and most difficult form to cross: heterogeneity. As soon as inductive thought is faced with this heterogeneity that it must resort to transductive thought."(Simondon 2005, 127)

Finally, the induction of sonic distance the refers to a form of alienation, and the imposition of an inductive sonic reality, which is already determined by technology, and is one that carries over the implicit biases of its teleological functioning. Withing this framework, listening could be considered as a fundamental transductive act: not in the actual transformation of from acoustic energy to electric neuronal signals, but also a process of individuation. If listening as a transductive process is understood as cognitive labor, noise canceling algorithms reduce this process to an inductive one, where validating the algorithm's mechanism of signal processing becomes the objective. Like so, this kind of inductive listening removes the agency of the listener and alienates the subject from the product of its own labor, i.e. the transductive exploration of the listening act itself, interrupting the process of individuation by generating acoustically isolating and socially alienating the individual.

Mark Hagood considers noise canceling technologies as mechanisms through which personhood is created and reinforced, enclosing the self and protecting it from the increasing sources of environmental noise (Hagood 2019). Hagood also differentiates between traditional narrative media that entertain or inform, and current forms of media that not only try to make the medium invisible, but also try to invisibilize the content itself creating a perceptual absence. (Hagood 2019, 22) Concretely, the signal processing of environmental sounds as an act of content creation through re-synthesis is deemed to be invisible.

Ultimately this noise is induced by the complex dynamics of the creation of the sonic distance through isolation and alienation and its invisibilization and naturalization, as a re-representation of reality of which the used is not actively aware. Listening as a transductive process of intuition, discovery and becoming, affords an exploration which "discovers and generates the heard" (Voegelin 2010, 4). This conflicts with the inductive method imposed by ANC, which implies a loss of information: there is a deaf trust in the algorithm's consideration of noise, which is not accessible by the subject's perception.

ANC algorithms are distinguished by their active awareness of its surroundings and the digital transformation that make possible its re/synthesis and actualization of a parallel reality to create a virtual personal sonic space. Instead of by negating its surroundings by reemploying its acoustic content as with headphones for media reproduction (Hosokawa, 1984), the listening process the process of transduction and individuation is relegated to the algorithm's contingent biases. The promise an expreienece of individual calm, is only archived by the simultaneous violenent and disrruptive imposition predetermined biases of algorithmic mediation. i.e. the induction of noise. By replacing exploratory listening with synthetic experience, this induced sonic distance not only alters our relationship with our surrounding soundscapes, but also induces "noise" in the form of alientaion of our senses.

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Comments

[Ruben] It's a very nice framework that you develop here. I've always been intrigued by Simondon's induction and transduction and it's nice to see them applied here. If anything, as a reader, the first part of your text left me wondering whether you already intend this section as point of technology critique or whether you merely want to (re)define the aims of ANC in terms of your conceptual framework. For, it seems to me that "listening ... as cognitive labor" and "generating acoustically isolating and socially alienating the individual" are often precisely the aims and claims of ANC products -- i.e. to isolate oneself at work by instituting a sonic cubical.

As a possible way to expand, I'd be curious to hear more about the difference between ANC and playing music, or brown/white/purple noise on your headphones as a means to isolate oneself? Is there a particular characteristic that is different from locking oneself out with ANC than what these forms of noise also do?

Moreover, your text made me think of "I'm Sitting in a Room" by Alvin Lucier. It would be great to hear the ANC edition. For example, I can imagine different brands/tech have a different effect on the audio, as they have different filters for what counts as noise. Such a media take would not see them as pristine filters, but exploit their glitches/failures as a means to explore their normative effect.

[Megan] I thoroughly enjoyed reading your text—it's both well-written and exceptionally clear! I was particularly impressed by how you balanced such denseness with clarity (a hard tightrope to walk). Your exploration of ‘noise’—its absence, its relationship to signal-to-noise, and its connection to ‘ambience as distance’—is both intriguing and original. Given the brevity of the piece (1000 words), I understand that some details and descriptions had to be omitted. However, I wonder how you conceptualize and historicize this notion of "ambience." Including a definition or a citation related to your use of this term could add depth and context to your theory.

I also found your reflections on the ‘everydayness’ of ANC particularly compelling. They brought to mind Henri Lefebvre’s rhythmanalysis and Deleuze and Guattari’s discussions of rhythm. Both explore the monotony, urban hum, and constancy embedded in everyday experiences. Are these frameworks part of your consideration? If not, they might offer useful parallels to expand on this theme.

