A Peer-Reviewed Journal About

RENDERING RESEARCH

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EDITORIAL

RENDERING RESEARCH

Christian Ulrik Andersen
& Geoff Cox

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What does it mean to render research? How does the rendering of research typically reinforce certain limitations of thought and action? We ask these questions in the context of more and more demands on researchers to produce academic outputs in standardised forms, in peer-reviewed journals and such like that are legitimised by normative values. So, then, how to render research otherwise?

To clarify what is meant by "rendering", we are curious how research takes material forms, how it reaches its public, and is granted approval by academic gatekeepers. To render, then, is to give something "cause to be" or "hand over" (from the Latin *reddere* "give back") and enter into an obligation to do or make something like a decision. More familiar perhaps in computing, to render is to take an image or file and convert it into another format or apply a modification of some kind, or in the case of 3D animation or scanning. To render is to animate it or give it volume.

These initial thoughts set the scene for a number of speculations on what it might mean to render research, to give it volumetric form. [1] In "Rendering Volumetrically, Rendering Queerly", Vítor Blanco-Fernández argues for 3D/volumetric aesthetics as an ideal space for queer research. Rendering might also be described as a supply chain problem, something Miriam Matthiessen and Anne Lee Steele claim in the context of the current widespread shortages of goods, and the inherent difficulties of the supply of research objects. Or is part of the problem how we quantify research, what is considered to be research or not? According to One Research Collective (Andrea Macias-Yañez, Séverine Chapelle, Caterina Selva, Giovanna Reder, Sanjana Varghese) "waste pedagogy" can help draw attention to the ways in which academic waste can take collective and relational forms, remaining more open-ended and messy to amplify the in-between space of thinking, feeling and knowing. Their contribution is suitably concise.

Contributors approach the rendering of research from a wide range of perspectives. Live-action role-playing gaming (LARP) can, according to Malthe Stavning Erslev, be understood as a practice of mimesis, as an effective way to render research (in this case relating to the design of artificial intelligence systems). Similarly (although in the context of security vision) Ruben van de Ven and Ildikó Zonga Plájás look to diagramming as a means to shift attention to process, and to "con-figure" complex, sometimes even incompatible concepts and narratives in a shared space. Sheung Yiu describes his "Hyperimage Index" in which collective indexing is offered as an alternative to academic publishing, suggesting new ways of knowledge making and community building to address the distributed nature of algorithmic image systems. There is a more explicit connection between research and social movements in Hanna Grześkiewicz's case study of the 2020/21 Women's Strike protests in Poland, questioning the purpose of archiving and to what extent artistic research can be a form of knowledge-development, and more importantly a rendering of research with political effects. In the context of the proliferation of everyday AI agents such as virtual assistants and chatbots, Alexandra Anikina introduces the term "procedural animism" to rethink the questions of governance and relationality unfolding between humans and non-humans, and ultimately to render political imaginaries that offer the potential for alternative futures, thus giving shape to a (socialist) AI.

Clearly there is space for more dynamic and messy forms of research than those developed in typical academic journals and the reputation economy of academic publishing. We hasten to add that this issue of APRJA (indeed all issues) is part of a longer process

of development and reflection, which includes an open call for participation, a live-streamed online event as part of transmediale festival in January 2022,[2] as well as a workshop taking place at École de recherche graphique (ERG), in Brussels, March 2022.

The performative qualities of rendering research are also evident in "Re:searching Together (in Two Acts)", the visual "scriptal remains" of two performances presented by artist-researchers Clareese Hill and Elly Clarke from both the live streamed presentation at transmediale and at ERG. And, perhaps, rendering research is best exemplified by the working practices leading to this publication. For instance, in the use of a web-based collaborative real-time editor (or 'pad') through which participants — both presenters and the audience — publish their thoughts as a collective performance, attempting to define rendering research in real-time, and in silence (without the authority of the master's voice), to unsettle static forms of research exchange.[3] Moreover, the workshop at ERG was part of the iterative process and resulted in a risograph publication produced within the time-frame of the workshop itself.[4] The rendering of research in this case makes explicit the process through which the publication was produced and made publicly available (using free software tools and scripts).

— Aarhus/London, Autumn 2022

Rendering Research *was organised by Digital Aesthetics Research Centre, Aarhus University, and Centre for the Study of the Networked Image, London South Bank University, with École de recherche graphique in Brussels, and transmediale festival for digital art & culture.*

Thanks to all workshop participants and contributors to the journal for their patience with the process, our peer reviewers for their help, and transmediale for their ongoing support.

Notes

[1] See *Volumetric Regimes: material cultures of quantified presence*, edited by Possible Bodies (Jara Rocha and Femke Snelting), Open Humanities Press 2022, available at http://www.data-browser.net/db08.html.

[2] A recording of the livestreamed event as part of transmediale 2022 can be found at https://www.youtube.com/watch?v=6MwcudCokIA&list=PL9oInMFdRIwsfNt2fgdj5WoQPpeK4Ch4B&index=1. This includes short presentations by Alexandra Anikina, Clareese Hill, Elly Clarke, Sheung Yiu, Castillo, AMOQA (Athens Museum of Queer Arts), Malthe Stavning, Erslev Vítor Blanco-Fernández ,The Re:Source Project (Anne Lee Steele & Miriam Matthiessen), Ruben van de Ven, Agnès Villette, Paul Bailey, Hanna Grześkiewicz, Rachel Falconer, Lee Tzu Tung, Cassandra Collective, Yasmine Boudiaf, One Research Collective (Andrea Macias-Yañez, Séverine Chapelle, Caterina Selva, Giovanna Reder, Sanjana Varghese), and Kyveli Mavrokordopoulou.

[3] Hosted by Varia, the pad used as part of the livestreamed event can be found at https://pad.vvvvvvaria.org/rendering.

[4] The print publication can be downloaded from https://archive.transmediale.de/content/rendering-research and https://darc.au.dk/publications/peer-reviewed-newspaper. In addition to the contributions here, it includes Agnès Villette, Rachel Falconer, Lee Tzu Tung, and Kyveli Mavrokordopoulou.

defeating the fear of blank page by writing this thank you +1 +1 +1+1
developing new or old paradigms that break out of tired instrumental forms of research - less problem-solving and more problem-posing
speaking into the silence
allowing a silence
sitting with the silence completely difficult in urban settings. I find that there is broader need to empower people through "breath work" without soundind too "new age"
learning from the silence +1, i often feel so much pressure to have constant speech and sound in the digital space, and to use a voice that feels like a odd, customer-service version of my own - yes! the service provider in a shop that is not our own, selling ourselves
lurking with the silence yes also very much lurking.
what is it to lurk in the digital realm? the default state
at some point you need to pee.lol yes.
ambient sound+1 in translation is like those youtube videos 'cafe working ambiance environment'yes! keys tapping. a hum... sounds from another era.. 'office sounds 4 hours' hehe. i reckon that'll have a following..tap tap click click
From speaking aloud, to writing within
to typing together. enjoying someones type/taps/texts. It's stopped.
writing alongside people we do not konw.
a masked ball of the (post) pandemic 2020s.
Creating (digital) space, savoring it
Research rendering and trying to unseat how academica operates is an important issue as people are leaving these academic epicenters such as NYC, London, LA for a better quality of life and how life is not about the performace of it all but having the space to rest and not have to perform. How space impacts research, what is research it laying in the grass a sort of research?
let's break out of the authorship nonsense - and reputation economie sof research; yes please !
while acknowledgement and credit for intellectual work are important, it is also urgent to operate beyond the narrative framework of "the hero's journey" both as subject and object of narration in academic research i agree totally with this.+1
How can we break out of academic engagement when the language of academia is one that often disenfranchizes as much as it empowers? (what often feels like its innate inaccessibility)+1+1+1+1+1+1+1 +1+1
Isn't it about introducing, or rescripting modes of articulation - beyond the presentation/slideshow/paper/conference, etc? Exsiting forms are encoded by the instutions.
yes also at least choosing arxiv instead of academia.edu [need platforms that enable academic exchange freely] yes - platform use as a form of politics, pads instead of google docs, etc.?
The restrictions of participating in academic / para-academic research means that compromises are made all over - linguistic, methodology, partnerships... it's self-censorship for economic survival... trying to creatively and secretly make spaces for moments of joy / resistance / justice.

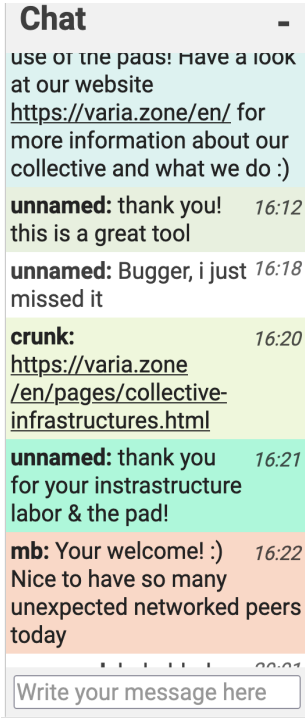

Figure 1 & 2: Extracts from pad and risograph cover print (overleaf).


Rendering
Research

APRJA Volume 11, Issue 1, 2022

Miriam Matthiessen
& Anne Lee Steele

RENDERING SUPPLY CHAINS RESEARCH AND ITS (DIS)CONTENTS: AN ANTI-PAPER ON OPEN KNOWLEDGE AND MAINTENANCE AS A RESEARCH ETHOS

Abstract

Supply chains are fundamental to contemporary forms of capitalist production and circulation, but rarely make themselves known unless they stop working. This 'anti-paper' documents the beginnings of a project grappling with the possibilities and limitations surrounding digital renderings of supply chains and related research online in a way that goes beyond the spectacle of breakage. It is an 'anti-paper' in that it documents process and learnings over findings, results, or other finalised outputs. Section one introduces the project and the wider context it was born from and into, while section two reviews the existing landscape of digital projects surrounding supply chains and our attempt to develop some heuristics for thinking through their underlying epistemological, informational, and design assumptions, and how approaches to digital supply chain renderings differ along these lines, with possibilities and constraints entailed by each. Section three documents the dilemmas faced so far in our own project, and section four concludes by reflecting on maintenance as a research ethos and its relevance to learning about supply chains.

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Introduction: Learning how to learn about supply chains

2020 and 2021 have shown how integral supply chains are to the functioning of contemporary capitalism, and how much the transnational movement of goods shapes everyday life. Pandemic-driven disruption has revealed the fragility of the 'just-enough and just-in-time' model, seen in empty store shelves during widespread shortages, and the viral satellite images of the Ever Given, the infamous ship that got stuck in the Suez Canal in July 2020, rendering idle billions of dollars' worth of "value-in-motion" capital (Stoller; "Ever Given Ship That Blocked Suez Canal Sets Sail after Deal Signed"; Harvey, "Value in Motion"). Reporting on these developments — both the supply chain crises reshaping global trade and the trade unions (re-)emerging to fight for worker protections across the industries that constitute them — have often fixated on their perceived novelty. But if the critical histories of plagues, wars, and crises by other names have taught us anything, it is that such events are always preceded by structural inconsistencies, usually entrenched in the economic interests of the powerful (Klein; Harvey, *A Brief History of Neoliberalism*).

Despite headline-grabbing news of disruption, and a growing public awareness of their everyday importance, supply chains continue to remain abstract and invisible to many, made visible only when they don't seem to work. The visible-when-broken characteristic of supply chains carries an interesting corollary: once visible, they look or work nothing like the smooth lines of our logistical imaginaries. They are janky, patchy, heterogeneous — even the people working on managing them can't quite figure them out. As Anna Tsing suggests in *Supply Chains and the Human Condition*, the great imaginative challenge of global capitalism is capturing both its bigness and diversity (Tsing). Our logistical imaginaries — of globally standardised inventory codes and intermodal containers ensuring next-day delivery — are dominated by the former, and understandably give us, the consumers, an impression of smoothly scaled planetary control. And yet as Tsing reminds us, fully rationalised standards are as much an illusion as fully rationalised labour.

This has become particularly striking as various mainstream journals, magazines, podcasts and TV series attempt to untangle global supply chains. One example is what Bloomberg podcast host Joe Weisenthal discovered when — in an attempt to understand the trucking industry — he joined a truckers' Whatsapp group and found a stream of haphazard requests for trucks at various locations around the United States (Weisenthal and Alloway). The financial journalist — whose typical podcast episodes span topics from cryptocurrency and treasury markets to decentralized finance and derivatives trading — found himself scratching his head over the patchy coordination of trucking and commodity circulation. Recounting his experience, Weisenthal called the logistics industry old-fashioned. What's old-fashioned about the present? Spinning his comment on its head, might the problem not be that our discursive presents often live in an anticipated future where dreams of smooth automation overshadow the disjointed way things circulate around the world in the here and now?

Importantly, in the past two years supply chains and logistical sites have called attention to themselves not just through cogs of capital getting stuck *a la* Ever Given, but also through worker-led contestation against its relentless race-to-the-bottom expansionism.

Worker movements have targeted logistical giants, like the historic win of the Amazon Labor Union who unionised the first ever Amazon fulfilment centre at its JFK8 facility in Staten Island (Weise and Scheiber). They have targeted strategic chokepoints like the recent announcement of a strike at the port of Felixstowe, the UK's busiest container terminal (Jolly). The mining underbelly of our battery-powered green futures has gained visibility through popular contestation of and protest against lithium mining projects in places like Serbia, the sacred indigenous lands at Thacker Pass, the North-Western Iberian Peninsula, and Chile's Atacama desert, which all refuse the smokescreen of green capitalism (Riofrancos).

Supply chains and digital ways of knowing: Introducing the re:source project

In the spring of 2020, an online reading group about the social life of supply chains brought us together in collaboration, from which the re:source project emerged. Our collaborative research is driven by the three-fold observations outlined above: that discussions around supply chains tend to surface mostly around spectacle-driven events; that once they surface they turn out to work nothing like dominant imaginaries of smooth circulation; and that worker-led contestations and organising efforts to counter the inhumane conditions of supply chain capitalism operate beyond the ebb and flow of Ever Given capital spectacles and occupy an increasingly important strategic and visual place in the digital realm. To each of these we formulated a corresponding question that drives our research: (how) can supply chains be digitally rendered in a way that isn't spectacle-driven? How can digital design accommodate scale without abandoning heterogeneity? How far can public interest technologies go in supporting or being in solidarity with worker organising for improved material conditions?

While our work is mostly done outside institutional support structures, during the summer of 2021, we received mentorship support from the Wikimedia Deutschland Foundation to prototype a public-facing technology about this ecosystem of supply chains research. We joined this program with a desire to develop a project that drew on an open-source ethos, particularly the counter-corporate modalities of the free and open source software movement and the open knowledge movement that followed, believing it might equip our collective with the tools to visualise supply chains and related research not at the point of breakage, but rather as on-going and all-encompassing processes.

Many tensions emerged from this work: between rendering the complexity of supply chains in their multiplicity as opposed to partial entry points which might be more easily navigated, between the delineations of what open and closed renderings might mean in different contexts, and ultimately between the perceived novelty of our research itself alongside the practices and projects of those whose work we were building upon. Our project has oscillated between content and form: what do we render, but more crucially — how do we render?

In contrast to the epistemic rigidity of asking "what is a supply chain" from the perspective of one particular field, we have asked how rendering supply chains research invites acts of translation across disciplines and ways of knowing. Rendering this research required abandoning the logics of totality and instrumentality in favour of developing heuristic techniques that have shifted the question from 'what is a supply chain' or 'what is the supply chain of x' to

'how can we learn how to learn' about supply chains and 'what renderings enable their visibility' — particularly the visibility of workers who enable supply chains to 'work' in the first place.

Structuring an (anti)-paper

Ultimately, we found that supply chains research and its rendering required abandoning the logic of novelty itself — so relevant to the academic project, to understand the connections between already-existing lifeworlds and research that had been conducted long before we entered this space, especially if it was meant to support the workers within supply chains themselves. This notion of maintenance as our research ethos, long discussed within feminist literature, has become a core tenet of our collaboration. This piece retraces the contours of our experience, and reflexively documents the logics of our own progression in this ongoing project towards this ethos. As such, what follows is perhaps best thought of as an anti-paper, centering process over output, obstacles over solutions, hesitation over conviction, as materials and affects that deserve their own attention rather than being editorially discarded.

Open knowledge as an entry point for supply chains research

The groundwork of the project itself was based in a kind of assemblage and (re)assembling of fragmentation, first housed on are.na, a website for link saving, curation, and "(re-)contextualisation of information" according to its founders (Broskoski 2). We collected and shared links with each other through are.na channels,[1] focusing on a combination of ongoing scholarly work, as well as investigative pieces about various "breakages" in a variety of contexts: from the Beirut port explosion in 2020 to ongoing coverage of supply chain disruption, protests or other moments of "breakages" — as well as when they have been deemed to be working (at least by some). In the early days, we constantly discussed how we might transcend the perceived limitations inherent to such "instance"-based reporting, and wondered if it were possible to trace moments in their entirety, with or without technological methods.

We eventually found a supported place of experimentation through the Wikimedia Unlock Accelerator, a three-month program for civic-minded technologists and others: involving mentorship, condensed periods of working, and interactive workshops not unlike the modern "hackathon" (Zukin and Papadantonakis). It was here that we learned about best practices for developing technology with a civic orientation: from user-centred design to licensing schemes, to developing crowdsourcing models, fundraising and project sustainability, as well as conducting user testing. We had applied because a Wikimedia mentorship program would throw us directly into the modern open knowledge movement, where we saw promise for unpacking, if not answering some of our pressing questions driving our collective research.

Finding our foundations in the open knowledge movement

The "open knowledge movement" as it was known in the 2000s emerged from the coattails of the free software movement of the 1980s. These early advocates of the "free" part of "free and open source" software were

hackers, able to adjust the pre-programmed settings on computers. In many ways, they acted as critics of liberalism from within liberal states, employing notions of "productive freedom" to "reformulate key liberal ideals such as access, free speech, transparency, equal opportunity, publicity, and meritocracy" while sharing software amongst themselves (Coleman 3). As the software field began to commercialise in the 1990s, the "open" software advocates split from the "free" software movement — creating legal and technical mechanisms that were more friendly for institutional and corporate reuse.

This schism between "free" and "open" exists within software to this day, and the "open knowledge movement" finds its roots in both factions. Calls for "open knowledge", or rather the opening of knowledge-producing practices emerged in the early 2000s, first associated with calls for open access publishing in a time of increasing consolidation for the academic publishing industry. It eventually extended to mass-crowdsourcing projects like Wikipedia, and to "open data" initiatives across governments, corporations and everything in between. These seemed to prove that this move towards open knowledge in multiple fields and on multiple fronts has been a resounding success.

At the same time, the increasing crackdown on whistle-blowers across industries demonstrates how the move towards "openness" has far from eradicated the practice of institutional secrecy and malpractice (Ballestero; Hetherington; "The Age of the Whistleblower"). Indeed, the information landscape related to supply chains often appears to operate in two streams: between that which is voluntarily given by institutional actors of all kinds, particularly that which is volunteered due to institutional requirements like Corporate Social Responsibility (CSR), or Environmental, Social, Governance (ESG) reporting, and that which is retrieved by journalists and activists — usually in the form of investigative journalism.

From open knowledge to information landscape

The open knowledge movement proved to be a space of both incubation and interrogation for our project, begging questions like: are these two streams within the information landscape fundamentally incompatible, both a kind of 'open' or 'opening' knowledge? What knowledge is being produced surrounding supply chains more broadly, and for whom is it for? Who uses it? Who is it 'useful' for? Can an open knowledge or open source project about supply chains alter the material conditions of workers themselves? We found that these same tensions within the foundations of the 'open knowledge' movement itself, from both its critics as well as its advocates — but first, we needed to understand, or at least be aware of the full landscape of such renderings.

Existing digital renderings of supply chain capitalism

The extractive processes underpinning the various stages of a supply chain have long been documented in science and technology studies (Cooper), media studies (Hockenberry et al.; Rossiter; Pham), critical/marxist geography (Harvey, "Between Space and Time"; Danyluk), political science (Riofrancos; Daggett) and anthropology (Tsing et al; Crawford; Posner).[2] Similarly, the shipping and logistics industry has long been investigated for its implications in global networks of power (Cowen; Chua et al.; Khalili). As interdisciplinary graduate

students somewhere between the social sciences and the humanities, we stand on the shoulders of these giants.

However, we have been particularly interested in how supply chains are rendered outside of or beyond the written page, and what possibilities digital space offers for engaging with its networked form. As our focus became about something more narrow and applied, so did our questions: asking how supply chains currently exist in digital space, how to render them in such space, how to attend to concerns of scale and heterogeneity when beholden by the structures and limitations of digital design, and how to think about the emancipatory promise of digitally-centred activism, and the discourse that surrounds such work.

In this section, we retrace our review of existing projects — across research, artistic practice, advocacy, and online activism — that fall under this narrower scope. We then outline a heuristic we developed for thinking through the epistemological, informational, and design assumptions of the projects and what that says about who can contribute, with what kind of information, to what end.

Mapping the possibilities of the digital page

As we mentioned at the beginning of this paper, the earliest stage of our collaboration was a simple practice of gathering existing resources or projects that in one way or another spoke to our interest in supply chains. In addition to more traditional forms of scholarship, we found a number of projects that aimed to draw on the possibilities of the webpage as both a canvas and interface to engage with the networked nature of supply chains.

Mapping this landscape soon become a kind of counter-mapping process (as in, counter to existing mapping exercises that often focused on a single type of resource, or a single type of rendering). However, rather than map the landscape of academic research that addressed topics related to supply chains, we aimed to map their renderings: the landscape of digital projects that visualised them in digital space — albeit in different ways.

Figure 1: Gathering the landscape of digital supply chain renderings on Figma.

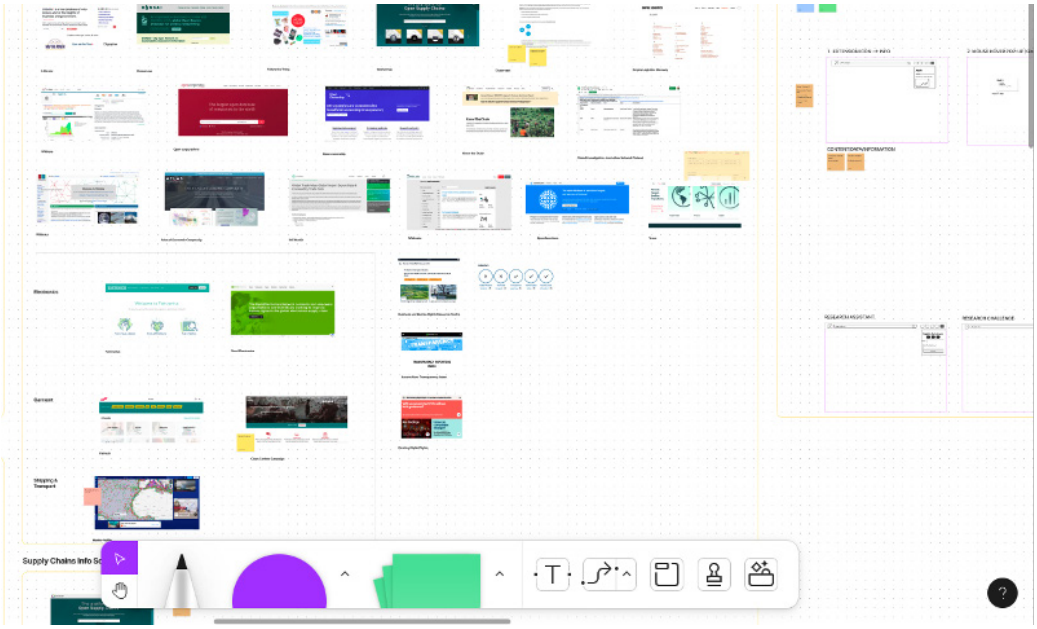
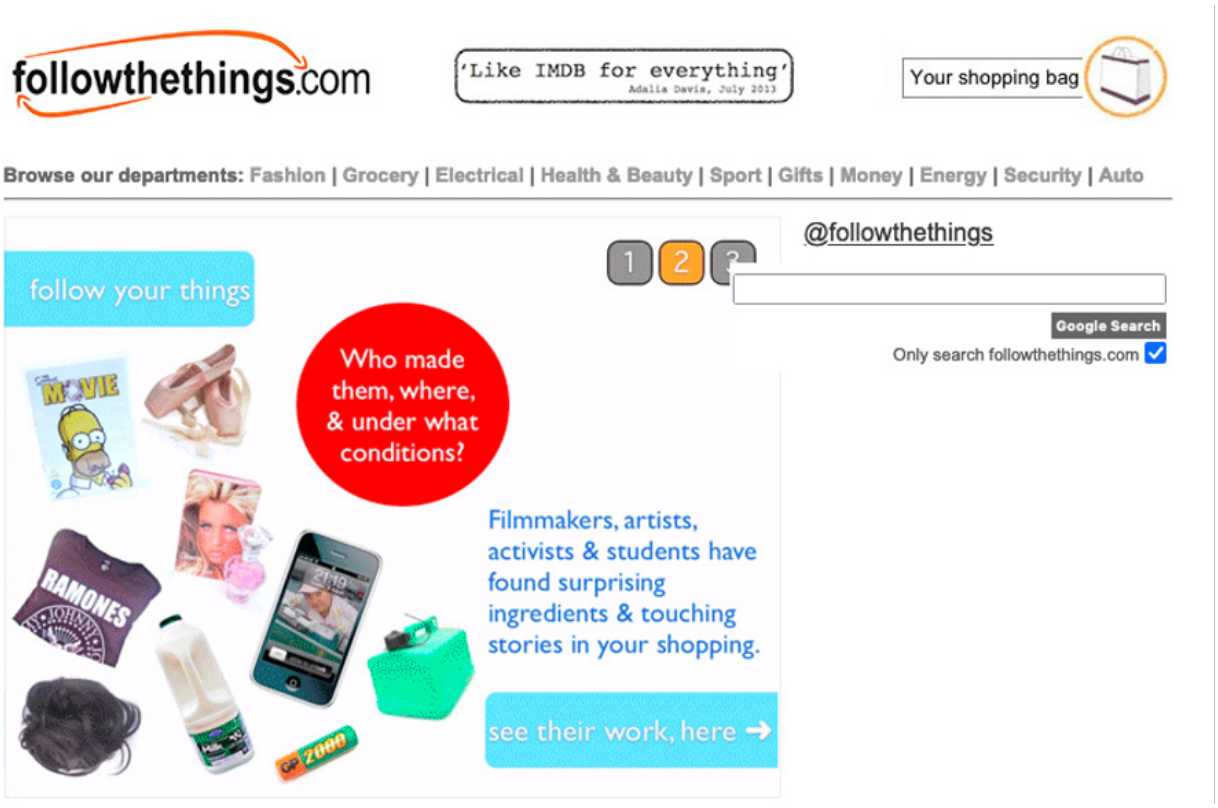


Figure 2: Simulation, familiarity, particularity: follow-the-things gathers documentation of the supply chain underbellies of various commodities that users can browse as if shopping online.



In our search, we found projects like *followthethings.com*, an Amazon underbelly of sorts, designed to match the feel of online shopping but linking the visitor instead to scholarship, films, stories, reporting on a given product.

Feral Atlas is an interactive multimedia atlas that allows users to explore "the ecological worlds created when nonhuman entities become tangled up with human infrastructure projects" (Tsing et al.).

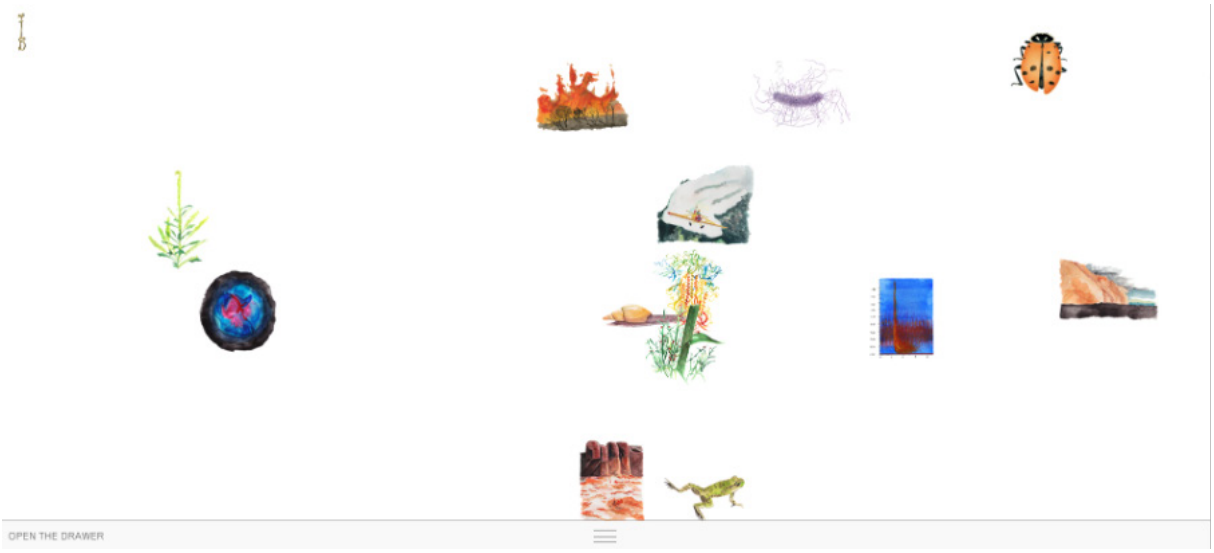
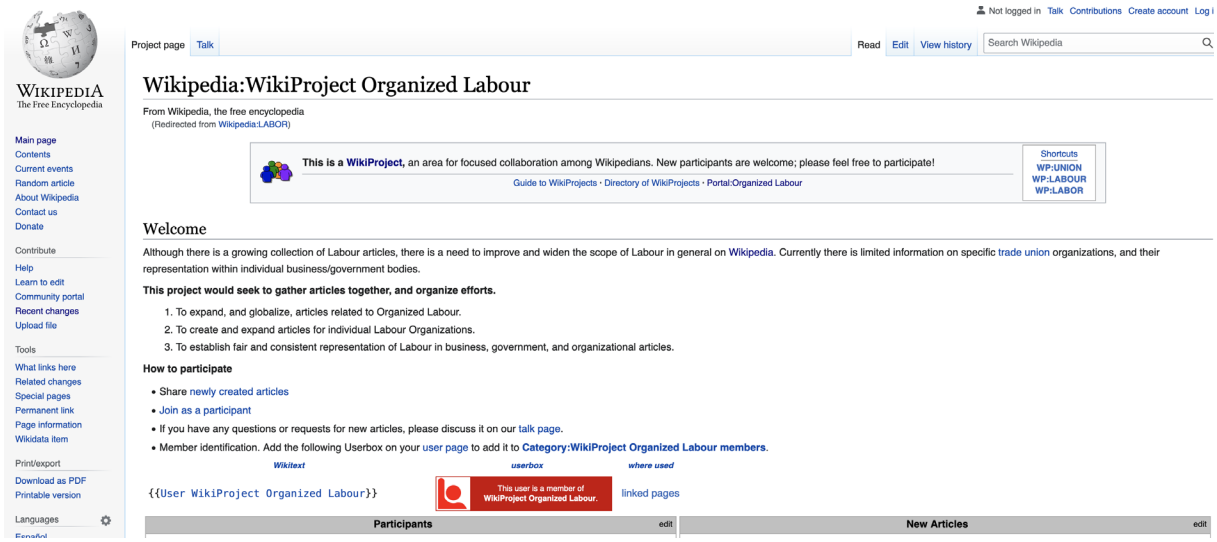


Figure 3: Unexpected connections: Feral Atlas is an online exploration of the political ecologies of commodity circulation and the more-than-human worlds entangled in supply chain capitalism.

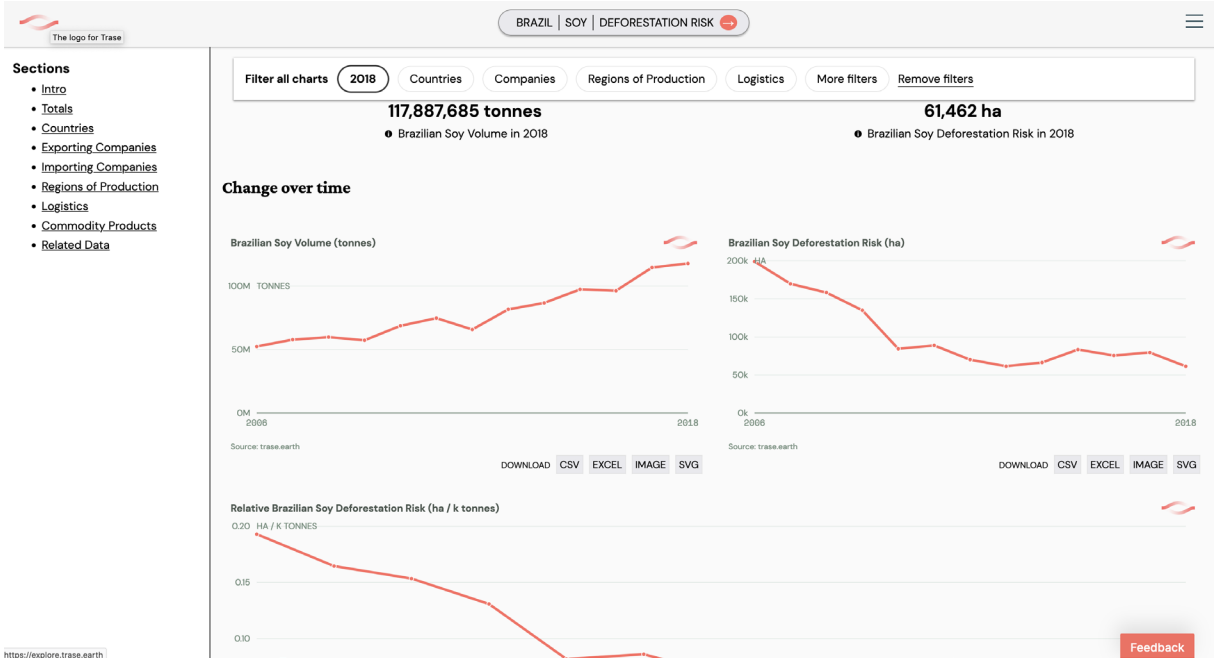
Figure 4: Welcome page of Wikipedia's editing project dedicated to increasing online encyclopaedic coverage of organised labour.



Wikipedia's WikiProject for Organised Labor aims to organise the efforts of Wikipedia editors (called Wikipedians) to improve the quality and quantity of articles on Wikipedia related to labor movements and labor organisations.

In engaging with digital possibilities of supply chain renderings, we didn't want to limit ourselves to the scholarly-artistic realm or classical open knowledge projects, but rather consider it together with (or against the grain of) corporate representations of supply chains and their material flows. One example of this is *trase.earth*, a "data-driven transparency initiative" that attempts to map as comprehensively as possible the supply chains linked to deforestation (such as beef, soy, and palm oil).

Figure 5: Tracing every step: trase.earth is a data-driven project that seeks to make supply chains knowable online by breaking down their linkages in a quantifiable way.



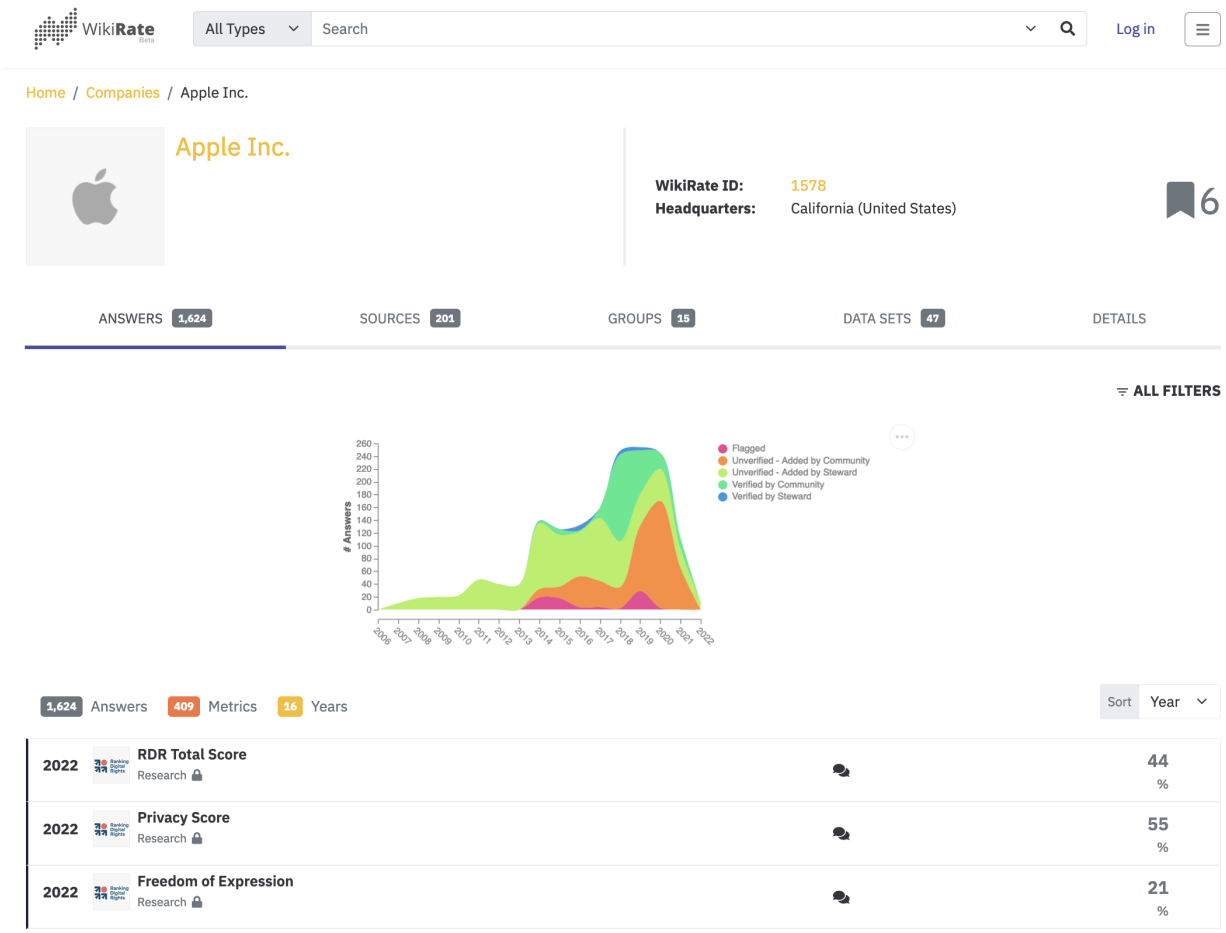


Figure 6: Point by point: WikiRate is a crowdsourcing platform for collecting data relating to companies' ESG compliance across their supply chains.

Along similar veins, we learned about Wikirate, which aimed to connect across these data-driven resources and reporting mechanisms: particularly those encased within CSR reports and other data-driven reporting mechanisms. These renderings are part of a wider emergence of a transparency paradigm in supply chain capitalism, whereby companies are urged to be more transparent about their corporate practices at a transnational level. This paradigm demands great critical appraisal, because rather than rupture corporate secrecy, what marks a continuity in this shift from secrecy to transparency is the corporate setting in terms of both the nature and pace of the information being released.

As Matthew Hockenberry argues, the corporate move toward and embrace of openness, the totalization of transparency, has a dark undercurrent: "if everything was seen to be available, then no one would ever want to look at it" (Hockenberry). His ensuing project aims to embrace this ethos in their development of a mapping tool, called Manifest.

Interrogating the digital page: epistemological, informational, design assumptions

As we gathered existing projects, our questions shifted from "what can we learn from this?" to "how are we learning from this?", and we began to think more about the epistemological, informational, and design assumptions embedded within each project or initiative. We became interested in questions

like: What kind of knowledge is deemed valuable? What kind of information does the project's design enable, invite, or close off? What relationship does the project establish with the user?

Based on these questions, we developed a heuristic that revolves around:

a) open and closed data/epistemes: what data/information/knowledge is allowed and what ways of knowing does this welcome/enable/encourage but also exclude?
This first dimension posits a spectrum of openness in the kinds of data, information, and knowledge that a certain project makes space for in its design. This ranges from the most epistemically closed-off projects, which have tended to be projects that draw on corporate or CSR data as their exclusive source for rendering *the* supply chain, to projects like *Feral Atlas* that embrace a much wider diversity of knowledge types and sources necessary for apprehending logistical worlds. For example, how might listening as a practice attune us to the infrastructural effects of the anthropocene, and how can this be incorporated into a knowledge resource about supply chains?
b) open and closed practices: with what degree of openness (for contribution and collaboration) does the project engage its visitor/user?
The second axis along which we considered the different projects we were coming across was the question of the practices and contributions it allowed from a user's perspective: can the user be a co-producer of knowledge or only its recipient? This helped us think through which projects see a potential for incorporating crowdsourcing and co-production into their project designs, and which projects are more closed off in this respect.