Regarding your discussion of ‘noise as othered sound’ and the violence inherent in its reconfiguration within the ‘(hereto)normative’ soundscape, I feel this concept could benefit from more explicit articulation. Specifically, the connection to ‘probability’ is somewhat underdeveloped at present. With that being said, your phrasing of ‘pre-predetermined’ is very clever and shows promise in helping to encapsulate this complexity. Clarifying this could strengthen your engagement with Simondon’s notions of transduction and individuation—a section I found particularly informative and thought-provoking.

On a related note, I would suggest adding citations for terms like ‘simulacrum’ (for readers who may not be familiar) and ‘alienation.’ For the latter, references to thinkers like Max Weber or Yuk Hui could be helpful. These additions could ensure accessibility while encouraging readers to explore these ideas further. Your linkage of ‘alienation’ to noise is highly promising, and I would encourage a deeper exploration of this connection.

Finally, I noticed a potential tension in your framing of Simondon’s induction as a ‘unidirectional process’ generating ‘plausible realities’ of non-heterogeneity. You contrast this with the ANC algorithm’s creation of ‘non-noise’—a pre-predetermined and virtual reality—arguing that it induces a heteronormative and fixed sound environment. This raises intriguing questions about how induction and the virtual relate to the infinite potential of non-heterogeneous realities. Untangling this tension could yield rich theoretical insights and further enhance your argument.

Overall, your examination of induction and reduction, signal and noise, and the reframing of sonic desire is fascinating. I especially appreciate how you categorize the ‘absence of sound’ as an emergent concept shaped by the recognition of undesired sounds and their transformation into ‘new sound.’ This reminded me of Gordon Pask’s 'To Evolve an Ear' experiment, where electrochemical devices with emergent sensory capabilities were used to distinguish between environmental stimuli.

P.S. Although not directly related to your text, I highly recommend 'Hungry Listening' by Dylan Robinson. Robinson critiques the (colonial) archivist’s insatiable desire to collect more sounds (‘hungry listening’) and advocates for ‘non-listening’ as an act of radical respect and solidarity with Indigenous communities. While it takes an inverse approach, I think its themes resonate with your exploration of sonic frameworks and could inspire further insights.

Thank you for sharing your work—it was a pleasure to read, and I look forward to seeing how these ideas develop!

Planetary Messengers

PV Schmidt

We write a love note to a person far away, organise a political meeting in a particular place, or arrange a lunch, with the usual carrier of communication today: The messenger. Social contact today is preceded, facilitated or followed by chat over software such as Whatsapp, Telegram, Signal, WeChat, KakaoTalk, Viber, or the Messaging-function of Facebook and Instagram. Every day arrangements on the planet happen through text chats, voice notes or digitalised calls.

We think of the internet as a global phenomenon, as it's everywhere, as a technology without borders. In theory, we can seamlessly reach everyone with an internet connection through a messenger. A pledge of a sheer infinite reach is already constrained through obvious inequality in accessibility of technological infrastructure, and capped at many points beyond. The origin of the barriers range from state and supranational legislation, over to app store rulings, or to the service's own moderation. The messengers unveil the delicate state of the open internet, as they're central to contemporary digital life.

In the People's Republic of China, the Great Firewall, a juridical and technological arrangement encloses the internet inside the country through the blockage of manifold traffic, and oversees messaging. Within the European Union, internet censorship is utilized similarly for websites, used inter alia to "influence political discourse and favour businesses". (Ververis et al. 2024, 142) A discussed chat control proposal attempts to for services to make all messages disclosable within Europe.

All mentioned messengers rely on being available in the software stores of Apple and Google, to reach the customers confronted with the quasi-duopoly of iOS and Android. Developers are subordinated to the companies audition for every update on their apps. To be able to stay inside the valuable markets of the respective states, they have to comply to state rulings.

In August 2024, Telegram's founder and CEO Pavel Durov was arrested at an Airport in France and held for four days in custody, with the accusation of facilitation and participation in criminal activities through the lack of moderation. Out on a €5 Mio. bail, Durov shortly afterwards harmonized Telegram's data sharing with authorities worldwide, and cleared with human moderators and 'AI' a lot of 'problematic content' and banned affiliated users. (Agence France-Presse 2024) Outspoken intention of governing messaging are, among others, copyright violation, hate-speech, sexual exploitation, and prevention of drug trafficking and terrorism. Policies such as chat control look like a trade-off, but as with all mass-scale surveillance—before and after the Snowden revelations—crime is not necessary out of the way while privacy is cornered. (see Lyon 2015)

But how can the messenger (1-to-1) be governed, when secrecy of correspondence should not be in question? Some messengers are end-to-end encrypted by default (Whatsapp, Signal and Viber), without access to the terminal devices there is no way to inspect the content of communication. All the others are not encrypted at all (WeChat), not encrypted by default (Telegram, KakaoTalk, Viber, and Facebook and Instagram messaging)—offering it through additional configuration, entaling usually fewer features. The privacy paradox is a myth. Just because users don't explicitly choose to have privacy, it doesn't mean they shouldn't have. (Solove 2021) Abandoning the possibility of it is nothing more than abandoning the rule of law and thus the basis for democracy. (Anderson 2022, 13–14)

The planetary as an entity to grasp a bigger picture joins the ranks with contemporary 21st century theory terms alike the Anthropocene. (Falb and Avanessian 2024) Both conceptualise the world as a whole, which lead with the Anthropocene more often than not to a negligence of power relations.[1] This suggests, there is no user base as a whole, and the actual technologies behind the Planetary Messengers matter. The planetary is the moment to see technology as inseparable from politics. (Hui 2024a) As described, the messengers differ in encryption, which makes—even without present knowledge of a respective user—a big difference for privacy and its governance throughout. That privacy cannot merely be a privilege, is obvious to those who, under duress, rely on it. Constantly changing political configuration, the acceleration of inequality and a rightward shift in the West, for instance, will indisputable produce more persecuted requiring it.

Benjamin Bratton's theory of 'planetary-scale computation' presented contemporary politics as mainly driven by governments, transnational organisations and big firms, but left no space to breathe for the margins. (Bratton 2015) Yuk Hui's recent philosophical project of Post-Europe reminds us that planetarisation is inevitable, "And to overcome planetarisation is to reorient ourselves, in order to redefine a locality or a situatedness.", especially in relation to technology and its advancement. (Hui 2024b, 27) The planetary-discourse until now considers technology mostly as a to-be-managed challenge, and neglects its generativity for people's every day life. Manifold iterations of theory produced on the Anthropocene instruct for discourse about the planetary, that despite resemblance, similarity or equivalence, there is no universal face-off with technology. In literature on the planetary, sovereignty is only discussed in relation to the nation state. The individual, or democratic subject, is overlooked. Sovereignty materialises with the messenger only through strictly private communication by default.

The brief threads on The Great Firewall of China, the EU's discussed chat control's and the detention of Telegram's CEO only begin to localize the different construct's around the messengers. Pavel Durov, a quadruple citizen of Russia, Saint Kitts and Nevis, United Arab Emirates and France, operates Telegram as a company registered in the British Virgin Islands and in Dubai, fled Russia because of the state's influence on his previously run social network, V-Kontakte. A planetary account of technology needs to shed light on the geographies of developers and operators as well as users within their respective jurisdiction and local realities, including (geo)political dependencies and disparities as well as local and international inequalities.

Messengers provide us with the most immediate communication and hint to the very own conditions that we, and the technology itself, exist under on the planet.

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[1] Simon 2020 gives a brilliant overview over the development of the Anthropocene-narrative in theory. Malm and Hornborg 2014 provides a short pressing argument on how the Anthropocene helps to "…abandon the fundamental concerns of social science, which importantly include the theorization of culture and power." (62) Bonneuil and Fressoz 2017 provide a very detailed account for the Anthropocene's overall force to depoliticise.

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Comments

here is the comment

Perplexity — surveilling through indifference

Ruben van de Ven

Cameras have become ubiquitous in public space. In city centres, shopping malls or train stations, camera surveillance sets out to spot "deviant" behaviours, in order to detect or pre-empt unwanted events. However, the increasing number of cameras produce so much footage that there are not enough eyes to constantly monitor all video feeds. It is not uncommon that one person is responsible for more than a hundred simultaneous streams. The past years have seen the introduction of algorithmic techniques in observer rooms that are to guide the operator's eyes by singling out particular behaviours. In trying to critically understand how such algorithms make public space legible to an operator, these technologies can help us to rethink the relationship between surveiller and surveilled.

The effects of both camera surveillance and algorithmic surveillance are often understood in light of Foucault's description of the *panopticon* (Foucault 1977). Most crucially, Foucault made palpable that it is not relevant whether an observer is actually present to monitor its subject; the mere idea of being observed is enough to keep people in check. The subject under surveillance internalizes the vision of the other. In the model of the panopticon, as subjects of an ever expanding surveillance infrastructure we internalize its vision, bow our heads and walk the line. While the archetype of the panopticon provides a very useful description of the normalizing effects of many security practices, it is not without limitations (for example Lianos 2003; Haggerty 2006; Davidshofer, Jeandesboz, and Ragazzi 2017). When discussing surveillance in the public space, the self-disciplining implied by the panopticon seems to tell only a partial story, for ultimately, most people simply do not care.