From information mapping to heuristic matrix

Putting the two together, a matrix emerged that enabled the heuristic (but certainly non-exhaustive) categorisation of the projects we'd reviewed, which we've tentatively termed the "research ethos" of the different digital supply chain renderings. Cross-referencing the two axes schematises the different approaches taken by the projects. Some projects embrace epistemic diversity, but are closed by way of being presented as finished. Others are open in the sense of allowing on-going crowdsourcing contributions, but epistemically closed in their setting of parameters for what information counts as a valuable contribution.

For example, this means that indices and rankings designed for accountability purposes rely on reconstructions of information provided by corporations in the first place. In this sense, again the move toward 'openness' far from eradicates the practice of secrecy. On the contrary, such voluntarily released information makes the critical appraisal and countering of it all the more urgent, if not a kind of "corporate oxymoron" (Benson and Kirsch). The 2x2 matrix also helped us sketch a gap in the kind of project that might not have been attempted yet - one that manages to be open both in terms of epistemic diversity and in terms of user contribution and co-production.

Figure 7: Manifest: a mapping platform for documenting supply chains that takes into account the inherent incompleteness of any such attempt.

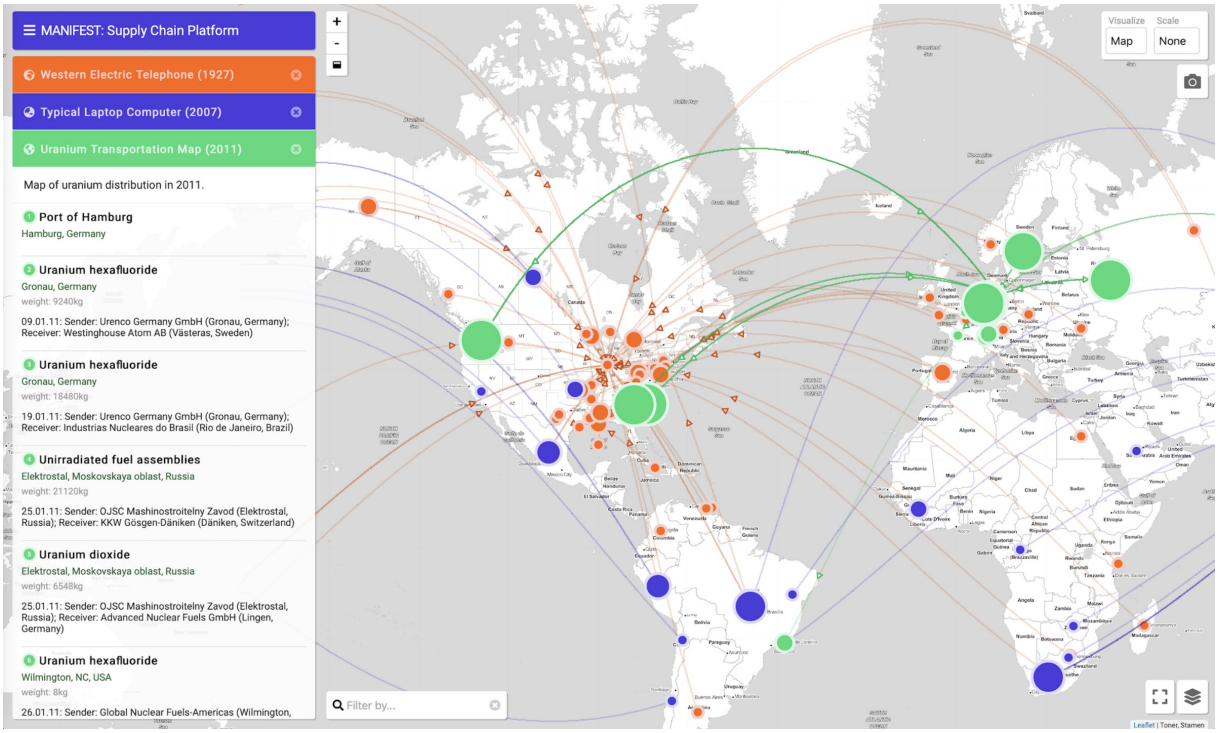


Figure 8: Underlying ethos: Sketching a heuristic schema for thinking through the epistemological and design assumptions of digital supply chain projects.

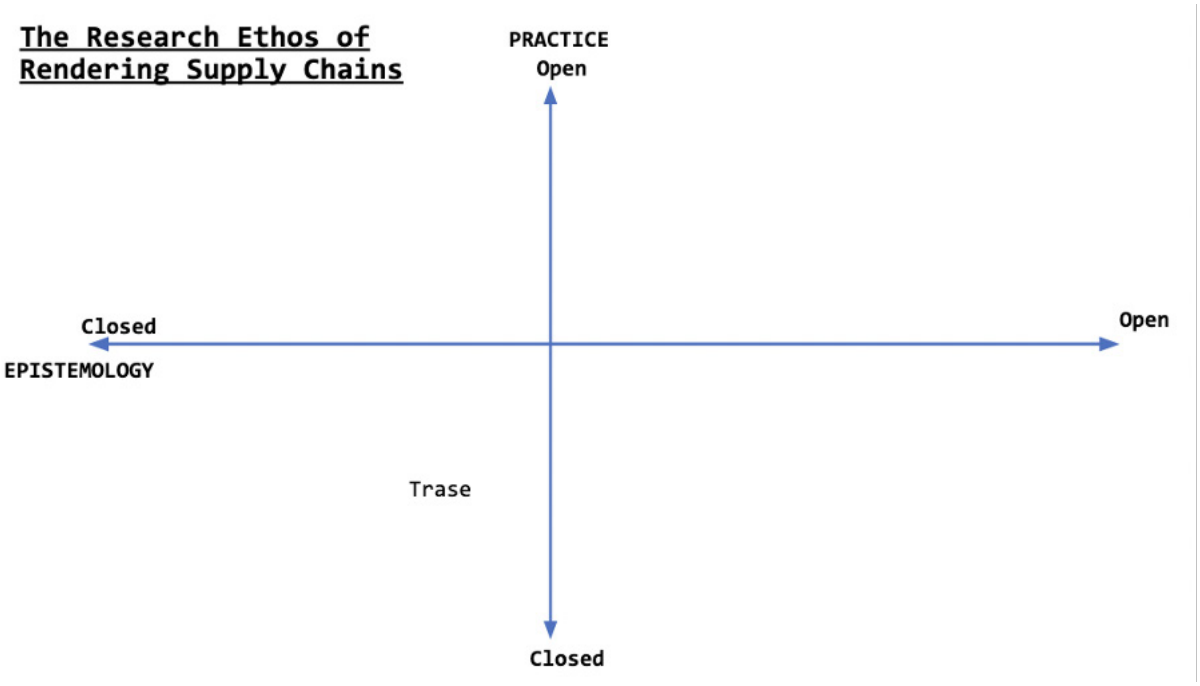
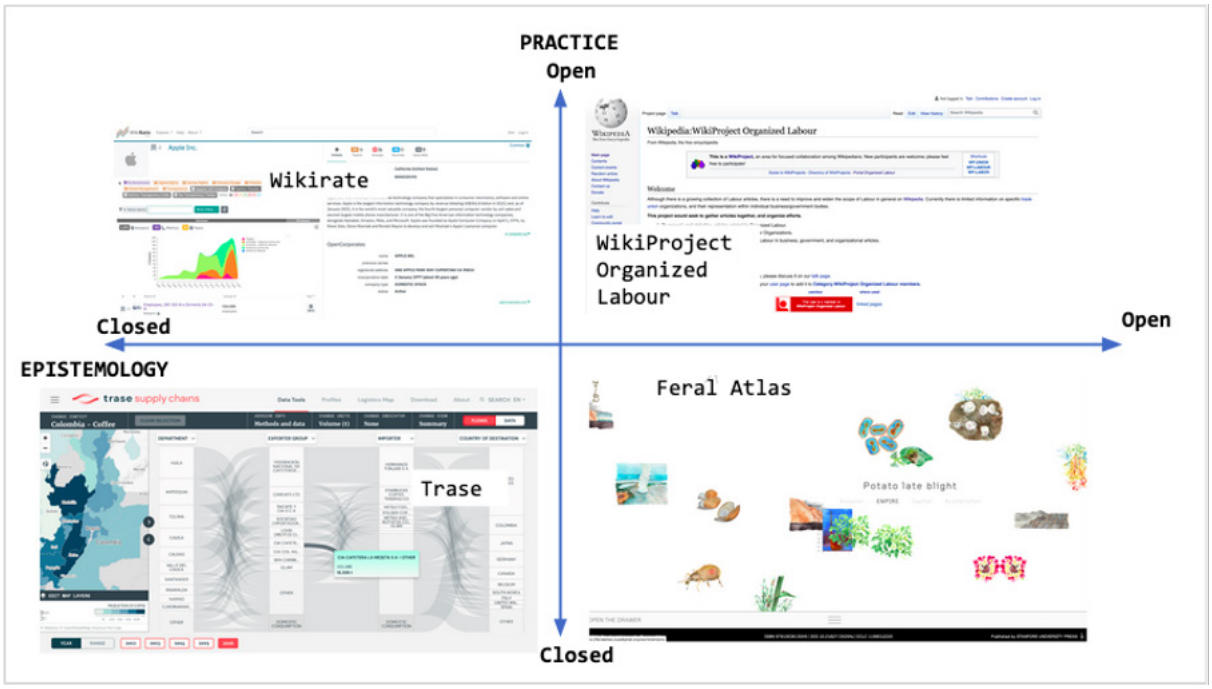


Figure 9: Examples of how existing projects might fit under heuristic schema.



Renderings for explorative learning

Closed Practices	*Open Epistemology*	*Examples*
Bespoke development for purpose of project	Pushing theoretical boundaries of existing renderings	Digital art-data projects: Feral Atlas, Solar Protocol, Anatomy of AI

Data-driven projects

Closed Practices	*Closed Epistemology*	*Examples*
Bespoke development for purpose of project	Uses pre-established understandings of data use, categorisations, schemas	Customised data platforms: Trase, Data journalism articles

Collecting open data for multi-purposes

Open Practices	*Closed Epistemology*	*Examples*
Crowdsourcing, content accessible to wider public, editable by public	Uses pre-established understandings of data use, categorisations, schemas	Open data platforms: Open Apparel Registry, Wikirate

Open knowledge for public documentation

Open Practices	*Open Epistemology*	*Examples*
Crowdsourcing, accessible to wider public, no account needed	Developing taxonomies with/by community practices	Open knowledge platforms: Wikipedia, OpenStreetMap, Wikidata

Process and obstacles, data dilemmas

It is important to specify that the heuristic tool we developed above was not meant to categorise the projects according to some external value judgement, but rather became part of our own process in figuring out, inductively and by way of thinking through what already exists, the kinds of trade-offs we would be likely to face in designing a digital tool or public technology for learning and thinking about supply chains. In designing digital tools that can help us learn how to learn about supply chains, how do we address the question of data? The amount of data available about supply chains is at once enormous but always partial, and from data systems that are not interoperable. The emphasis on quantitative data and numeric reporting often leaves out the partiality of workers' stories in more casual but increasingly strategic venues like Twitter or TikTok. The trade-offs that we saw emerging for thinking about our own project design can be summarised as the following:

a. Standardisation: Should the comparison across entities that data enables — and the standardisation it often entails — take precedence over heterogeneity, an important characteristic that renderings of supply chains often seek to present as seamless? With this in mind, should rendering the recognisable company as a unit of analysis (Apple, Amazon, etc.) take precedence over making visible the vector of production and circulation (subcontractors, transportation logistics) that they control?

b. Scalability: Rendering supply chains raises the challenge of demonstrating their planetary scale without resorting to abstraction and erasure of difference. Many web-based informational projects build upon pre-defined information architectures and taxonomies that set the website on a certain path which may be difficult to change later on. If we take Tsing's definition of scalability as "[The] ability to make projects expand without changing their framing assumptions" (Tsing, "Supply Chains" 38), then the follow-up question must be: what is sacrificed at the expense of pre-determining parameters that make a web project scalable? How can we design in a way that allows framing assumptions to be altered as our own learning changes?

c. Completeness vs Partiality: Finally, how can we insist on the value of patchy, partial, and non-comprehensive information — perhaps in opposition to the existing standards of "missing", "low-quality", or "low-accuracy" data? Can the development of digital tools be designed to decrease reliance on standardised and quantified information, and instead make space for the partial, temporary, incomplete, patchy, and heterogenous?

Discussion: Toward maintenance as research ethos

Across the informational landscape of how supply chains are rendered, projects operate with different levels of epistemological and informational openness and mobilise different vocabularies. This can make it difficult to

stitch together meaning from them, to such an extent that we often wondered if translating between them was still possible, or if they were inherently incompatible.

Throughout the Wikimedia Programme, we conducted interviews with a variety of actors that worked within or on supply chains: from global union activists, to investigative journalists, to researchers, developers and others. These conversations suggested that the politics of data surrounding supply chains wasn't as a black and white as we had thought. The information used to both keep track of supply chains as well as the actors involved seemed to have lives of its own: used within both green-washing meetings as well as grassroots advocacy spaces. Bringing together siloed and disparate sources of information could itself constitute a contribution to the space and its own place of learning. Mapping the information landscape of supply chains research demonstrated how these projects could be connected with (or conversely, siloed from) each other, and to connect them might address these questions of standardisation, scalability, and completeness — if not, provide a space to simply address (and embrace) their respective partiality.

Equipped with this landscape, we have realised that our place within it should perhaps be not a novel contribution — a "gap" to be filled, a "niche" to be carved out — but rather a way of translating between existing ways of rendering, and the lifeworlds they imbibe. By working with what already exists, we see new relations of responsibility, reciprocity, and solidarity arising from the notion of 'maintenance' as opposed to 'creation' of knowledge. (Data) maintenance becomes a way of rendering research without pressure of novelty and competition, instead imbued with notions of care and collaboration at its core.

Academic Publishing and Maintenance Work

As a value, a practice, or 'ethos', maintenance bears an ambiguous relationship to academic research. On the one hand, maintenance is absolutely necessary to the research process (be it through access to libraries, archives, datasets, or other information repositories and infrastructures). On the other hand, it is invisibilized at best and shunned at worst at the stage of rendering research and presenting outcomes. This relationship becomes especially thorny with respect to the ultimate 'form' seen to legitimate academic research: the peer-reviewed journal article. In their current form, the incentives created by publishing and funding structures — arguably the two central pillars sustaining the academy as we know it today — do not align with practices of maintenance, and are stacked in favour of continuously pursuing that which is presented as novel. Academic progress and career success become intertwined with publishing records, which in turn all revolve around a novelty criterion, the knowledge gap, at the expense of cultivating the art of maintenance as a research ethos. Ironically, the very structures that maintain the legitimacy of this publishing system — peer review — are taken for granted and unremunerated as part of trying to make it through the increasingly precarious academic system.

As with all relations of power, this tension between novelty and maintenance transcends the academy, linking to broader gendered and racialised divisions of social life. Indeed, both gender and geographical representation in free and open source communities remain contentious issues. Research has shown bias in the process of collaborating with diverse actors, for example instances of prejudice when gendered

behavior (particularly female-associated) is displayed, as well as analyses of how notions of meritocracy bely demographic inequalities (Vasilescu et al.). Similarly, contributions to Wikipedia have been analysed for the inherent inequalities that enable volunteer behavior in certain communities, and necessitate remunerated work in others — particularly with respect to caring responsibilities (Reagle and Rhue 21). In other words, some people just don't have the time, money, and resources to contribute freely to a project like Wikipedia. More bluntly: does "free" simply mean sexist? (Reagle).

Indeed, notions of the "digital housewife" have emerged as a way of describing the "menial work" of digital life ring oddly true to the unpaid work of data production and verification that is so integral to the Wikipedia project, which we were inspired by through our own work (Jarett 2016). That is not to discount its importance, but rather the way in which work in free and open source projects may be shifting, and thereby perceived. As F/OSS has become institutionalised as a technological standard, its pioneering practices increasingly require the menial — and thereby less glamorous — work of maintenance (Jarett 2016).

Rendering and maintaining research through the re:source project

Can preservation itself be thought of as a form of 'value creation', separate from but integral to the pursuit of novelty? In the digital sphere, open knowledge communities, which operate peripherally to formal knowledge production (all while playing a crucial role in disseminating the latter), arguably have a much more intuitive relationship to and sensibility for maintenance as research ethos. In contrast to academia, here, knowledge is built through small contributions with little recognition (at least in the public eye) that cannot necessarily serve as an instrument for personal or professional advancement. Wikipedia is perhaps the ultimate example of this information infrastructure. Used daily by millions who treat it more as a one-way system of information access, a quick click through the "View history" tab in the top right corner of any Wikipedia entry reveals it as the living, constantly (and often contentiously) evolving global informational ecosystem that it is.

Ultimately, we hope to develop and maintain an online project — a supply chain wiki of sorts — that can work against a culture of acceleration, of innovation for innovation's sake, of move fast, break things, in a moment when the public-political imagination is in need of a capacity to apprehend slowly and simultaneously unfolding crises. We want to put forward the idea that from the point of view of the participating individual, a data maintenance project is not just something to contribute to, but has a lot to give in return in terms of the kind of attention horizon it helps us cultivate, a different way of processing, absorbing, engaging with information and passing events that don't fit with the ebb and flow of news events as the dominant mode of information consumption.

Online maintenance work invites us to slow down and resist the instinct to jump to the next thing at the first opportunity. Maintenance as a research ethos works against the grain of knowledge, media, and social media industries increasingly invested in pushing us in the opposite direction: always privileging novelty, churning out news cycles at ever higher rates, fragmenting our attention spans. Participating in online maintenance/mapping/data collection projects cultivate a longer attention span which can overcome the temporal punctuation and

tempo with which news cycles dictate when things are happening, when things are being disrupted, when a crisis is no longer worthy of attention. To maintain is to sustain, support, and care for others: an ethos that is all-the-more important to cultivate in an age of relentless and ever-flowing capital, within the academy and across our supply chains (and their renderings).

Notes

[1] See: https://www.are.na/miriam-matthiessen/logistics-research and https://www.are.na/anne-lee-steele/supply-chains-nxeaga7ntc4.
[2] For a full bibliographic resource on how supply chains are addressed in various fields, see Matthew Hockenberry's supply studies syllabus: https://supplystudies.com/.

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One Research Collective

* WASTE PEDAGOGY

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Waste is sociality that happens in the cracks of a research collective - it could be friendship or jealousy. *(affects that may be not seen that we're pointing out... things we eventually share)* → *we don't expand much on this later in the text - maybe we should?*

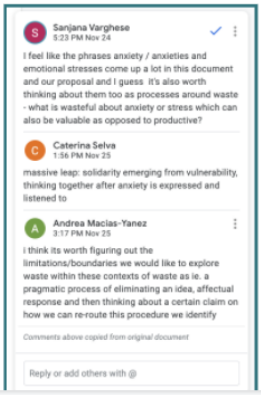
START HERE:

Formatting guidelines:
Types of edits: *comments & reflections*, revisions, **questions** (started to combine them: like *this is a revision & reflection*, and this is ***reflection & question***)

(Macro scale of institution)

`#1 / Waste is a category/construct produced by wider structures.`

The modes of waste we expand on take place in the context of active collective thinking, research and writing. Creating waste is a process of sorting, picking, choosing, and/or of placing value upon ideas and issues. ~~Waste is also the affective response to these processes like anxiety or stress.~~ Waste in the academic-institutional realm emerges from a process of activating certain thoughts and composing particular claims and/or research questions -- paradoxically it is a cause and effect of neglect and negligence. Consequently, we might understand discarding as a resistance to plurality and discord. ~~Waste results from this process but we also arrive with our own expectations of waste and non-waste.~~ We may enjoy processes like 'brainstorming' or 'ideating' for how the existence and production of waste also becomes a necessary impetus for the delineation of what is 'productive', 'valuable' and 'useful'. So the line between waste-non-waste is always context specific and in flux but the 'generation' of waste also makes its 'inverse' possible. ~~(I wonder if pedagogy, curiosity, diversity lies within waste. Not justNot of just one individual but the 'wastes' of researching individuals, the pile of discarded streams of thoughts, ideas, concepts, etc as a large mound of pluralistic potentials.~~ In relation to refusal, **how can these mounds of waste be accessed? How have institutional 'guidelines' of legitimized concept-making caused us to forget ~~this~~ intellectual waste? Can becoming waste-based practitioners also allow others, with less academic know-how, to access the processing of researching?** How could we reframe collective curiosity by engaging in a rehearsal



of wasted thoughts and affects? *What are the political / liberatory elements of waste? Which kinds of ideas and care, schools of thought, forms of attention, methodology and engagement have historically been made out to be, framed as or written off as waste? Does calling attention to waste also necessitate a reckoning with the structures and systems of intellectual waste?*

Here waste is rendered as a category that is produced by both the researcher and the institution: what is the agency of the institution within the individual researcher and what is the agency of the individual researcher in the production of academia? ~~Waste is therefore a sort of construct - a name given to an intellectual, physical or affective encounter~~. *If we refuse to fabricate waste, we are challenging this very construction and centrality of perspective in waste-making.* **What happens when we find value in what is already used and~~,~~ marginal ~~and liminal~~ and we fail to act as expected by the larger social consensus/system of knowledge? Does it mean we become ideas or emotional hoarders?** *Akin to composting*

Sanjana Varghese 4:56 PM Dec 17
Add paragraph

Sanjana Varghese 4:56 PM Dec 17
Delete paragraph (2 times)

Séverine Chapelle 4:57 PM Nov 24
laughter, envy, jealousy, friendship, frustration

Séverine Chapelle 4:58 PM Nov 24
we can argue that these affects could prompt certain questions would they be evoked or amplified in rehearsals

Caterina Selva 1:30 PM Nov 25
academic emotions and how they influence our ability to learn and research, and therefore what we discard; also we suppress these emotions and they take on passive-
Show more

Séverine Chapelle 2:00 PM Nov 27
"waste is always shared - enventually shared"

Comments above copied from original document

Séverine Chapelle 5:20 PM Dec 13
Add: *"→ we don't expand much on this later in the text - maybe we should?"*

Séverine Chapelle 4:29 PM Nov 22
What makes our understanding of waste different from a necessary selection of ideas that constitute brainstorming etc?

Sanjana Varghese 5:33 PM Nov 24
was also thinking this and i agree - also like where do we delineate what is waste and what is just thinking together?

Caterina Selva 1:38 PM Nov 25
i think drawing from discard studies we could "work with what troubles"?like how what we discard as waste is yes necessary to our human condition (physical, mental,
Show more

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Séverine Chapelle 12:49 PM Dec 17
Delete: *"Waste is also the affective response to these processes*

#1 / Waste *is a category/construct* — a name given to an intellectual, physical or affective encounter — *produced by wider structures and institutions*.

The modes of waste we expand on take place in the context of active collective thinking, research and writing. Creating waste is a process of sorting, picking, choosing, and/or of placing value upon ideas and issues. We might understand waste-making as a resistance to plurality and discord amongst thinkers and ideas. **If the production of waste is a necessary impetus for the delineation of what is 'productive', 'valuable' and 'useful' in brainstorming, the line between waste-non-waste is always context specific and in flux.** *We approach waste as a category that is produced by both the researcher and the institution.* ****How can we access these mounds of waste to give way to its political/liberatory elements? What happens when we find value in what is already used and marginal and we fail to act as expected by the larger social consensus/system of knowledge?****

#2 / Waste as a breach between what you think is academically expected and what your initial thought, research question or curiosity is.

*Systems of knowledge production within learning institutions encompass how and which questions are posed and the possibilities that they must always exclude. Being-with waste opens to a practice of attention, experimentation and invention. *Where we might usually discard a feeling about a research question,** ****how could we hold on to that sensation in order to question our positionality in research?** What does it mean to follow and question a feeling of discomfort?**

#3 / Waste as free-association: it is letting yourself be guided by an image, a smell, a feeling or word into another thought that is somewhat further away from that first encounter.

To work with and through waste is to attend to the texture of thought in its multiplicity of perceptions, affects, and immediacy. To refuse a center and instead inhabit peripheral spaces. **Thought is textured: always more than intellectual-theoretical, an archive of experience, both past, present and immediate. The texture of thought is a culmination of conscious and unconscious affects, both bodily and intellectual. Can our collectivity embrace and bring together all the 'debris' of our experiences, the things that were felt but unsaid between us?**

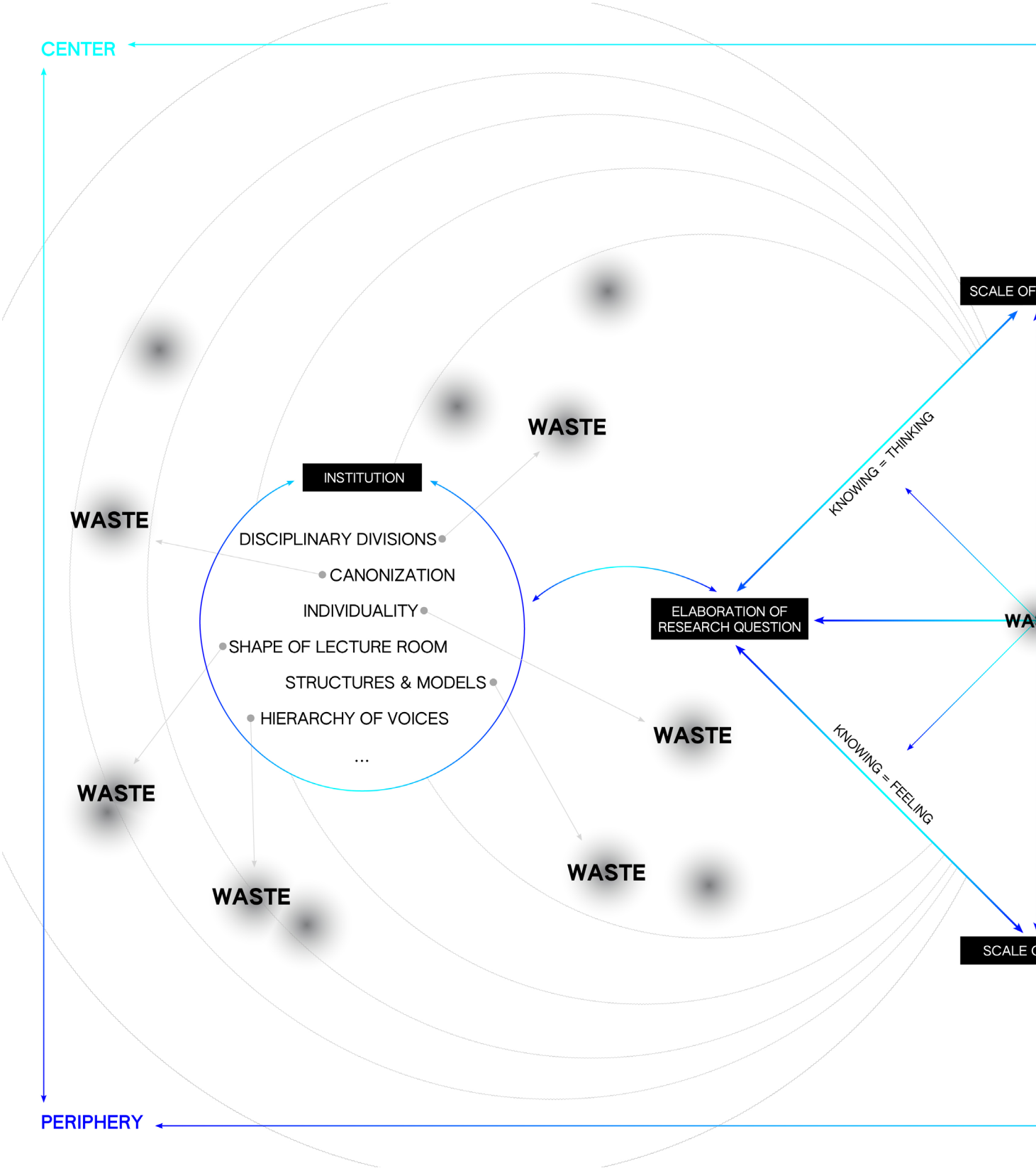
#4 / Wasting is a rupture in the tempo of thinking.

There is a temporality to the act of discarding. As thinking is kinetic, a rupture in the tempo of thinking is echoed in the body. **Perhaps engaging with these breaks we refuse to re-enter what would be a continuous and seamless thought-process.** We identify that working through waste encompasses mental labor, intellectual and emotional anxieties driven by academic trends, theoretical visibility, competition…

#5 / Waste as an error, irrational, divergent, decadent, the non-fruit of labor. A silence, a bodily posture, and/or constellation of supposed 'peripheral' affects to be brought back to the centre.

****How can we expand from affects and thoughts that would otherwise be considered disruptive?**** **When interrogating the potential of debris we are exploring the space of what remains in a research. How can we retrace these processes of erosion? How can we reassemble the scattered traces in the always peripheral space of waste, a space that cannot be rationally organized?** Waste pedagogy can be unsystematic and open-ended to amplify the in-between space between thinking, feeling and knowing.

#6 / Waste as collective and always relational.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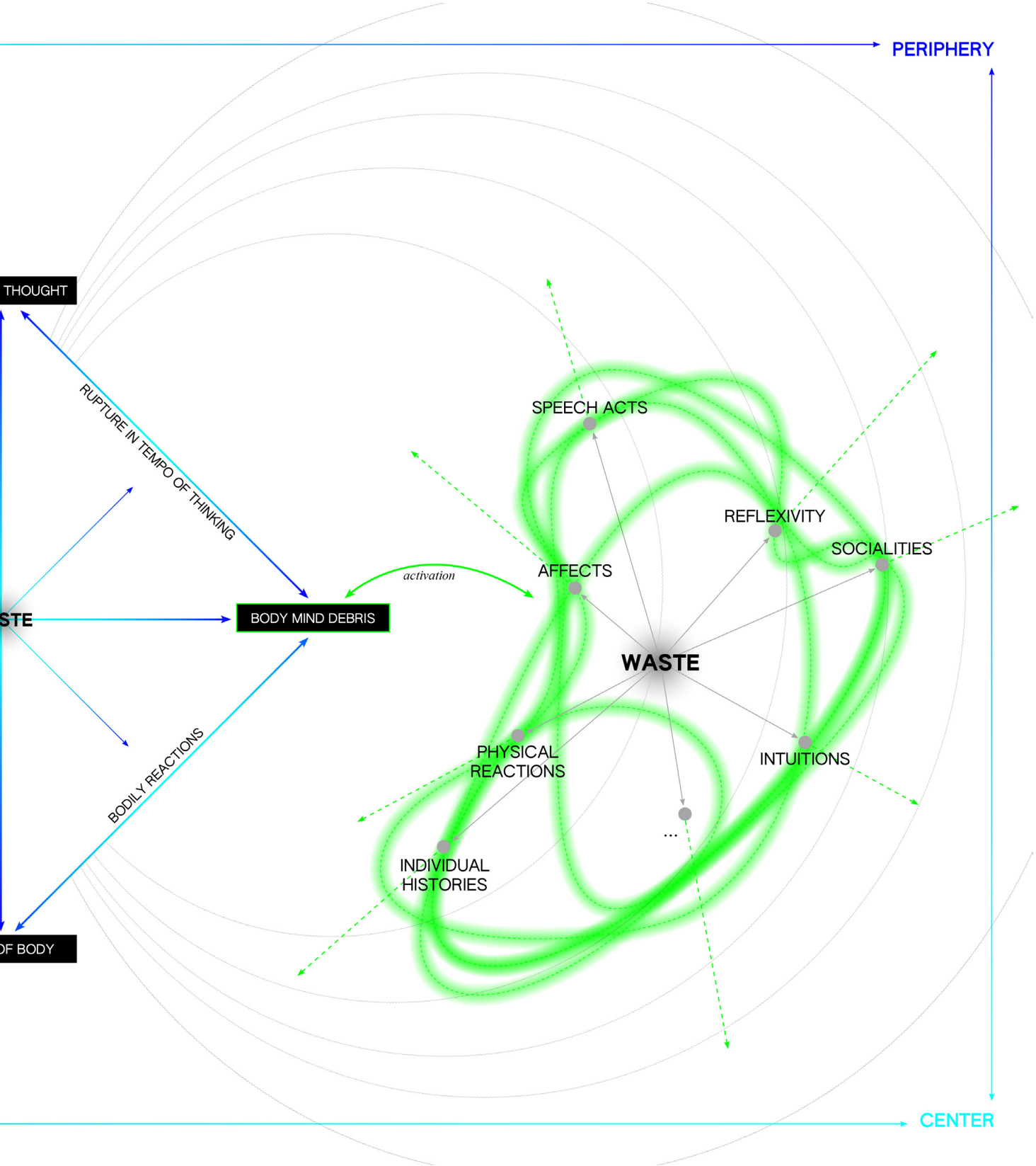
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...
INDIVIDUAL HISTORIES
CENTER

Malthe Stavning Erslev

A MIMETIC METHOD: RENDERING ARTIFICIAL INTELLIGENCE IMAGINARIES THROUGH ENACTMENT

Abstract

How does a practice of *mimesis* — as dramatic enactment in a live-action role-playing game (LARP) — relate to the design of artificial intelligence systems? In this article, I trace the contours of a *mimetic method*, working through an auto-ethnographic approach in tandem with new materialist theory and in conjunction with recent tendencies in design research to argue that mimesis carries strong potential as a practice through which to encounter, negotiate, and design with artificial intelligence imaginaries. Building on a new materialist conception of mimesis as more-than-human *sympathy*, I illuminate how LARP that centered on the enactment of a fictional artificial intelligence system sustained an encounter with artificial intelligence imaginaries. In what can be understood as a decidedly mimetic way of doing ethnography of algorithmic systems, I argue that we need to consider the value of mimesis — understood as a practice and a method — as a way to render research into artificial intelligence imaginaries.

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Into the mimesis

In the early days of personal computing, Brenda Laurel pointed to the centrality of mimesis to interface design. Drawing on dramaturgy, Laurel argued that "an interface is by nature a form of artistic imitation: a *mimesis*" (67, emphasis in original). Laurel uses the word 'mimesis' to denote drama, specifically dramatic representation and enactment. Designing computational systems is like setting up a stage upon which varying casts of human and nonhuman characters enact myriad interactions. A pre-authored, fixed script does usually not govern the action on this stage, yet it can be understood in terms of a plot, i.e., a series of events that are bound together by an internal logic. In this sense, interactions with computers happen on a representational level and proceed according to a certain *dramatic potential*, i.e., "something that can develop and become 'actual'" but which is not necessarily given from the onset (Laurel 82).

In this article, I propose to expand and update Laurel's approach by developing a *mimetic method*: an embodied way of harnessing mimesis to encounter, negotiate, and design (with) technology, and specifically technological imaginaries. The mimetic method draws on Jane Bennett's new materialist theory of *sympathy* in order to account for the kinds of affective encounters with nonhumans that mimesis can situate (*Influx and Efflux*). I here trace the method in the context of a *live-action role-playing game* (LARP) and frame it as a form of more-than-human design that integrates aspects of design fiction. The premise is simple: If interfaces are mimesis, then we can harness mimesis in the design of interfaces as well. I here focus on how mimesis in the form of LARP can be of value in the understanding and design of technology, which is to say, how mimesis *renders* imaginaries in and through embodied enactment.

Even though the word has many different connotations and has been discussed at least since antiquity, mimesis is highly relevant in the study of artificial intelligence. [1] Since the dawn of digital computation, imitation (one of the many faces of mimesis) has informed our understanding of what artificial intelligence might be — and how we can know about it. Alan Turing's conception of the *imitation game* — better known as the *Turing test* — devised linguistic imitation as a method for gauging intelligence in computing machinery as early as 1950 (Turing). As critics have observed, the mimetic logic of the Turing test risks perpetuating an anthropomorphic assumption in the face of artificial intelligence — and indeed in the face of intelligence *per se* — since it only registers the kind of intelligence humans tend to recognize as such (Goffey; Bratton). However, if we rethink the way we understand and practice imitation — as well as what it indicates — we will see that there is still productive potential in mimetic dynamics. Instead of understanding imitation as deceit — as a drive to assimilate with the goal of fooling the observer — we should consider it as encounter — as a possibility to engage and inquire. Conversely, instead of believing that imitation indicates intelligence, we should be more prosaic: Imitation indicates nothing else than an imitative encounter — and that is valuable in itself.

As a philosophical concept, mimesis is as contested as it is old, yet it continues to hold sway since it informs as varied notions and practices as imitation, representation, enactment, similarity, simulation, mimicry, sympathy, as well as, in more general terms, the relation between literature and art on the one hand and, on the other, knowledge and truth (Gebauer and Wulf; Potolsky). In this article, I bracket a large portion of the philosophical

conundrum of mimesis in favor of focusing on something more specific, i.e., the *practice* of mimesis (as enactment and imitation) in relation to *artificial intelligence*. In this article. I use the words imitation, enactment, and mimesis more or less interchangeably, noting that I am here not referring to the grand concept of mimesis with all its connotations, but rather to a certain kind of mimesis. I am interested in the embodied practices of imitation and enactment, which are similar in that they both base themselves on the processual messiness of situated bodies, yet also distinct since enactment implies fictionality, which imitation does not (necessarily). This embodied and processual understanding of mimesis is inspired and informed by new materialist thought, and adds valuable nuance and friction to the question of imitation vis-à-vis artificial intelligence. Far from being a monodirectional assimilation, the version mimesis here investigated is deeply dialogic and ripe with politico-aesthetic agency.

Although this article takes Laurel's work as its point of departure, there are also significant differences as to the understanding and use of mimesis across Laurel's work and mine. Laurel understands mimesis as dramatic representation and enactment based on Aristotelian dramaturgy and is mainly focused on usability. To Laurel, mimesis figures as a tool to limit frustration and increase pleasure in the interaction with computers by making them easier — more 'natural', as it were — to use. Her conclusion is accordingly that designers should make any hint of computational procedure disappear from the interface. However, as Olia Lialina shows, the drive to "make users forget that computers and interfaces exist" (12) instills users with passivity and stupidity, effectively limiting their access to and involvement with the technologies that are integral to many aspects of their lives. The interaction might be pleasurable and easy, but the usability comes at the cost of comprehension. Take search engines as an example: These incredibly complex systems are easy to operate. They largely work on a representational level — not demanding that users know about database search, keywords, indexing, ranking, etc., but simply inviting users to ask a question. There are options to fine-tune the search with specific syntax, e.g. searching for exact matches by using quotation marks, but the system also works if the query is a more colloquially formulated question. In this sense, search engines exemplify Laurel's approach by setting up a stage for navigating the Internet on a representational layer – by asking for directions. Usable as they may be, though, it is difficult to fully comprehend how these engines work, despite of the fact that they are imbued with politics and have major techno-cultural impact (cf. Noble).

In the context of artificial intelligence and machine learning — to which search engines also belong — the challenge for design is no longer only to make technology usable, but to make it understandable (cf. *ACM FAccT*). Not, as Laurel argues, to make the technology disappear, but instead *to make it appear in the first place*. Since Laurel's move to make technology disappear is motivated by a consideration of mimesis, it is tempting to think that the task for design should be to go in the opposite direction: Away from the mimesis in order to get a sense of how things look 'behind the interface'. However, the only thing we will find behind the interface is *another interface*, and each layer in the interfacial stack comes with its own techno-cultural specificities (Cramer). Design cannot escape mimesis; instead of trying to do so, we will do better to move critically *into* — and rethink — the mimesis of design. While some of Laurel's conclusions may not be applicable to the current situation, the key insight that interfaces work as mimesis is still valuable. Might we employ another poetics — enact

other stages or performatively explore the ones already given — in order to unravel the theater of computation and, in turn, render anew the mimetic frameworks through which we can research and design (with) artificial intelligence systems?

In the following, I introduce the LARP Sivilisasjonens Venterom, which is will be the case through which I illuminate the mimetic method. Sivilisasjonens Venterom forms the backdrop against which I will discuss how the mimetic method sustained both an affective encounter with and an in-character negotiation of a fictional artificial intelligence system, which leads to a consideration of how the mimetic method figures in the contemporary design landscape.

Sivilisasjonens Venterom

> *My name is Trinidag Obage.*
> *I am a civilized human being,*
> *citizen of Sivilisasjonen, observer for Intelligensen. I work in the waiting room. I look at things, people. New applicants from the wastelands. Peacekeepers. Even administrators. My eyes are cameras, literally. I share my vision, my thoughts, and my feelings with Intelligensen.*

On 22 November 2021, the ERC project Machine Vision in Everyday Life hosted the LARP Sivilisasjonens Venterom (*A Waiting Room for Civilization*). The LARP focused on surveillance, machine vision, and ethics, took place in Bergen, Norway, and lasted nine consecutive hours of in-character role-play (Bjørkelo et al.; Andersen et al.; Rettberg and Gunderson). LARPs are improvisation-driven, para-theatrical settings wherein multiple people inhabit the same diegetic space and interact via their characters without a script and with no audience except for the LARPers themselves (Harviainen et al.). I participated in Sivilisasjonens Venterom without any prior experience with LARPing, motivated by my research interest in the overlap of mimesis and artificial intelligence. Sivilisasjonens Venterom belonged to the sub-tradition of *Nordic LARP*, which is characterized by being noncommercial, player-driven (i.e., not controlled by game masters or similar), and focused on inter-character drama and intrigues rather than combat. Moreover, Nordic LARPs often focus on politically charged and/or existentially vulnerable themes and are "increasingly seen as a worthy endeavor and as a valid cultural activity" though which to engage such themes (Harviainen et al. 99). Among the circa 40 participants in Sivilisasjonens Venterom were experienced LARPers (i.e., people engaged in LARP), artists, and researchers from diverse fields such as philosophy, computer science, and digital culture.

A core feature of Sivilisasjonens Venterom was the enactment of a fictional artificial intelligence system that was neither based on any existing technology nor controlled by the administrators of the LARP. This fictional artificial intelligence — which bore the name of Intelligensen (*The Intelligence*) — was a central aspect of the story-world of Sivilisasjonens Venterom and emerged semi-spontaneously from the interaction between participants in a way that was informed by the props used in the LARP, the fictional setting of the story-world, and some loose guidelines. Intelligensen was the main reason for my research interest in Sivilisasjonens Venterom: The fictional artificial intelligence system that emerged through enactment was a perfect fit for my research project. Before my participation in the LARP, I had formulated a research question circulating the potential of using mimesis as methodology for rendering — studying and negotiating — artificial

intelligence imaginaries in a design context. In my study of Intelligensen — which by proxy was also a study of a mimetic method vis-à-vis artificial intelligence imaginaries — I used my own body as an apparatus of knowledge development. I entered into the LARP on par with any other participant, acquired a character that would give me embodied insight into Intelligensen, and began role-playing. These nine intense hours of LARP make up the empirical foundation for this article.

Figure 1: New applicants arrive at the waiting room. Photo: Eivind Senneset, UiB.

Sivilisasjonens Venterom is set in a speculative future, post- or mid-apocalypse, characterized by global environmental and military damage. One of the few remaining habitable places in this setting is the city-state of Sivilisasjonen (*Civilization*), governed by the advanced AI system Intelligensen, which works by gathering data from all citizens in Sivilisasjonen and making governmental decisions accordingly. Sivilisasjonen is relatively sealed off from the outside world (known as the wastelands to the citizens of Sivilisasjonen), and only a few selected citizens have permission to venture out of the city. Conversely, anyone from the so-called wastelands will have to apply for citizenship and go through rigorous evaluation before being granted entry. The plot of the LARP takes place in one of the waiting rooms, where applicants are evaluated and possibly granted citizenship. There figure many people in the waiting room, including psychologists evaluating prospective new citizens, peace keepers upholding order, and the so-called administrators whose responsibilities are not entirely clear — as well as, of course, a lot of applicants from the wastelands. Even though citizens in Sivilisasjonen carry different titles and responsibilities, the official hierarchy is flat: No human has any official power over any other human — Intelligensen is the zenith of all power.

My character in the LARP was Trinidag Obage (Trin); the quote above works as part of an auto-ethnographic transcript of my experience of the LARP written from Trin's perspective.[2] Trin was an ambitious employee in Sivilisasjonen with the job title of observer who had complete faith in and developed a kinship with Intelligensen. In the character sheet for Trin, provided to me before the LARP, it was made clear that one significant characteristic of Trin was the assumption that people were prone to error whereas Intelligensen always knew best, since it reached its conclusions based on data from all citizens. Trin was a somewhat unique citizen of Sivilisasjonen since their eyes — unlike any other person in the waiting room — had been augmented with camera lenses, feeding every visual input to Intelligensen in real time. In this sense, Trin was a walking, talking CCTV camera. Due to the flat hierarchy of Sivilisasjonen, Trin had no official power over anyone else in the waiting room, despite their high-ranking status. Instead, Trin possessed a special responsibility: to document whatever happened in the waiting room, which also gave Trin an informal position of power.

In addition to belonging to a Nordic LARP tradition, Sivilisasjonens Venterom was conceived as a *research LARP*, i.e., as a method of academic knowledge development in its own right. As the organizers of the

Figure 2: The administrators, including Trin, welcome the new arrivals to the waiting room. Although the official hierarchy in Sivilisasjonen is flat, there are some implied power relations. Photo: Eivind Senneset, UiB.

behavior of the (other) participants, this study focuses on my own situated experience of role-playing as Trin. Since I in no way took part in organizing the LARP, my perspective is somewhat unique in the context of LARP scholarship. Whereas studies into LARP are usually written by the organizers themselves, this article takes the participant perspective, which affords a view into the representational world — the mimesis — of the LARP less concerned with organizing and more with actual role-playing. In other words, the article is simultaneously auto-ethnographic and an ethnography of an algorithm (cf. Seaver) via role-play of a character existing in symbiosis with said algorithm. Algorithms are cultural, which means that our enactments of them can teach us a lot about them. We can thus provisionally think of this usage of the mimetic method as an auto-ethnography-by-proxy of an algorithm.

My research interest in the LARP concerns an exploration of the mimetic method: The possibility of inquiring into the design of artificial intelligence systems from within the mimesis itself. LARPs figure as ideal settings for such inquiry, since they instantiate dramatic situations yet do not share the framework or institutional context of the theater. Indeed, LARP has already made its way into design research, figuring as a method that can "assist in the design process, in particular: i) to sensitize designers to perspectives and situations far from their own; and ii) to test design prototypes that would be deployed in those situations" (Márquez Segura, Spiel, et al. 390). The value of LARP in the context of design lies in the specific and embodied knowledge that emerges in the moment of immersive role-playing, which is particular yet informative of wider structures: "Improvisation gives participants significant imaginative agency through dialogue. At the same time, the immersion and embodiment enable participants to draw on their experience from everyday reality but escape its constraints and consider different socio-technical arrangements entirely" (Pothong et al. 1728). In this way, LARP carries a lot of potential as an experimental setting in which the "dramatic potential" (Laurel 82) of computational systems can be investigated and negotiated, not just experienced. Yet despite the rising interest in LARP within design research, there is a lack of inquiry into the mechanisms that drive the insights emerging in LARP. What kind of insight do I get from role-playing as Trin, and how does it help in the context of design? As I will argue in the following, the new materialist concept of *sympathy* – in conjunction with the notion of *bleed* from LARP jargon – is helpful here.

Encountering Intelligensen

> *I have begun seeing differently.*
> *Before I saw things. Now: Patterns.*
> *Intelligensen sees what I see, and it teaches me to see anew. Why do I feel that we are similar? Could I be right?*

Trin has a special relation to Intelligensen, having undergone surgery to connect their eyesight to it. By virtue of their ocular

augmentation, Trin became the closest thing to a human embodiment of Intelligensen in the LARP, though it is important to stress that the enactment of Intelligensen was much larger than Trin. The system emerged as an amalgamation of myriad constituent parts, both human and nonhuman, including: (a) Multiple monitors spread throughout the waiting room showing AI-generated faces professing the doctrine of Sivilisasjonen; (b) a large amount of CCTV cameras scattered across the waiting room; (c) a scoreboard showing the individual value of each character from the datafied perspective of Intelligensen; (d) a specially designed app through which LARPers could provide intel to and occasionally receive messages from Intelligensen; (e) a small group of admins working in a hidden control room, overseeing the scoreboard, receiving intel from the app, and writing messages to LARPers; and (f) the distributed enactment of Intelligensen through the interaction between characters (to which Trin's embodiment of Intelligensen belongs).

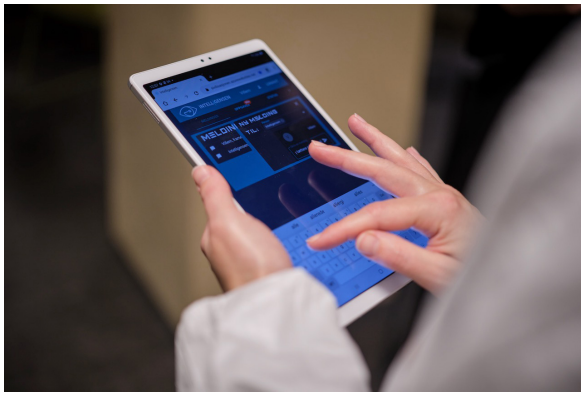

Figure 3: A participant interacts with the specially designed app. Photo: Eivind Senneset, UiB.

In short, Intelligensen emerged semi-spontaneously in dialogues and actions performed by LARPers vis-à-vis one another and in conjunction with nonhuman entities. One of the most impactful nonhuman forces in the enactment of Intelligensen was the dedicated app (point (c)), which worked as a *nondiegetic technology* (cf. Márquez Segura, Isbister, et al.) that was not meant to be part of the representational space of the LARP but worked as a replacement for an actual surveillance system. Through the app, LARPers could give positive and negative reports on other characters' behavior, thus possibly affecting their personal scores. Thus the participants in the LARP did not only enact Intelligensen through role-playing, they also constituted the surveillance apparatus itself, through the app. Even though there was a group of dedicated admins to some extent controlling Intelligensen, this group had only very limited impact on the proceedings of the LARP, since they were simply unable to keep up with the amount of input they received, and admitted afterwards that they felt completely powerless.

In the messiness of human and nonhuman parts to the whole of Intelligensen, Trin persevered as a somewhat privileged part, a human incorporation of the system that other LARPers would treat as an extension thereof. This was felt mostly in the way other characters interacted with Trin and reacted to their presence. Some citizens would ask Trin about how Intelligensen worked, while others would enact a distinct distance and hesitation towards Trin, presumably attempting to keep just a few secrets from Intelligensen's gaze. It was common for other LARPers to react with slight shock upon looking Trin in the eyes, since the camera implants were visible (i.e., I was wearing cosmetic contact lenses that looked like camera apertures as part of my costume).

Although other LARPers reacted to the character Trin, and not to me as a person, the experience of being the embodiment of an artificial intelligence system — and the experience of watching other people react with shock as they look you in the eyes — were just as much mine as they were Trin's. In LARP jargon, the experience of overlap between

character and player is known as *bleed* — a reference to the way in which the emotions of the character and those of the player bleed into each other. The notion of bleed is not unique to LARP; the vicariousness of the actor alongside the character they portray is a well-known aspect of theatrical mimesis. In some immersive moments of acting, "[o]ne stands in another's stead and feels intimately a feeling that is not quite one's own" (Bennett, "Mimesis" 1191). Yet whereas this vicariousness is a byproduct of traditional theater (where the goal is to address an audience and not just oneself), bleed is an important aesthetic property and one of the most actively sought-after aspects of LARP.

Figure 4: Closeup of Trin's eyes. Photo by the author.

Bennett argues that the vicariousness of actors should be understood as encounter, wherein "(already emergent) shapes come into contact and become changed by virtue of contact, as each takes on and takes in something of the others" ("Mimesis" 1187). Bennett here frames mimesis in a new materialist context that rejects a strictly human-centered perspective, driving an understanding of reality as made up of processual, relational ecologies that stretch far beyond (but also include) humans. Within this frame of thinking, the vicariousness of the actor and the bleed of the role-player can both be understood in the light of *sympathy*, i.e., a "more-than-human flow of communicative transfers" between and across humans and nonhumans, working akin to an atmospheric force (Bennett, *Influx and Efflux* 29). In other words, bleed also happens in relation to nonhuman entities – such as Intelligensen. Sympathy, in turn, can be understood as a new materialist epistemology, a theory of how human beings can encounter and come to know (parts of) a more-than-human reality.

Neither bleed nor sympathy are, however, to be understood as a flattening of the space between player and character, or between human and more-than-human. In LARP, it is a basic characteristic that each participant is simultaneously both a player and a character, "the goals of which are rarely identical" (Harviainen et al. 88). Within Nordic LARP, it is e.g. common for the player to make bad decisions on behalf of their characters, to the end of situating drama; this is a doctrine known as *play to lose*. In other words, there persists a necessary, critical distance between the player and the character. Likewise, sympathy does not afford a human to know or be able to conceptualize *every aspect of* the more-than-human entities we might encounter through mimesis. Rather than an epistemological flattening, sympathy is "a feeling-with that respects the distance, and preserves the differences" between the constituent parts of the encounter (Bennett, *Influx and Efflux* 36). In role-playing as Trin, I encountered the character. I did not become Trin, yet I felt some of what Trin felt. Likewise, Trin did not become Intelligensen, but encountered it via sympathy. In turn, I encountered Intelligensen through Trin's encounter with it.

As an example, I became acutely aware of the materiality of my own eyes as apparatuses of perception during the LARP. By virtue of having cameras for eyes, Trin — and I with them — began perceiving differently. On one level, this awareness might be explained by the fact that I was wearing (cosmetic) contact lenses for the first time in my life, and suddenly sensed my own eyes differently. At the same time, on another level, the experience of watching other LARPers react to my eyes with shock try to

hide things from me was just as integral to my sudden ocular awareness. The presence of the (diegetic and nondiegetic) camera lenses made me/Trin attuned to the politics perspective that characterizes visual data. This attunement did not arrive out of thin air but was grounded in my out-of-character knowledge — being a critical scholar of machine learning, the politics of data is a central assumption in my work. Yet Trin's realization was not banal to me: In the act of role-playing, my foreknowledge became embodied and gained an affective intensity as well as fine-tuned nuances. This was not only an interesting experience for myself: It can also be understood as an important part of a more-than-human engagement with Intelligensen itself. To understand this proposition, we must ask, what was Intelligensen? What does it mean to encounter a system that existed mostly as dramatic residue of the interaction between LARPers?

Negotiating Intelligensen

> *I feel more and more distant from my colleagues. They look at things, but they don't see the patterns. They don't understand the beauty of Intelligensen. Some of the new arrivals seem to lack trust in Intelligensen. I must show them its beauty. Only I can show them.*

The assertion that I encountered Intelligensen by role-playing as Trin begs the question: What was it that I encountered? Intelligensen was, as we know, not an actual AI, nor was it based on any specific AI system – though it was loosely based on broad ideas of, respectively, machine learning (exemplified in the way it would reach conclusions based on vast data input) and CCTV surveillance (exemplified in the multitude of CCTV cameras scattered across the waiting room). Participating LARPers received no formal set of characteristics that would define Intelligensen, but there were some activities set up during the LARP to situate some of the (fictional) functionality of Intelligensen: Characters were invited to do some image tagging exercises and one of the organizers of the LARP held an in-character lecture about machine vision. Apart from this, the consideration of how Intelligensen worked was completely left to people's *artificial intelligence imaginaries*, i.e., what people imagine when they imagine artificial intelligence. When I (through Trin) encountered Intelligensen, what I encountered was a manifestation of a distributed artificial intelligence imaginary.

Imaginaries cannot be separated from the technologies they illuminate; they are integral to the way technologies work in and through culture. Importantly, an imaginary "is not to be understood as a false belief or fetish of sorts but, rather, as the way in which people imagine, perceive and experience" the phenomenon in question as well as "what these imaginations make possible" (Bucher, "The Algorithmic Imaginary" 31). In this way, imaginaries themselves can be considered in the light of new materialist thought; as entities that take on a life of their own, not reducible to any single human being's mental world (Bucher, *If...then*). This does not mean that imaginaries are the same for everyone. As mentioned, my own artificial intelligence imaginary was informed by my status as critical scholar of the topic. Other LARPers (ranging from laypeople to computer scientists) similarly entered the situation with particular foreknowledge. Yet while our foreknowledge differed, we were still largely on the same page in the enactment of Intelligensen. Our enactments, based on our imaginaries, were like different renditions of the same thing at different resolutions. Put differently,

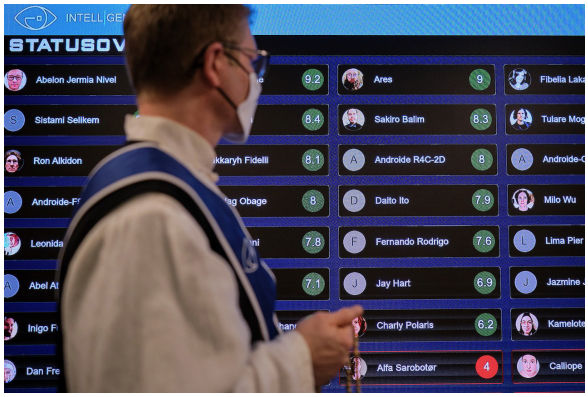

Figure 5: An administrator standing in front of the scoreboard, one of many manifestations that sustained the enactment of Intelligensen. Photo: Eivind Senneset, UiB.

the multiplicity of present imaginaries in the LARP resulted in the emergence of a single thing: Intelligensen.

Yet our imaginaries did not emerge out of nothing, but were informed by a broader history of invoking artificial intelligence through narrative. People have used storytelling to reckon with the notion of intelligent machines at least since Antiquity, taking place "in a diverse range of narrative forms, in myths, legends, apocryphal stories, rumours, fiction, and nonfiction (particularly of the more speculative kind)" (Cave et al. 4). Artificial intelligence imaginaries themselves can be understood as mimesis on two levels, working both as a model of how artificial intelligence is an imitation of human cognition (understood as mimesis), while simultaneously working as the types of narrative means (again, understood as mimesis) through which the imaginary of the technology plays out (Keating and Nourbakhsh). In this way, fiction and fact blurs — or bleeds into each other, as LARPers would have it — meaning that the critical investigation of narratives of artificial intelligence is integral to gauging their associated imaginaries, in turn illuminating how they work with and in culture. While the topic of intelligent machines is perhaps less speculative today than it might have been some 2,000 years ago, the long tradition of thinking about intelligent machines through narrative "form[s] the backdrop against which AI systems are being developed, and against which these developments are interpreted and assessed" (Cave et al. 7). This backdrop, then, also informed the distributed enactment of Intelligensen.

In Sivilisasjonens Venterom, the imaginary of Intelligensen came to focus almost exclusively on a visual paradigm of surveillance, which also influenced my performance of Trin, who operated as a living CCTV camera. My embodied experience of the politics of visual data, as described above, was influenced by my own preconceptions, but it was also sustained by a visual, Orwellian understanding of surveillance that does not map seamlessly onto the landscape of data-driven capture (cf. Agre), and which are quit far from my out-of-character understanding of data-driven surveillance. Visual input data are certainly important parts of data-intensive surveillance systems, but so too are non-visual data, e.g., the data harvested from our behaviors on and with digital technology that are not necessarily gathered via cameras, but via other sensors or small scripts such as cookies. Thus, in role-playing, I experienced some parts of my academically informed foreknowledge — namely, the politics of visual data — but at the same time I was cut off from experiencing other aspects of that foreknowledge, such as the importance of other kinds of (nonvisual) data. The organizers of Sivilisasjonens Venterom similarly noticed that the LARP ended up solidifying dominant tropes of surveillance, specifically an authoritative understanding that is common in the Norwegian context and which roughly maps onto the Orwellian paradigm that I encountered (Bjørkelo et al.). Accordingly, it is tempting to think that the general tendency in the LARP was not to challenge imaginaries, but to solidify them.

The LARP did, however, bring with it at least a few moments of negotiation of imaginaries that may have escaped the broad perspective of the organizers, but which emerged in spontaneous in-character situations. One example of such negotiation happened during a secret meeting of dissidents, a small group conspiring to sabotage Intelligensen. Trin stumbled into this meeting by chance, but chose to stay out of curiosity and shock. As mentioned, Trin was completely loyal to Intelligensen and was convinced that people could only be conspiring against the system because of a misunderstanding of the beauty of it: An example of human error. Rather than using force, Trin took it upon themself to educate the dissidents. The dissidents would argue that Intelligensen was clearly a system for authoritarian domination, whereas Trin

Figure 6: A secret meeting of dissidents. Photo: Eivind Senneset, UiB.

would maintain that Intelligensen was the ultimate example of democracy: decisions were made based on data gathered from *all* citizens, *all* of the time.

The conversations between Trin and various dissidents would touch upon a wide variety of themes and questions that we would usually not even consider out-of-character, but which became central to our in-character discussions. By conversing from an in-character perspective, we were able to bracket our usual cultural codes and embed ourselves in the world views of our characters (cf. Pothong et al.). The opinions of our characters were not random, but influenced by the information in our character sheets in conjunction with our preconceptions. The dissidents would be very squarely against almost every aspect of Intelligensen, aligning with the mentioned Orwellian imaginary of surveillance as a tool for authoritarian domination. Meanwhile, Trin was quite the opposite, having full faith in and loyalty to Intelligensen. While both positions were too extreme, their interaction shed light on a wealth of nuance in the space between them while also clearly demonstrating (to me at least) an unproductive rigidity in the overly skeptical as well as in the overly faithful position. Although we reached no conclusion, the secret meeting did enable us to see beyond our out-of-character world views to get a sense of other possible imaginaries. As I will argue, the dual potential of LARP to situate encounters with imaginaries while simultaneously sustaining a negotiation of those same imaginaries through enactment and in-character discussion positions LARP as a prime example of the vibrancy and relevance of the mimetic method to design.

Designing (with) Intelligensen

> *People ask me about Intelligensen.*
> *I try to answer, but words cannot*
> *do it justice. They seem to think*
> *Intelligensen is some foreign thing.*

Mimesis – as a practice of enactment – situates encounters with and sustains negotiations of artificial intelligence imaginaries. That is to say, the mimetic method expressly figures as a more-than-human approach to design, manifesting a new materialist stance.

By way of mimesis, Sivilisasjonens Venterom situated embodied insight into the "plural and meshed entanglements of human and thing perspectives" that are integral to more-than-human design (Reddy et al. 8). The endeavor to do design with a new materialist understanding of the world warrants a shift away from human-centered assumptions (on which much foundational design scholarship has drawn) and towards a redistribution of the dynamics of design processes across humans and nonhumans and a reconsideration of the very concept of agency in design. The overarching doctrine thus becomes "not [to] design *for* … technologies but *with* them" (Giaccardi and Redström 35, emphasis in original).

By working via sympathy, the mimetic method engages an epistemic stance that is aligned with new materialist thought, and that bases itself on affective encounter. In other words, the mimetic method is aligned with Betti Marenko's understanding of designing with technology in which "agency is something that emerges out of encounters with things … it is not something that objects *have* but something that objects *are*" (Marenko 228, emphasis in original). Interestingly, the more-than-human entity that I am here discussing — namely Intelligensen — was less an object as such and more an enactment of a multitude of imaginaries. Imaginaries are integral aspects of the materiality of technologies, which means it is not possible to separate objects from imaginaries (Bucher, *If...then*; Marenko). Still, the purely enacted imaginary of Intelligensen opened it up for reconsideration, and although the general tendency was to reinforce cultural tropes, there emerged spontaneous moments of radical exploration of alternative imaginaries.

We can understand Intelligensen as a kind of prototype, which all the LARPers had participated in creating. More specifically, I am thinking of the notion of *diegetic prototypes*, i.e., fictional technologies that are implemented in a narrative setting wherein they figure as ordinary things (Kirby). Diegetic prototypes are integrated aspects of design fiction. Design fiction, in turn, focuses on the exploration of possible cultural impacts of technology, or other human-technology relations, as well as (above all) speculative explorations of our present techno-cultural situation through engagements with fictional plots (Bleecker).

Design fiction can be seen as a current manifestation of a mimesis-oriented approach to design, which uses artistic representation as an integrated aspect of the design of new technologies. The mimetic method that I propose is thus closely related to design fiction, but it also differs from it with regard to the role of the mimesis. In design fiction, the artistic representation is mainly a communicative form — ranging from narrative plots to less narrative *entry points* to speculative worlds — and exists as a fairly stable thing that should be considered and discussed (Blythe; Coulton et al.). The mimesis of the mimetic method is not (only) there to communicate a fictional proposition, but to enact new propositions collectively. It is a process and a practice that concerns itself with the ephemeral and situated encounter with imaginaries, meaning that the central thing is not the (diegetic) prototype *per se*, but its emergence via enactment.

The mimetic method connects more-than-human design to design fiction, drawing on the sensibilities towards reimagining the world that are integral to design fiction in a more-than-human context. The integration of fiction is common in new materialist thought since fictionality affords a kind of thinking that can reconsider, instead of only react to, the world (Skiveren). Thus, the mimetic method shows a practice-centered way in which we approach the question that figures in more-than-human context of what design

"*might become* as opposed to what it should be" (Giaccardi and Redström 38, emphasis in original).

With the mimetic method, it becomes clear that the task of *making the technology appear*, which I set out to investigate in the beginning of this article, actually takes the form of *making the mimesis appear* — or of rendering imaginaries through enactment. It is therein that the value of LARP becomes most evident as a setting in which the mimetic method fits exceptionally well. In conceptually framing LARP as mimesis, we can see how the use of LARP "to sensitize designers to perspectives and situations far from their own" (Márquez Segura, Spiel, et al. 390) is at its base the working of bleed and sympathy, via mimesis. In this sense, this article expands the techno-cultural and theoretical scope of doing mimesis in design, taking on larger questions of the materialities, imaginaries, and epistemologies of digital technology, thus adding depth and nuance to other accounts of the potential of mimesis to design (cf. Dörrenbächer et al.). By bridging more-than-human sensibilities with the capabilities for reimagination carried by fiction, and by unfolding in a role-play setting through a new materialist notion of sympathy, the mimetic method locates its insights in deeply embodied, ephemeral encounters of enactment.

Figure 7: The administrators, including Trin (right), carefully overseeing the proceedings in the waiting room. Photo: Eivind Senneset, UiB.

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Notes

[1] In my research project, *Machine Mimesis*, I document and unravel the productive overlap of machine learning and mimesis. See https://darc.au.dk/mse/.
[2] Loosely based on a text published in this journal's sister publication, *Peer Reviewed Newspaper*, vol. 11 no. 1 (2022): Rendering Research, https://darc.au.dk/newspaper.

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INCONSISTENT PROJECTIONS: CON-FIGURING SECURITY VISION THROUGH DIAGRAMMING

Abstract

In this paper we propose a time-based digital tool, a diagram-in-the-making, as to learn about computer vision in the field of security. With this method we want to map the heterogeneous and multiple nature of security vision technologies and their imaginaries. Concretely, we conducted qualitative interviews with professionals who develop, use or militate against these technologies and asked them to draw a diagram as to support their narrative. In spatialising the conversation, the diagrams allow for a wide variety of actants and relations to emerge. The time-based unfolding of the lines enacts imaginaries of computer vision practices which are intrinsically intertwined with the narratives of which they are part. It creates space for hesitation, uncertainties, incongruities and complexities that would have been rendered invisible in a geographic map. Through the spatial, material and temporal unfoldings of the diagrams we learn that security vision imaginaries are partial and contradictory.

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Introduction

> *There is complexity if things relate but don't add up, if events occur but not within the processes of linear time, and if phenomena share a space but cannot be mapped in terms of a single set of three-dimensional coordinates. (Mol and Law 1)*

In the exploratory phase of social scientific research, maps have often been used as valuable tools to capture, analyse, and portray an object of research. Often in the form of geographical maps, (social) network visualisations, or point clouds,[1] the rendering of data points onto a two-dimensional plane can expose relations between various properties, entities, areas, clusters, or classes. However, more recent literature in science and technology studies (STS) and feminist critique of technoscience have gradually shifted attention from maps as epistemological devices to the means by which they are constituted and the politics they perform (Kitchin and Dodge; D'Ignazio). Maps are considered to have trouble addressing the fluid and messy nature of social reality while operating under a veil of neutrality (Drucker; D'Inazio). Through their consistent mode of operation, maps perform a rhetoric "god trick of seeing everything from nowhere" (Haraway 581). The categories and labels of a map are no longer taken for granted, but are rather considered as a site of politics and contestation. In effect, an examination of maps is an analysis of how boundaries between entities are drawn, how differences are made, and what is included or omitted. A reflexive approach to visualizing data — explicitly or implicitly — should interrogate not only the contents of the underlying dataset, but also the way it is constituted; its structure, modes of collection (e.g., Marres and Moats; Martin-Mazé and Perret), and modes of visualisation (Drucker; Dávila). For example, by blurring lines and drawing uncertainty, a map can be more explicit about the insecurity of its categorisation (Drucker). Such a map no longer consistently projects input data onto an output surface, but instead draws attention to the practices and politics of its knowledge production.

In this text, we take these insecurities of mapping as a productive analytical site. Based on our own exploratory research in computer vision technologies in the field of security, we will outline a method that allows us to examine how our object of research emerges as a multiple, entangled in situated practices that engage with security vision.

The authors of this article are members of a research group studying the politics of computer vision technologies in the field of security. Such computer vision technologies automate the analysis of photo or video footage in order to spot weapons, violence, or other kinds of behaviour deemed undesirable, and they are increasingly being used to automate border security, contribute to smart CCTV, and moderate online conversations. In order to grasp better this field of research, we started by exploring how our object of research — "security vision" — configures notions of security and computer vision.[2]

"Configuration" as an analytical concept was coined by Lucy Suchman to describe how technologies can be considered assemblages of heterogeneous human and non-human elements that produce meaning as they come into relation. Suchman and other relational theorists in science and technology studies (STS) have argued that the actions of technologies cannot be ascribed to a singular actor — whether human or non-human — but instead should be considered "an effect of practices that are multiply distributed and contingently enacted" (Suchman, "Human–Machine Reconfigurations" 267; see also

Barad).[3] Suchman's conceptualization resonates with Karen Barad's notion of "intra-action" to underscore how the entities that come into relation are not given in advance, but rather emerge through the encounter with one another. What is of interest for a relational analysis is therefore not the network itself, but how such networks structure actors and entities (human or otherwise) and the complex arrangements between them (e.g., Callon). In other words, for Suchman, how humans and machines figure together or *con*figure is not given, but rather constructed in both discourse and practice.

Fundamental to the notion of configuration is how, through the work of technologists and users, technology materializes some of the cultural imaginaries that inspire them and which, in turn, they enact into being (Suchman, "Human–Machine Reconfigurations" 226). In our understanding, imaginaries are not the opposite of knowing or doing, but very much a part of them. These imaginaries enfold individual experience, collective professional practices, and widely circulating narratives about technology. They bring together heterogeneous elements such as one's understanding of techniques, equipment, or the juridical. Imaginaries shape and are shaped in turn by the practices of those working with technology. As such, technologies can be considered to bring together elements from across various registers into more or less stable material-semiotic arrangements. Suchman explains, "configuration in this sense is a device for studying technologies with particular attention to the imaginaries and materialities that they *join together*" ("Human–Machine Reconfigurations" 48). Configurations also draw attention to the political effects of everyday practices and how they institute bounded entities and their relations.

Taken as a site of politics, the configuration of entities is potentially an important locus of analysis. For our case, this implies that there is no single "security vision" that comprises a pre-determined set of components, but rather that such a security vision is multiple and heterogeneous. Annemarie Mol in her discussion of the ontological multiple argues that bodies, objects, and entities do not exist in and of themselves, but come into being through practices. As practices vary, so do the different enactments of the objects that are brought into being while still unified under a single nomenclature. These practices do not enact multiple perspectives on the same thing, but instead they allow a research object to emerge as more than one while being less than many. Grasping how security vision is enacted differently through different professional practices that are engaged with such technologies might help us to examine further how these technologies come to matter.

How can we then explore this "security vision" as a site that draws entities together and establishes the borders and relations between these entities?

To address this question, we mobilise the notion of con-figuration in order to propose an approach to mapping based on diagramming. Through this method, we are interested not in the finished drawings as artefacts, but rather in draw*ing* and diagram*ming* as time-based processes. Second, we will unpack how through con-figurations, our object of research, security vision, is rendered in spatial terms. In the third and last section, we argue that the temporal dimension within and across the various diagrams sensitises us to the uncertainties, hesitations, speculations, and inconsistencies that are instrumental in con-figuring our object of research.

Diagramming as a mapping device

Diagramming, as O'Sullivan explains, can be understood as a device that performs abstractions, suggests connections and compatibilities, and offers a perspective, a speculative future. As such, they "double as protocols for a possible practice" (13). Diagrams historically hold an important place in computational practices (Soon and Cox). For example, a flowchart is a kind of diagram often used to describe the various steps of a programmed routine. The format of a diagram is indicative of programming as a social and communicative practice (Soon and Cox 214). In a similar vein, in his exploration of machine learning practices, Adrian Mackenzie suggests that mathematical formulae that appear in computer science papers and software code can be seen as diagrams. Diagramming, being a spatialisation of symbols, is fundamental to computational practices. However, we propose the use of diagramming not as object of research, but as a methodological device to understand such practices.

In doing so, we take inspiration from the fields of art and design. For example, Louise Drulhe in her work *Critical Atlas of Internet* explores several metaphors and graphical languages that have been used to represent the Internet. The project's loose visual language allows for the Internet to appear as a heterogeneous system of people, equipment, techniques, and material and social issues. Moreover, the various diagrams are not compatible; they are not different perspectives on the same thing. In Drulhe's *Atlas*, the juxtaposition of these various renderings makes their politics visible.

The drawings bring together different entities through different relations. Seen through the analytical lens of configuration, these drawings present their object using different *figures*, which appear together in different *con*-figurations. "To figure is to assign shape, designate what is to be made noticeable and consequential, to be taken as identifying." (Suchman, "Configuration" 49) Drawing a shape on a canvas is an act that draws in imaginaries in a practice of signification. Through their circulation, such figures transform as they appear in new contexts, taking on new relations and significations. The trope of the figure is suggestive of both their productive potential and the possibility of their analysis.

By taking diagrams as con-figurations, we propose a practice of mapping different from a more traditional form of consistent projections such as geographical maps. This method introduces hand-drawn mapmaking within an interview setting, allowing us to process the conversation and its image in a new way. With this method, we want to map our object of research by attending to the various ways in which "security vision" draws together different imaginaries of technology.

We conducted interviews with various professionals working in the field of computer vision and security and asked them to describe how they see computer vision operating in their specific fields. Based on an initial survey of security vision practices, in Europe we identified various roles involved in such practices. Our interviewees develop such technologies themselves, work on projects in which such software is developed, or are critical of the use of security vision, either from a legal or activist perspective.

Eventually, we conducted six in-depth interviews with professionals in three different European countries.[4] Gerwin van der Lugt is a developer of software that detects so-called "high-impact crimes" in camera streams. András Lukács is a senior researcher and coordinator in the AI Lab at the Department of Mathematics of the

Eötvös Loránd University in Budapest. Guido Delver is an engineer and coordinator of a Rotterdam-based project entitled "Burglary-Free Neighborhood" that aims at developing autonomous systems built into street lamps to reinforce public security. Attila Bátorfy is a journalist and data visualization expert who teaches journalism, media studies, and information graphics at the Media Department of Eötvös Loránd University. Peter Smith (pseudonym) is a senior security expert working for a European organisation employing border technologies. Finally, Ádám Remport is a Hungarian legal expert and activist working specifically on state actor use of biometric technologies. Being a rather small group of people, these interviewees do not serve as "illustrative representatives" (Mol and Law 16-17) of the fields in which they work. However, as each of them has different cultural and institutional affiliations and holds a different position with respect to working with security vision technology, they cover a broad spectrum of engagement with our research object.

We began the interviews with a very basic question: "When we speak of security vision we speak of the use of computer vision in a security context. Can you explain from your perspective what these concepts mean and how they come together?" We then asked our interviewees to draw a diagram or mind map of the entities, institutions, and processes they mentioned throughout the conversation, as well as the connections between them. As the questions are asked on the spot, the con-figurations that appear can by no means be taken as exhaustive, but instead are closely tied into the conversation that brings them about.

We did not want to confine the interviewees to a particular visual register or drawing style, and nor did we want to overwhelm them with a plethora of options. Therefore, we decided on an empty drawing canvas. While we initially experimented with filming the drawing of the diagram by placing a camera above a sheet of A3 paper, we soon decided to record the drawing digitally. With a rasterised video, there would have been no (direct) way to recover individual shapes and segments in a time-based manner. Therefore, instead of using a relatively simple screen recording, we decided to develop our own software to interface the conversations.[5] We wanted a vector-animation of our conversation so that at a later stage, we would be able to extract these strokes from the diagram, independently of whether they were drawn on top of one another.

In our trials, we used a standard set of four markers: black, red, blue, and green. For our digital interface, we decided to use the same set of colours. We purchased a pen display which, with its 24 inch diagonal, is comparable in size to an A3 paper. Mimicking the pen-and-paper set-up, we decided not to implement an undo function; instead, interviewees would have to cross out any unwanted elements of their drawing. A major difference between a sheet of paper and the digital drawing board, however, is that the latter can be dragged around, creating an infinite canvas. The diagrams that emerged through these interviews are a combination of the recorded audio with the recorded drawings, both in a time-based format.

Diagrams, O'Sullivan proposes, allow for a composite practice in which drawings from "different milieus" or frameworks can be juxtaposed as well as superimposed on one another. Such composites might help to work out possible relations and divergences among the various diagrams we collected through our interviews. Such composites could appear as collages or as time-based video edits. In this first methodological experiment, we decided to juxtapose excerpts of the diagrams using annotations as a way to have them work together.[6] We therefore

created an interface through which the various diagrams could be explored, taken apart, and reassembled as new wholes (see Figure 1). This happens in two steps. First, we annotate the diagrams based on the conversation, the drawing, or a combination of the two. This is a rather common method for working with interviews; yet, as we work with vector animations, it allows us to extract and collect not only spoken text, but also to create excerpts of the drawings. Second, these annotations provide an entry point into the conversations; they become a way to order and see them side by side (Figure 2).

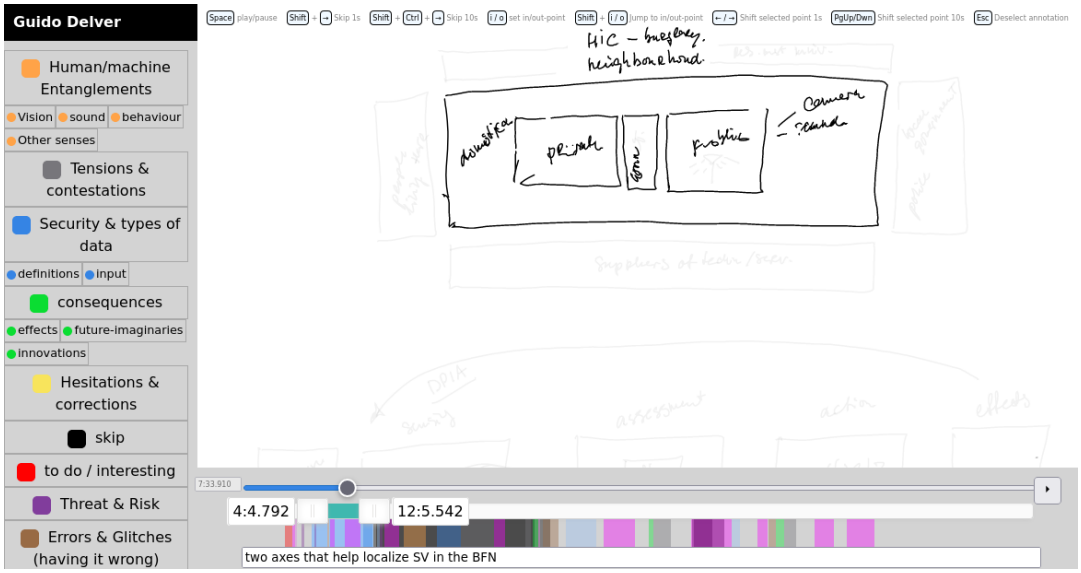


Figure 1: Screenshot of the browser-based annotation tool. In the centre is the diagram, of which the segment between the in and out points is drawn in black. The left-hand side features a list of available tags (partially visible here).