The vast majority cares as little about being watched by the state, as they care about the data gathering by ad companies. When one would ask a passer-by about camera surveillance, they might respond with surprise, or voice some obligatory comments of concern, but it's only seldomly heartfelt. They go about and do their business. Already in his 1984 description of "Wandersmanner" in public space, Michel de Certeau (1984) suggests the "chorus of idle footsteps" traversing the city is largely indifferent to any top-down interference. Even I, a researcher of algorithmic security, shrug about cameras when I routinely cross the train station, only worrying about catching the next train home. Where then does indifference leave us with critique of algorithmic surveillance?

Algorithmic anticipation

The indifference that the majority of the surveilled exhibits to being under surveillance, implies framing them as 'victim' tells only a partial story. Rather, by examining how contemporary technologies negotiate deviancy and normality, I propose a reconfiguration of the subject under surveillance.

In surveillance practices, the notions of "deviancy" and "anomaly" serve as a catch-all category for any unexpected behaviour. Spotting such behaviour is often considered an art — a "gut feeling" conditioned by experience; or a sharp eye that some have while others don't. (Norris and Armstrong 2010; Amicelle and Grondin 2021) While the threat models that warrant camera surveillance describe public's safety from terrorism or 'high-impact crimes', everyday surveillance practice hardly mobilizes such possible future scenarios. Rather than relying on such risk technologies, security scholars Bonelli and Ragazzi argue, security practitioners work through *anticipation*, as they relate "almost in a bodily, physical manner with 'risky' and 'at risk' groups" (2014) to mark people as 'out of place'.

With the introduction of algorithmic deviancy scoring, the construction of anticipation needs to be reconsidered. Where a traditional machine learning detector is trained by example, such a setup struggles when it comes to deviancy. First, there is much more footage available of people going about their business than of the behaviours that are relevant to an operator, such as those containing fighting. Second, as an open set, the anomaly collapses a set of heterogenous behaviours — robbery, traffic accidents, etc. — into a single category, making it difficult for a mathematical model to converge. To overcome these challenges, a logical reversal is invoked. Instead of detecting deviancy, normality is measured. Trained on vast quantities of "normal" data, a generative model uses past measurements to *simulate* the present. These forecasts (or, nowcasts) are then used to assess the likeliness of present movements. The anomalous is thus no longer considered in terms of proximity to a predefined 'risky' other, but as a measured distance from a simulated normality.

This unpredictability score resembles a metric known as *perplexity*. Perplexity, a concept from information theory, originally introduced in the context of speech recognition, has become a prominent error metric for assessing the futures brought forth by generative algorithms — large language models in particular. With perplexity, for each 'token' in a series — whether it is a word in a sentence, or a step in a trajectory — the probability of that token in relation to what came before is calculated. As a measure of surprise, perplexity is the logical inversion of algorithmic anticipation.

Routines

With perplexity the present is governed through simulation. This simulation forfeits any relationship with a predefined 'risky' other, but rather defines it through a degree of predictability, that is, it represents normality. The failure to predict, an erroneous forecast, is no longer a bug that needs to be solved, but has become a feature. By subduing human steps to a model of their likeliness, it is no longer the algorithm that errs but the human that is deemed unpredictable.

For de Certeau (1984) the trajectories of Wandersmanner elude legibility. With perplexity, it is precisely the lack of legibility that becomes an indicator for suspicion. In our day-to-day routines, we travel set paths through streets, train stations and parks. Though perplexity, surveillance capitalises on these movements, as we co-produce the backdrop of normality against which anomalous movement stands out (see also Pasquinelli 2015; Canguilhem 1978). There is no outside to surveillance. In the production of perplexity, everyone is implied.

The limits of the panopticon as a model for surveillance in public space become visible. Bentham's architecture, and subsequently Foucault's analysis, exhibits a clear demarcation between those in the tower and those in prison cells. These boundaries have blurred. Rethinking the relation between normalcy and deviancy makes apparent that while everyone is watched by surveillance, the majority is not targeted. Thus, critique of surveillance should refrain from (only) convincing people they are being harmed. Rather, they are complicit in constituting normality.

This then, opens up new avenues for resistance. As de Certeau also reminds us, walking not only affirms and

respects, it can also try out and transgress. In the reciprocal relationship between individual and population, “standing out” — breaking with predictability — is only a momentary interruption that is ultimately enrolled in next forecast of normality. In words of Hannah Arendt: “every action … necessarily destroys the whole pattern in whose frame the prediction moves and where it finds its evidence.” (Arendt 1970, 7) Collectively, we can make normality more unpredictable.

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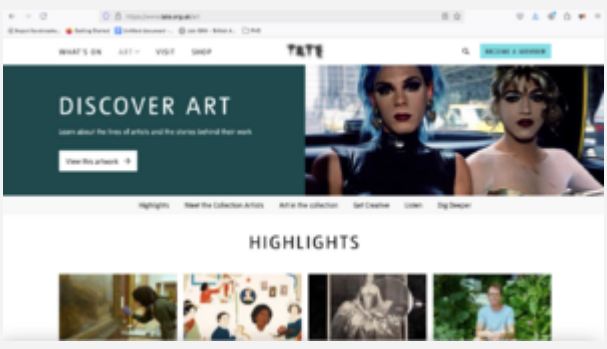
The Virtual Viewer: image aesthetic assessment and digitized museum art collections

Sami Itävuori

AI with, in, out the art museum In the UK, the art museum has been engulfed in AI sensationalism since the 2010s and the list of exhibitions on the subject keeps on growing, museum chatbots proliferate and AI curated projects pop up around the world. A recent Frieze "year-in-review" article about museums forecasted for 2025: AI hysteria and hype is out, thoughtful learning and reflexion on impact is in. The accelerationist and anthropomorphizing romanticism of the Barbican Centre's *AI: More Than Human* exhibition gives ways to the Serpentine's infrastructural approach in *Future Arts Ecosystems.* But the emphasis of old and new national museums on the physical art object as their privileged source of cultural value persists as a paradox in an era marketed by the digital dematerialisation of cultural production and consumption. The digital exacerbates pre-existing challenges surrounding the museum's role in a cultural marketplace of experiences which since the 1990s has entered in competition with other actors in infotainment, tourism and urban placemaking (Hooper-Greenhil, 1993), competing for the attention of users and visitors. Cultural value has for long not been indexed on the artwork's inherent "aura", but in the work's capacity to attract visitors, a shift characterised by the rise of the "user" and "publics" in conversations surrounding the museum. In light of these older and newer developments, what does it mean to acknowledge museum art collections to be increasingly entwined into overlapping layers of technological and social practice, hybridizing the dynamics between museums, humans and machines?



Screenshot of Tate Gallery's Art and Artists portal, https://www.tate.org.uk/art

Finding Common Groound National art collection digitization has been underway for almost thirty years in the UK and has resulted in the development of dedicated online collection platforms such as Tate Gallery's Art and Artists platform. Whilst democratizing access (and incidentally generate revenue) may have been a key intention of this process, the use of these digital images in machine learning systems is an accident of collection digitization. A wide array of digital images from the museum are captured into training datasets, and these datasets form real border zones where the language and material practices of creativity and machine learning reconfigure previous modalities of interaction between the GLAM sector and the "digital".

Example Datasette search in LAION-Art for URLs related to the Tate Gallery's domain. 364 results are retrieved

Images from the lowest aesthetic bucket of LAION 5B, accessed in https://projects.laion.ai/laion-datasets/laion-aesthetic/laion2B_en_aesthetic_distribution.html

Probing this infrastructural area, one can easily search the source of image-text pairs in training sets using open-source softwares such as Datasette. Searching LAION 5B for instance, a large scale dataset used to train the generative AI system Stable Diffusion, retrieves 364 results for the Tate gallery's URL. Further research into sources of individual artworks scrapped from the Tate collection shows a large network of peripheral circulation where second hand copies by web users also enter these dataset, often in empoverished form (Steyerl, 2009). Opening up a training dataset, highlights the complexity of digital image circulation but also defines a manageable perimeter where the interactions between museum and machine learning technologies can be probed.

Image Aesthetic Assessment: two wolves

For instance, Image Aesthetic Assessment (IAA) is an essential technique in the classification of training images. Images have their aesthetic quality automatically rated on an 11 point sliding scale (0-10) by a Contrastive Language Image Pair machine learning (image 1, example interface for image rating). This score organises images into hierarchical buckets that aim to reflect their aesthetic value, that is their appeal to human viewers. Images rated zero to five are considered unsuitable for training (nsfw, resolution, watermark or text) whilst eight to ten represent outstanding images. This higher bucket in LAION 5B has been collected into its own separate subset named LAION-ART. The attribution of aesthetic scores is the product of research in the field of Image Aesthetic Assessment which seeks to understand the nature of aesthetic insight in humans, develop methods of measuring it and automating the process computationally. To a large extent the research vacillates between two poles where computers are used to better understand human cognition, or human behaviour is taken as a starting point for new models, but both end up constituting abstractions of what an image or a human experience is. In short they appear to constitute *virtual publics* with engrained cultural and scientific assumptions that warrant further analysis.