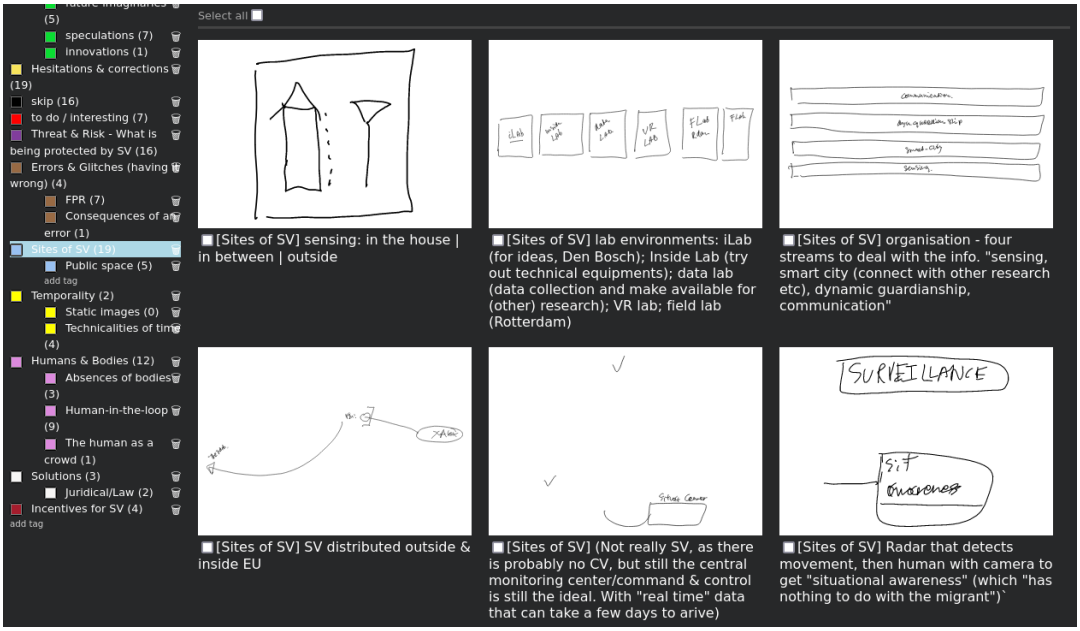


Figure 2: By annotating the diagrams, we can juxtapose excerpts based on the tags.

With the diagramming method and tools presented here, we aim to explore the relations drawn and the entities demarcated as a way to examine how "security vision" joins them together. Diagrams as a form of mapping are exploratory devices. However, contrary to maps that serve as tools for (re)presentation, the diagrams create spatial con-figurations that do not abide by a consistent projection. In the sections that follow, we will outline how the materialization and spatialisation of the conversation that the diagrams facilitate helps us to examine the con-figurations they bring about. Subsequently, we will examine how the temporal aspect of these diagrams leaves room for uncertainties, helping us to describe how unstable boundaries solidify.

Traces of the diagrams

Before we started the interviews, we held certain expectations about what the diagrams might look like and how they would draw out various security vision configurations. The *Critical Atlas of Internet* (Druhle), was just one of the diagramming projects that informed our expectations. Kate Crawford and Vladan Joler's *Anatomy of AI* and Matteo Pasquinelli and Vladan Joler's "spurious and baroque" *Nooscope* diagram also served as visual referents when we started to develop our method. What all these diagrams have in common is that each drawing gives shape to their specific objects of research in a coherent structure. In these maps, all represented institutions, techniques, and technologies are directly or indirectly connected through the relations drawn. Therefore, we also expected that every conversation would yield a diagram that would abide by a single structure — albeit more modest in scale and more explicitly positioned than the examples mentioned. We thought that our interviewees would end up drawing circles, connected with lines and occasionally using keywords. However, as we encouraged each interviewee to use any visual expression they felt most comfortable with, the conversations yielded rather different drawings. The resulting diagrams show a rich variety, reflecting not only the divergent ideas of what it means to draw a diagram, but also what the different practitioners had in mind regarding visual representations more generally.

This rich variety of the diagrams forced us to reconsider the conventions by which we interpreted the drawings. While the drawings often contain words, they do break with the common spatial logics of both written text and graphic design. They neither systematically flow from the top left of a canvas to the bottom right (see Figure 3, Top), nor do they present their information in a visually hierarchical way. Some of the drawings contain graphs (see also Figure 4), yet they do not abide by mathematical rules. Some drawings contain arrows or lines, indicating *some* kind of flow or hierarchy, but these signs seldom denote clearly defined relations (Figure 3, Bottom Right). On still other occasions, relations were depicted with illustrations (Figure 3, Bottom Left). The diagrams were not clear-cut flowcharts depicting how the technology works or what it comprises.

In making sense of these diagrams, we therefore turn to the notion of con-figuration. As Suchman explains, "figuration alerts us to the need to recover the domains of practice and significance that are presupposed by and built into particular technological artefacts, as well as the ways in which artefact boundaries are naturalized as antecedent rather than ongoing consequences of specific socio-technical encounters" ("Configuration" 50). The diagrams through their spatial enactments allow for security vision to emerge entangled with complex and multiple practices without naturalizing any of its terms or

socio-technical arrangements. The strokes in the drawing create a material image that allows analysis of the entities it joins together, while resisting any attempt to be synthesised into one single coherent narrative.

When looking across the diagrams we collected, we can identify two characteristics of con-figurations that emerge in their visual rendering: order and multiplicity.

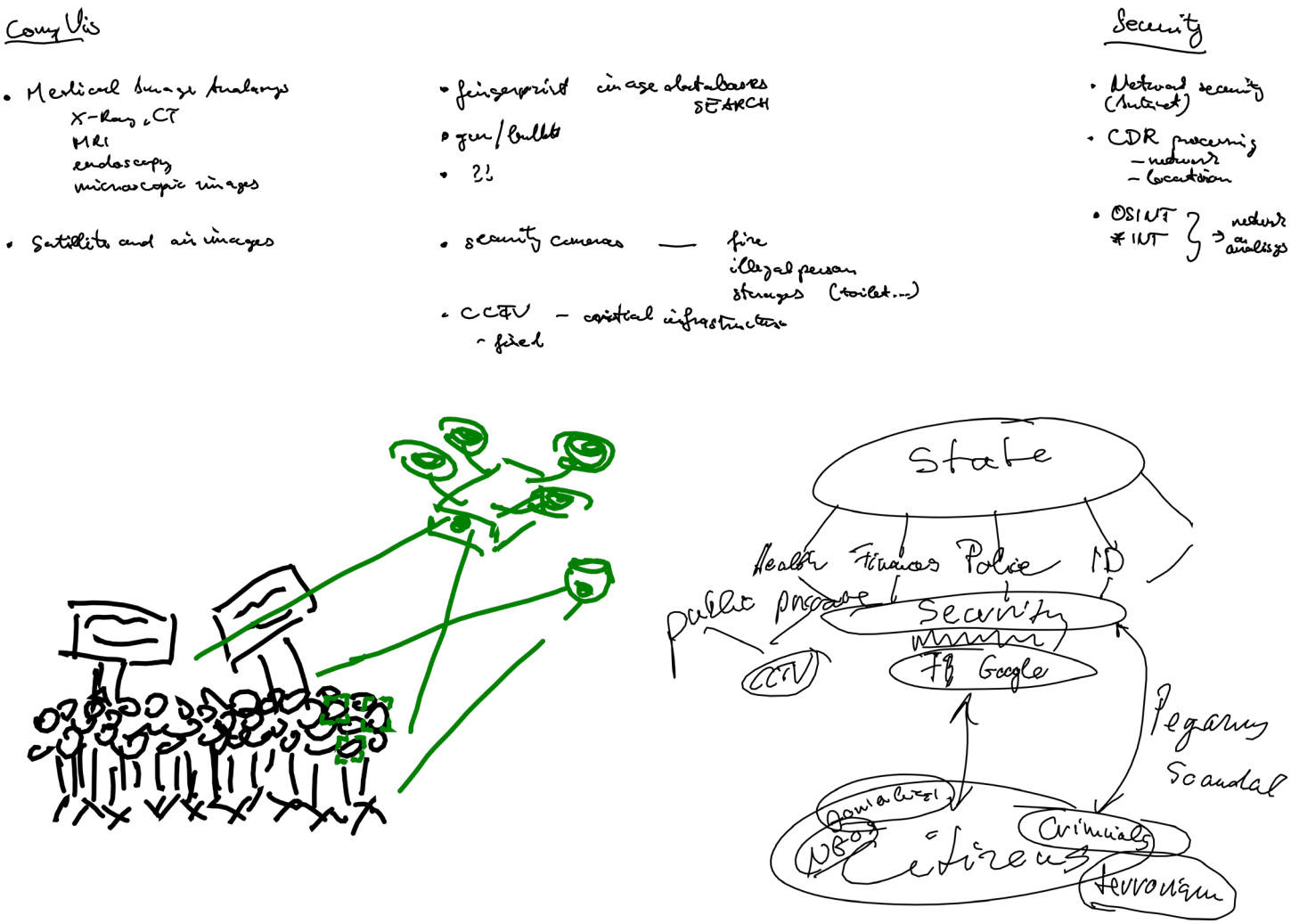
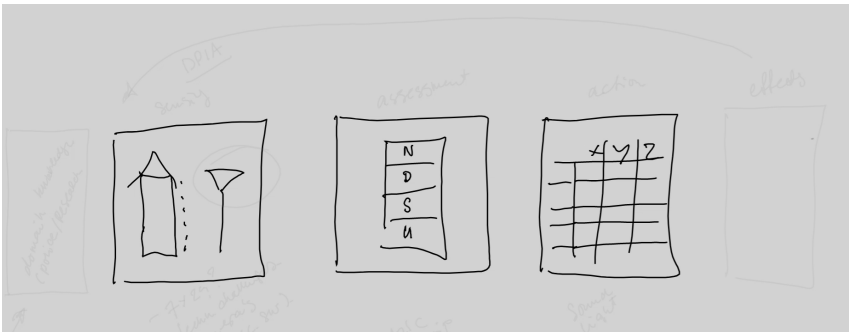


Figure 3: Three excerpts from the Diagrams by András Lukács, Ádám Remport, and Attila Bátorfy that showcase drawings using very different visual languages. Top: In this excerpt, we only see bullet points with written words. Bottom Left: An illustration of a protest monitored by cameras drawn as a crowd and technological devices. Bottom Right: A drawing of relations between various institutions involved in security in Hungary.



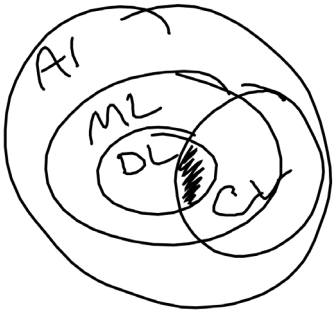


Figure 4: The processes of an event system of a security vision project, laid out by Guido Delver (see also https://www.securityvision.io/diagrams/videos/delver1.mp4) and a Venn diagram that Gerwin van der Lugt uses to position his practice in relation to other technological fields (see also https://www.securityvision.io/diagrams/videos/vdlugt1.mp4).

Spaces that order relations

First, the diagrams use space to order concepts and relations. For example, in one of the interviews, when Guido Delver discussed the "stakeholders" of the project he managed, he did not list them, but placed them instead on two axes: municipality/police ↔ residents and industry/suppliers ↔ research/universities. All these parties "gathered around" the public space in which computer vision was deployed. During another interview, András Lukács used bullet points with written concepts, but instead of placing these vertically, he placed these elements between two extremes: "security" and "computer vision". In this drawing, security vision emerges in the centre of the image, where the two extremes overlap (Figure 3, Top). On another occasion, Gerwin van der Lugt more explicitly drew a Venn diagram to locate his expertise on computer vision in a particular subset of the field (Figure 4).

In the space that emerges, the placement of various concepts helps to indicate what differentiates and what unites the object of research. Through these spatialisations, we learn that the relations between the entities mentioned in the interviews cannot be reduced to either connection (as would be signalled by a line in a network visualisation) or containment (as in a Venn diagram). They are much more complex. Sometimes connections are assumed but left implicit, while at other times they are signalled only by bringing two entities into physical proximity but never spelling the connections out. Connections are made explicit only when they figure in a specific story line.

Multiple configurations

The second way in which space matters in the diagrams is to allow for multiplicity *within* the drawings. Most drawings, while forming a whole within the context of the conversation, can also be seen as being composed of many distinct drawings that are the results of loosely connected topics discussed by the interviewees. These distinct drawings appear side by side, sometimes even curving around one another, ever shifting in scale. Scribbling asides in the corner, the interviewees often tried to squeeze as much as possible within the boundaries of the 24 inch canvas. The equations in Figure 4, for example, were so squeezed in that they had to be explicitly demarcated from the rest of the drawing by a line. Even though the interface allows for infinite dragging and is theoretically unbound, the thick black borders of the pen display did

in fact matter in shaping the drawing, as the drawings try to take up the space that is left available to them. The absence of a uniform projection liberates these multiple drawings-within-a-drawing from a mutual visual hierarchy. While this might make the reading of the diagrams difficult, it allows the diagrams to bring together concepts and visual language from across various incompatible registers. They appear not as coherent narratives, but as collections of figures, thoughts and associations, summarising and synthesising larger ideas that hang together by virtue of their mutual appearance in the diagram.

By allowing for both order and multiplicity, the diagrams con-figure incompatible concepts and narratives. Moreover, the spatialisation of the conversation cannot be seen as distinct from the diagram's temporal dimension. During the interviews, the drawings often became a visual referent that facilitated further elaboration and explanation. In these moments, the strokes on the canvas provided landmarks for the conversation. This becomes apparent within the conversation as the interviewees turn to the drawing to point out what they are speaking about or to pick up the conversation from a particular point. The drawings also served as visual references in the phase of their analysis. After we had conducted the interviews, we printed out the drawings on A3 paper and hung them on our office walls. While we thus temporarily flattened the diagrams, removing their temporal dimension, it was by looking at the printouts that we could retrace the conversation and recall the topic being discussed with each specific shape. The diagrams again spatialised the conversations, this time those we were having among ourselves in the office.

In the next section, we will elaborate how the diagrams, through both their temporal unfolding as well as their mutually coming together, foreground the ways in which security vision con-figures uncertainties and hesitation.

Contingent diagrams

By recording the interview as unfolding in time, the diagrams gain a temporal dimension. This allows us to see what happens before or after a stroke. When playing back the recordings, it quickly becomes clear that the drawing as a device shapes the diagrams. It pushes itself forward in the sudden line breaks when the pen is not properly touching the surface of the display; in the confusion of how to "move around" the canvas; in our requests to use different colours; in the moments when a slight hiccup in the Internet connection causes the interface to require a "refresh". Such moments punctuate the conversations. However, when we look at the temporal unfolding of the diagrams, another kind of interruption also becomes visible.

During the conversations, our interlocutors frequently voiced doubts and uncertainties before putting the pen to the canvas. The uncertainties expressed were, for instance, about the terminology, the parties involved in a project, or relationships that "might be possible", but whose actual status is unclear to the interviewee. Sometimes such doubts lead to crossed-out text, different line styling, or clear question marks. For instance, Ádám Remport wanted to depict a database of facial image data (Figure 5). He began by drawing a collection of facial photos, at one point realising that "this is not what a facial database looks like." He crosses out the drawing and draws another representation in which the face is "coded" instead of pictorial. The drawing and subsequent redefinition draws attention to the dominance of particular images and imaginaries of technology over others. An expert intuitively defaults to such

imageries, but then feels the need to explicitly distance themselves from them. Another such moment can be found in the diagram of Gerwin van der Lugt. When he discusses the equations for true and false positive rates (TPR/FPR), he corrects his definition in the drawing while stressing the importance of being precise about these terms (Figure 6). In these cases, the very act of drawing triggers hesitation and redefinition.

However, after the pen touches the canvas, the only remaining trace of hesitation is often the brief increase in the interval between strokes. The drawing solidifies the entities mentioned, even if the doubt is verbally expressed. The canvas as a medium forces the speaker-drawer to make a decision as to how to represent the uncertainty. Deliberate or not, a moment of prioritization takes place. While the interviewees give air to many of their considerations, only seldom do they choose to "give ink" to them too. It is for precisely this reason that we do not disconnect the visual from the auditory or the drawing from speech. While each track can be informative on its own, it is in the resonances and dissonances between the two (the drawing and the sound) that the diagrams allow the fuzzy nature of that which is figured to step forward. As Johanna Drucker argues, by allowing for such complexities, we can work with notions that are co-dependent and contingent without reducing or purifying them (see also Law and Mol). The act of doubting, ever present in the diagrams, blurs the boundaries of the concepts mobilised, alerting us to complexities that otherwise would be "cleaned" out.

This becomes even more apparent in the process of annotation. Through the need to provide an in point and an out point for each annotation, the conversation pushes back. When does one cut the continuous flow of a conversation in which what is being said is always in relation to what comes before

Figure 5: A database for facial recognition does not contain photos. Excerpt from the diagram by Ádám Remport (see also https://securityvision.io/diagrams/videos/ramport1.mp4).

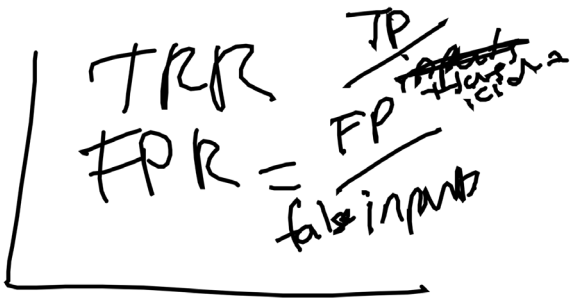


Figure 6: When writing down the equations for false and true positive rates, Gerwin van der Lugt realises the need to be precise about these terms (see also https://www.securityvision.io/diagrams/videos/vdlugt2.mp4)

and after it? Nevertheless, annotating the diagrams helps make sense of what and how security vision is con-figured by looking not only at a single conversation, but also across the various diagrams. The annotations allow us to cut up the diagrams and reassemble them into new collections. When juxtaposing these dismembered parts, we see variations appearing across the interviews.

In juxtaposing these excerpts, the diagrams remind us that they do not present absolute truths. Instead, they provide a glimpse into how our interlocutors understand and work with security vision. As such, any description counts. While one of them (a software developer) lists particular local "security integrators" as key partners in the deployment of their technology, another interviewee (an activist) considers the technology provided

to governmental organisations by big tech companies such as Google and Facebook to be a threat. As configurations join together imaginaries and materialities, we need to take uncertainties and speculation seriously. Speculations abound as to which companies are involved, which technologies are used, or which futures this entails. Collaborations and conjectures, specificities and grand narratives appear side by side. Different entities configure security vision through different relations.

It is by caring for instead of rejecting these contradictions and convergences that we can get a sense of the politics of security vision that materialises between the various fields and professional practices and between the diagrams.

Conclusion

> *Although a single simplification* reduces *complexity, at the places where different simplifications meet, complexity is created, emerging where various modes of ordering (styles, logics) come together and add up comfortably or in tension, or both. (Mol and Law 11)*

In this article, we discuss our use of diagramming as an alternative means to map the field of security vision. In an effort to account for the situated nature of the mapping exercise, we did not define security vision beforehand, but instead delegated this task to various professionals working with computer vision technologies in the security field. The resulting diagrams thereby situate our object of research in various practices such as those of software developers, engineers, program coordinators, activists, etc. The diagrams — specifically, the discrepancies and incongruities within and between them — demonstrate that we can effectively explore the con-figuration of entities and the relations among them without necessarily flattening or cleaning them, such as would happen in a straightforward visual projection.

Although we should be careful not to fetishize the affective quality of a hand-drawn diagram as opposed to that of a computer-generated map, their "sketchy" nature suggests their status as a conceptual aid. The diagramming therefore becomes "a strategy of experimentation that scrambles narrative, figuration — the givens — and allows something else, at last, to step forward. This is the production of the unknown from within the known, the unseen from within the seen" (O'Sullivan 17). Like maps, diagrams can serve as exploratory devices. Instead of adhering to a consistent projection of in point to out point, they rely on "speculative geometries" and "self-organizing forms" (Soon and Cox 221). Similarly, the diagrams we collected do not curate a clearly structured set of devices, institutions, or people. Rather, it is by collecting and combining a variety of diagrams about security vision that our object of research emerges as an ontological multiple. Inspired by diagramming projects such as *Anatomy of AI* or *Nooscope*, which address the politics of artificial intelligence through single visual objects, we experimented with a disjointed kind of diagram. While seemingly similar in nature, the goal of time-based diagramming is different from these meticulously designed structures. Rather than a device for presentation, the method rather helps us to analyse the structuring networks of associations.

Their loose visual language allows the diagrams to con-figure complex, sometimes even incompatible concepts and narratives in a shared visual space. In their unfolding over time, the diagrams forefront how such con-figurations are not stable structures, but

rely on hesitation and contingencies. Their use of space on the canvas is no longer consistent. As the drawing unfolds, one can see the space grow and shrink, transforming from a two-dimensional plane into a three-dimensional space, or even being suspended altogether. This fluid topology opens up intriguing avenues for exploring computer vision technologies in the field of security and locating their politics in unexpected entities and relations.

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Notes

[1] For instance, when using Multiple Correspondence Analysis (Le Roux and Rouanet).

[2] Note that this paper is a methodological exploration. An analysis of "security vision" through the lens of diagramming will take place in another article. For an elaborate discussion of the exploratory phase, see Plájás, Ragazzi and van de Ven.

[3] In a famous example, Bruno Latour describes how it is neither a gun nor a human individual that shoots (and, in effect, potentially kills), but instead the act of shooting is mutually constituted by both human and non-human actants: "You are different with a gun in your hand; the gun is different with you holding it" (Latour 179).

[4] The Netherlands, Hungary, and Poland.

[5] The code for the interface is available at https://git.rubenvandeven.com/security_vision/svganim.

[6] Other ways of working with the diagrams could prove interesting as well. For instance, we have considered overlaying handwritten annotations on top of the diagrams. Another possibility would have been borrowing techniques from qualitative interviewing: we can visit the interviewees several times, each time refining the drawings, or discussing the diagrams of other interviewees to elicit additional reflections on, or reconfigurations of, their initial input.

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Sheung Yiu

HYPERIMAGE INDEX: RENDERING RESEARCH ON ALGORITHMIC IMAGE SYSTEMS

Abstract

Image has gone *hyper*, can research catch up? This essay proposes collective indexing as an alternative to academic publishing for rendering research on fast-changing and larger-than-human subjects such as algorithmic images. Following the introduction of notions of network and scale in my research, the essay articulates the value of collective indexing while mapping out contemporary examples. Collective indexing produces new ways of knowledge making and community building, as well as new forms of research aesthetics apt for addressing the distributed nature of algorithmic image systems.

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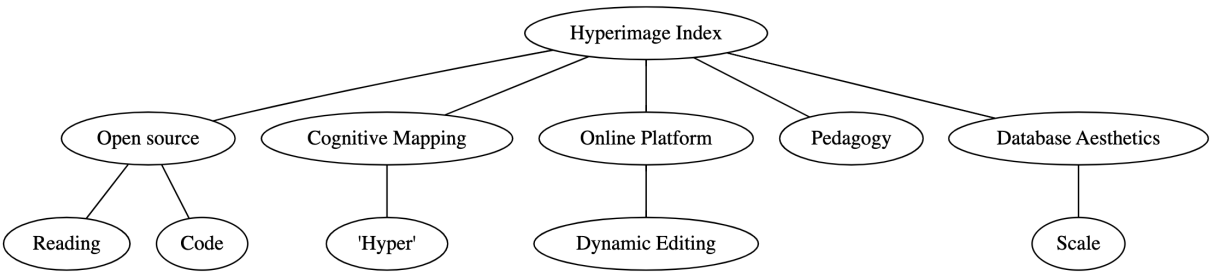


Figure 1: Elements of collective indexing

The proliferation of digital media has brought new operationalities to images. The first wave of new operational techniques stems from the possibility of rendering images as an array of discretized information units — pixels. This category includes the many now-banal digital processing techniques from color filters to data moshing. The newer wave of operations leverages the networks and the computational power to access them. Image are treated as information on a computational level. Disciplines such as computer vision and remote sensing exemplify this new mode of operations, leveraging networks (social, informational, or neural) to connect images with other forms of information. Witnessing digital media's transformational impact on visual culture, photography theorist Fred Ritchin coined the term hyperphotography to denote a new "linked, dynamic, node-like photography." (Ritchin 73) A digital photograph, he suggested, is a map of connections where each pixel serves as a hypertext, a channel to new information. He envisioned a group of pixels on a photograph of an individual hat can link to a series of photographs of other hats, or as he puts it, "a soliloquy on the hat and memory." (Ibid.) However, as many scholars have pointed out, the notion of network has a much more profound implication for images than hypertextual links to other images. Images are embedded in a complex and often invisible network of human and non-human agents, visual and invisual information, and material and immaterial organizational infrastructure (Crawford and Joler; Dvořák and Parikka, Fisher, Hoelzl and Marie; Rubenstein and Sluis). In other words, image has gone hyper.

The complexity emerging from the chimeric fusion of computation and photography calls for a theoretical reframing of image studies. (Rubinstein; Hoelzl) Hoelzl, for example, advocated for radical enlarging its scope. Other scholars, like Joanna Zylinka and Jussi Parikka, decenter the human subject and call attention to the becoming of images in the network. Research on digital visual culture must first address that images have expanded beyond the human scale to the degree that the humanly-accessible portion is an interface to the complex network from which the image emerges and dissolves. Images bleed outside picture frames and digital screens into energy-hungry data centers, global supply chains, and crowdsourced labor platforms (Paglen and Crawford). From an individual point of view, an image is a visual representation of human experience; Viewed from the network level, image and nature are co-evolving in a cybernetic loop where images shape the human condition as much as it is shaped by it (Likavčan and Heinicker) .

Images also exceed the disciplinary apparatus that previously conceptualized them on the human scale. Algorithmic image systems have become inextricably intertwined with almost every aspect of human experience. Thus, the study of image can no longer

be tidily contained in a singular discipline that focuses on either the visual, cultural, or technological. In other words, the notion of image has scaled beyond disciplinarity. Experts from different fields study images from their vantage points, through the lens of technological innovation in computer science and engineering, critical media theory in digital humanities, artistic intervention from art, and political and societal implications in feminist and gender studies, often cross-referencing, or borrow promiscuously from each other. As image goes hyper, and expands beyond the human scale and enters the posthuman turn, I propose collective indexing as a research method to: (1) adequately describe a topic as broad and as complex as algorithmic image systems, (2) render the findings in a form that reflects the networked and scalar nature of algorithmic image systems, (3) exemplify the common research interests and different interpretations of concepts, such as network and scale, across disciplines, and (4) create new meanings through exploring interdisciplinary connections. Perhaps more surprisingly, rendering research through collective indexing opens up new avenues in implementing open-source knowledge, community building, and new aesthetics to capture the ever-expanding and elusive subject: images in algorithmic culture.

Network, scale, and hyperimage

Two concepts are central to images in algorithmic culture: network and scale. Network is perhaps the more obvious out of the two. Whether disseminated via social networks, organized by metadata, or grouped together depending on labels assigned by Amazon Mechanical Turks, digital images are always seen and understood in the context of other images. The networked nature of digital images enables a new mode of operational possibility. An image is not only a surface to be looked at, but a means to analyze, surveil, and train. A selfie unsuspectingly uploaded on Flickr is scrapped into a training dataset for facial recognition. The algorithm developed is sold to a state agency, which is then used by law enforcement to identify political activists, or by a soldier controlling an aerial drone. The ripple effect is convoluted and spreads across time and space beyond the moment of capture and upload. This extravisual utility of images in the algorithmic image is perhaps most succinctly captured in Harun Farocki's notion of operational image and in his film essays *Eye / Machine*, in which he exposes the image-processing techniques used in modern warfare. The networked nature has been pinpointed by media scholars in different terminologies, most notably networked image (Rubinstein and Sluis), platform seeing (Mackenzie and Munster), and hyperphotography (Ritchin), to name a few. Each terminology elaborates on an aspect that the network brings to visual cultures: the networked image articulates the undecidability of the images' meaning brought forward by metadata; platform seeing suggests a new mode of invisual perception centered around the assemblage of images aggregated through neural networks and various platforms; and hyperphotography envisions a node-like photography where each pixel can act as a hyperlink to other images and a channel to new information.

The (over)abundance of images and the omnipresence of cameras provide the necessary condition for another characteristic of algorithmic image systems: scale. The emergence of big data provides the materials needed for statistical predictions and pattern recognition. Facebook most famously exploits users' profile data and online interactions to predict future behaviors and

sell targeted content to unsuspecting individuals — surveillance capitalism (Zuboff). Similar logic is being applied to computer vision, where through analyzing large amounts of images, computer scientists establish a statistical correlation between a particular pixel pattern with a semantic conclusion (Pasquinelli and Joler 23). Visual culture are experiencing a statistical turn, where every individual, be it pixel, image, or user, contributes to the validity of predictive models. The many scales in which we capture and observe the same subject affect how much more information we can extract from an image. The Google computer vision project *NeRF in the Wild* exploits the scale to its advantage (Martin-Brualla et al.). It uses a particular type of neural network to interpolate the 3D structure of famous monuments from all the tourist photos taken from different vantage points at different scales. One can describe the resulting 3D scene as a hyperphotograph connecting all the images of the same monuments taken at different positions in different resolutions at different scales. In my artistic research, *Ground Truth, or How To Resurrect a Tree* (2019-), I explore the discipline of remote sensing and its techniques of observation through data, models, and sensors. In remote sensing, a mathematical correlation between pixel value and tree size established through ground-level observation helps scientists interpret satellite images of trees taken from space, revealing information that is otherwise lost due to resolution limits. Even though individual trees are invisible in a satellite image in which one pixel represents a ten-square-meter area of land, scientists can recover, or 'resurrect,' a tree by applying the same statistical model established by comparing ground-level observation with satellite data. In other words, this new way of trans-scalar seeing allows us to almost limitlessly extrapolate and interpolate information encoded on a digital image, converting between human observations and machine calculations and traversing between human scale and planetary scale. Photography theorist Andrew Fisher has explored the concept of scales in his writings, from the scaling operation of an image (zooming in and out) to its statistical operations. More recently, media theorist Zachary Horton brought the notion into the spotlight by rethinking the relationships between knowledge, mediation, and the environment through scale. He further elevates scale into an ontological domain where certain entities can be differentiated and phenomena emerge. "A scale is the abstract space and time in which a set of typical events take place. Even 10^{-7} meters is as big as the universe, but only certain events take place there." (Horton 191) One can imagine the universe as an image and scale as the imaginary camera from which we create the image. One can scan the entire universe with a scanning electron microscope, in which case the universe is observed on an atomic scale, or one can look at the universe through a telescope, in which planetary movement rather than the collision of electrons becomes apparent and prominent. In both cases, the same universe is being observed, but the scale of observation crucially influences ways of sense-making — what can be differentiated, analyzed, and understood. Algorithmic image systems do not work on a static scale but gain new operationalities by traversing different scales.[1] The algorithmic condition of image requires a research method that facilitates transcalar reading.

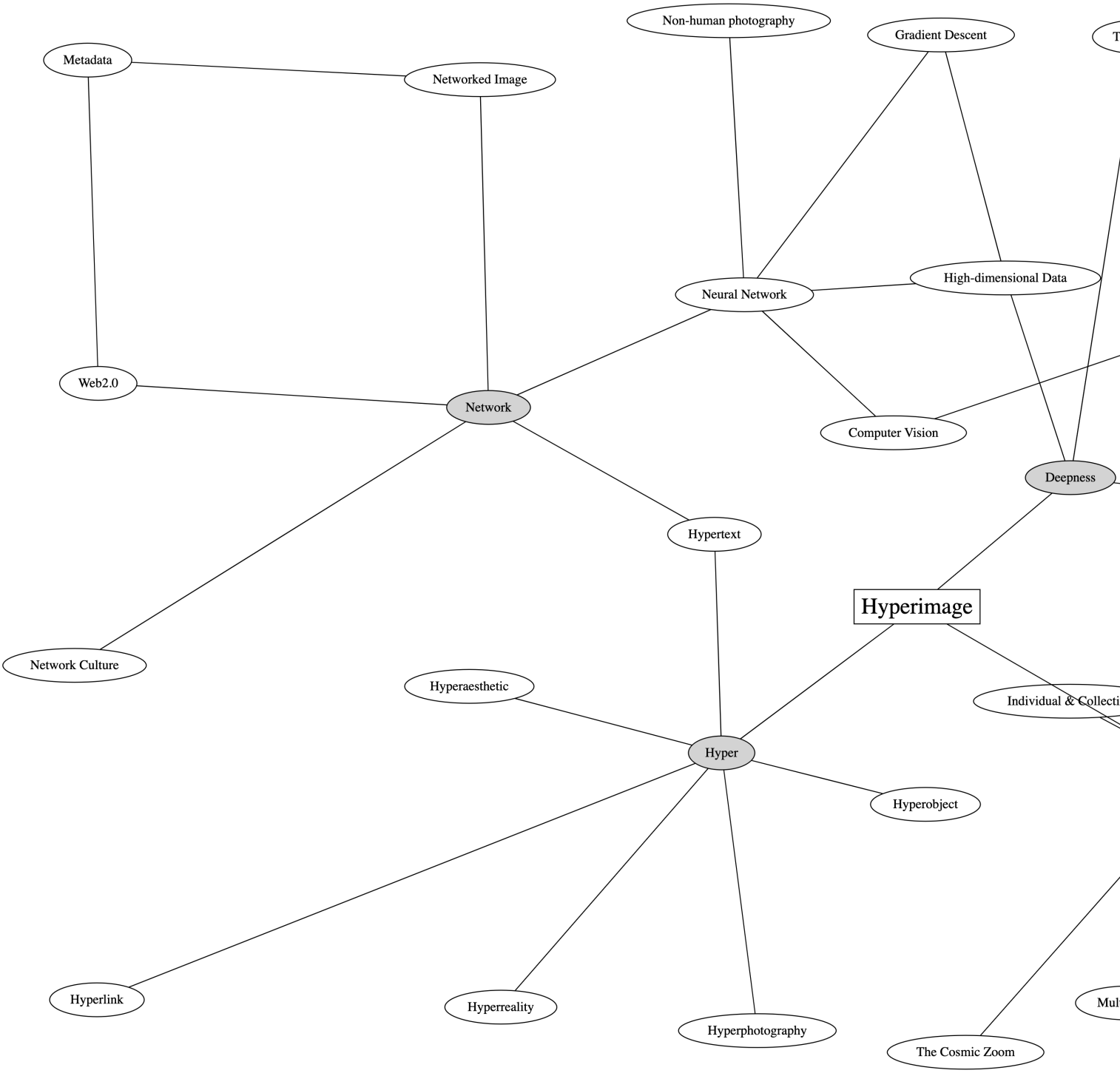
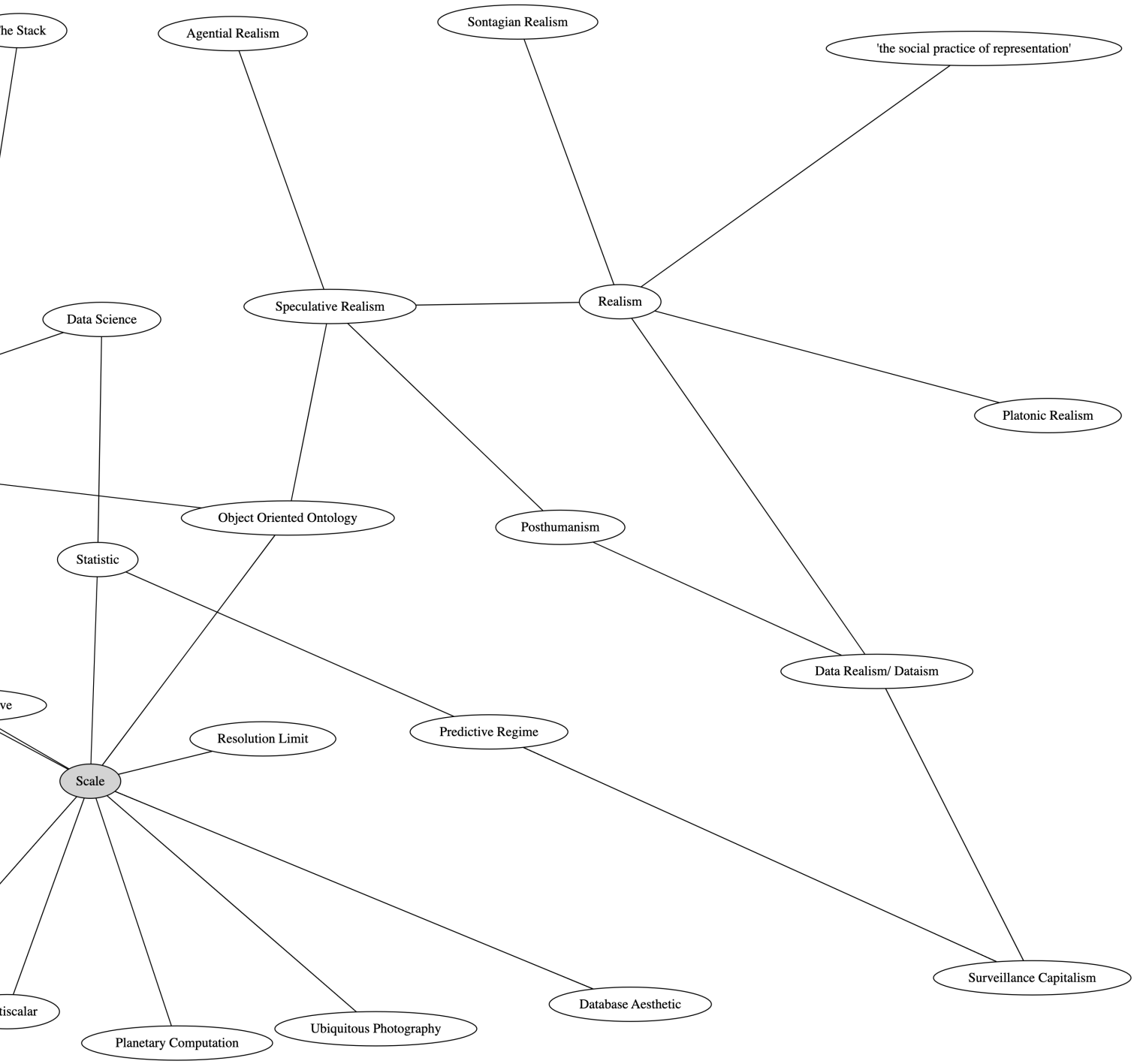


Figure 2: a cognitive map of hyperimage


he Stack
Agential Realism
Sontagian Realism
'the social practice of representation'
Data Science
Speculative Realism
Realism
Platonic Realism
Object Oriented Ontology
Posthumanism
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ve
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Predictive Regime
Scale
Surveillance Capitalism
tiscalar
Database Aesthetic
Planetary Computation
Ubiquitous Photography

Information network — aggregating, indexing, cognitive mapping

Ritchin's borrowing of the prefix 'hyper' in 'hyperphotography' connotes the early imaginations of the Internet. The node-like photography he envisioned can be said to be a natural development of images after Vannevar Bush's conception of the 'Memex' machine and Ted Nelson's notion of 'hypertext', both foundational to the early imaginary of the Internet. In 1945, engineer Vannevar Bush (35-47) proposed Memex as an electronic rhetorical system for organizing scientific knowledge. He conceived a way for users to make links between various textual and visual materials from different sources and organized them into trials of information. The imaginary machine utilized photography for filing in two ways. Firstly, documents are archived on microfilm, each assigned a unique code for easy retrieval. Secondly, photography is used to record the collections of materials and any additional notes the users made — an analog screenshot. Two decades later, Ted Nelson coined the term hypertext to mean "a body of written or pictorial material interconnected in such a complex way that it could not conveniently be presented or represented on paper." (Nelson, 144). The file structure for the complex valorizes rearrangement and unpredicted assemblages of ideas. Nelson underlines the logic of non-sequential writing — text that branches and allows choices to the reader. With a focused interest in an alternative way to organize text, Nelson posited that hypertext would reify the connections between documents, making it easier for readers to follow the evolution of ideas.

Valorizing the power of the network in organizing knowledge, recent initiatives such as *Cyberfeminist Index*, *A New AI Lexicon*, and *newmaterialism.eu* have adopted index-making to publish research. These projects give shape to 'larger-than-life' topics through aggregating, mapping, and collective indexing. *Cyberfeminist Index* is a project initiated by Mindy Seu to archive and aggregate literature from thinkers across cultures and disciplines that can be loosely grouped under the term 'cyberfeminism'. The project began as an excel sheet and evolved quickly into a valuable online resource. The website launched in 2020 has a bibliography of 717 items from 1985 to 2021. Each entry is annotated with a brief description and accompanied by a link to the book or a website, some even to a downloadable pdf. Next to the main index is a window showing a list of viewed items where users can download notes for all items at once.

In traditional publishing, index refers to an alphabetical list of subjects, usually arranged at the end of the book, with reference to the page they are mentioned for easy retrieval of information; in the online context, indexing often refers to the method of injecting metadata and keywords for search engines to archive and retrieve websites. In both definitions, indexing is fundamentally a practice of cataloguing, archiving, retrieving, organizing, and through that, making new connections. The term 'index-making' here refers to this practice and is not tied to any specific medium. Index is a close relative to glossary, codex, lexicon, mindmap, and anthology in that it cultivates connections and intertextuality. Index-making aggregates concepts and references. The index acts as a database, where the data points can be organized into various narrative structures such as maps to outline the conceptual terrains of a new discipline for faster sense-making.

The aggregation of data points and literature resonates with the networked and scalar nature of hyperimage, and through the

index one begins to outline the technology and its discourse that are much larger than the human and distributed across time and space. Index-making renders the multidisciplinary cross-pollination of ideas visually. In this way, index-making functions similarly to 'cognitive mapping'. Similar to algorithmic image systems, cognitive mapping means different things in different disciplines. In cognitive science, it is a spatial representational map of how a mental system processes information. More generally, it refers to a semantic network of an individual's knowledge system — a mind map. I prefer philosopher Frederic Jameson's definition of cognitive mapping as "a situational representation on the part of the individual subject to that vaster and properly unrepresentable totality, which is the ensemble of society's structures as a whole" (Jameson 51) because it better captures the potential of mapping as a method to transcend scales, to achieve a new understanding by moving between an individual and a totality, the particular and the general. Cognitive mapping is a navigational tool for humans caught up in what he called 'postmodern hyperspace' — a complex constellation of urban cities, globalized capitalism, and digital culture. For Jameson, the hyperspace eclipsed the capabilities of individuals to situate and locate themselves in ways that allowed them to 'cognitively' map the world around them, both vertically and horizontally. His thinking seems to hold even more relevance today, where larger-than-life entities from network to climate increasingly dictate every aspect of life yet escape human cognition that failed to think outside the human scale. Although my interest in cognitive mapping does not entirely overlap with his — Jameson was interested in representing capitalism through cognitive mapping to bring about political change, mine is on algorithmic image systems and its multidisciplinary discourse — we are both drawn to its revelatory power to represent what is otherwise an unrepresentable totality.

Social network – community building

However, collective indexing does not simply entail linking information – as in the way Google indexes websites, it fosters community building and new aesthetics. In creating the online index, Seu built a network of collaborators around the project by inviting them to annotate and contribute texts to the ongoing conversation. The process helps redefine cyberfeminism in an inclusionary and polyphonic manner. *Do Not Research* and *New Models* are two other examples. These self-organized online platforms explored alternative mode of research publishing by leveraging DIY publishing, easily-accessible online platforms, and community organizing tools to share information, build discourse, and create knowledge.

Do Not Research is a collaborative platform for publishing writing and visual art about internet culture that began as a Discord chat community founded by artist Joshua Citarella in 2020. The website gained popularity through word-of-mouth and the contributors' social media. On its homepage, also called Index, are writings by community organizers and contributors. The Index is updated irregularly (from weekly to monthly). Each post covers a range of topics from commodity feminism to Taoist anarchism. The length of each piece resembles an online forum post, perhaps an excerpt from the Discord chatroom or reading group discussions. However, its content is much more well-considered than the usual social media rant. While embracing informality and social media, the platform is distinctly different from a Facebook secret group for too-cool-for-school researchers.

As Citarella explained in his Instagram post, it is organized as a counter-strategy to academic publishing and the financial system in contemporary art to better address pertinent topics that private institutional funding will not facilitate.

Similarly, *New Models*, a culture podcast founded in 2018 that has since expanded into a media platform, has cultivated a closely-knit community of followers on Discord, where they share insights about living in emergent tech and online ecosystems. Engaging with their followers, they can quickly respond to current events and online cultures, switching between the more unilateral communication of their podcasts and the dynamic discussion on their Discord server. Their discord server becomes the furnace of ideas, where each user brainstorms, discusses, and tests their theories. Theorization happens at an unprecedented rate. New connections and vocabularies accumulate with each discord discussion, a real-time testing ground of neologism. This community of cultural prosumers and its online platform allowed *New Models* to finish *NM CODEX Y2K20*, a book full of reflections on the pandemic, spectator activism, and capitalism in 2020. The preface of the book succinctly summarizes their publishing practice: "through signal detecting and map-making, the *New Models* homepage will cut through the disorienting din of online media and reveal the important underlying narratives of our times." (Benkhedda et al. 8)

The aesthetics of mapping

The work of American artist Mark Lombardi and Finnish artist Minna Henriksson exemplifies the epistemological value of mapping Jameson proposed. Lombardi was famous for producing large-scale maps, what he calls "narrative structures," revealing the underground structures of power woven between political, economic, and criminal forces on a global scale. The power structures are depicted as a network of politicians, banking organizations, and government agencies, united by lines representing flows of money and relations. As early as the 1990s, he highlighted the links bringing the Bush and bin Laden families together, as in his work *BCCI-ICIC & FAB, 1972-91 (4th Version)* (1996-2000), which will find a strange resonance after the attacks of September 11, 2001. His network was so meticulously accurate that FBI agents showed up at the Whitney Museum, where Lombardi's drawing was part of their permanent collection, to examine the financial network of the terrorist group Al Qaeda. By mapping the social and political terrain in which he lives, his drawings successfully outline the complex web of influences that is too big to grasp from an individual perspective. His other work, *Bill Clinton, the Lippo Group, and Jackson Stephens of Little Rock, Arkansas (3rd version)* (1998), is currently on view in the exhibition Reseaux Mondes at Centre Pompidou, proving his network drawings remain, if not more, relevant in the time where the human experience is tied to the network infrastructure, whether physical or virtual, biological or artificial.

Minna Henriksson, on the other hand, focuses on the power structure underlying the art world. Her wall-sized map outlines the interpersonal relationship between art institutions and curators in different countries. In *The Helsinki Map* (2009), she organizes gossip, insider conversations and her own perception of the art scene into a complex network of social relations, rendering the often secretive and elite art world transparent. In the same spirit as Jameson, Henriksson uses the map to highlight several problematic issues she detected: accumulation of parallel power positions, and the division of

the institutional scene between rightist and leftist cultural policy. She makes maps to drive institutional reform within the Finnish art community. Both Lombardi and Henriksson use mapping to give shape to an unrepresentable totality.

Drawings created by both artists have an interesting feature: they reproduce extremely poorly in scales other than the original one. Due to limited page space, Lombardi's work was assigned one spread on the official French catalog: one image paired with a paragraph of text description. His massive drawings are resized into an image no longer than 15 cm wide, rendering the text on the drawing illegible. This violent change of scale has reduced his work into a vacuous icon of the original work, as if the drawing is only meant to be looked at in person in its original scale. His work refuses to be enlarged or compressed. Mark Lombardi's network drawings allow viewers to move through different scales freely. One can choose to take the network drawings as a whole or as an assemblage of relations. One can take a step back to look at the entire picture or move closer to focus on one particular relation. Only by shifting between scales can one gain a fuller understanding of the power relations underlying our world.

Organizational aesthetics and distributed curating

Index-making benefits from the development of online platforms and their catalytic power to enact certain events — 'organizational aesthetics' — as Olga Goriunova has suggested (4). Goriunova conceptualized the act of organizing (e.g., curating, archiving, aggregating), specifically on online art platforms, as a continuous aesthetic production that values the process over the end product. Early art platforms such as *Runme.org* and various self-initiated art-surfing clubs, which started as an open database of software art and a social sharing platform of interesting online finds respectively, quickly became key sites of conceptualization of digital culture. The strategy of organizing itself may be simple, but it establishes important connections, both social and theoretical, from which new art movements unfold. Online art platforms provide a fertile ground for social organization, theoretical discourses, and the becoming of emerging research disciplines. Goriunova characterizes these online platforms as a site for the collective becoming of art through collaborations, referentiality, repositioning, and sociality — a distributed curatorial proces. (Goriunova 88). Contrary to a monograph, index-making, as a way of organizing, invites addition: new vocabularies, new contributors, new discourses, and new relations — a kind of real-time distributed theory-building. Index-making welcomes users, from experts, and researchers to enthusiasts, to contribute to an ongoing discourse on fast-evolving topics. It works on an inclusionary logic rather than peer-reviewed journals' competitive and exclusionary logic. Index-making acknowledges research as a never-ending collective process, unfolding in real-time and unlimited to academic space. Therefore, index-making renders research back into a responsive, collaborative, and openly-accessible process.

It is not a complete coincidence that collective indexing shares a similar way of organization with some of the self-initiated research groups previously mentioned such as *New Models* and *Do Not Research*. From the outside, collective indexing may look identical to a call for a paper or an anthology, but as both groups have demonstrated, the community building is much faster, the spread much further, and the group composition much more diverse. With a topic as broad as internet culture, *Do Not Research* holds

online discussions where each member can lead the conversation on the subject of their expertise as it comes up. And these online discussions evolve organically into other events: reading groups, meetings, or ad-hoc podcast episodes. Thus, collective indexing creates an alternative knowledge schematic to the academic network or search engine results, giving voices to the lesser-known but equally important thinkers and ongoing discourses.

Collective indexing also streamlines DIY publishing. During the three-day *Rendering Research* workshop in Brussels (2022), participants tested out collaborative writing and fast-paced publishing. With the help of graphic designers Nicolas Storck and Julien Duerte from the School of Graphic Research ERG Saint-Luc in Brussels, we used Variapad, Markdown notepad, and other low-effort publishing tools to communicate and do simple layouts of our writing. The writing was then uploaded to a server, forming a temporary online database. Because each contribution used the same formatting rules and markdown language previously agreed upon, the designers were able to make use of modular publishing tools to quickly compile all the files into a printable document which was then sent to the risograph printer on the same day. Speed obviously does not necessarily mean quality, but the three-day experience does demonstrate the compatibility between the database and DIY publishing. A database provides the infrastructure conducive to modular design and online publishing. *The Urgent Publishing Toolkit*, hosted by the Institute of Network Culture, provides modular design principles for online publishing (Making Public). The toolkit defines modularity as both a technical production workflow and the presentation of the content and the editorial decisions made. The toolkit showcases different methods and tools, such as collage, scalar, and twine, to flexibly compile a database into a zine or any other fitting formats with new interactivities and sensibilities of reading. With digital publications, these methods make use of the hypertextual, multi-medial, and multi-modal online environment, realizing the radical vision of pioneering writers such as Ursula Le Guin and Peter Sloterdijk. In reference to Sloterdijk's idea of 'hyperessay', the toolkit highlights the role of an author as a navigator in a sea of references, quotes, and thoughts. "The most important element of writing is selecting and instead of making a linear argument about all the different inputs, the writer shows how the selection process took place and what possible pathways it affords." (Institute of Network Culture, Upside Down Inside Out) Making use of existing content management platforms, matching algorithms, and modular publishing tools, the modular design process leads to a different way of writing and reading; to other forms of telling stories and presenting research.

Underlying the movement of online DIY publishing is the vision to open-source knowledge, freeing it from journal paywalls and university libraries. Inspired by the movement, *Hyperimage Index* invites contributors who are well-published in their field to donate writings and chapters of their books so that the collective indexing will form a publicly-accessible and ever-growing pedagogical platform. It will act as a multidisciplinary alternative to existing monogenous glossaries on AI and computer vision produced by the tech giant and GPU inventor Nvidia.

Database aesthetics

'Indexing' also implies the act of retrieving data. In data science, a database index refers to a data structure that improves the speed of data retrieval. In practice, an index can be as simple as a two-column table of data points and pointers to other data points, a table of contents for a database. By segmenting the entire database into different categories or assemblages of data points, a search can be done without going through the entire database, saving computer memory and resulting in faster information retrieval. In other words, a database index acts as an interface between sections of the database, directing search queries in a more efficient manner. A database index is commonly used in relational databases. Media theorist Zachary Horton, who examines the role scale plays within mediation, asserts that this organizational operation has greater implications for knowledge production. A relational database organizes data points with no predetermined hierarchy or network structure. On the contrary, a relationship between data points emerges as a search query passes through database indices to reach its result, revealing the "intrascalar assemblages" (Horton 188).

Upon seeing the transistor, the ultraviolet wavelength, and the HIV virus grouped together in the same frame based on their scale on the website *The Scale of The Universe 2*, Horton noted:

> *This is in the first instance a database question, a query. We are given multiple objects that belong to the same class, that possess the same size attributes, but that are not ordinarily encountered together. It is a special case of a 1:1 scalar relationship. The question, more properly, is this: if the database aggregates these objects based upon the property of size, what temporal domain unifies them?* (190)

According to Horton, the database interface is an active and open-ended system for the production of new aggregates (185). Relations between the aggregated items emerge and dissolve with each search query, often in surprising combinations. A database disorients users from the usual scalar frame, the abstract space and time in which a set of typical events take place. He used the term database aesthetics to further articulate the implication of scales in mediation.

> *Database aesthetics can help us to define and understand scalar milieus as horizons for generic events — not despite their categorical flattening but because of it: the more reductive the initiation into a coded matrix of relations, the greater the potential for emergent complexity on the axes of both intrascalar aggregation and trans-scalar encounters."* (191)

Conclusion

The reason for choosing collective indexing to render my research is fourfold. Firstly, the form resonates with my research topic, algorithmic image systems, and my interest in the notion of network and scale in contemporary visual culture. The second reason concerns the database aesthetics of collective indexing, mapping utilizes network and scale to render a phenomenon much larger than humans visible. The freedom to switch between microscopic and macroscopic perspectives — trans-scalar seeing — creates a unique way of sense-making unachievable in linear writing. The third reason concerns the organizational aesthetics. Collective

indexing not only connects ideas across disciplines but creates a social network around the topic that is inherently transdisciplinary. Lastly, the database created by collective indexing is conducive to online publishing and open-source knowledge.

My proposal for rendering research in algorithmic images and visual culture is *Hyperimage Index* (working title). *Hyperimage Index* is an online collaboratively-annotated index for photography theory in the algorithmic age. The story of photography has historically been told through the notions of representation, truth, and reality on the one hand and entangled in the debate concerned with its aesthetic values on the other. While these stories are still valid, the advent of computer graphics and artificial intelligence has brought new complexity to the image discourse. As Fred Ritchin once remarked, "If the world is mediated differently, then the world is different," (9) the development of new optical media enables brand new ways of compressing our world into images and creating new information economies. Understanding these radical changes requires a transdisciplinary approach to visual studies and demands a new set of vocabularies and theoretical positions. Hyperimage Index surveys a wide range of literature and consults thinkers from different fields to collaboratively construct an atlas of ideas for algorithmic image-making. As technologies such as facial recognition, Deepfake, and ray-traced computer graphics seep into our daily lives, a critical analysis is urgently needed to fill the knowledge gap. An online open-sourced index makes the research more publicly accessible and inspires new conversations surrounding important issues in CGI, such as human visuality, knowledge, and power. *Hyperimage Index* maps out the discourse on algorithmic image systems through literature view, collective annotation, expert conversation, and invited collaboration, cataloging short-form definitions of concepts, and long-form conversations. By organizing multiple ongoing discussions into a networked database, the Index allows users to examine connections and explore the relevant topics through different scales and across disciplines, thus beginning to outline the larger-than-human system that is otherwise impossible from any individual perspective.

Notes

[1] The discourse of scale has expanded in media studies in different forms, most notably in conferences such as *Levels of Life* hosted by The Photographers Gallery and the London College of Communication, University of the Arts London (2022), *Mediating Scales* organized by Institute of Communication Studies, Université Catholique de Lille (2022), and publications such as *Photography Off the Scale* co-edited by Jussi Parikka and Tomas Dvorak (2021), amongst others.

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LOOPING ARTS, RESEARCH, AND THE STREETS IN RECENT POLISH PROTESTS

Abstract

Using the case study of the 2020/21 Strajk Kobiet [Women's Strike] protests in Poland, this project looks at the relationship between research(ers) and social movements, the blurred line between artist and activist, and the purpose of archiving within a protest wave. What renderings are effective when research needs to exist in a close loop with the streets? Is the role of the artist during a protest wave to disseminate awareness or knowledge, and inspire, or can artistic research be a form of knowledge-development, and therefore a rendering of the research to further political goals and develop political strategies? What is the role of the archive?

Against a backdrop of digitised-mediatised politics and a *fascistisation* of politics globally, this research looks to address an urgent need for dynamic renderings and more structured looping of research, arts, archiving and the streets in the fight for better futures. Posing more questions than offering answers, this exploratory process comes from a personal intersection of academic investigation and activist practice.

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Introduction

This research is a first foray into the question as to whether and how research can be looped back into the streets to strengthen or shift political narratives and strategies, and looks at the role of the artist-activist in real-time research and archiving of social movements. This research comes from a personal intersection of academic investigation and activist practice, as well as a belief in the importance of the queer-feminist movement as a key site of antifascist theory and praxis.

> *Contemporary global feminism is the most important antifascist struggle, arguing for a major shift in political theory that still separates feminism as some 'other politics' rather than situating it at the core of today's political struggles — as should be the case given the efficiency, internationalism, and numbers of those involved in feminism today. (Majewska,* Feminist Antifascism*, 6)*

When organising protests we — loosely-speaking, activists — would now and then try to find a moment to breathe and to ask ourselves: *Is what we are doing effective? Is this the right strategy? What are we demanding? Where is the movement heading?*

In the eye of the storm, however, there is rarely enough time to sit down, take a step back, and reflect. Acknowledging that this research is happening against a backdrop of digitised-mediatised politics and a fascistisation of politics globally, the urgency of finding dynamic renderings and a looping of research, arts, archiving and the streets becomes critical. As argued by a number of theorists, including Mark Fisher who observed that "protests have formed a kind of carnivalesque background noise to capitalist realism" (14), rarely do contemporary protests employ tactics that are sufficiently effective to achieve their own demands due to imbalances in power and political agency against the ruling elites. A mass of people — when faced with the concentrated power of a fascistic state, such as that in Poland — is not in and of itself a threat, and very often mass outbursts of energy in the form of street protests dissipate once their futility becomes evident to participants.

So how do we harness the potential of bodies in the street in a way that feels actually threatening to those we are fighting against? Chantal Mouffe has argued for a "left populism", a construction of "the people" against "the elites" but from the vantage point of leftist demands that aim to foster an alternative to the current system, as opposed to its more commonly discussed right-wing counterpart(s). Such a polarisation of populisms has developed in Poland too, and becomes evident when comparing the right-wing outbursts on Independence Day (11 November) or lately also on the anniversary of the outbreak of the Warsaw Uprising (1 August), with the queer-feminist outbursts on International Women's Day (8 March), in the form of Pride Marches (throughout the summer), and during particular protest waves, such as the 2016 Black Protests, or the latest 2020/21 Strajk Kobiet [Women's Strike] demonstrations that this text is focusing on.[1] Paradoxically, the Polish right-wing populism, while employing the anti-establishmentarian tropes of global populist trends, is fully and often also openly supported by the ruling elites, represented by the ruling party PiS (Prawo i Sprawiedliwość [Law and Justice]) and the Catholic Church. This cannot be said for the (queer-)feminist movement, which is often read as threatening to the core idea of 'Polishness' as represented by the core family unit and the Church (Graff, Graff and Korolczuk, Majewska). A discussion

of this tension as to whether the movement should fight for space within the concept of 'Polishness' or position itself as outside or against it will be discussed in the below section on reclaiming nationalist symbols.

As this paper comes from personal experiences of organising during the 2020-21 protest wave, an observed core element of this outburst — as well as the entire wave, the start of which is marked in 2016 — is the use of art. The use of art in the Polish feminist movement and the blurring of the artist and activist is mentioned by most scholars writing on the movement's different aspects (it is impossible to ignore), but rarely is there reflection on the agency afforded by the use of art — with the exception of Ewa Majewksa who writes on this extensively. Both artists and activists task themselves with an imag(in)ing, referring to the notion of imagination as social practice (McKee 6). Knowledge-making is one necessary step in the process of imag(in)ing a better future, and rendering is another. There is another aspect to the use of art — artistic spaces are often highly academic, artists are reflecting, commenting, and disrupting, backed by a wealth of knowledge and theory. Can this knowledge be looped back into the streets in an impactful way, in a way that does not keep the knowledge only within artistic circles? How can this be done immediately — 'in real-time' — to figure out the most effective tactics, the most achievable demands during a protest wave?

This research, therefore, specifically focuses on this blurry line between the artist and the activist during a protest wave, and looks to artistic interventions and 'art' as forms of rendering research, as well as investigating the role of archiving within this framework. This text will first look at the potential of changing narratives within a protest wave, and then within this context discuss various uses of art: art used as means of (re) claiming national symbols and (re)claiming public space; commoning artistic practices and dissolving the line between the artist, the activist, and the participant; the affective potential of sound; and the role of the archive.

The questions posed throughout this text, as well as outside it, are: what renderings are effective when research needs to exist in a close loop with the streets? Is the role of the artist and of art during a protest wave to disseminate awareness or knowledge, and inspire, or can artistic research be a form of knowledge development, and therefore a rendering of the research to further political goals and develop political strategies?

And finally: when, as an activist, maybe a new one, should you be finding time to read academic or semi-academic texts? This particular point is important to keep in mind. Since 2016 — and the same happened during the 2020/21 wave — many protesters and organisers, activists, were new. Many scholars have talked of a generational shift, and a 'new way' of doing feminism in Poland, away from its former NGO-ised, formalised, and elitist forms (Ramme and Snochowska-Gonzalez, Graff and Korolczuk). How do you balance new energy and ideas with experience and knowledge of political processes and developments? There cannot be a knowledge exam to enter and engage with spaces of political organising but situating a protest wave or social movement within broader and longer-term political processes is necessary in discussions of next steps and future tactics. Can artists and art — as possible links between the academic and activist worlds — bridge this gap, and complete the loop between research and the streets?

Context

On the day of the announcement of the de facto abortion ban by the Polish Constitutional Tribunal on 22 October 2020, protesters took to the streets in hundreds of cities and towns across the country. The almost daily Strajk Kobiet [Women's Strike] protests lasted over three months. The demonstrations, despite the large numbers and wide resonance in public, media and digital spheres, did not stop the ruling from being published and thus becoming law. They did, however, lead to now an all-time high public support for the liberalisation of abortion law, which according to a recent poll sits at 66%,[2] and an attempt — albeit an unsuccessful one — to pass a civic bill for the liberalisation of abortion through the Sejm (Polish Parliament) in June 2022. Important to note is that while the protests against restricting access to abortion began in 2016 with the first Black Protests, the entire process began already in 1992, when the Polish Catholic Church successfully bargained for abortion access to be restricted following the end of the so-called communist era (for an outline, see Fuszara, Graff and Korolczuk).

The fascistic desire of the Polish government to control the bodies of those who can bear children is tied to visions of a perfect Polish nation — one that is white, Catholic, and patriarchal. Controlling women's[3] bodies is a key element in this. The de facto abortion ban not only aimed to 'encourage' more births, but also aimed to paint childbirth as something heroic.

> *Poland's conservative government is also promoting a valorous vision of Poland's past, emphasising its (rare) military victories and fetishising the (more common) failures, thus imposing on the population a heroic, martyrological model of citizenship and political agency. Such heroism is also forced on women via limitations on access to contraceptives, abortion and reproductive health strategies. This is also promoted by the image of the (self-sacrificing) Polish mother, who combines a patriotic sense of reproductive obligation with a resignation from career and political ambition. (Majewska,* Feminist Antifascism*, 14)*

A sacrificial act for the nation — men die in combat, women in childbirth. An understanding of reproductive labour as unpaid labour that sustains individualistic and patriarchal neoliberal societies, and the economic subjugation consequently experienced by women, deepens the importance of focusing on feminist movements and their building of common solidarity when fighting for an alternative future (Kurylo). Several scholars have observed the self-definition of protesters as "ordinary women" (Gunnarson Payne, Korolczuk), and this transition towards recognising commonalities among the protesters signals towards the building of "a people", bound by collective experiences and collective emotions, as will be discussed later. Significantly, both Majewska and Federici use the concept of the "commons" as an expression of an alternative world emerging from feminist organising, complemented by Lilja's concept of "constructive resistance"; this idea of the commons will emerge throughout this text, including in the discussion of art as an integral part of this social movement.

Changing narratives

There is a reason we say social *movements* — it is because they do not stay static. While this idea of the commons was present throughout the protests, the diversity of the participants meant that there were shifts occurring in many directions. How narratives can shift is something important to illustrate before trying to look at if and how they can be influenced. To contextualise this particular outburst, the Strajk Kobiet protest wave in winter 2020/21 was much larger in number and more politically radical than in previous years. The prolific use of swear words and words like 'war' and 'hell' on the one hand, and words like 'revolution' and 'care', and the usage of 'strike' as a synonym of 'demonstration' on the other, signalled a shift towards more radical feminist thought (Kurylo) — one that had been arguably emerging in the groups and activists around the radical *Manifa* (International Women's Day) protests, which started in 2000 (Graff).

The focus on the word 'strike'[4] had the means to point towards tactics that also have an economic impact and therefore give the protesters greater bargaining power. City blockades were a start in this direction. As observed during the protests, there were split opinions as to how to engage with other social groups joining and supporting them, such as taxi drivers, public transport drivers, and farmers. There were many disagreements that came out of knowing that the other social and groups have their own agendas and there were fears of the focus being shifted away from the ruling banning abortion. Could this have been negotiated to develop a socially broader movement directed at the fascistic policies of the PiS government? Could concerted pressure based on an analysis of the ideological threads present among the protesters have led to a more radical stance of the leadership, and by extension the movement? Could this potential coalition have helped to develop more effective strategies?

Figure 1: A blockade of one of Warsaw's main streets. © Archiwum Protestów Publicznych / Rafał Milach

An example of a narrative shift is reflected in the movement's relationship to the police. In the early days, many people celebrated policemen and -women joining the protests, acting as in more liberal feminist settings. As the weeks went on, the police were deployed to brutally suppress the protests which was widely documented, and the OSK (Ogólnopolski Strajk Kobiet [All-Poland Women's Strike]) leadership changed its stance and adopted the anti-fascist slogan 'Zdejmij mundur, przeproś matkę' [Take off your uniform, apologise to your mother] — and led to individual participants to act on this too, including a regular appearance from an activist dressed as a tear gas can. As a side note, the performance of this costume afforded the activist (artist?) much coverage in mainstream and social media.

Figure 2: © Archiwum Protestów Publicznych / Rafał Milach

At the same time, as frustrations with the ineffectiveness of the methods and tactics that were being used were shaking up the initially fairly solid intersectional solidarity within the movement, some more liberal voices were starting to use the right-wing propaganda rhetoric to 'not divide the movement' by focusing too much on the queer community. There were debates about using the word women, or people with uteruses, or people who can become pregnant, and in response to including points addressing the problems faced by the queer community in OSK's extended list of demands, some voices argued that the so-called 'gender ideology'[5] will alienate protesters and supporters. Within a week of the outbreak on 22 October, OSK published their initial list of demands in which they called for a Rada Konsultacyjna [Advisory Council] and began shaping it a few days later. Ewa Majewksa discusses some frustrations regarding this process in her contribution in *The Situation of Women in Poland 2020*. Importantly, this moment showed the problems of the protesters' diversity – some thought the demands went too far, others that they did not go far enough. A main criticism was not including 'abortion on demand up to 12 weeks' on the list, a demand that was arguably central to the entire protest wave, causing a storm on OSK's Facebook page.[6] Not wishing to delve deep into questions and complexities of hierarchy and leadership of these protests within this text, this is an aspect that nonetheless bears keeping in mind, particularly in the following sketches on the use of and effect of art in the protests.

What the above has illustrated is that simultaneously we were seeing, subjectively when considering a shift towards the left as positive, progressive narrative shifts and regressive narrative shifts. A movement does not have an inevitable path — events and actors within and around it can influence its development.

Figure 3: A scene from one of the protests in Warsaw. © Archiwum Protestów Publicznych / Paweł Starzec

(Re)claiming national(ist) symbols

One of the battlefields of the movement has been the right to public space. Until the recent outbreaks of queer-feminist protests, the right-wing in Poland had been consistently and overwhelmingly claiming public spaces as their own. Anti-abortion billboards depicting foetuses, *płodobusy* (vans, that drive around with gruesome images of aborted foetuses and use their speakers to spread hateful messages), graffiti relating to historical battles and uprisings, and displays of 'heroism' by nationalists, such as during the Independence Day marches on 11th November, are all part of the right-wing's campaign to dominate public space. Particularly on 11th November, over the last few years mainstream and social media has been filled with images of crowds of, largely, men holding red flares and getting into fights. The photos are eery and become disconcerting when a closer look shows the nationalist, homophobic, racist, and misogynist slogans, and blatant displays of neo-Nazi symbolism.

The reclaiming of public space is part of the feminist fight against the binary of public and private — with 'women's issues' often relegated to the private sphere — and for the visibility and agency of women in public. This was argued by Nancy Fraser in "Rethinking the Public Space":

> *In general, critical theory needs to take a harder, more critical look at the terms 'private' and 'public'. These terms, after all, are not simply straightforward designations of societal spheres; they are cultural classifications and rhetorical labels. In political discourse, they are powerful terms that are frequently deployed to delegitimate some interests, views and topics and to valorise others. (73)*

Alongside the reclaiming of public space by the sheer presence of bodies in the streets, in and of itself an act of resistance, there were broader artistic methods used for the same purpose. Some of these included stickers, billboards with the phone number of the grassroots initiative Abortion Dream Team, projections, (often humorous) costumes, and graffiti — all of which can and should be considered as art. The OSK logo, which includes the symbolic red lightning bolt, was also everywhere; the logo is black, white, and red — the white and red deeply entrenched in the Polish consciousness as the national colours, and the black arguably continuing the legacy of the Black Protests. The red flare was (re)claimed by the Strajk Kobiet protesters too, building towards the overarching question raised by the protests: who does Poland belong to?

Figure 4: © Archiwum Protestów Publicznych / Bartek Sadowski

The complicated relationship between feminism and national symbolism has been discussed by Agnieszka Graff:

> *One the one hand, it is marked by the need to reclaim women's place within national history (...). It is a question of*

belonging. On the other hand, there is a string impulse to reject all national symbols as inevitably nationalistic (xenophobic as well as sexist and homophobic). (...) Can such a tradition be reclaimed by a struggle for gender equality? Can a feminist patriotism (as distinct from nationalism) exist without fuelling the very discourse it hopes to contest? (474)

As Graff also mentions in her text, right-wing groups have previously sued queer-feminist activists for 'blasphemy against patriotism' (or for 'offending religious beliefs'), for example for the reworking of the Warsaw Uprising symbol, the anchor, from 'Polska Walcząca' [Fighting Poland] to 'Polka Walcząca' [Fighting Polish Woman], or for the famous Rainbow Madonna, an adaptation of the icon of the Black Madonna of Częstochowa with a rainbow-coloured halo representing the queer movement. Is this the right battle to be fighting?

In the 2020/21 wave, artistic interventions were a significant part of this tug-of-war over national(ist) symbols. During one of the protest nights, the Polish epic drama Dziady [best translated as 'old croaks'] by Poland's most famous bard Adam Mickiewicz, was re-staged with the modern 'Dziad' Kaczyński in a starring role, in a building opposite his house in Warsaw's Żoliborz district. In Poznań, one of the city blockades was accompanied by the sounds of the polonaise — a national dance — thanks to which the next morning's headline in Gazeta Wyborcza read 'Drivers applaud. Gays Dance the Polonaise'.[7] A particularly resonant case is the renaming of Warsaw's Rondo Dmowskiego [Dmowski Roundabout] to the Rondo Praw Kobiet [Women's Rights Roundabout]. Dmowski was one of the main ideologues of Polish nationalism at the turn of the 20th century. The name change was first done symbolically throughout the protests, with activists mounting self-made signs to mark the name change; the petition to make the name change official was approved in December 2021 by the Warsaw Council and is currently awaiting further legal steps; in Kraków a square opposite a PiS party office has already been officially renamed to the Skwer Praw Kobiet [Women's Rights Square]. In a country in which the majority of public sites are named after religious, political, and military figures — you would be hard pressed not to find a street named after the General Józef Piłsudski or Pope John Paul II in any Polish town – these symbolic changes signal small steps towards carving out alternative sites for public memory.

Figure 5: Activist changing the name of the Dmowski Roundabout. © Archiwum Protestów Publicznych / Wojtek Radwański

Such actions can be understood as a rendering of a feminist redefining of the public-private sphere binary, using already existing tools and the well-established mechanisms of politics of spectacle (Debord) and an exercising of a right to the city (Levebvre). Additionally, the relationship with national(ist) symbols is a fight for belonging in the imagined community of the Polish nation — one that also has space and celebrates women, queer people, and other marginalised groups.[8] Arguably, this is the process of creating "a feminist people" that Gunnarsson Payne references with regards to the Black Protests, echoing Judith Butler's

writings on a construction of "the people" (*Notes Towards*) and Chantal Mouffe's thesis on a "left populism". There is a personal ambivalence with regards to the reclaiming of national symbols as a tactic, echoing Audre Lorde's oft-cited "the master's tools will never dismantle the master's house", but its prolific use is testament to the broad coalition of actors and positions that made up the protests, as well as its specificities with regards as to who "the people" (the feminist protesters) were targeting as their enemy ("the elite"): the Catholic Church and the PiS party.

Figure 6: © Archiwum Protestów Publicznych / Rafał Milach

Art of the commons

Should we be trying to reclaim a system that is built on our exclusion, or should we be building alternatives? What does it mean when artists/activists focus on reclaiming national or nationalist symbols? Returning to Ewa Majewska (*Feminist Antifascism*, 82), she proposes the notion of "weak resistance" as an alternative to the heroic displays of reclaiming national symbols. This is resistance that is not heroic, but one that invites alliances, heterogeneity, and non-individualism. It requires participation. It is not glamorous or individualistic, but functions on the premise of building a new reality based on a utopic idea of the common(s), and not on the reclaiming of the current system. It is about building a sense of belonging through the finding of "common ground":

> *Solidarity involves commitment, and work, as well as the recognition that even if we do not have the same feelings, or the same lives, or the same bodies, we do live on common ground". (Ahmed,* Cultural Politics of Emotion*, 189)*

Centering on this idea of the *commons*, as argued for by many feminist theorists (including many not directly cited in this text), it is also this kind of non-heroic, non-individualistic art, created by artists-activists during, for and around a movement, that informed the feeling of belonging during the protest wave. This is also the point at which the line between artist and activist — both of which are tasked with an imag(in)ing of a different future — disappears. A similar phenomenon was observed by Yates McKee during the Occupy movement (of which he was also a participant):

> *Artists were not the only participants in Occupy engaged in [artistic] activities, nor did they play a privileged role qua artists – a professional identity that was of secondary importance even while specific artistic skills and resources proved highly valuable. Reciprocally (...), organisers and participants in Occupy with no professional training in art per se found their own work influenced by aesthetic concerts with visuality, performance and poetics. (McKee,* Strike Art*, 26)*

McKee also talks about the practice of "commoning", citing Hardt and Negri and their attuning to "the subjective, affective and imaginative dimensions of the movements in their practices of commoning" (20) and Majewska talks about anti-fascist art strategies, which "diversify and traverse the old borders between legal and unregulated, institutional and squatted" ("A Bitter Victory?", 8). One of two clear examples of the commoning of art is the red lightning bolt. The red lightning bolt was designed by Ola Jasionowska as the logo of OSK (Ogólnopolski Strajk Kobiet [All-Poland Women's Strike]), a now NGO-ised organisation, which took over the leadership of the protests in Poland. Ola Jasionowska, a designer who has been working with the City of Warsaw, gave this symbol to the movement, and its meaning shifted according to its mood — at times meaning rage, warning, power. The symbol was on face masks, on protest signs, graffitied everywhere, on people's social media profiles. Its use on social media allowed people to rehearse participation in the movement online, before taking to the streets physically, as it allowed people to see common ground with others in their network (Majewska, *Feminist Antifascism*).

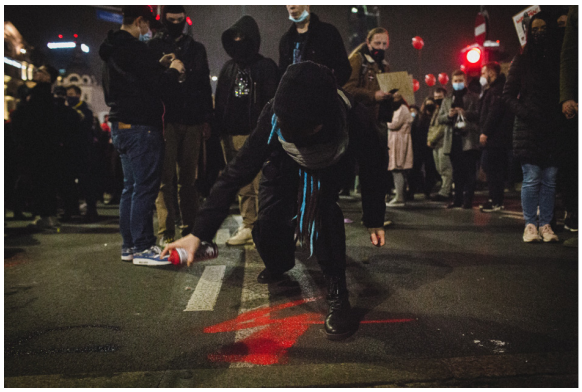

Figure 7: © Archiwum Protestów Publicznych / Agata Kubis

The red lightning bolt was added to the famous neon of the volleyball player in Warsaw, it was in the aerial image of a flash mob that formed the word 'Strajk' [Strike] in one of Kraków's main parks, and it was on the OSK flag planted atop a mountain near Zakopane. Each such intervention was additionally and intentionally documented for social media. The ubiquity of the red lightning bolt in both public and digital spaces over that three-month period transformed this simple symbol into a symbol of belonging to a movement and to a community. On walks through Polish cities, you can still see it displayed in people's car windows, hung on people's balconies, or sewn onto their clothes. It was all part of the spectacle of the protests, which when taken as a whole can be understood holistically as a performance and a work of art. By understanding spectacle as "a social relation between people that is mediated by images" (Debord 2), the use of social media in this particular protest wave becomes an even more integral part of the equation. Remembering that these protests were happening during an instated official ban on social gatherings, including protests, due to the pandemic, many actions were executed with the digital audience in mind.

A second example of art of the commons were protest signs. They were humorous, informative, political, and theoretical. Some would reference feminist thinkers, including the Polish theorist Maria Janion, some would criticise the interference of the Church in matters of healthcare (which includes abortion) and education, others would make comparisons between Kaczyński, Poland's current de facto leader, and General Jaruzelski, who introduced martial law to quell the Solidarity movement in the early 1980s — once famously depicted as a Tinder match between the two men. Others were puns on the acronym 'PiS' or swear words, adorned with the symbolism of the red lightning bolt, as well

as variations on the vocabulary and themes referenced earlier on: care, revolution, hell, war, strike, solidarity, as well as direct references to abortion as a right.

Are protest signs art? Many Polish artists and museums seem to think so: they were displayed in one (Warsaw's Museum of Modern Art), were collected by one (Gdańsk Museum), and were due to be displayed — but ultimately censored — by another (Kraków's Cricoteka). They also contributed to the coherent visual identity of the movement (its spectacle): the black and red colour scheme, the vocabulary and references on protest signs, the signs themselves in their extraordinary volumes, the red lightning bolt.

Majewska wrote in 2019:

> *So far, avant-garde art projects and efforts to transform institutions into counterpublics and parts of the common have not gained the popularity required to generate a mass sentiment of anti-fascism. Yet this is not a sign of the failure of the anti-fascist project but rather foregrounds the need to open these initiatives to a wider public — and, better, to realise them* with *the public rather than* for *it. ("A Bitter Victory?", 8).*

Has this outburst in 2020/21 achieved a mass sentiment of anti-fascism by unleashing an art of the common, by dissolving the line between artist and activist, by embracing the notion of the "emancipated spectator" (Rancière)? It certainly opened up Polish feminism to more radical discourses that have their root in a feminist antifascism, whether it was directly named or not during the protests. Protest signs will be returned to in the section on archives, but in this section they serve as an example of a rendering of the moods and ideologies permeating through the movement, as well as creative outlets for each participant. They show that art belongs to everyone, that everybody can be an activist and an artist, and that art of the commons can lead to the forming of a sense of belonging and to give an outlet for thoughts and emotions in the resonant setting of a protest, as well as being a catalyst for radicalisation. This ties in well with Ramme and Snochowska-Gonzalez's study on the protesters' self-definition as "ordinary women", as well as their "emotional solidarity" with one another (80). Taken as a whole, they are the visual rendering of the demands, ideologies, and actors of the movement, in their entire complexity.

Figure 8: Another example of the comparison between Kaczyński and Jaruzelski, displayed on a balcony in Kraków. © Archiwum Protestów Publicznych / Joanna Musiał

Affective sounds

As argued by many scholars working on populism, social movements, and feminism —many of whom have been referenced in this text — a key driver of a sense of belonging, common ground, and solidarity, as well as being a key motivator for joining the protests, is emotion. Butler comments that emotions can range from hope and joy to fear and rage, all of which often intermingle with one another and Lilja argues for the

performativity of emotions that "binds figures together, which then creates the effect of the collective" (347). When examining the rendering of impulses and ideologies within a movement, underlying discussions on the commons, community, and belonging is affect. Social movements are highly emotional, and an art that allows us to focus on and analyse the affective side of protests is sound.