Fig. 8. Interface of data collection by AMT.

Example of IAA rating interface for voluntary participants in Kong, Kuang-Yu, Gao, Yang, Xu, Timothy M., and Jing, Xuan. "Understanding Aesthetics with Language: A Photo Critique Dataset for Aesthetic Assessment." *IEEE/CVF Conference on Computer Vision and Pattern Recognition* (2022): 2984-2993.

One strand of IAA research, which we will call objectivist, understands beautiful features to reside in objects (Marchesotti et al. 2009). They are inherent characteristics to objects which humans have evolved to appreciate as part of evolutionary mechanisms similar to food or mate selection. This research has sought to create hand-crafted supervised image recognition systems encoded with image features such as color, contrast, lighting or composition for example. Some papers have linked this arbitrary choice of features to more or less current research in emotion mapping or psychology (Nishiyama et al 2011, Datta et al 2006, Dhar et al 2011, Brown et al. 2011,), whilst others call on "commonly held" ideas about what constitutes a good image, such as the rule of thirds or centre focus of the subject (Li et al 2019, Luo et al 2011, Tang et al 2011). But the determination of quantifiable and reliable set of features remains difficult in the field as no consensus exists within cognitive sciences nor the wider field of art, models having feature lists ranging from four to several hundreds. (refer to table 1 for a list of reviewed literature)

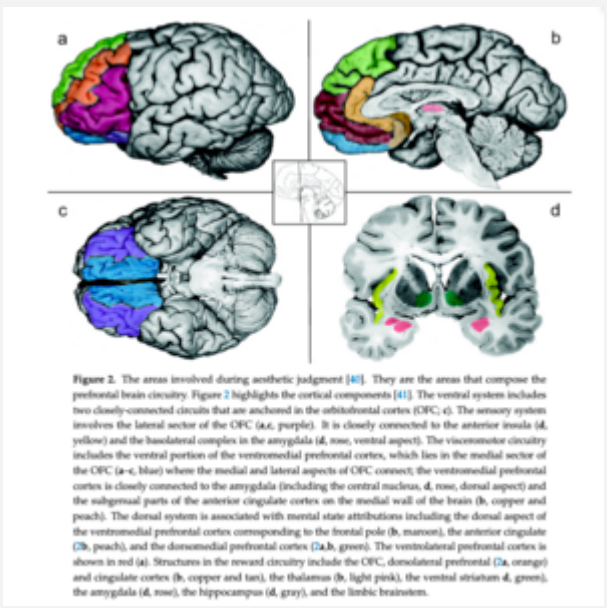


Figure 2. The areas involved during aesthetic judgment [41]. They are the areas that compose the prefrontal brain circuitry. Figure 2 highlights the cortical components [41]. The ventral system includes two closely-connected circuits that are anchored in the orbitofrontal cortex (OFC, c). The sensory system involves the lateral sector of the OFC (a,c, purple). It is closely connected to the anterior insula (d, yellow) and the basolateral complex in the amygdala (d, rose, ventral aspect). The visceromotor circuitry includes the ventral portion of the ventromedial prefrontal cortex, which lies in the medial sector of the OFC (a–c, blue) where the medial and lateral aspects of OFC connect; the ventromedial prefrontal cortex is closely connected to the amygdala (including the central nucleus, d, rose, dorsal aspect) and the subgenual parts of the anterior cingulate cortex on the medial wall of the brain (b, copper and peach). The dorsal system is associated with mental state attributions including the dorsal aspect of the ventromedial prefrontal cortex corresponding to the frontal pole (b, maroon), the anterior cingulate (2b, peach), and the dorsomedial prefrontal cortex (2a,b, green). The ventrolateral prefrontal cortex is shown in red (a). Structures in the reward circuitry include the OFC, dorsolateral prefrontal (2a, orange) and cingulate cortex (b, copper and tan), the thalamus (b, light pink), the ventral striatum d, green), the amygdala (d, rose), the hippocampus (d, gray), and the limbic brainstem.

Brain activation patterns in humans for aesthetic experience, in Marchesotti, Luca, Florent Perronnin, and Nicu Sebe. "Will the Machine Like Your Image? Automatic Assessment of Beauty in Images with Machine Learning Techniques." Paper presented at the First International Workshop on Social Signal Processing, Amsterdam, The Netherlands, 2009.