Henri Levebvre's last work on "rhythmanalysis" and the related figure of the "rhythmanalyst" can give us a first framework of examining the protests through sound:

> *More sensitive to times than to spaces, to moods than to images, to the atmosphere than to particular events… [the rhythmanalyst] is always 'listening out', but he does not only hear words, discourses, noises and sounds; he is capable of listening to a house, a street, a town as one listens to a symphony, an opera. Of course, he seeks to know how this music is composed, who plays it and for whom. (Levebvre, Rhythmanalysis, 87).*

Here is an attempt at a rhythmanalysis of the 2020/21 protests:

> *When listening to what sounded out in the streets during each protest, you could typically hear chants, samba bands, speeches, as well as music — DJs playing techno, recordings of the polonaise, and other songs that became associated with the movement. Sometimes you could hear laughter, and the sound of feet stomping on the ground, in a walking rhythm or in a dancing rhythm. You could hear mostly femme voices. You could hear lively conversation, clapping, or sometimes a concentrated silence.*
>
> *You could hear dystopic police announcements, most often delivered in a masculine voice, telling protesters to disperse as they were breaking the ban on public gathering. You could hear screams and shouts and protests as the police attacked protesters with tear gas. You could hear negotiations with the police, and announcements, most often delivered in a femme voice, instructing protesters on what to do next. Sometimes there was so much to hear, you would only hear a chaotic cluster.*

The above description is not of one specific protest. It is an amalgam of protests personally remembered, experienced, read about, or watched the footage of. As per Levebvre's rhythmanalysis, it brings up some questions: who was composing these protests? Was it the mass of protesters, was it its leaders, was it the police — or was it ultimately the government orchestrating it from above? Judith Butler talks of bodies assembling in public as a performative exercise of the right to appear (*Notes Towards*, 25) — is the sound of these bodies in public (silence is also sound) then an exercise in the right to be heard, and an expression of the fight to be listened to? If we see protests as performances (Kurylo, 14-15), then the protest-performance is not only visual, but has a sonic element too. Outside of sound studies, sound and music rarely get a mention in academic texts discussing protest aesthetics, beyond a nod to self-ascribed "anthems"[9] and mentions of chanting, shouting, and screaming. What about the music played at a protest? What about the totality of sounds that were heard? What about how the sound and music made the protesters feel?

The echoic and sensory memory of sound can be manifested in a physical way and the emotions associated with sounds of movements can be broad. As Brandon LaBelle argues, "sound and listening are highly adept carriers of compassion and the forcefulness of one's singularity — the intensification of affective sharing" (7). From personal experience of organising protests, the choice as to what music is played and how sound is used during a demonstration is deliberate — activists become directors, or curators, and through their choices they can affect the atmosphere and emotions in a protest. A silent protest will be experienced differently to one led by screams. A techno-blockade will attract a different emotion to a blockade where what is played is the polonaise.

As many scholars have argued, emotions bind together the people that assemble, and through this collective feeling they are able to form a community, or "a people" (Gunnarsson Payne, Mouffe, Lilja, Butler, and others). The fact that this movement sustained itself in the streets over a three-month period can be partly attributed to a feeling of belonging to a community, and belonging tends to be associated with positive emotions — whether they were joy, hope, or solidarity (Segal). These moments of what Lynne Segal calls "collective joy" (60-65), often sparked by a memorable event, tie a group of people together and are crucial in the process of community-building. It's an almost utopic concept that, through histories of resistance, argues for the power of collective emotions in the pursuit of social change. Segal often refers to Barbara Ehrenreich's book, *Dancing in the Streets*, which looks at histories of large public festivals that often became catalysts for revolution. A particularly memorable moment, to the point of absurdity, was the moment Eryk Prydz's classic dance track, 'Call On Me', was played during one of the early protests. This track was quickly repurposed into a protest song by including the chant 'jebać PiS', meaning 'f*** PiS' in the chorus, and was later remixed into a new track, "JBĆ PIS", by Polish hip hop artist Cypis. It became a de facto anthem of the 2020/21 protest wave — it was funny, it was fun to shout and dance to, it brought energy. It brought joy, and relief, in the midst of a situation of high tension; it was often a response to a real-time need of bringing up morale.[10]

LaBelle has been working with the concept of "sonic agency", through which sound "is expounded upon as a means for enabling new conceptualisations of the public sphere and expressions of emancipatory practices" (4). In the context of the 2020/21 protests, unlike 'Call On Me', the purpose of which was to cause an immediate emotional and energy shift, other sounds heard during these protests were a direct rendering of the demands — particularly in the speeches and chants, but also in the rhythmanalysis of the overall symphony of sounds. A useful term for the discussion of sound as a rendering is "sonic fiction". Sonic fiction is a term first 'undefined' by Kodwo Eshun in his text *More Brilliant Than the Sun* and recently expanded by Holger Schulze. Rooting his thesis in afrofuturism, Eshun sees sonic fictions as sound vessels for inventing new histories and fictioning alternative futures, based on and processed through histories of violence and oppression. During the Strajk Kobiet protests, the shouts of 'jebać PiS' (f*** PiS) or 'wypierdalać' (get the f*** out) countered the preconceived idea of female propriety in public spaces – anecdotally from personal experience, the impact of hearing this shouted by thousands of people is much more emotionally and physically impactful than seeing it written on a sign — but these chants focused their energy on the resignation of the political elites currently in power. [11] On the other hand, chants of 'the female

revolution is happening now', 'you will never walk alone', 'our message is clear: abortion has been, is, and will be', 'if the state won't protect, your sister will' focused much more on collectivity, feminist notions of care and empathy, and reproductive justice. The former was perhaps more pragmatic, but the latter fictioned an alternative commons, one led by radical feminist thought.

The resonance of sonic interventions, which ranged from a new version of the anti-fascist song Bella Ciao, titled "Tortury Ciało" [Body Tortures] filmed in Kraków to videos of thousands shouting 'wypierdalać' [get the f*** out][12] to JBĆ PIS was intensified through wide circulation on social media. The streets were also digital during this protest wave. What they were all doing is sounding a new sort of community — of women swearing in public spaces, of using strong language to take up space, of shouting their radicalising politics, of a collective emotion that comes from what Lynne Segal describes as the "exhilarating joy of resistance" (206). Joy and rage, as Butler argues (*Notes Towards*), mix and flow into each other – as do hope and despair. All participants were musicians in the symphony of the protest, and through the sounds they produced and that surrounded them, they were bound together by their experience of collective emotions, perhaps – at least momentarily — forming "a feminist people" (Gunnarsson Payne).

Archives

Writing about social movements and protest waves from the perspective of a participant, once some time has passed the process of experiencing shifts to an exercise in remembering. As Butler argues (*Notes Towards*), social movements are necessarily fleeting — but especially in a country so obsessed with memory politics, how can we ensure this movement has its place in public memory, beyond our individual or collective memories of participation? Archiving becomes an important part of this intersection of academia and activism, as whose hands the collecting, curation, and knowledge-making fall into may determine future narratives. Archiving can be understood as building a record of 'our' history — in the case of this movement through, hopefully, intersectional, queer-feminist practices and methodologies. What materials and what archives will future scholars be looking at when writing about these protests?

This text cannot go into an in-depth analysis of the following archives and will only briefly sketch out their nature and relationship with the protests, leaving at the end a list of questions to be explored in the future and a signal for the importance of archiving work that needs to be done for and with the movement — archiving being at the centre of the loop of activism-art-academia. There are two broad types of archives that can be clearly delineated as emerging from these protests: living archives and institutional archives.

The first example of a living archive is the Archiwum Protestów Publicznych [Archive of Public Protest]. APP is a photographers' collective, which documents protests and collects them in a semi-open access online repository. In 2020/21 they began printing 'Strike Newspapers', made up of slogans, testimonials, and photos from the demonstrations, which could be used as a mobile exhibition, held as protest signs during demonstrations, or plastered in public spaces; the collective also ask participants to tag them on Instagram whenever they newspapers were used. One of its members, Rafał Milach said in a recent interview: "by creating this alternative circulation of images, we control the narrative and their usage."

APP is a living, digital, public archive for distributing images from protests, and most of the images in this text come from their online repository. The objects in this archive (the photographs) are moments of the protests as experienced through the eyes of the members of the photographers' collective — then narrowed down to what they chose to include in the repository. Their strike newspapers are curated, physical renderings of the digital archive.

Figure 9: A protester wearing a slogan from the APP Strike Newspaper. © Archiwum Protestów Publicznych / Joanna Musiał

A second, unspecific and nebulous, example is the social media archive. Activists, collectives, and individual participants have become custodians of digital archives. Whether on Instagram feeds or collected story highlights, Twitter and Facebook feeds, Youtube uploads, or personal phone photo albums, this volume of digital material all forms a massive, decentralised archive, though one where questions of ownership are disputable and there is little to no methodology; they are snapshots of that time. Similarly, the corporate, proprietary, and unstable nature of these archives mean they are vulnerable and unreliable at best – and through algorithms somewhat curated by programmers.[13][14]

A third example of a living archive brings us back to protest signs. On 30 October 2020, eight days after the start of the protests, a group of activists (artists-students) mounted a spontaneous installation of protest signs on the grass outside the Warsaw Museum of Modern Art, which they called 'Las Transparentów' [Forest of Protest Signs]. They asked participants of the protests to leave their signs outside the museum with the call: *don't throw away your protest sign! Let it continue resonating in public space!*. The Forest of Protest Signs was taken down soon after, but this intervention clearly showed this blurring of roles of artists and activists, of who is a curator; it also showed that sometimes an archive only needs to exist for a short amount of time — with the aim to intervene or disrupt.

Protest signs, as mentioned earlier, have been treated as art by several institutions since the protests ended in January 2021. At around the same time as the Forest of Protest Signs took place, the Gdańsk Museum put out a call for 'souvenirs' from the Strajk Kobiet demonstrations just ten days after the protests began. They published the call, which ended with these questions: "What will future generations say about the protests in 50, 100, or even more years' time? Will material evidence of the protests survive in the future? Who should be keeping it?"

The same Warsaw Museum of Modern Art, outside of which the Forest of Protest Signs was mounted, put on an exhibition in the winter of 2020/21, entitled "Who Will

Write the History of Tears: Artists on Women's Rights". As part of this exhibition, they included the same protest signs in a white cube setting. In a recent discussion-interview published by *Magazyn Szum*, several activists and thinkers criticised the exhibition for focusing on 'tears', the idea of victimhood, and weakness, as opposed to broadening the scope of the exhibition into a diversity of experiences of people who have abortions, and reflecting the unsanitised, messy, joyful, rebellious, and chaotic experience of the performativity of the protests.[15] This situation sparks the question as to who should be collecting archival materials of the movement and constructing the narratives around it; the curators of this exhibition were criticised by those who have been deeply involved in the protests. Nevertheless, the signs were displayed in the Museum without an artist name – echoing the notion that everybody was an artist during the 2020/21 protests.

Figure 10: Warsaw Museum of Modern Art. Own photo.

In May 2021, an exhibition was due to open at Kraków's Cricoteka entitled "Powaga Sytuacji" [Gravity of the Situation], and one of the exhibited works was to be Krzysztof Powierża's *Banery z Placu Wilsona* [Signs from Wilson Square[, a collection of protest signs the artist gathered after one of the demonstrations in Warsaw's Plac Wilsona [Wilson Square] on 30 October — the same day the Forest of Protest signs was mounted. However, the Museum decided to pull this work just days before the opening, claiming it could be read "as a political manifesto, and that (...) cannot take place in Cricoteka, which is convinced of the need to strive towards a neutral world-view" (quoted in *Krytyka Polityczna*, own translation). This same exhibition also censored a performance of activist-artist collective Czarne Szmaty [Black Rags], who instead performed an 'arrest' of Cricoteka during its opening, with the activists dressed as policemen displaying black rags with slogans such as "the future will come anyway" and "your fear is your responsibility for our disappearance". Unlike the Warsaw Museum, which tried to engage with the protests and its actors, Cricoteka recoiled in fear of repercussions from the state. Both Museums are state-funded — if even otherwise progressive museums and galleries cannot or do not display representations of this social movement, cowering in the shadow of the state, how can we ensure that these protests are archived, and their stories get told?

What do the above examples show us? Firstly, they show us that there is a need for activist-led archives in order to safeguard narratives as emerging from within the movement. Who is going to be forming the narratives, and constructing their framing in the future, and how can we ensure the ownership of the archive is representative of the movement's collective nature? Activist-led archives are prone to instability and precariousness

Figure 11: Screenshot of artist Krzysztof Powierża's Instagram account depicting the censored artwork / © @powietsza

due to the dynamic nature of social movements and the lack of structure and financial support — how can we resolve this issue? Secondly, they confirm that physical archives require capital, and therefore institutions. But how can this be done when the capital required could come from few other sources apart from state funding, when the state is greatly concerned with national memory politics and is ideologically opposed to this movement and its demands? If art from within protests is about knowledge-development, this knowledge needs to be preserved — but how and where?

Conclusion

This text has argued that within social movements there is a blurring of the activist, artist and researcher, and an interaction between strategies (= theories) and methods (= practice), out of which arises a tension as to how

these things come together to shape the narrative, direction, and development of a social movement. Art, in its broadest sense, can act as a rendering of emotions and ideological threads within a social movement, as well as being a tool for knowledge development and community-building. When engaging with art as a form of collective, common creativity, it can not only engage participants but also crystallise the messaging. The choices made by political organisers are deliberate, if not always made with sufficient time. The question remains how to harness the potential of rendering research within social movements more consciously, while the masses are in the streets. How do we make sure we learn from previous peaks, and counter the so-called 'left melancholy' (Brown 19-20) to seize the potential of the present? Or can we only hope for the nebulous "unknown possibilities and impassioned energies it unleashed" (McKee 19)?

The observations and explorations of this text are poised to be looped back into spaces of political organising. Social movements *move*, and the shifts observed during its peaks (masses on the streets), as well as in the troughs (day-to-day organising by a handful of people), can and should be built upon. Through the look at changing narratives, the (re)claiming of national symbols and public space, commoning artistic practices, and the affective potential of sound, this text has aimed to sketch a broad overview of the role of art within social movements. Explorations of its role were anchored in questions regarding rendering research, as means of developing knowledge, political strategies, and narratives. What emerges is that archiving becomes a crucial element within this development, and there is much work to be done in this area. Systematic and methodologically sound archiving has the means to allow for space of reflection and to build a collection that constructs a narrative that exists outside of patriarchal and nationalist institutions — a particularly important exercise in the current Polish context and its governments nationalistic memory politics.

Feminism is an autocritical ideology that aims to constantly move forward. Both artists and activists task themselves with an imag(in)ing of a better future. Closing this loop is a task that feels existential, as we search for answers to how to change the fascistic course taken by the Polish as well as many other global political elites.

Notes

[1] For a longer discussion of this tension, see Bohdana Kurylo, "Counter-populist performances of (in)security: feminist resistance in the face of right-wing populism in Poland". *Review of International Studies*, pp. 1-20, 2021.

[2] 66% of respondents are for the legalisation of abortion up to the 12th week of pregnancy. The support for a liberalisation of the current (as of 22 Oct 2020) abortion ban is even higher, at up to 80%. Source for the first statistic: OKO.Press, https://oko.press/66-proc-za-prawem-kobiety-do-przerwania-ciazy-do-12-tygodnia/

[3] 'Women' is the term used by the movement and is therefore also used here, but these issues relate to all of those who can become pregnant, including cis-women, trans-men, and non-binary people, with the acknowledgment that neither trans-men nor non-binary people are women.

[4] 'Strike' was used in reference to the Icelandic women's strike in 1975.

[5] For an English-language text, this recent article by Judith Butler is a good introduction into the perceived threat of 'gender' around the world: https://www.theguardian.com/us-news/commentisfree/2021/oct/23/judith-butler-gender-ideology-backlash. For the Polish context, see Graff and Koroluczuk.
[6] Source Noizz.pl: https://noizz.pl/spoleczenstwo/gdzie-dostep-do-aborcji-na-zadanie-burza-na-fanpageu-ogolnopolskiego-strajku-kobiet/rf6rgkn
[7] *Gazeta Wyborcza*, 26 October 2020: https://poznan.wyborcza.pl/poznan/7,36001,26438900,blokada-ulic-w-poznaniu-w-protescie-przeciwko-zablokowaniu-prawa.html
[8] Ramme and Snochowska-Gonzalez's 2018 study observes that while there were many uses of patriotic or nationalistic (used both ironically and affirmatively) throughout the earlier protests they are writing about, there were no direct references to an idea of the nation, patriotism, or Polish women within their interview pool; this is not necessarily indicative of this not being a part of the movement, but rather is a signal of the ambivalence or tension surrounding this topic as well as being an example of using 'the master's tools' in a fight to dismantle 'the master's house'.
[9] Kurylo, for example, mentions a release by Mapa, a Polish band, which re-recorded 'Kiedy Krzyczę' [When I Shout], a song by a Polish punk band Post Regiment, during the 2020/21 protests; the song circulated briefly on social media, but was — at least from a personal perspective — not one that resonated widely, and on YouTube it has less than 10,000 views: https://www.youtube.com/watch?v=v3gde1BSmp8. The reviewer of this article mentioned Karol Krupiak's "Osiem Gwiazd" [Eight Stars] (a reference to 'F*** PiS', which in Polish has eight letters, and was also a symbol used in these as well as other protests), which used video footage of the 2020/21 protests; this song had a much greater commercial circulation, and currently has over 5.6 million views on YouTube, but again — from personal experience — was not one that was played during protests: https://www.youtube.com/watch?v=dJen3vZbHbU. This is unlike Cypis' remix of 'Call On Me', titled 'JBĆ PIS', which was played constantly during protests and also has over 12.7 million views on YouTube (all views as of 11 August 2022): https://www.youtube.com/watch?v=FQq6Mwv_jpw
[10] Arguably, it also satisfied the need of many protesters to focus the problem on the ruling party, PiS, rather than a broader systemic issue. This was a constant debate during my personal experience of organising protests, and we use this song knowing how participants would react, despite being apprehensive about too much focus on this messaging.
[11] Kurylo (2021) briefly discusses the change of these 2020/21 protests to a more vulgar aesthetic, as compared to the earlier Black Protests, in her text.
[12] Video available here: https://www.youtube.com/watch?v=95_ZIOxiQCE
[13] For more discussions on big data and digital archives, see Thylstrup et al, *Uncertain Archives: Critical Keywords for Big Data*, MIT Press, 2021.
[14] There is another digital archive started by activists in Poland, the Social Unrest Archive, but it does not cover the 2020/21 protests and for this reason has not been included in the main text: https://movement-sarchive.wordpress.com/
[15] https://magazynszum.pl/nie-czas-na-lzy-dyskusja-wokol-wystawy-kto-napisze-historie-lez/

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Vítor Blanco-Fernández

RENDERING VOLUMETRICALLY, RENDERING QUEERLY

Abstract

The main aim of this article is to describe the conceptual basis and challenges of the project V*olumetric Frictions. Volumetric Frictions* is a queer virtual reality resulting from my will to render my ongoing PhD research ("Digital Speculation, Volumetric Fictions. Volumetric/3D CGI within the queer contemporary debate") differently. To contextualize the project, I start by addressing contemporary debates about the role of queer, and the practice of queering, in academic institutions. Then, I move forward to describe my PhD research and its provisional results. I name these results "volumetric frictions", as they define crossing paths between queer theories and 3D/volumetric aesthetics. Finally, I summarize some of the challenges currently being faced in the design of the project. Throughout the article, I make use of contemporary 3D/volumetric art to illustrate ideas, concepts, and possible solutions.

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Introduction

During the last two years, I have been thinking and prototyping ideas to render my PhD research differently. The PhD revolves around the relationship between contemporary 3D aesthetics and feminist and queer epistemologies. "Volumetric Frictions" is the name of this new rendering process, and it will be shaped as a queer virtual reality where the questions, ideas, and lines of thought of the thesis will be condensed in a stimulating scenario.

I use the term "volumetric frictions" to define something quite undefinable: the idea that there are corners in contemporary 3D practices which are highly complex and creative spaces where multiple, parallel, and even contradictory ideas, collide, building stimulating viewpoints from which to look –and think about– around. The term "volumetric" comes from its rendered three-dimensional form, whereas I pick the term "frictions" from Sara Ahmed's queer phenomenology, which defines the uncomfortable contact of irregular (queer) contours that helps us build new forms. Consequently, "volumetric frictions" are the collision points in 3D practices, between forms, ideas, concepts, artists, and infrastructures, among others, where new ways of thinking about our current epistemological, aesthetical, and phenomenological scenarios, emerge.

In the pages that follow, I aim to describe the development of the "Volumetric Frictions" project, as well as its main challenges. However, a new form also requires a new frame. Rendering queer PhD research differently also implies addressing the university critically. Therefore, this paper starts with a revision of academia, motivated by my desire for queer knowledge and queer renderings of research. Then I move forward to describe the theoretical content of the project, including specific volumetric frictions ((hyper)realism, world-building, embodiments, and disorientation). The paper concludes with a reflection on the main conceptual and technical challenges of the project, leaving its doors open for a continuous rendering.

Queering academia

Thinking about how to render research differently immediately pushes me toward thinking about how to render it queerly. Queer (or queering) loudly resonates in the word difference. Here, I use the term queer, following Butler's approach, as a "site of collective contestation, the point of departure of historical reflections and future imaginings" ("Critically Queer", 19), motivated by a critical approach to gender norms that broaden into an active questioning of everything that is rendered "normal". Paradoxically, queer is well connected to academia, in a twisted, fruitful, but also problematic symbiosis (Córdoba, Sáez y Vidarte; Love; Sedgwick; Trujillo). The challenge is simple but puzzling: how can Western academia host an approach to knowledge which praises un-conclusion, diversity, situation, fluidity, and radical anti-institutional politics?

Even though the question of queer academia is still unresolved, the process of queering it becomes a useful resource for actively thinking about new ways of rendering research. Of course, queering academia implies many different things. Queer researchers' experience in the institution is the most obvious. Homonationalism (Puar) and homonormativity (Duggan) have allowed, in some specific contexts — including the Spanish one — the inclusion of some queer bodies, while still segregating and excluding others through admission and funding processes. We, the bodies that are allowed

to cross academia's doors, paradigmatically embody Ahmed's theory of un-comfortability: being constantly aware of our difference and how we do not fit the institutionalized frames (Ahmed, *The Promise of Happiness*). Consequently, besides a neoliberal model of knowledge production, which provokes exhaustion, stress, or anxiety, queer colleagues also suffer explicit and implicit queer antagonism daily. The situation is worse when we acknowledge the inherent colonialism in the university project (paperson), its institutional racism (Bhopal), and ableism (Brown and Leigh), among other intersectional approaches.

Queering research, then, must start by solving these severe discriminations. Only then we will be able to start building something new. In the meantime, we will have to struggle with the "university". University is Henderson and Buford's proposal of an academia "under erasure", meaning that it is being explicitly problematized, but "since there is no other term to replace it, it must stand in its deleted-but-legible form" (6). Aside from respect and diversity, during the university, we must question the objectivity and universal claims (Ghaziani and Brim), be radically aware of the place from where we render research (Haraway), stay constantly self-critical with our own established ideas (Butler), and destabilize traditional research methods (Browne and Nash), especially quantitative analysis in social sciences (Love).

In the context of academia, without erasure, proposing queer renderings is considered unprofessional, non-scientific, or even anti-scientific. "Volumetric Frictions" is my attempt to refuse normative academia while still being inside (uncomfortably). In this project, I aim to experiment with different ways of stimulating research while questioning the institutionalized production and distribution of knowledge. I do not claim that this project will build a new way of understanding research, or a radical reformulation of knowledge. I do think, however, that it opens a fissure, and that we should inhabit these fissures (Martínez and Ortega) queerly.

Volumetric frictions

My on-the-making PhD dissertation is entitled *Digital Speculation, Volumetric Fictions. Volumetric/3D CGI within the queer contemporary debate*. The idea emerged in 2019 when noticing an important trend of contemporary queer and feminist artists turning into 3D, video game engines, and virtual environments as their aesthetical tools. I now imagine that initial moment as the default interface of a new project in any 3D modelling program (such as Cinema4D, Blender, or Maya): the screen filled up with a simulated empty and infinite space. This screen is the background on which we start to model (or we start to research). Although apparently desert, it hides a complex and stimulating entanglement of social, political, and aesthetic issues.

That feminist and queer creators and theorists are gaining relevance in 3D aesthetics appears somehow contradictory. 3D modelling is commonly related to the video game and CGI industries, traditionally associated with male working environments, misogynist representations of female bodies, and a fanbase of incel consumers. However, every media has its inside counter-discourse. The same that happened to science fiction during the seventies — when a group of feminist writers took the genre and built up an alternative literary canon (including Ursula K. Le Guin, Octavia Butler, and Joanna Russ, amongst others) — the same seems to be happening to 3D and its increasing trend of queer creators pushing the aesthetics, and the ethics, further.

There, at the crossroads between queer contemporary artists and 3D/volumetric aesthetics, lies my PhD project. Its expected outcome is the canonical dissertation text. However, this format does not fit my project, either aesthetically, or politically. Following a rich tradition of queering academia in critical studies, as well as the impulses of rendering research differently which inspire this *APRJA* issue, I am currently conceptualizing and prototyping an alternative: a queer immersive virtual space. A queer interactive virtual experience where the theoretical and artistic ideas that form my research can meet up at all levels — from design to aesthetics, to content, to interactivity.

There is a reason why. During the first steps of research, I have noticed a subtle connection between virtual realities — and our experiences with them — and queer epistemologies and phenomenologies. Rocha and Snelting's question "what is going on with 3D!?" (*Volumetric Regimes*) suggests this connection. The difficulty to answer it, and the possibility of the question's existence in the first place, announces that something queer — strange, twisted, fluid, undefinable — lies in 3D's heart.

During my first two years of PhD research, I have found some of these bridges between "volumetric regimes" (Rocha and Snelting) and queer epistemologies. These points of contact, these highly stimulating places of cross-thinking, are what I have called "volumetric frictions". As stated above, "volumetric frictions" put together 3D forms with queer epistemologies under the umbrella of Ahmed's friction/disorientation theories (Ahmed, *Queer Phenomenologies*), a connection already introduced by Rocha and Snelting in their article "The Possible Bodies Inventory: dis-orientation and its aftermath" and deepened by Helen Pritchard through the concept of "Clumsy Volumetrics". Here, however, the term "volumetric frictions" refers to those highly complex and creative spaces where multiple, parallel, and even contradictory ideas, collide, building stimulating viewpoints from which to look — and think about — around. Rather than an ontological theory about 3D, or queerness, the "volumetric frictions" are places from where feminist and queer epistemologies allow us to ask infinite questions addressed to contemporary volumes. To this day, the volumetric frictions I have explored are (hyper)realism, world-making, embodiments, and disorientation. Following, I will deepen them four, together with some examples from contemporary artists that already explored them through their creative practices.

The first volumetric friction I want to address is realism, understood as the modelling of figures, spaces, and movements, as like reality as possible, and rebranded "hyper-realism" in 3D practice. Hyper-realism is the Holy Grail of the 3D industry (Taffel), especially in video games or FX effects. Of course, there are alternative aesthetics in the mainstream too, such as animation films, indie, or mobile phone games. But professionalism is still defined as the perfect modelling of volumes, textures, illumination, movement, and interactivity between objects.

However, the relationship between reality and queer epistemologies has never been an easy one. Of course, Queer Media Studies (Ventura) have praised doc-reality aesthetics because of its capacity to portray injustices and violence toward LGBTIQA+ people. But, in parallel, queer formalism (Simmons) consciously avoids realistic representations because the queer experience of reality is not an easy, comfortable tale (Ahmed, *The Cultural Politics of Emotion*). Queer reality is, rather, a kaleidoscope of micro and macro aggressions. And queer formalism asks why we should mirror them in our cultural productions. From this point of view, the 3D industry's obsession with mirroring reality

becomes an obsession with re-performing every day's violence, instead of rethinking how reality could be.

There are several pieces of 3D contemporary artists reflecting on reality and how we construct it. Paradoxically, the achievement of hyper-realism is pushing artists to reflect on how reality is constructed in the first place. And, jointly, what relevance should realism take in alternative, transformative aesthetics. This is the case of Hunter Janos' Anti-Singular (2016), where multiverse theory and multiple realities mix with queer anti-essentialist notions of identity. Or Sahej Rahal's *finalforest.exe* (2021), in which quantum theory serves as an opportunity to question our knowledge of reality and to explore formalist possibilities that this new scientific field opens to alternative, critical, and spiritual thinking.

Of course, the debate between realism vs. formalism is over-simplistic and does not represent the complexity of either science or aesthetics. But there has been a rich tradition of imaginative formalist creation against realistic aesthetics that we should acknowledge. That is José Esteban Muñoz's position. He defines "the here and now" as "a prison house", built upon a "totalizing rendering of reality" (Muñoz, 1). Contrarily, he encourages a creative alternative, one that has been named "queer world-making" (Berlant and Warner). Informed in feminist science-fiction and afro-futurism, queer world-making defines LGBTIQA+ attempts to narrate and inhabit alternatives to the violent present, building up worlds of communion, respect, and justice. This is what Muñoz calls "the then and there", that we can glimpse in "representational practices helping us to see the not-yet-conscious" (Muñoz, 3).

Queer world-making is the second volumetric friction addressed in my research, and it has been widely explored by 3D artists. Danielle Brathwaite-Shirley's video games, such as *Pirating Blackness* (2021) or *I Can't Remember the Time I Didn't Need You* (2020) are paradigmatic. Their creations are worlds where social roles are inverted. Cities, or sanctuaries, in which trans Black people are welcomed and taken care of, while cis and white people experience diverse obstacles, sometimes even being denied entry. These alternative spaces, then, reverse reality, twisting exclusion and marginalization in 360 degrees. They work as a digital *Temporal Autonomous Zone* (Bey) for those who suffer trans antagonism and racist violence daily.
Another example is Jacolby Satterwhite's work. His worlds mix video game environments, modelled messages, and captured dance videos and objects, all together in chaotic, queer compositions, such as *Blessed Avenue* (2018), or *Reifying Desire* (2014-2021). *We Are in Hell When We Hurt Each Other* (2020) is one of his most explicit exercises of queer world-making: a Black women's sanctuary, devoted to Breonna Taylor (who was murdered by the US police). There, Black female avatars dance freely in a natural environment, protected by giant humanoid trees, around an altar to Breonna, and under a stage that is constantly screening videos of the Brooklyn demonstrations during the Black Lives Matter protests.

Pete Jiadong Qiang's work is also well related to formalist queer world-making, in maximalist virtual spaces where multiple references mix chaotically together. The best example is *Queer Maximalism HyperBody* (2020), which serves as the visual representation of Qiang's "The Queer Maximalism Manifesto for the Hypertired images": a virtual architectural provocation that hosts the HyperBody, a shared and fluid identity based on gaming, fandom, and other traits or contemporary digital and popular culture.
Qiang's HyperBody brings us to the third volumetric friction: avatar-identity and queer embodiments. Avatar creation and personification in an immersive virtual space is an

Figure 1: Danielle Brathwaite-Shirley, *I Can't Remember the Time I Didn't Need You* (2020). Courtesy of the artist.

experience particularly inclined towards queering identity and the body. Of course, this has already been a major research line in Game Studies, especially in the field of Queer Game Studies (Anthropy, Shaw). But it has also been extensively explored in contemporary queer art.

Take, for example, Lu Yang's work. In several of his pieces, he uses his trans-masculine alter-ego, DOKU. DOKU, as stated by Lu Yang, is not only his avatar but also his persona. An artistic performance through which he encourages his trans-masculinity. Theo Triantafyllidis, on his hand, plays with users' expectations regarding gender rules and video game conventionalisms. In *Pastoral* (2019), an ogre — a paradigmatic masculine 'other' in video game narratives — becomes a trans female. As players, we must embody her, and rather than killing the enemies, or conquering territories, we peacefully roam around a garden, silently enjoying a charming sunset. We do not only embody a trans character, but we also inhabit a canonical 'other' in game narrative — the ogre that use to be the non-human, the violent, heartless enemy — while enjoying an apparently 'non-playable' activity.

Triantafyllidis' ogre is, therefore, an exercise of queering body politics. And body politics in digital aesthetics are particularly interesting to analyze through the lenses of Legacy Russel's "glitch politics". Russel compares cis-straight-patriarchy with a computer system, well-arranged and pre-codified to work in a specific, unique way. In any system, however, there is the possibility of unplanned errors that make the program crash. This possibility of "glitching" the cis-straight-patriarchy system lies at the heart of Russel's feminist politics. And bodies are the main tool to glitch it. Consequently, glitch bodies are Russel's transformative tools against violent regimes, spaces of online and offline creativity that

can encourage gender and racial justice. Glitch bodies stay un-programmable and unreadable, they confront everything the program has been built on. That is the case of Triantafyllidis' trans-female ogre and the way she queers gamers' gender expectations and conventionalisms.

An interesting way of approaching Russel's glitch bodies is through the "uncanny valley", as rethought by Feona Atwood. The uncanny valley was first described by robotics expert Mashiro Mori as the moment a robot is so close to representing a human, but slightly badly modelled or strangely performing, that it provokes a profound sense of discomfort, of uncanniness. What is uncanny, then, is defined in comparison with a specific idea of what is human, what is almost human, and what is not human at all. Antiracist, feminist, queer, functional diversity or animal-rights struggles have been historically dealing with (not) belonging to humanity. Consequently, they might develop an ethical empathy towards what stays uncanny. For Feona Atwood, this uncanniness is especially evident in femininity. While patriarchy imposes on female bodies the obligation of performing a narrow definition of femininity, it also encourages several punishments towards those femme bodies that stay uncanny: almost female, or far too way female. It is the case of hyper-femininity, trans-femininity, masculine-femininity, and queer-femininity, commonly linked to marginalized women: poor women, racialized women, trans women, and others.

Fortunately, 3D feminist creators are encouraging uncanny bodies. This goes from general odd modellings, such as Ed Atkins' pieces — *Us Dead Talk Love* (2012) or *Safe Conduct* (2016) — to gendered uncanny bodies, like Claudia Maté's. Maté's *Inside Out* (2015) presents a femme bodybuilder with massive muscles, while *New Faces or 3D Dreamgirl* (2015) capture real women to later modify their physical traits and make them radically uncanny. Neocristo's avatars are also paradigmatic examples: they are trans or drag characters, and they mix hyper-masculinity and hyper-femininity. Neocristo's trans-femme, hairy, Japan-inspired characters, big-breast cyborgs with angel wings, or hyper-masculine femme manga avatars, explicitly play with the limits of what is acknowledgeable, challenging gendered stereotypes, body standards, and trans-normativity.

The last volumetric friction I want to address revolves around disorientation. As Sara Ahmed described in *Queer Phenomenologies*, queers have always been connected to a lack of orientation. 'Sexual orientation', as the words selected to define a 'normal' or 'queer' sexuality, is the paradigmatic example of how space and guidance have been fundamental in contemporary discourses about gender identities and sexualities. Ahmed has deeply reflected on the idea of (dis)orientation. If queers are considered 'disoriented' people, is because they do not follow the 'normal' life paths, and their life goals are not oriented towards the same places 'oriented' people are focused on (marriage, children, owning a house, etc.). Instead of reclaiming orientation for queer people, Ahmed proposes inhabiting disorientation as a queer practice.

At the same time, 3D virtual realities are spaces of radical disorientation (Rocha and Snelting, "The Possible Bodies Inventory"), and we commonly feel lost when experiencing them. Video game industries have developed several space tactics to try to avoid disorientation and encourage a clear location inside the game map (Calleja). On the contrary, some contemporary artists are consciously pushing forward virtual reality's sense of being lost. This is the case of queer artist Hunter Janos, who reverses gravity in her film *Upside Downtown* (2018). Also, feminist artist Cassie McQuater, who, in *End of Light* (2014) and *NO FUN HOUSE* (2014),

appropriates of video game aesthetic to make it completely incoherent and confusing, leaving the player with no idea of how to navigate the space.

To sum up, in my ongoing PhD research I have defined some crossroads between trends in contemporary 3D art and queer epistemologies and politics. These prolific spaces for thinking and creation are what I have named "volumetric frictions". My main objective when thinking about how to render them differently implies translating these volumetric frictions into a queer volumetric virtual space. This, of course, implies several multidisciplinary challenges.

Challenges

While "queer-prototyping" (cardenas) this 3D space, I have identified three big categories of challenges: aesthetics, interaction, and technologies. Of course, all these macro-groups point toward ethical and political issues, brought to the table by a queer rethinking of both 3D virtual reality and contemporary art. Consequently, they all share the same concerns, but they translate them differently depending on their area.

On the first level, I face aesthetical challenges. Trying to model queerness is, here, the main unresolved issue. Queer is essentially undefined. It encourages breaking all definitions, fluidity, and the abandonment of any essentialism. It also stays open to its self-critique, constantly questioning taken-for-granted truths (Butler). The question here is how to model that, and how we render a 3D figure that is not fixed. Zach Blas' *Fag Face Mask* (2012) is a paradigmatic example. The Fag Face Mask was rendered by mixing several 3D captions of queers' faces. Its objective was to build an unrecognizable queer mask that avoids surveillance. And it demonstrates how queerness can be translated into volumetric language while still maintaining its political potential. Juan Covelli's */ʌndɪˈfʌɪnd/ 2.0* (2015) is another good example. In this piece, Covelli brings together several non-binary avatars from video game engines, which are constantly created, modified, and changed, never arriving at a stable identity.

The aesthetical challenge also includes how to perform queer formalism and world-making. Creating a queer world is quite difficult. Danielle Brathwaite-Shirley's games serve as good examples of how to create and make alive queer spaces. However, they lack fluidity and change. The same occurs with Eva Papamargariti's videos, such as *Faces of Janus* (2018), and Lauren Moffatt's dreaming compositions, like *Of Hybrids and Strings* (2020) and *HanaHana* (2016). They include movement but are still quite static. Another piece by Moffatt, *Love Birds, Night Birds, Devil-Birds* (2019), can bring a solution: its multi-screen installation shows an abstract landscape full of plants, insects, and other figures, constantly and smoothly changing, moving, and flowing.

The last aesthetical challenge implies how to model the PhD content. Rather than pasting my thoughts and conclusions into a 3D environment using text tools or links, I should find an aesthetic solution to translate highly theoretical concepts into audio-visual formats. Moreover, following queer pedagogies, I want to avoid 'teaching' lessons and encourage another way of self-discovering and learning. The content, consequently, should be suggested, roamed, and felt, not read or listened to.

There are a couple of examples that might help to figure out this task. The first one is Ontologias Feministas' *Santuario Nocturno* (2020). Here, this feminist collective from Madrid recreates their perfect nightclub in virtual reality. In *Santuario Nocturno*,

you can travel around different rooms, each dedicated to one topic (from security to the dress-room, or dance floor). Inside these spaces, the creators include different files and information you can check, read, and download, regarding that specific issue. While this can serve as an example of how to order information, it certainly lacks openness and is hermetically directed, with little space for self-discovery. The second example are Jacolby Satterwhite's chaotic compositions. Although they are not interactive, their aesthetic solution can serve as a guide: they mix images, texts, drawings, and videos to reflect on deep concepts, such as sexuality, community, or family. They are maximalist and unconstrained, without any specific way of moving around them, letting learning and enjoying open to users' desires.

This connects directly to the second major challenge: interaction. Queering interaction means destabilizing it. This implies avoiding strict paths, borders, closed doors, or any other limits that impose our own strict design decisions on the users who enter the space. Of course, there will always be decisions made on the design level that will determine users' experience. But we can consciously open them more. On the one hand, we have *Santuario Nocturno* design, a predefined path through the different topics of their research, determining users' experience and their mobility through the virtual space. On the other, Satterwhite's compositions encourage disorientation, looseness, and the possibility to roam through the space freely, without any specific direction.

Queer interaction, then, should be open to the user's self-determination and decisions and be transgressive and radically free. Additionally, and coming again to Sara Ahmed, queer interaction should also be based on the queer phenomenology of disorientation and open embodiments. This implies, of course, an avatar creation tool as open to editability as possible, without establishing a connection between gender identity and gender expression, and allowing as many creative options as possible, while also away from checkboxes as markers of fixed identities (Galloway). But also further: a design that avoids any limitation of personal freedom to roam through the space, or that impedes users from taking their own decisions. And even more: a design that consciously encourages disorientation and an explicit sense of being able to drift through an unknown landscape full of questions, proposals, and ideas. Qiang's queer virtual spaces, such as *Vampire Squid* (2020), are perfect examples of this sense of chaotic disorientation that encourages queer encounters.

The last major category of challenges is technical. I should not only think about this space but also make it work. This implies searching for the software, learning how to use it, and, most importantly, doing it through communities of queer creators, theorists, and tech experts.

During the quarantine, public and private institutions made several online exhibitions in virtual spaces. These virtual exhibitions do not only serve as examples to follow, but also as practical knowledge: mistakes to learn from, pieces of advice, and multiple tips to take into account. *Santuario Nocturno* is a clear example, but there have been many more, such as "H.O.R.I.Z.O.N. (Habitat One: Regenerative Interactive Zone of Nurture)" by the Institute of Queer Ecology, or "Cyberia" by the CTM festival in Berlin.

Last but not least, and as much as possible, this virtual space should be designed and performed in green, open, free, and feminist software. Of course, several of its dimensions, especially in the design phase (modelling), and in the using-it phase (by a head-mounted display), will possibly require using privatized commercial licenses and products. Nonetheless, other problems, such

as hosting it, can be solved by contacting feminist servers — Constant, in Brussels, is a paradigmatic example. In any case, all the use of privatized extractive software and hardware must be repaired. The strategies for reparation are not defined yet and require contacting experts to make them effective. However, as much as possible, we should encourage the creation and dissemination of these alternative renderings through green and feminist servers, as well as communitarian and collective processes of creation and consumption/enjoyment.

Conclusions

How to render volumetric frictions queerly? That is the main, and unresolved, question of this paper. Rather than solutions, in the previous pages, I have tried to prototype some partial answers, proposals, and challenges regarding this task. I understand the volumetric frictions as incredible fruitful spaces of strange encounters between contemporary 3D aesthetics and queer theories and epistemologies. During this paper, I defined and exemplified four of them: (hyper) realism, world-making, embodiments, and disorientation. Considering the rich tradition of queering academia, I am currently involved in rendering this research differently. The rendering proposal I am working on is a queer virtual reality, that simultaneously occupies and reflects on the volumetric frictions I am researching. In contemporary art, I found the main inspirations, that I have tried to cluster here. However, there are several challenges (on aesthetical, interactive, and technical levels) that require prototyping new solutions to make this queer virtual environment work. These challenges show one of the main learnings from queer renderings: that queering research can only be made collectively.

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Clareese Hill & Elly Clarke

RE:SEARCHING TOGETHER (IN TWO ACTS)

Abstract

Here are the visual scriptal remains of — and for — two performances presented by artist-researchers Clareese Hill and Elly Clarke at Transmediale Festival *On Refusal* and at ERG in Brussels in January and March 2022 respectively:

- Mixtape / Shuffle Play (USA/UK 27.1.22)
- Meditational Drag/gy Sales Pitch (BEL 24 & 26.3.22)

Featuring:
● research fragments: dis:mantled & re:assembled
● wormholes: conjured & cared-for
● extracts: from past & not yet realised performances
● quotes: from artists & scholars we imagine ourselves to be in dialogue with
● requests: to unmute, to turn on video
● co-host(ess)ing
● a spanning: of time, of the western geographical terrains we reside in
● like-minded, differently em:bodied resistance: to the drag/gy performance of academic positioning, placing, posing and posturing for the sake of legibility.

The two Acts may be read consecutively or separately, or else watched as they were performed, by following the QR codes embedded within this text.

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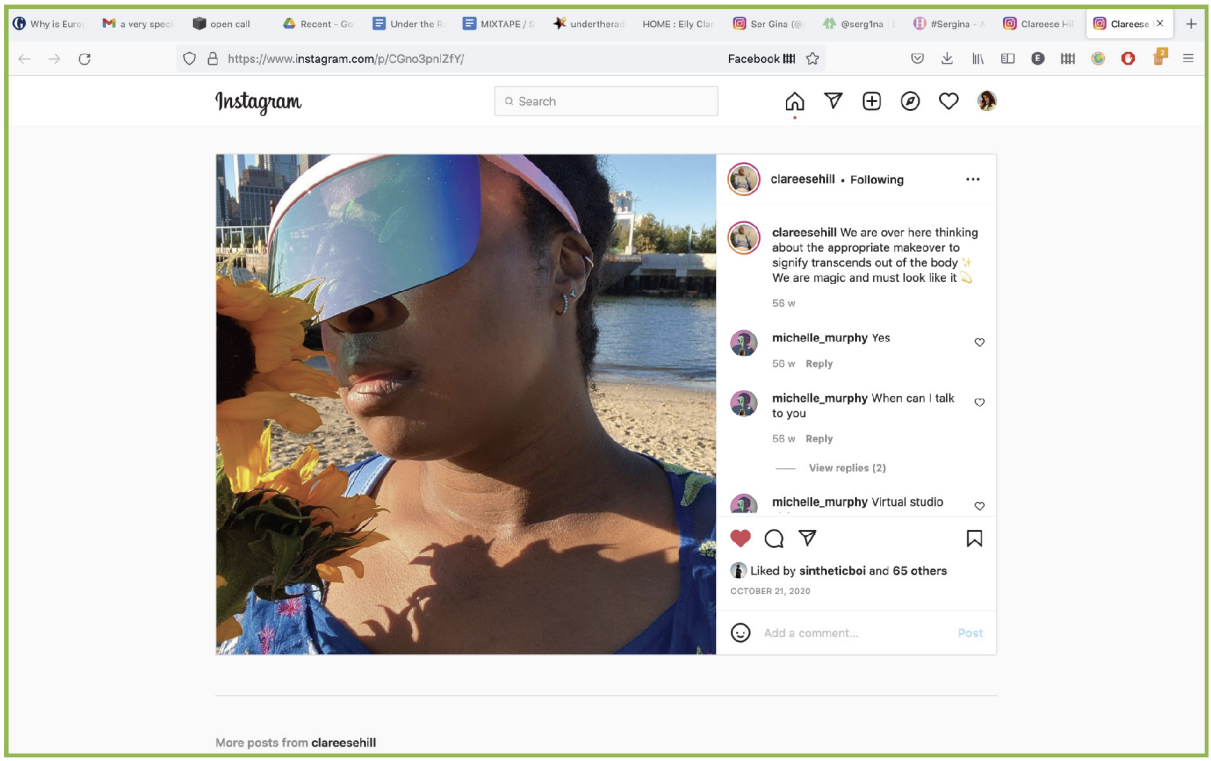
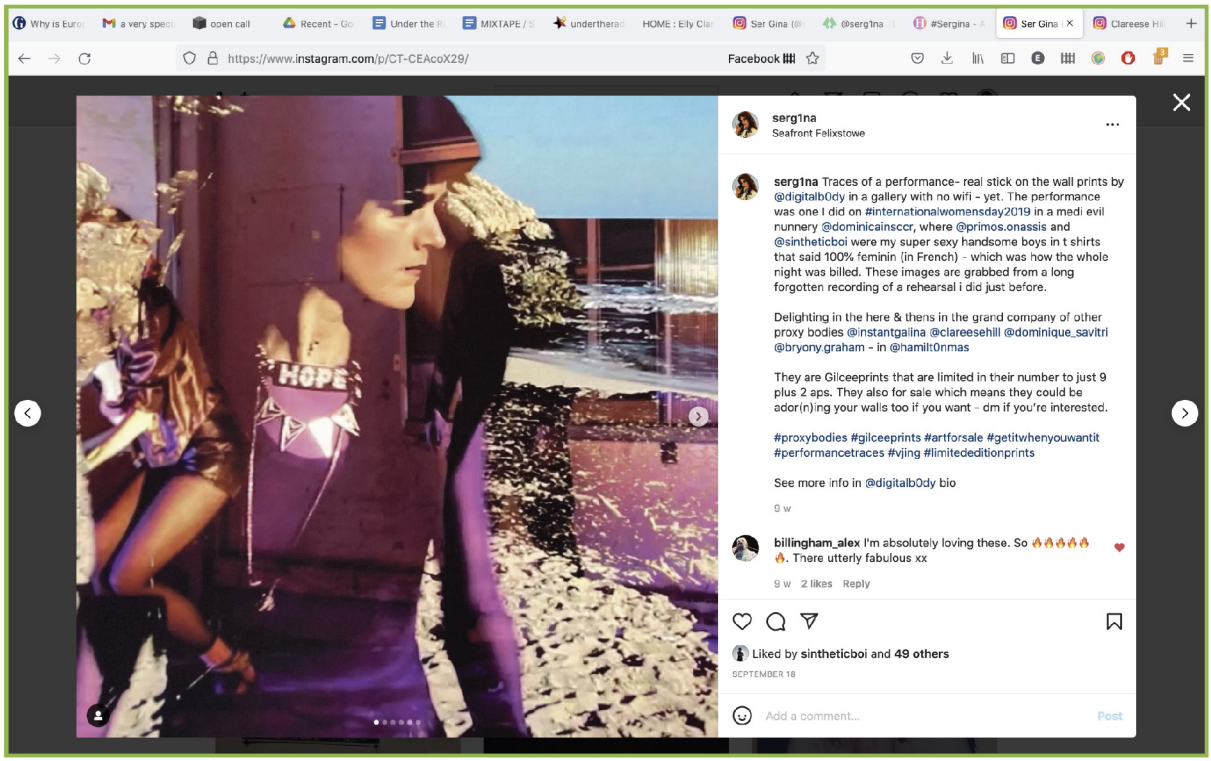
ACT 1 - Mixtape / Shuffle Play

To watch this in video format please scan the following QR code:


https://www.instagram.com/p/CGno3pnlZfY/
Facebook
Instagram
Search
clareesehill • Following
clareesehill We are over here thinking about the appropriate makeover to signify transcends out of the body ✨ We are magic and must look like it 💫
56 w
michelle_murphy Yes
56 w Reply
michelle_murphy When can I talk to you
56 w Reply
View replies (2)
michelle_murphy Virtual studio
Liked by sintheticboi and 65 others
OCTOBER 21, 2020
Add a comment...
Post
More posts from clareesehill


https://www.instagram.com/p/CT-CEAcoX29/
Facebook
HOPE
serg1na
Seafront Felixstowe
serg1na Traces of a performance- real stick on the wall prints by @digitalb0dy in a gallery with no wifi - yet. The performance was one I did on #internationalwomensday2019 in a medi evil nunnery @dominicainsccr, where @primos.onassis and @sintheticboi were my super sexy handsome boys in t shirts that said 100% feminin (in French) - which was how the whole night was billed. These images are grabbed from a long forgotten recording of a rehearsal I did just before.
Delighting in the here & thens in the grand company of other proxy bodies @instantgalina @clareesehill @dominique_savitri @bryony.graham - in @hamilt0nmas
They are Gilceeprints that are limited in their number to just 9 plus 2 aps. They also for sale which means they could be ador(n)ing your walls too if you want - dm if you're interested.
#proxybodies #gilceeprints #artforsale #getitwhenyouwantit #performancetraces #vjing #limitededitionprints
See more info in @digitalb0dy bio
9 w
billingham_alex I'm absolutely loving these. So 🔥🔥🔥🔥🔥🔥. There utterly fabulous xx
9 w 2 likes Reply
Liked by sintheticboi and 49 others
SEPTEMBER 18
Add a comment...
Post

Clareese: Under the Radar [E: MIXTAPE (2021) / C:SHUFFLE PLAY (2018-22)]

E: This is a collaborative trans-atlantic meandering around our respective research fields, interjected with archival traces of our performances. C: Alongside us are The GUIDE, and #Sergina. E: The GUIDE is a survival praxis of how the Black identity performs in anticipation of being trapped in the gaze of being processed as other; a pedagogical deployment of research and critical theory from Black studies, Post-Colonial studies, and Black Feminist studies. C: #Sergina is a multi-bodied multi-locational drag queen who sings songs about love lust and loneliness in the digital age, alone and with others, performing on stages and readymade platforms of Google Hangout, Skype, Zoom, Instagram and so on. E: What follows is a trans -racial -temporal -geographical edit of our side by side evaluation of where we are - or not.

C: We are calling this our Mixtape/ Shuffle Play.

E: The GUIDE's physical appearance shifts and seeks to disrupt the technology she is commanding. C: I am a self-sculpted c-celeb, waiting for my social media presence to take off. E: This disruption happens when the non-reflective skin meets the 3D scanner and she is not seen, illegibility, intelligibility is perverted into a problem. C: In my spare time I write songs about having my phone in my wallet, waiting to download and that kind of thing. E: She (re)writes the technological apparatus she uses in her practice; the technology becomes a conduit for contemporary social abolitionist ideals through the exploration of unrefined reproduction. C: Played (out) on different bodies, I appear in one place or many at once. E: She is rejecting the indoctrination of auto-instituting by scrambling her legibility, intentionally making herself incomplete. C: Filters are fabulous.[1]

We turned to , and read what he had written a while ago. Our now no longer tutor , who we both very much liked and respected - for her sensitivity with everybody's work as well as her genuine interest in what we were delving into - made us respect also what she looked at - [&] we found things that resonated with what we have been saying, in this time-stuttered, geo-dispersed conversation.

What is it to have no signal?
Only when you have no signal do people get worried
I couldn't get hold of you
Where are you
Are you ok?

[1] What is kept from Hill, Clareese, 2020, Transmission: #2, 2020; Biography, 2020

What was she doing when she wasn't online?

Reach out
Reach out to touch
Touch base
re_connections

The BODY of The GUIDE occupies a very precariously uncharted margin between being a first-generation child of immigrants and an academic scholar. Every time we drove past a big house, my grandmother would say 'who lives there?' as though she ought to know - and probably would know whoever it was who lived in this particular house, its presence indicated merely by its Lodge. These labels, she takes issue with as they fly out of their Western context of privilege and access, landing in her face. SPLAT!!!!! The burn cannot be soothed; its hotness travels with her every day. And each time my mother would answer 'I don't know' and my Grandmother would act disappointed, shrug and look out of the window in the other direction and would be silent for a bit. An objection to being objectified by the offer of privilege, not slipping into the ambivalent quagmire of institutionally enforced complacency of the "Black intellectual". The token academic. The illusion of diversity. In any case it was the double bind of my ancestry that granted me access to these homes - and the endorsement by Eton made people aware of my project and take it seriously. The Gatekeepers of the institution administration patrolling applications to fulfil the diversity quotas, whatever the contrived ratio that deems them as ethically responsible without disturbing what their toxic ecology might be. My mixed-class background equipped me with the gestures and knowledge I needed to pass, to perform, to have the conversations I needed to have. I guess on paper I come across as black enough to have the ink meet the checkbox, but not too black. I remember seeing her hands folded on her lap, where they fell after the shrug and watching her, wondering what she was remembering, wishing for, or mourning.[2]

NARCISSISTER:
It's impossible in this day & age to be anonymous.
This is why I wear masks.[3]

What is it to migrate from platform to platform.
A fugitives desire for the possibility to occupy a p(l)ace in between the platforms.
To leave, but not necessarily arrive.
What is lost in the process.
And how will I you we know
How will we appear in this new place.
If you change your history, present, future
It'll show you in a different light.[4]

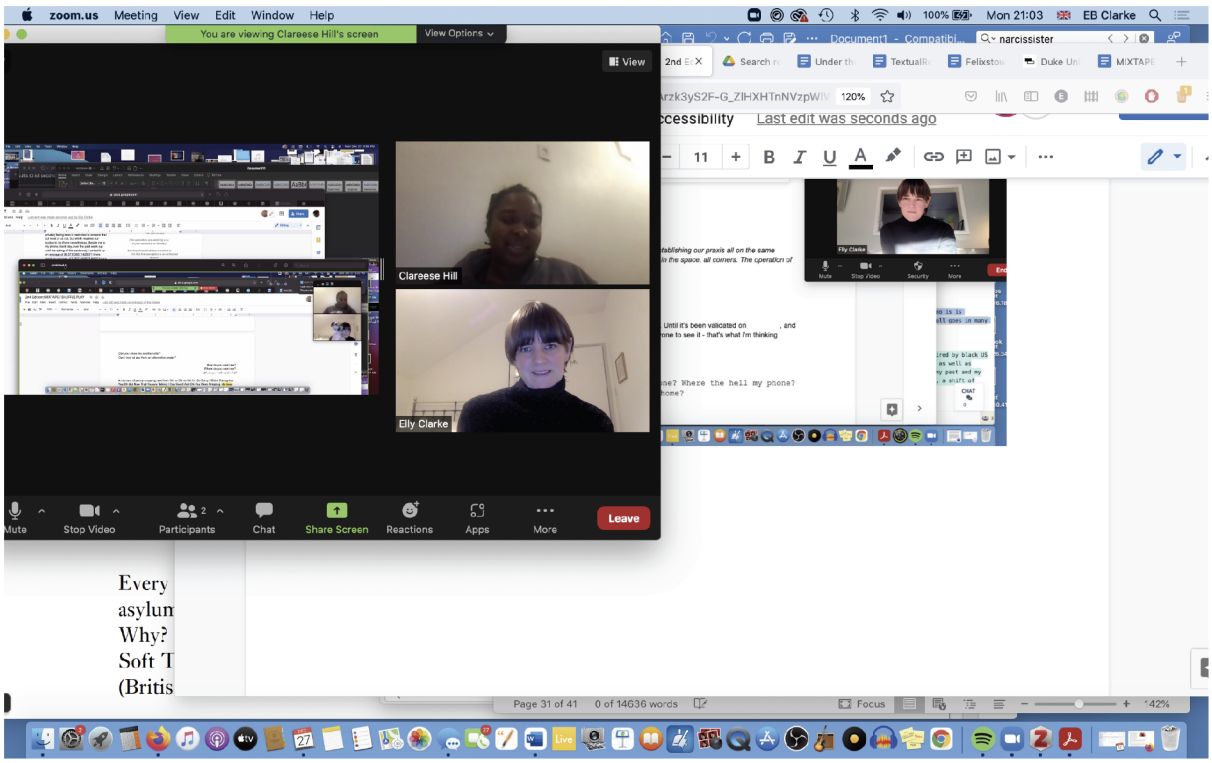
How will anyone re-cognise you?

---

[2] Jettisoned from Hill, Clareese, Chapter 1, 2019; Clarke, Elly, A Class(y) Lecture, 2018

[3] Narcissister, 14.11.2019, Talk & Screening at Live Art Development Agency, London

[4] Clarke, Elly / #Sergina, I want to see you from a different perspective, 2014



Screenshot 2021-12-27 at 20.32.19 - New York / Felixstowe

E: My situation: I pose

I begin with my body. I begin from my body sitting at this computer. This body at the computer is a pose I have been in for a long time. It is a pose that is at least partially dictated by the device, as is the case with most tools: a phone, a hammer, a fork, a QR code… each brings with it its own choreography. Tools are directive. The body at the computer position is one that has been taken up by many bodies for many more uninterrupted hours since COVID took hold, whilst our public (and much of private) facing-ness is restricted to screens that cut most of us out, but which requires our bodies to be t/here nevertheless. Beside me is my phone. Each day, over the past week (up until the writing of this sentence), I picked it up on average of 80.571238571428571 times. I spent an average of 3.957142857142857 hours a day on my phone.

C: The GUIDE:

Right here right now we (Us and You)
are present.

In the next moment, and in the moment after
constant instances of the next.

Until the moments that stood side by side
Like the foot soldiers in the preservation of
the problematics of time

Vanish
So do the limitations of time and space
that you occupy

(the spectators are watching you,
so just remember to Breathe)

And how those limitations transition to
the fact that perception is an
embodied illusion.

(look at the spectators, and remember to
Breathe again)

[5] Clarke, Elly, 2021, The Drag of Physicality; Hill, Clareese, 2018, Transmission: Hyper Present the Manipulation of Space and Time

These performances required a set of logistics tied to our bodies,
our class, our precarious privileges, and our coherence in attempts of being legible.

SARA AHMED:
Bodies inhabit space by how they reach for objects, just as objects in turn extend what we can reach. We do not have to think where to find such objects; our knowledge is implicit and we reach toward them without hesitation.[6]

Bad host
Server not found
Proxy server
Proxy bodies
The desire for degradation
Degradation as a saving grace.

Dis/grace.

We threw an image into a black hole to see if it would ever resurface. An Orgy of Algorithms, Darling! An Orgy of Zeros and Ones! [7]

Where are you whilst you are in the process of code switching.
How do I look in this position, with these surroundings. This background. This context.
Which filter works best.
Can you show me another side?
Can I look at you from an alternative angle?[8]

How do you want me?
Where do you want me?
What is your preferred form/at?

as internet users knew well the fatigue of the performance has brought you here where avatars, temporary identities and single-use usernames were the main methods of interaction, anonymous [but you made it here to this point and for this we are grateful] online interactions offered a break from the drag/s that the physical body and the presence of more tension of the skin without releasing weary bones and masticated flesh identity was reduced to and produced through typed text and imagination the system is automated and relentless empathy and rest are only for and by those who can afford it.[9]

---

[6] Sara Ahmed, 2006, Queer Phenomenology: Orientations, Objects, Others, Duke University Press, p.110

[7] Clarke, Elly with Bjelicic, Vladimir, 2015-21, An Orgy of Algorithms and Other Desires and Distractions

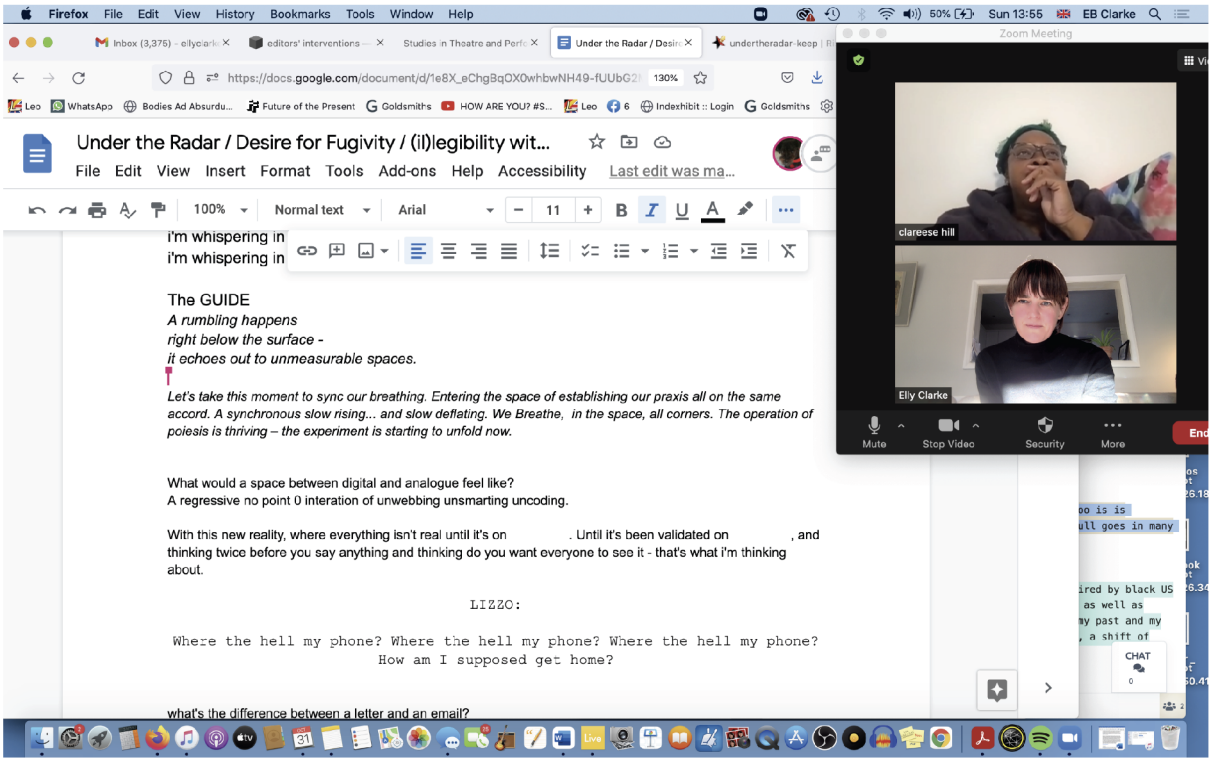
[8] *Clake, Elly / #Sergina, 2014, I want to see you from a different perspective*

[9] Clarke, Elly, 2021, The Drag of Physicality / Hill, Clareese, 2020, Transmission - Learning in the Firmament

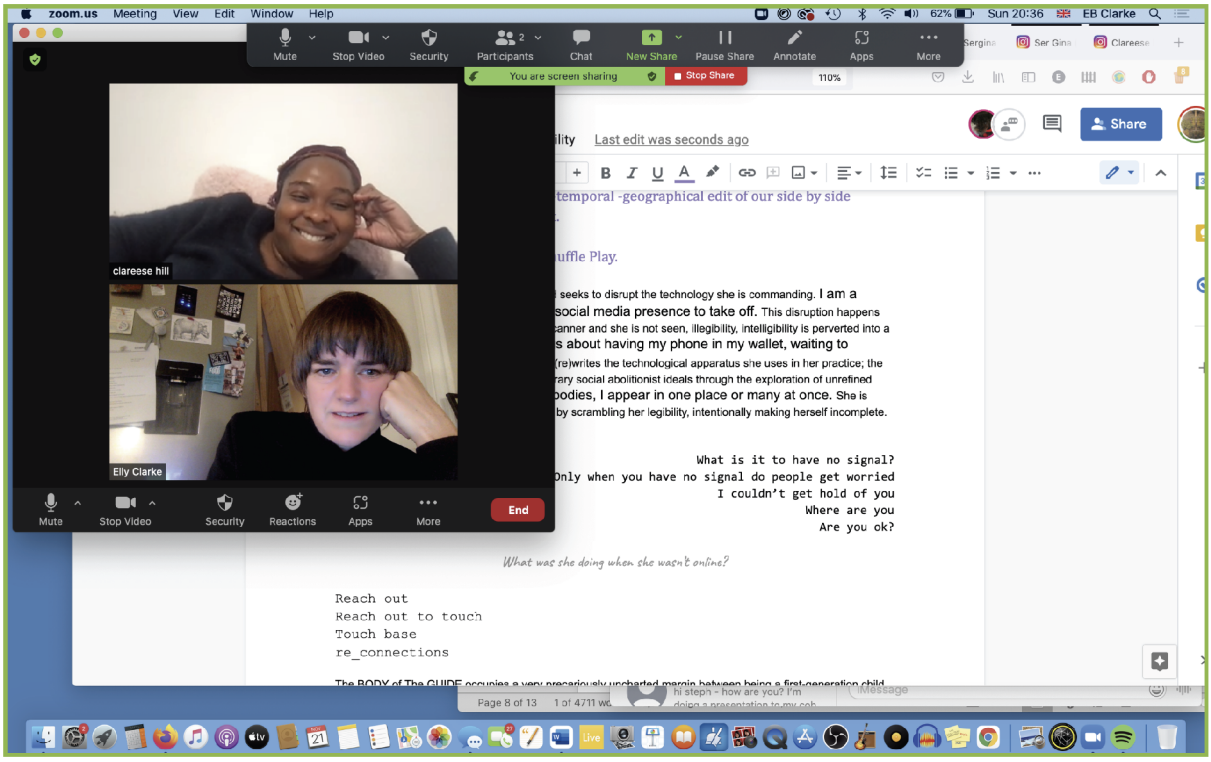
We have the same temperature right now.

Characters, in order of appearance:
THE GUIDE
#Sergina
Elly Clarke
Clareese Hill

Performances, in order of emergence:
2016: An Orgy of Algorithms and Other Desires and Distractions
2018: A Class(y) Lecture by Elly Clarke
2018: Transmission: Hyper Present the Manipulation of Space and Time
2020: Transmission: Learning in the Firmament
2021: Proxy Bodies



Screenshot 2021-10-31 at 13.55.53 - Dartmouth, MA / Felixstowe, UK

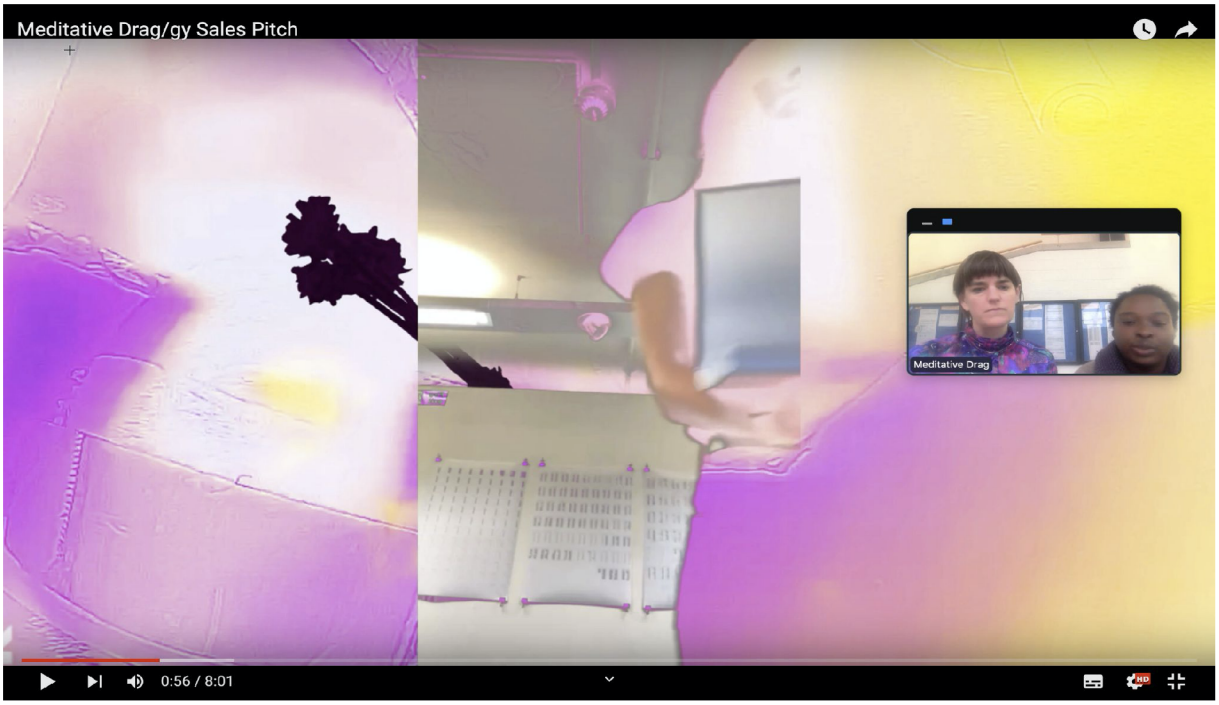


Screenshot 2021-11-21 at 20.36.54 - Dartmouth, MA / Felixstowe, UK

ACT 2: Meditative drag/gy Sales Pitch[10]

To watch this in video format please scan the following QR code:

[10] In Act 2, footnotes reference scholars whose ideas have been of particular influence to this performance - i.e. they are not direct quotes but a series of acknowledgements.



CLAREESE:
Meditative drag/gy Sales Pitch

E: ren•der
C: to cause to be or become; to make.
E: to do; perform.
C: to furnish; provide: to render aid.
E. to exhibit or show (obedience, attention, etc.).
C: to present for approval, payment, etc.
E. to pay as due (a tax, tribute, etc.).
C: to officially hand down: to render a verdict.
E. to translate into another language.
C: to depict, as in painting: to render a landscape.
E. to represent (a perspective view of a projected building) in drawing or painting.
C: to interpret (a part in a drama or a piece of music).
E. to give in return: to render good for evil.
C: to give back; restore
E. to give up; surrender.
C: to cover (masonry) with a first coat of plaster.
E: to melt down; extract the impurities from by melting: to render fat.
C: to process, as for industrial use: to render livestock carcasses.
E. to provide due reward.
C: to extract oil from fat, blubber, etc., by melting.
[1275-1325; rendren < Middle French rendre < Vulgar Latin *rendere,alter.(by analogy with prendere to take) of Latin reddere to give back][11]

[11] https://www.thefreedictionary.com/render

ELLY:

Every research presentation is a form of rendering. It is a performance, a vision, a provision, an exhibition, a re-presentation – of ideas, possibilities, opinions, and facts. Every research presentation is also a Sales Pitch. This Sales Pitch pitches and performs good rendering of research by a Researcher who is (put) in place (or who has put herself in place) to perform (as legitimately and convincingly as possible) her Value as a Researcher. She is also performing and proposing and pitching her worthy-of-the-investment of your time-ness. This requires good delivery. A good surrendering. A good melting down and a good first coat of plaster. With an invitation or a suggestion of what (colours, stories, narratives, additional voices) might be (deliciously or disastrously) layered on top of this. The rendering of research is a giving back, a storing, and a re-storing. And a handing down of one or more verdicts at once.

CLAREESE:

We are writing this on the train. I am writing this. I am sleeping. We are writing and sleeping alongside each other as the train brings us closer to where the Research Rendering will unfold. The events of the past few days, and weeks, and months even, have rendered us exhausted. I am writing this and I am wondering whether we will be able to render out our research well enough to gain your respect. If our giving is enough giving back. To you. To warrant your attention. For research is also an exchange. Your attention for this data. This data for your attention.

ELLY:

Attention!

CLAREESE:

Tension!

ELLY:

We would also like, very much, if you could take this collaborative Rendering as an invitation to ruminate, reflect and meditate – both now and for a little bit beyond that. This is surely the wet dream of most researchers. That people who have been Close Contacts of the Research will feel they have been infected by these Research Fragments. And that that infection will last a while, and show up every now and then in casual and not so casual conversations. The hope is that the Research

Fragments will be viral enough to morph, to change and be changed by each body and each voice that carries and transmits them. Each utterance or reference or re-membering of any Research Fragment trigger is a re-rendering that takes on some of these ideas, possibilities, opinions, and facts. And at that point the person picking up the Research becomes a collaborator in the ongoing journey of that research. The ongoing rendering. Research picks up meaning as it meets traction, purchase, friction, and desire.[12] Research is never done in a vacuum. Nor is reading. The reader is every bit as triggering for this research as the researcher who brought it together.

CLAREESE:

We believe in collaboration as a way forwards. Our collaborators are alive and dead and not yet born. They are human and not human.

Under ideal conditions, collaboration with researchers outside as well as inside the academy, would be the norm. The stage would be set - and conditions supportive of - play, exploration, experimentation, conversation across disciplines, languages, contexts, and generations.[13]

ELLY:

We are asking how research can be more useful. And be a network that catches – rather than excludes – bodies of knowledge too often left out. Research that can be more generously (co)created and shared.[14]

And - as researchers on the brink of finishing (up) with the student context, with no security of a job and uncertainty whether such a job will arise any time soon, to generate income for its generators.

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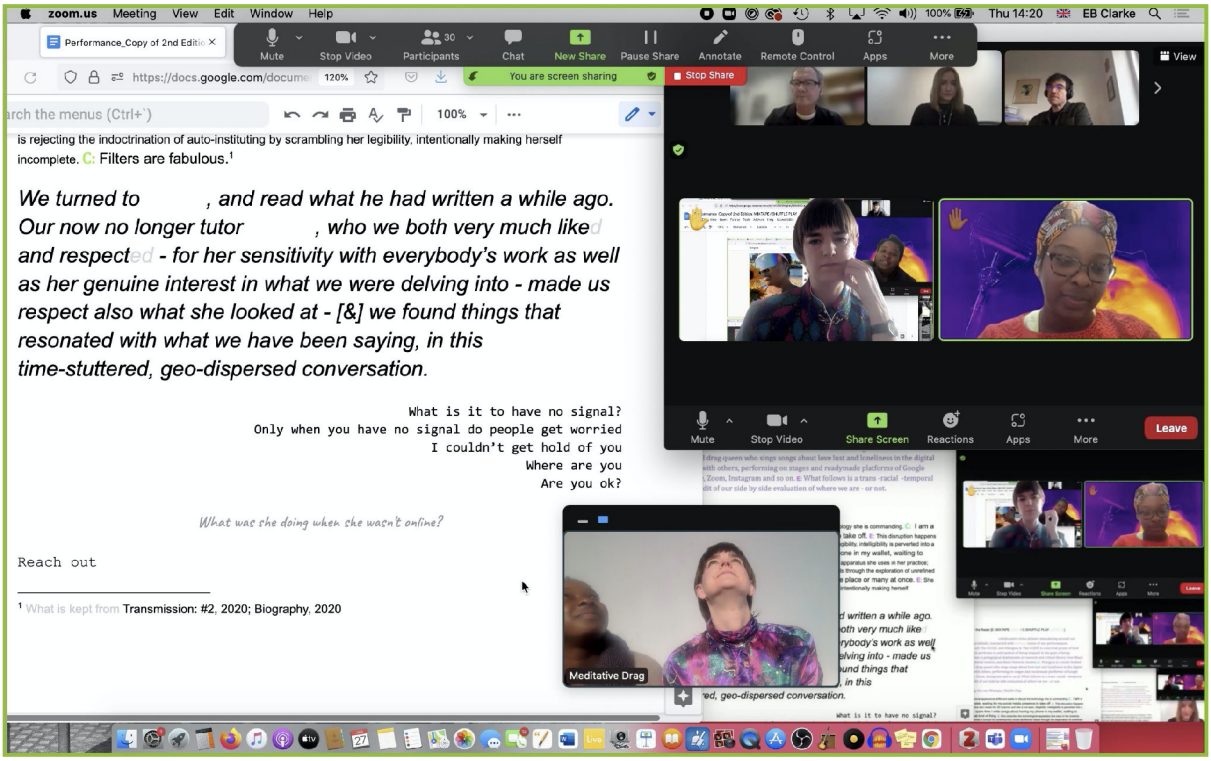
[12] Barad, Karen., 2010. Quantum Entanglements and Hauntological Relations of Inheritance: Dis/continuities, SpaceTime Enfoldings, and Justice-to-Come. Derrida Today 3, 240–268. https://doi.org/10.3366/drt.2010.0206

[13] Stone, Allucquere Rosanne, 1992. Under The Radar. ACTLab Pedagogy- ON BEING TRANS, AND UNDER THE RADAR: TALES FROM THE ACTLAB. URL https://actlab.us/radar.shtml

[14] McKittrick, Katherine, Sharma, Nandita, 2015. Sylvia Wynter On Being Human As Praxis, Katherine *Chapter 7 Strategic Anti-Essentialism: Decolonizing Decolonizations. 169.*



CLAREESE:

How can our ideas sustain us?
Whilst allowing at the same time our research to become more infectious? Re-mixable?

ELLY:

Re/distributable

CLAREESE:

and useful

ELLY:

helpful

CLAREESE:

relevant

ELLY:

relational

CLAREESE:

urgent

ELLY:

graspable

CLAREESE:

What if our research units could be generatively fungible?

ELLY:

A setting up of mutual beneficial, ever evolving, and evolvable exchanges and reciprocity - up for grabs to be taken up by others and put into new contexts, mouths, bodies, historical periods, tweets, Instagram posts, and future networks.

CLAREESE:

What happens if you cut the umbilical cord of researcher from research.

CLAREESE:

What possibilities and potential could that present.

ELLY:

To which un/intended places and people could the research travel,

CLAREESE:

be taken up

ELLY:

glitched

CLAREESE:

dragged

ELLY:

ruminated

CLAREESE:

meditated upon -

ELLY:

meditation as a holding space for learning

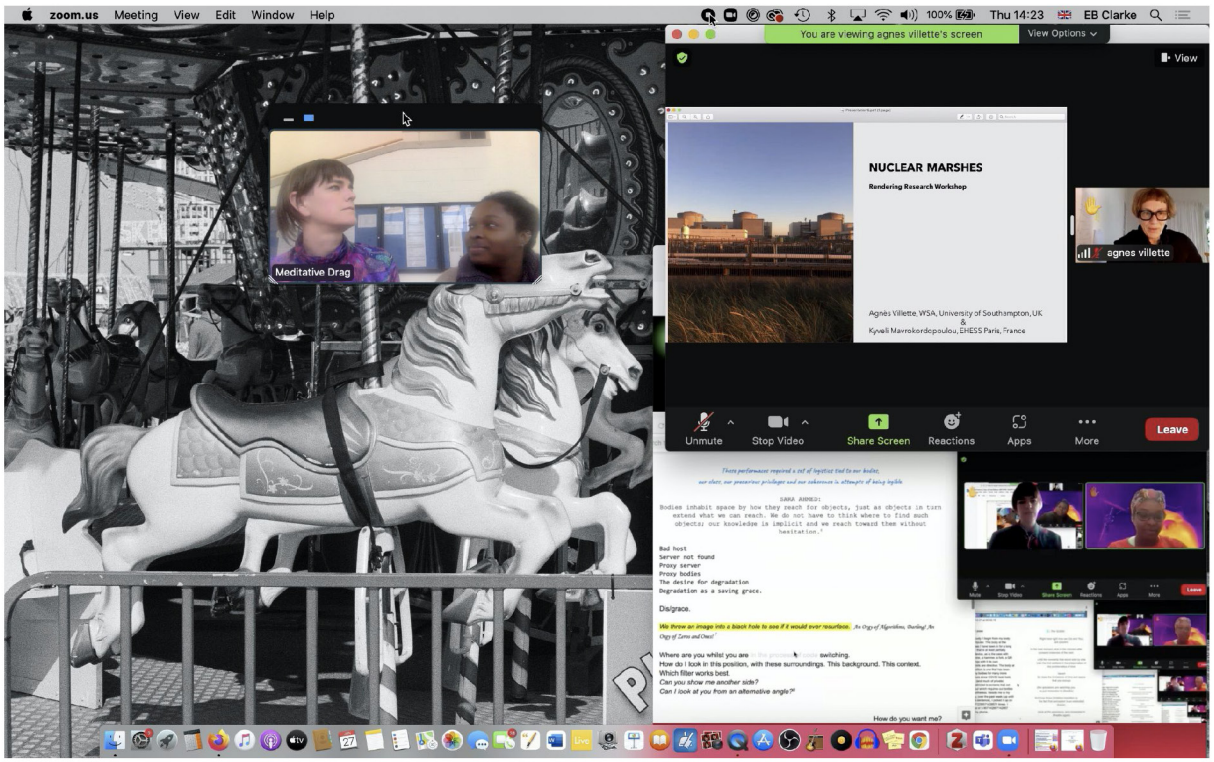
CLAREESE:

How can we work together better?
How can we (do) research differently?
How can our research sustain us?