The second strand of IAA focuses on the viewing subject as the locus of aesthetic appreciation. This subjectivist research emphasizes the *impact* of images on human viewers as a quantifiable measurement of image appreciation (Marchesotti et al. 2009). This strand of research has benefited from the use of large amounts of user-generated data such as user votes and comments about photographs on challenge or sharing websites (Dp.Challenge, Reddit or Flickr for example) (Palmer & Sluis, 2023) . Data-driven models leverage large amounts of user data to predict human ratings rather than applying features following a narrower classification logic. The pre-determined features of objectivism are replaced by the predictive statistics of subjectivism whereby beauty emerges in the retrieval of patterns in large amounts of data where pixel clusters in images can be predicted to correspond to a specific aesthetic score.

IAA: The statistical problem of consensus

Katrina Sluis and Nicolas Malévé (2021) have highlighted the western centrism of DP.Challenge at all levels (demographics, content type and mode of circulation) and challenges the myth of photographic objectivity adopted by ML. Hito Steyerl (2023) has also famously called the AI generated mean images, which abstract content and original contexts, whilst monetizing the data commons. But we should add that IAA data-driven models discursively construct data as "facts of the world directly speaking to us" (Andrews, 2023). In the case of data-driven models, the inherent polyvocality and noisiness of online communities needs to be translated into a machine readable form. The heterogeneity of the image and its appreciation needs to be constructed into a single score. The work of Park et al (2015) has highlighted that simple averaging of aesthetic scores produces unreliable results, because it does not reflect the level of consensus amongst voters on a score. High polarity within voter opinions skews averages towards the median line and appears as less reliable than images with voter consensus. They propose the creation of a reliability index which assesses the distribution of individual votes for each score and discards images where emotion polarity is high, that is where dissensus exists. The statistical work of the researcher then is to make the voice of this multitude emerge from the noisy unruliness of the Internet. Consensus is a pre-requisite of data-IAA and thus opens up the discussion of machine aesthetics to the field of cultural politics. If we are to follow Rancière's argument (2004), the denial of dissensus inhibits the possibility of other modes of existence and imagination and often relies on a naturalization of the existing distribution of the sensible and the legible. Similarly, work done in IAA which conditions the visuality of genAI relies on the naturalization of aesthetics, but large and wide for the purpose of machine readability rather than explanatory power.

Ghost in the machine: the virtual art connaisseur

Aesthetic scoring then raises essential questions regarding the association of beauty with art or modes of appreciation in computer sciences, but also the nature of the digitized art object image being circulated online. On the one hand, it is seductive to think that there is a "standard" view of beauty which emerges spontaneously from the social body for different reasons and that this can be captured statistically. On the other hand, thinking of beauty as the sum of well balanced features, is reminiscent of formalist art theories regarding the prominence

of shape in pleasing artistic works, or to provide provenance analysis. But this *computational formalization* of art viewership constructs viewers of art as composites made of abstract features derived scholastically or statistically. Providing commentary and insight into the cultural politics of this computational formalism (Wasielewski 2023), remains a work to be done.