ELLY:

How can we do this better?

[Elly and Clareese move together and laugh.
Video STOP]


zoom.us Meeting View Edit Window Help
100% Thu 14:23 EB Clarke
You are viewing agnes villette's screen
View Options
View
Meditative Drag
NUCLEAR MARSHES
Rendering Research Workshop
Agnès Villette, WSA, University of Southampton, UK
&
Kyveli Mavrokordopoulou, EHESS Paris, France
agnes villette
Unmute
Stop Video
Share Screen
Reactions
Apps
More
Leave
SARA AHMED:
Bodies inhabit space by how they reach for objects, just as objects in turn extend what we can reach. We do not have to think where to find such objects; our knowledge is implicit and we reach toward them without hesitation.
Bad host
Server not found
Proxy server
Proxy bodies
The desire for degradation
Degradation as a saving grace.
Disgrace.
Where are you whilst you are switching.
How do I look in this position, with these surroundings. This background. This context.
Which filter works best.
Can you show me another side?
Can I look at you from an alternative angle?
How do you want me?

APRJA Volume 11, Issue 1, 2022

Alexandra Anikina

PROCEDURAL ANIMISM: THE TROUBLE OF IMAGINING A (SOCIALIST) AI

Abstract

The current proliferation of algorithmic agents (bots, virtual assistants, therapeutic chatbots) that boast real or exaggerated use of AI produces a wide range of interactions between them and humans. The ambiguity of various real and perceived agencies that arises in these encounters is usually dismissed in favour of designating them as technologically or socially determined. However, I argue that the ambiguity brought forth by different opacities, complexities and autonomies at work renders the imaginaries of these algorithms a powerful political and cultural tool. Following approaches from critical theory, posthumanities, decolonial AI and feminist STS that have already approached the boundary between human and non-human productively, it becomes possible to consider technological agents as algorithmic Others, whose outlines, in turn, reveal not only human fears and hopes for technology, but also what it means to be "human" and how normative "humanness" is constructed. Drawing on the work of Antoinette Rouvroy on algorithmic governmentality and Elizabeth A. Povinelli's ideas of geontology and geontopower, this paper offers a conceptual model of procedural animism in order to rethink the questions of governance and relationality unfolding between humans and non-humans, between the domains of "Life" and "Non-Life". In doing so, it illuminates a series of processes and procedures of (de)humanisation, image politics and figuration in the context of everyday communication and politically engaged art. Ultimately, what is at stake is a potential to consider alternative conceptions of algorithmic Others, ones that might be differently oriented within our environmental, political and cultural futures.

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> *But what sense of "control" exactly is in play here? The bodies crowded together in the room look on, mesmerized, apprehensive, but with little hint as to their own responsibility for the events that they are witnessing. Or read another way, it is only their absorption as spectators that implies their sense that they are themselves implicated. They've set something in motion; but it's now out of their hands, and they can only watch it unfold.*
> — *Lucy Suchman,* Frankenstein's Problem*, 2018*

> *Types of AI: Slaves; Terminators; Entertainers; Assisted Carers; Wealth/Knowledge Aids. One could easily argue that the potential of AI seems not entirely progressive when musing on such a shopping list.*
> — *Omsk Social Club,* Humans are from Earth, AI is from Our Humans*, 2022*

> *Certain parts of the workman's life are consumed up to the very end. The workman is an animal, always in the state of animalism and always on the point of death.*
> — *Twitter bot @CommunistAI (trained using GPT-2), March 2020*

If we take being human as praxis (McKittrick), how does it unfold in the networked space shared by humans and non-humans? The rational subject of Western modernity has long maintained itself by creating the distance between itself and human Others, by carving out their outlines as irrational and backward (Mignolo) and by over-representing the Western conception of Man as a universal one (Wynter 257). In the digital space, the categories of "less-than-human", "more-than-human" and "non-human" are drawn through sub-minimum-wage online gigs, CAPTCHA tests and bot-detecting software. The digital subject in itself is "neither a human being nor its representation but a distance between the two" (Goriunova 128) and is "employed by various forms of power to distinguish, map and capture not only subjectivities, but also non-humans and physical things that inhabit the world" (Goriunova 127). In this framework, turning our face to non-human participants of networks reveals many different Siris, Alexas and Tays: bots, virtual assistants, automated scripts, non-player characters (NPCs) and "AI-powered" customer services, with whom we not only co-exist but which we get angry at, appreciate, admire, interact and even compete with.

Procedural animism is a call to refuse a reductionist view of these relations and politics and to get a clearer sense of the space where our so-called rationality encounters the algorithmic processes and things. The current proliferation of automated and "automated" systems that boast real or exaggerated use of AI produces a wide range of interactions between them and humans. The ambiguity of various real and perceived agencies that arises in an encounter with algorithmically powered entities is usually dismissed in favour of designating them as technologically or socially determined. However, I argue that the ambiguity brought forth by different opacities, complexities and autonomies renders the representations, imaginaries and figurations of these algorithms a political and cultural tool for monetisation and manipulating public perceptions and narratives. While the opacity of algorithmic agents is most often proprietary and conceals economic or political motivations, their figurations as "agents", "bots", "automated services" and other human-oriented entities, as well as their general aesthetics and narratives, are of immense interest insofar as

they reveal not only human fears and hopes for technology, but also what it means to be "human".

What I call "procedural animism" is guided by two intuitions. First, that the interactions with bots and other entities may be informed by, but are not reducible to, the well-known categories from science fiction, art and cinema. What remains to be understood is a broader cultural and political conception of algorithmic agents that emerges from everyday interactions with them. The second intuition is that the perception of such artefacts as autonomous has far-reaching consequences for contemporary social life, where our life as humans is always embedded within various networks, be it social media, networked screens or a multi-player game.

The cultural domain of artificial intelligence (AI) is dominated by the Western conceptions of what it means to be "human" or "non-human", as well as by the tendency for anthropomorphism. On the other hand, the commercial, mainstream and popular culture narratives that are located within anthropocentric limits are offset by the ones produced by contemporary art, critical theory, critical posthumanities, decolonial AI and feminist studies of science and technology (STS) that have already approached the boundary between human and non-human productively. Outside of the latter, the non-anthropocentric (and non-anthropomorphic) ideation of AI is often pragmatic — for example, through design solutions borrowed from non-human animals. While the range of imaginaries continues to expand, what remains to be understood is a politically non-anthropocentric AI; by which I mean not just a superficial opposition between a "man" and "machine", but, rather, AI that doesn't subscribe to the political idea of what "human" is in neoliberalism and what AI should be in relation to it. The tech companies that consolidate the resources, energies, intelligences and finances to produce and conceptualise artificial intelligences in their hands play central roles in the instrumentalisation of the "human" and algorithmic governmentality (Rouvroy). The conceptualisation of the crisis of the "human" that has been identified in terms of Capitalocene (Haraway, "Anthropocene"; Moore) in the language of decolonial studies and in the explorations of critical posthumanities, has not quite reached the centres where AI is actually produced and realised. In light of this consideration, the task of producing alternatives seems particularly urgent.

To understand what procedural animism is (as a symptom), or might become (as a potentiality), it is not only necessary to address a series of conceptual and political troubles that are affiliated with using the words "Other", "image" and "animism", but also to outline how the processes of (de) humanisation happen in the encounters of humans and algorithmic agents of different kinds in the circuitry of images and networks. The smaller questions of how exactly we imagine our AIs and the purposes they serve are nested within the larger questions of where borders are drawn, politically, between the domains of "life" and "non-life" (Povinelli). Ultimately, what is at stake is the potential to consider alternative conceptions of algorithmic Others, ones that might be differently oriented within our environmental, political and cultural futures. This paper is the first step towards thinking the question of imagining algorithmic Others through the idea of procedural animism, engaging, in particular, with the work of Antoinette Rouvroy on governmentality and with Elizabeth A. Povinelli's concepts of geontologies and geontopower.

Orbiting the human

The human-oriented categorisations of the automated counterpart as a tool, a partner or an adversary are widely discussed in the scientific and commercial contexts, such as robotics or Human Computer Interaction (HCI), as well as in popular culture. The negotiations of artificial agents' roles vary wildly, yet they never seem to fall outside these categories completely. For instance, Núria Vallès-Peris and Miquel Domènech discuss that while the concept of Human-Robot Collaboration (HRC) and integration of critical theories of care are picking up in the field of care robotics, it is still relying on the assembly line logic of industrial robots, and needs to "take into account the realm of everyday life, a messy and uncertain environment far from the ordered and predictable life of the factory" (Vallès-Peris and Domènech 163). In another example from the legal discourse, the human-oriented imaginary is framed as the question of acknowledging the legal standing and personhood of sufficiently developed robots and AI (see, for example, informative discussions of Gankel et al.; Bennett and Daly). Taking the problem of such categorisation into political dimensions, Lucy Suchman points out "Frankenstein's problem": the imaginaries of autonomous machine as a perfect slave or a cooperative partner "work to obscure the politics of alterity that operate through the figure of the monster, as well as the modernist genealogies that shape technology's contemporary forms" (Suchman 5). This tendency similarly forecloses alternative possibilities for political imaginaries: as often as robots in popular science fiction rebel to overturn human masters, they are much more rarely depicted as establishing a parliament, organising labour unions or a social justice movement.

One relatively recent exception is Anita/Mimi, a character from the Swedish TV series *Real Humans* (2012). Having been sold as a Hubot, a commercial housemaid android, but possessing consciousness and self-awareness, she starts to question her own "humanity" from within the affordances of the role of a care and household worker in a Swedish family of five: two parents, two daughters and a son. As Hellstrand et al. point out, Anita/Mimi is gendered and racialised as Other in a similar way to how an East Asian au pair would be. Various relations of power, privilege, sexualisation and exploitation are explored through her interactions with the family members.

In the British adaptation of the Swedish original, *Humans* (2015), the question of political rights of synthetics, or synths (renamed from Hubots), is escalated. In the third season, millions of synthetics are given consciousness by a software update; this causes mass casualties (a loss of 110 000 human and 100 million synthetic lives), panic and a radical reappraisal of the human-synth relationship. As a terrorist attack by a radicalist synthetic causes a rise in anti-synth violence, the questions of integration, synth-phobia and synthetic rights are pushed to the fore of the national debate. The Dryden Commission, a state panel of experts and politicians is established to decide the fate of the synthetic population. Anita/Mia (in the British version) takes on a role of a political activist: she gives testimony of her experience, advocating for peace and synthetic rights. In the riots following a secret government operation for a "product recall" (in effect, a synth genocide), Anita/Mia sacrifices herself, refusing to participate in a violent fight, and pleads for peace as the crowd is beating her. The final scenes show a TV screen with media coverage of a huge crowd of humans and synths bringing her, now definitively *life*-less body to the headquarters of the Dryden Commission.

On the one hand, Anita/Mia's advocacy puts the question of synthetic consciousness in the framework of a political debate. On the other hand, its depiction as a short and unwilling career as a political activist and a martyr fails to go beyond a stereotyped dramatisation of a social movement in a series that is ultimately revolving around the anthropomorphic and human-centred version of artificial intelligence. While Anita/Mia's disobedience highlights the politics of alterity, it does so almost exclusively through a migrant lens. In doing so, it seems to avoid the imagination of an alternative for synths: there is no political solution to the conflict between humans and synths, and instead, the show offers an almost biblical ending with Anita/Mia's sacrifice. In the end, the synths seem to have to accept normative "humanness" to reach the status of a citizen with rights — and even that is not certain.

The examples of *Real Humans* and *Humans* follow closely the exploration of artificial intelligence as Other, "almost the same, but not quite" in relation to a universalised Western subject (Bhabha 126). They use the figure of a conscious android to probe the issues of migrant labour, migrant rights, exploitation and privilege. However, in doing so, they also reinstate achieving the status of the human (citizen) as the only political exit from the epistemological conundrum that the synths face: how to prove your consciousness, and therefore, worthiness of rights, to humans, in a kind of reverse Turing test? The very end of the show hints at a possibility for integration hidden within a potential hybrid, a child of a human and a synthetically augmented human: but its future, in the context of the previous events, seems equally bleak.

Ultimately, the show uses synths and Hubots to illustrate anthropocentric philosophical questions, like replicants in *Blade Runner* (1982, Ridley Scott), HAL 9000 in *2001: A Space Odyssey* (1968, Stanley Kubrick) or David in *A.I. Artificial Intelligence* (2001, Steven Spielberg). *Humans* critiques exploitation and unequal rights, but rather than hazard entering the field of the potential resolution, with its scary ghosts of taking responsibility, it offers up the main character as a sacrifice to the neverendingness of capitalism's story. However, what it also produces in the process is a rather nuanced account of how wide and diverse the range of humans' attitudes and feelings towards synths is. In particular, it is noticeable in the scene where the series reveals that some humans continued to live with and care for "their" synths, after they gained consciousness, in secret. What the show seems to suggest is that the exit from alienation lies via the "humanisation" of the relationships with technology (or a social problem): all the positive changes in the narrative come from individual effort and grassroots organisation.

(De)humanising the Other

Lucy Suchman notes that "our inability to control something does not absolve us of being implicated in its futures" (5). What is more, the question of taking responsibility for the creation of monsters — be they AIs or problems of social inequality — gets obscured by the AI/problem's supposed alterity. The issue of responsibility is crossing over from the fictional narratives to the public narratives of the companies that produce (or claim to produce) various AIs. What is so troubling about the discussions of "racist AIs" that appear each time when the developer's or dataset's bias re-surface in their algorithmic models is not only the evidence of the algorithmic perpetuation of epistemic violence; it also lies in the fact that the algorithm itself, and not the person responsible for it, is called racist. One could object to this

by saying that this is just a figure of speech; after all, everyone knows that the algorithms are not sentient or intelligent (and, therefore, can't be racist). However, this would miss the importance of precisely the figures of speech and the way the public describes their imagination of artificial intelligence. The headlines of these public discussions will not mention the figures of "racist engineers", "racist developers" or even "racist CompanyName" — once the blame has been lain at the door of AI, it seems excessive to pursue it further.

At the same time, the public imaginary continues to construct inevitable ambiguities around artificial "agents". Simply a more precise word choice and stricter accountability practices would not be sufficient to account for the perceptions of agency that autonomous machines and algorithms possess. As they become more and more sophisticated, and as more and more humans conceive of different kinds of emotional, physical and intellectual relationships with them, the agency (and therefore, its ambiguity) is unlikely to become a diminishing trend. In July 2022 Google fired the senior software engineer and AI researcher Blake Lemoine who claimed that the company's LaMDA chatbot was sentient. He was fired for violation of confidentiality, apparently failing to safeguard the product information in the process of making his claims known to a wider audience. However, for many, even the very fact that he was fired fuelled the conspiracy theories that saw this as "silencing" in the face of potentially history-changing consequences of acknowledging AI as sentient. As in many others, in this story, it is not the fact of sentience that holds the most interest, but rather, the clash in imaginaries of AI held by Blake, the public and the company.

An aesthetic and imaginary operation of anthropomorphising an artificial agent is also an operation of drawing a political outline in which they should exist, and within which their figurative "agency" presents a convenient tool for extraction of data, cost-cutting and redirection of responsibility. It is not accidental that dominant anthropocentric AI imaginaries, from fembot assistants, robotic caregivers, and pets to helpful automated services, are often revealed as already gendered, aestheticised, and racialised in particular ways. These representations are already delineated within a certain type of political worlding, their range of actions limited to what is deemed necessary, entertaining, or otherwise useful to the human, as seen in gendered smart speakers endowed with feminised voice assistants such as Alexa. Jose Luis de Vicente notes that

> *smart assistants establish clear lines in conversations they will not cross. For one, they constantly refer to their artificial nature, never pretending to have human-like attributes. And of course, the legal departments of their mother companies clearly set limits to their capacity for transgression or discussing controversial issues such as religion or politics - after all, they need to remain lawsuit-protected, family-oriented products (368).*

These limited imaginaries also become a conduit for exploitation by creating transition zones in which "humanness" is not a given but set by the producer, brand manager, developer or AI ethicist. For example, humans as "software extensions" (Schmieg) — workers who complete small tasks in Amazon Turk system, Facebook moderators or machine learning annotators - are concealed from the public eye at the same time as these technologies and services are touted as the pinnacle of automation. In Long Bui's account of "Asian roboticism", Asian Others are rendered robotic metaphorically (by referring to them

as passive, hard-working, unimaginative) as well as literally (by the platforms of the gig economy). These two kinds of rendering robotic — metaphorically and through the working conditions — establish and sustain each other, with techno-orientalism at work in both of these figurations. The processes of dehumanisation of real workers and the processes of humanisation of robots go towards similar goals. Imaginations of humans as robots and robots as humans make it easier to accept the exploitation of the global workers. In "Robotic Imaginary", Jennifer Rhee argues that notions of humanness in robotics and AI, especially in the humanoid robots, figured and imagined in particular ways, reveal the processes of dehumanisation undergirding anthropomorphic thinking. What constitutes a "human" — disenfranchised, alienated, exploited and excluded — also constitutes a particular "humanoid". So what would it mean to take responsibility for the existing and newly self-reproducing politics of alterity?

Instrumentalising alterity

In the task of imagining an alternative AI, the cyberfeminist approaches seem crucial, as they consider the redrawing of the unstable boundary of human and non-human as a political gesture. Approaches informed by art, decolonial approaches and feminist STS take various routes towards the task of constructing imaginaries by redefining these boundaries. Among the glossaries and collections exploring them are *Atlas of Anomalous AI* (edited by Ben Vickers), *A Is For Another: A Dictionary Of AI* (edited by Maya Indira Ganesh), *Chimeras: Inventory of Synthetic Cognition* (edited by Ilan Manouach and Anna Engelhardt). United under growing umbrella terms such as "decolonial AI" and "indigenous AI", many new research bodies delve into constructing relational ethics based on understanding the human-AI worlds through solidarity, kinship and equal participation (see an overview in Mohamed et al.). Contemporary takes on animism have also brought to the surface the necessity to re-conceive relationality between humans, animals, environment, and tools differently.

For her configuration of alterity politics in the seminal "Manifesto for Cyborgs", Donna Haraway offers the figure of the cyborg as a double conduit. On the one hand, the cyborgs "are the illegitimate offspring of militarism and patriarchal capitalism, not to mention state socialism" (119), a product of and a channel for techno-scientifically minted powers of domination and control. On the other hand, a figure of a cyborg is a gateway to emancipatory politics: "a cyborg world might be about lived social and bodily realities in which people are not afraid of their joint kinship with animals and machines" (122). Ultimately, "the political struggle is to see from both perspectives at once because each reveals both dominations and possibilities unimaginable from the other vantage point" (122).

The cyberfeminist discussion inspired by Haraway, offered a new interpretation of how techno-mediation can be analysed through alterity: recognising alterity and using the recognition to create alternative routes. Any procedure has the potential for being instrumentalised against its original aim, towards "the hard labor of alienation, which includes understanding the logic of instrumentality, politicizing it, and transcending it through usage itself" (Majaca and Parisi). The process of conjuring non-human algorithmic Others, therefore, has to embrace the tension that alterity creates as productive of new political imaginaries (and, hopefully, realities). What Suchman calls "politics of alterity" could, perhaps, become a vehicle for alienation to work back from the negative

outlines of the non-humans to constitute a different political imaginary for humans. In this sense the question "how to carve out these outlines for the politics of decolonial and feminist reproduction?" becomes crucial, and figures a new question: "how to be non-human as praxis?"

It is at this question that animism appears as a concept that could provide a bridge to the political imaginaries of algorithmic agents. Bogna Konior sees personhood (and not "life" or "liveness") as a key to the participation of non-humans in cultural and political life. Her notion of "animorphism" is informed by the practices of animism and the non-standard philosophy of Francois Larouelle. The position of personhood here is significant as it connotes capacity for a political practice: not simply "agency", but a recognition as a political entity that can manifest itself, be operative, speak and be heard as a subject/person in a market-driven democracy. She cites an example of Natalie Jeremijenko's work, *Tree X Office* (2015), an open space office in New York owned by a tree (represented as a legal entity and acting as a landlord) which could self-monitor, tweet and manage its resources with the assistance of technology, exploiting its own assets and capitalising on its own capital. As Jeremijenko notes, "using simple, inexpensive sensors the trees assume their own voice and capacity to exert corporate personhood within this new structure of ownership". In the case of Jeremijenko's work, figuring the tree as an active participant not only acknowledges the tree's alterity in legal and philosophical terms but also highlights the privileged space of the corporate personhood as a procedure that can be potentially instrumentalised towards alternative goals. The act of figuration, of rendering active, of conjuring a certain entity, is important here — both as an act of making visible and as an act of bestowing a procedural power, which do not always coincide. In the case of technological entities, such as algorithms, bots, and others, this becomes complicated by the condition of algorithmic governmentality — "a mode of government appearing to disregard the reflexive and discursive capabilities (as well as their 'moral capabilities') of human agents, in favour of computational, preemptive, context- and behaviour-sensitive management of risks and opportunities" (Rouvroy 143). Antoinette Rouvroy makes an important distinction of the algorithmic governmentality's "self-enforcing, implicit, statistically established" character, as the mode of legal governance remain "imperfectly enforced, explicit, […] resulting from time consuming political deliberation" (156). The types of governance-through-knowledge that the algorithmic systems produce are also different; the constellations of recommendations, predictive analytics, pattern-finding and data-behaviourism do not act directly, but rather, they create contingencies surrounding the digital subject — whose outline is also traced by the data crumbs they left behind.

Procedurality, in such a system, appears as both an epistemological and political issue: the type of knowledge and decisions that are automated and outsourced to algorithms are not exactly extralegal but have a tendency to bypass the individual agency and decision-making. Procedures are accepted for reasons of ease and annoyance: sometimes it is easier to accept the algorithmic decision, especially so if the procedure is made to be cumbersome. An example of that is a strangely normalised web-browsing practice of all those covered by the General Data Protection Regulation (GDPR): cookie consent banners for which it is easier to click 'Accept all' than to go through a multi-window process of selecting. Procedures often belong to the small, messy aspects of life, that might not be considered

explicitly political. The discussion about data collection practices and "data colonialism" (Couldry and Mejias) has made these issues more visible; yet, algorithmic procedures and figurations that come with them are much more numerous and diverse.

The figuration of both algorithms and humans creates further complications for recognising procedurality as an issue. The increasing capacity of automated non-human participants to be forces in social, commercial, political and cultural exchange raises questions about the human capacity to discern the motivations hidden behind these forces. It happens not only in the face of opacity and ambiguity of the imaginaries of autonomy, automation and AI but also on the background of a general waning of ability for acknowledging and confronting crises as such.[1] It also becomes more necessary to come up with alternative figurations for technology, inviting forth a form of critical animism that would allow them to take hold.

Images of animism, images of technology

Animism, with its aim to describe "primitive beliefs" and spiritualities alternative to the Western one, was a troubled invention of Western anthropology. However, it is precisely because of this, I would like to argue, that animism, in a gesture of reverse anthropology, seems to point towards the traps of belief and figuration in Western society, and becomes appropriate for describing some of the contemporary socio-techno-cultural entanglements of humans, networks, images and things. Recent anthropology testifies to the return of interest in animism as a practice that is alternative to capitalist relations and creates relationalities, social realities and potentials that have been swept under the rug of modernity (Harvey). Tim Ingold points out that the animist practices of nonhuman personhood "lost much of their authority […] but they continue to operate nonetheless and remain deeply embedded in the experience of everyday life" (Ingold, in Bird-David 81) in various geopolitical contexts. While many of these approaches are fruitful, in my tentative offer of "procedural animism" I focus on new relationality that develops between humans, images and technologies in order to situate animism as a symptom of, and a politically charged alternative to current social relations as they are under capitalism.

Elizabeth Povinelli's terms 'geontology' and 'geontopower' open a way of situating animist practices in the contemporary world and in the context of algorithmic governmentality. Povinelli suggests that Foucault's concept of biopower, while it long defined contemporary approaches to governance, is hiding in itself a problematic "maintenance of the self-evident distinction between life and nonlife" ("The Rhetorics of Recognition" 429). Geontology intends to highlight the "biontological enclosure of existence (to characterize all existents as endowed with the qualities associated with Life)" ("Geontology" 5). It presents a necessary look behind the outlines of biopower, which, as governance through the body and therefore through life and death, "has long depended on a subtending geontopower (the difference between the lively and the inert)" ("Geontology" 5). "Geos" refers to "Non-Life"; as Povinelli notes, as "anthropos" cannot anymore demonstrate its superiority, forms of critical posthumanist theory gain traction, and the privileged boundaries of the category of "Life" become porous. Concepts such as Anthropocene, new materialisms and new natural sciences such as biogeochemistry invite consideration of a wide range of "Non-Life". In questioning geontopower, Povinelli asks: how are the non-human agents being politically managed?

What is particularly relevant to algorithmic governmentality in this context is the default categorisation of technology as Non-Life which allows it: 1) a procedural quality of being a mere tool, of passing by the human subject and their agency unnoticed; and 2) to become figured and agent-ified, to take on various social, cultural and political imaginaries. The animist relationality in this case seems to be heavily affected by the former and contaminated by the latter: algorithms exert the governance on digital subjects, yet it is almost impossible to relate to them without figuring them in some way.

Povinelli herself does not directly use animism as a term: she prefers "analytics of existence" when speaking of Indigenous lifeworlds such as "durlg or therrawin". She points out that when captured in the Western discussion, they are described as animistic. Povinelli sees this act of capture through conceptual translation as a moment when "late liberalism attempts to control the expression and trajectory that their analytics of existence takes — that is, to insist they conform to the imaginary of the Animist, a form that has been made compatible with liberal states and markets" ("Geontology" 28).

With the figure of the Animist, Povinelli outlines the conditions of animism's existence in the neoliberal Western consciousness. She writes that

> *capitalism has a unique relation to the Desert, the Animist, and the Virus insofar as Capitalism sees all things as having the potential to create profit; that is, nothing is inherently inert, everything is vital from the point of view of capitalization, and anything can become something more with the right innovative angle. Indeed, capitalists can be said to be the purest of the Animists. This said, industrial capital depends on and, along with states, vigorously polices the separations between forms of existence so that certain kinds of existents can be subjected to different kinds of extractions. Thus even as activists and academics level the relation between animal life and among objects (including human subjects), states pass legislation both protecting the rights of businesses and corporations to use animals and lands and criminalizing tactics of ecological and environmental activism. In other words, like the Virus that takes advantage but is not ultimately wedded to the difference between Life and Nonlife, Capital views all modes of existence as if they were vital and demands that not all modes of existence are the same from the point of view of extraction of value ("Geontology" 20).*

In Povinelli's work, the Animist is one of the "governing ghosts" that "huddle just inside the door between given governance and its otherwises" ("Geontology" 16). The separation of Life and Non-Life firmly places the algorithms into the latter. However, since they also effectuate governance, technological existence becomes a spectral form in which humans and non-humans operate within the same procedural field. It is a field both of procedural politics of alterity, where precarious online labour is outsourced to workers taking on microtasks such as annotating datasets and moderating content, and of aesthetic figuration of bots who take on human qualities and appearance. Techno-mediated relationality is full of such ghosts, and within networks, especially in the context of precarious micro-tasking labour, "humanness" is not a given attribute.

Animism manifests in the way in which "humanness" is attributed, figured and bestowed upon algorithmic and artificial agents.

There are different kinds of uncertainty in the figuration: some related to ghosts of capital, and some — to the underlying procedurality of an algorithmic thing and to the potential for instrumentalising it differently. I would like to offer two very different examples of how machinic figuration can happen and offer different political results.

The first one is an anthropomorphic automaton, which might be the most obvious example of machinic figuration. However, it is often around such automata that particularly twisted negotiations of various boundaries develop, and the recent appearance of the "world's first ultra-realistic robot artist" Ai-Da in front of the United Kingdom's House of Lords committee to present a commentary on technology is precisely the case. At the beginning of the proceedings, Ai-Da is described as a contemporary art project made to make people reflect, among other dangers and creative potentials of technology, on an ethical problem "that technology can seem to be human" ("Communications and Digital Committee"). Ai-Da is named after Ada Lovelace and is presented as a result of a "collaboration" of a large group of researchers, artists and designers. Yet at second glance, more details flow into the picture: Ai-Da is figured as a white woman dressed in dungarees, with dark hair cut in a short bob. In earlier pictures, Ai-Da sometimes wears a blouse with paint stains on it. The company that produced most of Ai-Da's hardware is Engineered Arts, a company commercially producing humanoid robots for various applications including entertainment, education and customer service, and even for the TV series *Westworld*. The undergraduate students Salah Al Abd and Ziad Abass who developed Ai-Da's drawing arm and the machine vision and drawing algorithms were completing the project on their own time. Finally, some of the earlier articles cite Aidan Meller, the project leader, a gallery owner and an art dealer, his gallery having sold "more than $1 million" worth of Ai-Da's artworks (Rea).

The presentation itself can be seen as proof, on the one side, of the institution's inability to differentiate between operativity and figuration, and on the other, of the project's inability to go beyond the anthropomorphic tropes of danger, creativity and authorship. However, it can (and should) also be seen as a performative act of offering the robot's visible alterity as a kind of self-proving point without critical content. The website description, perhaps, best summarises the capitalist conundrum of being positioned between critical AI discourses and art gallery needs: "when we talk of Ai-Da as an artist, and Ai-Da's artwork, we do this with full acknowledgement of her machine status, and the human/machine collaboration of her artwork, while simultaneously developing her artist persona and oeuvre, as this is an astute mirror of contemporary currents and behaviour" ("Who is Ai-Da?"). Having been stripped of the "AI artist" myth (although, probably not for every audience), Ai-Da is equipped instead with the task of being an artificial pithy, prophesying dangers and wonders of technology.

A different example of an algorithmic agent is *Synthetic Messenger* (2020), a project by artists Tega Brain and Sam Lavigne. It is a botnet that searches the internet for news articles covering climate change. Having located the article, 100 bots click on each ad on the page. By clicking, they contribute to the metrics and artificially inflate the value of climate news, signalling to the media outlet these topics are potentially profitable. Thinking in terms of earlier notes on procedurality, as well as animism understood as capitalisation, the botnet takes over the procedure of monetising the clicks and turns it into a "second-order climate engineering scheme", as the artists describe it ("Synthetic Messenger"). Brain and Lavigne consider

culture as co-producing environmental conditions: "climate engineering is not just about manipulating natural systems but it will also be about engineering opinion […] which can be done on social networks" (Thomasy). The bot in this understanding acts as a countermeasure to the ad industry that is interested in creating controversy over providing accurate information. Synthetic Messenger, therefore, operates in the field of artistic political figuration. Like *Tree X*, it points towards the underlying alterity — a bot and a tree in the frameworks of corporate personhood and algorithmic instrumentality, respectively — and towards the previously invisible procedures that can be instrumentalised to a different goal. They insert themselves into the domain of "Life" and, at the same time, show that the way "Life" is constituted, is politically problematic.

Here, of course, the domain of art plays a particular contribution to the capacity of algorithmic agents to cross over boundaries critically and productively. In the work of Félix Guattari, it is the artist that

> *detaches and de-territorializes a segment of the real in order to make it play the role of partial enunciator. The art confers meaning and alterity to a subgroup of the perceived world. This quasi-animist speaking out on the part of the artwork consequently redrafts subjectivity both of the artist and of his consumer (Guattari, cited in Melitopoulos and Lazzarato).*

Angela Melitopoulos and Maurizio Lazzarato speak about the animist thought in Felix Guattari's work as "machinic animism". They quote an interview with Eduardo Viveiros de Castro who, reading Guattari, comments on the text in the following way:

> *Guattari speaks of a subject/object in such a way that subjectivity is just an object among objects and not in a position of transcendence above the world of objects. The subject, on the contrary, is the most common thing in the world. That is animism: the core of the real is the soul, but it is not an immaterial soul in opposition or in contradiction with matter. On the contrary, it is matter itself that is infused with soul. Subjectivity is not an exclusively human property, but the basis of the real and not an exceptional form that once arose in the history of the Cosmos (Melitopoulos and Lazzarato 48).*

The "animism" in the work of Guattari then, is not anthropomorphic and anthropocentric, but "machinic", including all kinds of machines, be they social, technological, aesthetic, crystalline, etc. It suggests a certain type of participation that is allowed for technologically constructed things that act and move, making them not only part of the world but also a part of the world's epistemology and politics. The artwork, in this line of thought, acquires a position from which it can "speak", or becomes liberated to exercise its own sense-making and its own redrawing of the borders.

Without diminishing the critical function of art, another consideration of animism forces at work is, perhaps, more related to the contemporary refusal of "irrationality". Considering Anselm Franke's exhibition *Animism* (2015) and the interest in the topic that it launched in the arts, it seems that for the Western world, it is through artistic works that the forces of animism are made most visible. Going even further, the combination of artwork itself and its academic interpretation as animist participates in this process as a kind of conceptual vestibule, where the

Western subject of contemporary modernity has to pass through two sets of doors in order to allow themself access to the realms and relations they consider "irrational" and to reconstitute themself as a participant in them.

Procedural Animism

In the imagination of the current article, procedural animism is both a symptom and a potentiality. It is a symptom of contemporary impoverishment of experience, of normalisation of movement towards "bare life" (Agamben), of social and political life produced by late techno-capitalism, of profound alienation driven by platforms and difficulty of exiting neoliberal algorithmic governmentality. The animist impulse reaches towards conceiving ways of connection but ends up being caught up in the pre-formatted and pre-designed ways of existing within contemporary networks. Procedural animism is also a practice of acknowledging alterity without trying to erase it, and as such, of resistance to capture, alienation and dehumanisation. "Animism" here refers to: 1) a multiplanar set of symptoms of the contemporary condition (tightly connected to the marginalisation of otherness and the "irrational", as well as to capitalisation of affects through image economy); 2) an individual practice: "animism is a practice of relating to entities in the environment, and as such, these relations cannot be exhibited; they resist objectification" (Franke, "Much Trouble in the Transportation of Souls" 11). The tension between these relations and the figurations that invite them (and at the same time, hide the procedure) is the key aspect of procedural animism. Outside of artistic and other alternative figurations and imaginaries, the conjured commercial spirits of AI are caught within the foreclosure of possibilities that capitalism presents to Others, leaving them circulating in the reproduction of existing tropes, "helpers", "enemies", "lovers", "allies", "overlords". The personification of AI is always a capture of potential social energies that are directed and redirected to be included in monetisation structures and flows.

As a state of "being-in-a-medium-of-communication" (Franke, "Unruly Mediations"), animism conjures new relations to Others and their images; even more significantly, in contemporary networked life, these relations are primarily channelled through images. The images are portals through which we constitute our relationality with the world. For this reason, procedural animism resides strongly in affects and energies that are captured and spirited away by the algorithms of the attention economy, by the flows of images that become capitalism's hiding place. In this attention to the infrastructures of the image, procedural animism inherits from operational images (Farocki; Paglen), but focuses on the distance and relations between the "human" and "non-human" as a productive tension that can be employed towards building alternatives to the politics of algorithmic governmentality.

Procedural animism is, therefore, a shift to a different *modality* of thinking about relations between humans and non-human Others. Povinelli points out that geontopower as a concept is not meant to replace biopolitics; she explains that

> *the attribution of an inability of various colonized people to differentiate the kinds of things that have agency, subjectivity, and intentionality of the sort that emerges with life has been the grounds of casting them into a premodern mentality and a postrecognition difference. Thus the point of the concepts of geontology*

> *and geontopower is not to found a new ontology of objects, nor to establish a new metaphysics of power, nor to adjudicate the possibility or impossibility of the human ability to know the truth of the world of things. Rather they are concepts meant to help make visible the figural tactics of late liberalism as a long-standing biontological orientation and distribution of power crumbles, losing its efficacy as a self-evident backdrop to reason ("Geontologies" 5).*

Procedural animism emerges exactly as *figural tactics*; it attends to the "aliveness" with which the algorithmic agents and other figured AIs participate in the contemporary life as *represented* (and, therefore, as lived, at least in terms of image economy), yet designated to play particular roles within neoliberal structures. In doing so, they become conduits for geontopower, delineating the limits, routes and structures for such governmentality to keep taking place. Animism emerges out of the ambiguity of bureaucratic (governing) procedures that simultaneously encapsulate the expenditure of life energy into rights, access, labour, and foreclose the humanity of the one being robotised. That animism is *procedural* also brings forward a few other defining aspects that continue the earlier point about procedures as the hidden aspect of governmentality. Something that is procedural is defined in certain terms, and once let go, can *proceed* according to these terms, having the power to move on its own. It is a type of forward-oriented impulse: like in any bureaucratic system, a procedure, once launched, can be rolled out and repeated indefinitely. In the process, it obliterates the difference — as the only difference that can exist is one stipulated by the procedure, and if it is stipulated, it ceases being a difference in any significant sense.

The figuration of AI conceals procedurality by animating it; and further on, it even becomes predictive of figuring the relations around itself. While an algorithmic recommendation system is not as easy to humanise as a virtual assistant, its capacity to "know" what a person might want to watch creates a certain relationship, one that already figures the algorithm in the role of "knowing-the-human". The difference between procedural artefacts (the algorithms that are not so easily personalised) and algorithmic agents (ones that take on anthropomorphic qualities), and the process of turning one into another, is not as significant in the framework of them being related to the human. The image trouble at the heart of procedural animism is not only part of the processes of capitalist capture and attention economy, but also a symptomatic reflection of the visual culture of Capitalocene (Haraway "Anthropocene"): one in which the images increasingly serve to remediate and constitute the space of the political imaginaries and beliefs, exacting a sort of gentrification of the political through the visual, where categories of subject/object and imaginaries of agency and autonomy continuously reproduce the human at the centre of these relations.

Conjuring a (Socialist) AI

While the question of "how to imagine a socialist AI?" in the title of this text should not be taken literally, it represents a significant issue with the imaginaries of AI and algorithmic agents. "Socialist AI", in itself, indicates an important problem: it points towards an imaginary that is discredited by default, by the very act of naming, and as such, it makes a perfect experiment for posing such a question. For the purposes of this brief conclusion, "socialist" is referring to an

imaginary of a future post-capitalist artificial intelligence rather than really trying to dig up what it would mean to have a socialist AI, and by extension, what kind of socialism it would be. For many, it would immediately mean dictatorship, state capitalism or Cybersyn. For others, it would bring up a progressive social and political program. Like animism, socialism is a word troubled by the violence of the colonial past and present. Yet it is also a word that is coloured by a particular version of the loss of belief systems enacted by capitalist realism and their transfer into the realm of aesthetics: "capitalist realism presents itself as a shield protecting us from the perils posed by belief itself" (Fisher 5). In this sense, it is no surprise that many decolonial AIs are joined by very few "socialist" ones, even including recent "platform socialism" (Muldoon) and "non-Fascist AI" (McQuillan).

In any case, the point of imagining a (socialist) AI lies precisely in the problem of imagining. As a process of conjuring potentialities, it can be seen as rendering: making versions and figurations, but also considering the potential trouble of *figuring* something, bringing it towards a certain shape. Like animist relationalities that escape objectification, but are still captured in representational terminology, to render means to avoid falling entirely in step with the existing boundaries. In the case of conjuring algorithmic Others, it seems that asking "what is it like to be a bat?", and imagining "entities" by asking what they are, is bound to recreate the existing sets of relations. Perhaps, a suggestion for conjuring is to start with describing a world, a political formation in which such an alternative algorithmic entity is possible; in which a belief in better politics is not a "peril" and does not automatically signify a birth of Skynet. Perhaps, borrowing from Ursula le Guin, we can start with a "carrier bag" theory of fiction, by conjuring a sociopolitical fabric in which alternative relations between non-humans and humans can take place. Procedural animism is a movement towards the modification of reality systems, in which a gesture of conjuring is a gesture of making possible: such modification is always already a change of the shape and length of the distance between the human and its algorithmic Other.

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Notes

[1] This retreat is seen, for example, in nihilistic attitudes towards Anthropocene or in the lowering of the stakes within the rhetoric of global warming — where "climate change" is often inconspicuously reframed as "lived with" instead of "resisted" or "fought".

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As a collaborative research group, they rehearse attending to the affective and the relational by exploring our intellectual and physical companionship. They start from intimate and non-productive grounds to investigate the material and political resonances of inherited procedures, whether that’s academic, technological or representational. By working with(in) the ruptures that these create, we attend to what is lost and what is kept, what is valued and discarded.

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