Annex

Table 1

Authors	Year	Article	Problem	Application	Features	
Tang, Luo and Wang	2011	Content-Based Photo Quality Assessment	Image Aesthetic Assessment using feature extraction based on a set of "generally accepted" compositional rules that make a good photo	Photography	-Composition -Lighting -Color Arranagement -Camera Setting -Topic Emphasis	Explicit modelling on human perception but no actual sources from neurobiology, neuroaesthetics or psychology (only paper is on emotion analysis in color and the paper cited for reference on human perception regarding backgrounds is a paper on feature extraction in computer vision that does not cite neuropsychology Human Eye extracts subjects from Background Humans respond uniformily across cultures to color (emotion analysis)
Data, Joshi, Li and Wang	2006	Studying Aesthetics in Photographic Images Using a Computational Approach	Feature based assessment on low level information in photographic images. Both binary scale of low to high and a regression scale from 0 to 7	Photography	-Exposure to Light -Colorfulness -Saturation -Hue -Rule of Thirds (composition of plane) -Familiarity -Wavelet-based Texture (grain) -Size and Aspect Ration -Region Composition -Depth of Field -Shape Convexity	Modeling of human perception based on Rudolf Arnheim's 1951/1974 psychology book "Art and Visual Perception: A Psychology of the Creative Eye" i.e. art is the subject of fundamental cognitive processes which produce and apprehend visual culture through fundamental visual features
Nishiyama, Okabe, Sato and Sato	2011	Aesthetic Quality Classification of Photographs Based on Color Harmony	Image Aesthetic Assessment using color harmony measurements following a bag of features method	Photography	-Chroma -Hue -RGB -Blurs -edge definition -saliency	no mention of the human
Dhar, Ordonez and Berg	2011	High Level Describable Attributes for Predicting Aesthetics and Interestingness	Automatic image classifier assessing aesthetics for image retrieval	Photography	-Composition and Layout -content attributes related to scene type -sky-illumination attributes	View preference theory dervied from psychology Palmer, E. Rosch, and P. Chase. Canonical perspective and the perception of objects. In Attention and Performance, 1981.
Rossano Schifanella, Miriam Redi, Luca Maria Aiello	2015	An Image is Worth More than a Thousand Favorites: Surfacing the Hidden Beauty of Flickr Pictures	Use Flickr likes and comments to train an automatic image selector that brings visibility to beautiful images with low popularity i.e. democratize photographic visibility on social media. Use Crowdsourcing to annotate images from 1 to 5 and provide descriptors and build large dataset (9 million)	Photography	Regressed compositional features derived from common photographic rules -Color patterns (contrast, hue, saturation, brightness) -Spatial arrangemenent features (rule of thirds) -Textual features (overall complexity and homogeneity of an image)	No explicit articulation of a human subject position but quotes Machajdik, J., and Hanbury, A (2010) who develop a psychological model of art perception whcih relies a lot on the Itten diagram for the association of color composition with emotional response and how this may be computed.
Jana Machajdik and Allan Hanbury	2010	Affective Image Classification using Features Inspired by Psychology and Art Theory	Develop a computational method that is able to extract low level and high level features to predict the emotional response of an image based on psychological and art theory	Photography and Visual Art	-Color -textures -composition -context	Formal elements of a pictures (such as art) have an impact on the emotional response of a human
Kong, S., Shen, X., Lin, Z., Mech, R., & Fowlkes, C.	2016	Photo aesthetic ranking network with attributes and content adaptation.	AADB participating subjects asked to provide significant features themselves using Amazon Mechanical Turk micro workers. Sample limited to 5-6 raters per image	Photography	1. “balancing element” – whether the image contains balanced elements; 2. “content” – whether the image has good/interesting content; 3. “color harmony” – whether the overall color of the image is harmonious; 4. “depth of field” – whether the image has shallow depth of field; 5. “lighting” – whether the image has good/ interesting lighting; 6. “motion blur” – whether the image has motion blur; 7. “object emphasis” – whether the image emphasizes foreground objects; 8. “rule of thirds” – whether the photography follows rule of thirds; 9. “vivid color” – whether the photo has vivid color, not necessarily harmonious color; 10. “repetition” – whether the image has repetitive patterns; 11. “symmetry” – whether the photo has symmetric patterns.	Features determined "in consultation with professional photographers" and are based on "traditional photographic principles"
Chen Kang, Giuseppe Valenzise, and Frédéric						

@@Everything@@@is@a@@matter@@@@of@distance

Dufaux.	2020	EVA: An Explainable Visual Aesthetics Dataset	EVA as a dataset which is crowdsourced and contains subjective attributes for aesthetics ranging from low level features (color, light etc) to semantic preferences + asks for the certainty of voter to evaluate the reliability of votes for each image	Photography	-light and colour -composition and depth -quality, and semantics of the image	Preferences have been handcrafted and selected based on previous studies that used simplified features for naive users (anyone non professional). The usefulness of the proposed features was then tested on crowdsourced volunteers and the relative weight of each feature weighted for different cateogories
Luca Marchesotti · Naila Murray · Florent Perronnin	2014	Discovering beautiful attributes for aesthetic image analysis	Derive high quality aesthetic features from large image text datasets which contain detailed comments about aesthetic quality of dataset. Improving on their work on AVA, the authors propose to train a new model which has first a large language model trained to extract aesthetic features from DP challenge comments on photographs. Then train an image recognition system capable of extracting features from the image (supervised learning) and judge whether it is low or high quality	Photography and by extension painting	200 features derived from comments on DP challenge Main attributes with success on rating images though were realted to lighting, color and composition rather than semiotic factors	no mention of the human
Wenshan Wang, Su Yang, Weishan Zhang, Jiulong Zhang	2018	Neural Aesthetic Image Reviewer	Produce an image aesthetic rater that is also capable of producing natural language reviews to provide insight into the reasoning behind the rating. Uses DP Challenge ratings and comments as ground truths	Photography	The point is not to produce a list of features that make an image beautiful. Instead features are drawn out from the corpus of reviews that amateur users have produced "in the wild" about these images	no mention of the human beyond that we need a system that reflects how human intelligence works. i.e. by articulating "aesthetic insights" with natural language . Human intelligence sort of emerges then from the spontaneous content generated online by users

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