

# **A Peer-Reviewed Journal About RESEARCH REFUSAL**

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MELT (Loren Britton &  
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Nothing Happening Here  
(Kelsey Brod, Katia  
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Kristen Tapson)  
Gabriel Pereira  
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**EDITORIAL**

**HOW TO *REFUSE RESEARCH*  
FROM THE RUINS OF ITS OWN  
PRODUCTION**

**Christian Ulrik Andersen  
& Geoff Cox**

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Writing in 1965, Mario Tronti's claim was that the greatest power of the working class is refusal: the refusal of work, the refusal of capitalist development, and the refusal to bargain within a capitalist framework.

*A prerequisite of this process of transition is political organisation, the party, with its demand for total power. In the intervening period there is the refusal — collective, mass, expressed in passive forms — of the workers to expose themselves as “a class against capital” without that organisation of their own, without that total demand for power. The working class does what it is. But it is, at one and the same time, the articulation of capital, and its dissolution.*

One can see how this “strategy of refusal” has been utilised in all sorts of instances by social movements, but how does this play out in the context of wider struggles over autonomy today — not just in terms of labour power and class struggles; but also intersectional feminism and queer politics; race and decolonialism, geopolitics, populism, environmental concerns; and the current pandemic? In what ways does a refusal of production manifest itself in contemporary artistic, political, social, cultural, or other movements? And, how might a refusal of certain forms of production come together with a politics of care and “social closeness”?

This publication presents the outcome of an online workshop (organized by Digital Aesthetics Research Centre, Aarhus University; Centre for the Study of the Networked Image, London South Bank University; and transmediale festival, Berlin) with the participation of nine different groups, selected on the basis of an open call (Autumn 2020), and located at different geographical locations, some inside and some outside

academia. Each group has worked independently, but has also taken part in a shared mailing list, creating a common list of references, and produced a newspaper as part of the transmediale festival ‘almanac’ (for Summer 2021). Each in their own way, they have been discussing strategies of refusal, and how these might relate to hegemonic practices of research and its infrastructures.

Perhaps our starting point should be to quote an essay we share our title with, Eve Tuck and K. Wayne Yang's “R-Words: Refusing Research” that operated as inspiration for many of the contributors.

*How do we learn from and respect the wisdom and desires in the stories that we (over)hear, while refusing to portray/betray them to the spectacle of the settler colonial gaze? How do we develop an ethics for research that differentiates between power — which deserves a denuding, indeed petrifying scrutiny — and people? At the same time, as fraught as research is in its complicity with power, it is one of the last places for legitimated inquiry. It is at least still a space that proclaims to care about curiosity. In this essay, we theorize refusal not just as a “no,” but as a type of investigation into “what you need to know and what I refuse to write in” [...]. Therefore, we present a refusal to do research, or a refusal within research, as a way of thinking about humanizing researchers.*

Refusal is grounded in historical and present conditions, and these are particularly pressed upon us during the pandemic. What might be usefully refused in this context, and in what ways? How might academic autonomy be preserved in the context of capitalist tech development, especially perhaps in the present context of online delivery

and the need for alternatives to corporate platforms (e.g. Zoom, Teams, Skype, and the like); and how to refuse research itself, in its instrumental form?

In her article “Refusing the Burden”, Marloes de Valk examines the commitment of Big Tech to diminish its ecological footprint. The COVID-19 pandemic makes the issues at stake all the more apparent, as platforms like Zoom require particular technologies which exclude older hardware/software (e.g. running Linux). As she points out, one way to “refuse the burden” of ICT is to use technologies as long as possible, but also to not be wasteful in terms of processing loads (e.g. camera off; reducing your “facial footprint” as another researcher put it). The paper begins anecdotally with this small but significant act of refusal, rejecting heavy client-side computation and edge computing. We quote directly from her article:

*Edge computing and working from home are no solution to environmental collapse, it simply shifts responsibility away from those corporations with the largest footprint. This shifting of responsibility away from corporations is an old strategy. It privatizes and centralizes (often once public) services, while outsourcing costs and responsibilities of care and maintenance. On a larger scale, it's classic capitalist extraction of value through the exploitation of free labour and resources, and in the context of this paper, it is also greenwashing.*

The point, and indeed the article, is illustrated neatly by making reference to the “Keep America Beautiful” campaign from the 1950s, a cynical attempt by the disposable packaging industry to circumvent legislation to reduce waste. Individual action in this case can be taken to be an effective way to

avoid collective responsibility and the roots of the problem — allowing “business as usual”. Much the same trick is taking place in many countries during the pandemic where individual choice is marketed as “freedom”, whereas the emphasis would be more productively placed not only on creating commons-based practices and state intervention. There needs to be critical attention to network infrastructures and ecologies in its widest sense. This is a political issue that exposes the contradiction at the heart of capitalism itself allowing it to perform as a self-sustaining viral entity attuned to its own destructive tendencies on a planetary scale.

One important question then is how to operate ethically in the ruins of technological progress? In his article “Towards Refusing as a Critical Technical Practice”, Gabriel Pereira raises the question of how to address the inherent contradictions in the development of artificial intelligence (drawing on Phil Agre’s notion of ‘critical technical practices’), and more specifically examining computer vision, and how the development of various forms of algorithmic ‘detectors’ are opposed by developers who refuse to work in the corporate tech industry. The computer scientist Joseph Redmon, creator of the widely-used Computer Vision library YOLO, is one example of this. In 2020, he announced that he would no longer be developing the algorithm he created, and explains why:

*But maybe a better question is: “What are we going to do with these detectors [Computer Vision algorithms] now that we have them?” A lot of the people doing this research are at Google and Facebook. I guess at least we know the technology is in good hands and definitely won't be used to harvest your personal information and sell it to [...] wait, you're saying that's exactly what it will be used for?? Oh. Well the other*

*people heavily funding vision research are the military and they've never done anything horrible like killing lots of people with new technology oh wait...*

Pereira draws our attention to how this statement is “crowned by a footnote, which states: ‘The author is funded by the Office of Naval Research and Google.’” In other words,

*the conceptualization of hegemony enables thinking of our practice as part of wider struggles for re-constituting these systems. The notion of refusing departs from understanding that counterhegemonic struggles are responses constructed in the interstices of hegemonic forms. That is, even though we may try to re-imagine computer vision, we're still located in relation to this dominant system.*

To clarify, he quotes Raymond Williams:

*It can be persuasively argued that all or nearly all initiatives and contributions, even when they take on manifestly alternative or oppositional forms, are in practice tied to the hegemonic: that the dominant culture, so to say, at once produces and limits its own forms of counter-culture.*

Pereira speculates on the possibilities of a “disobedient gaze” and points to how hegemonies of vision — of what is visible and how it is seen; or, “a particular way of seeing that operates under the goal of identifying and naming, classifying and quantifying, and generally organizing the visual world” — works not only at the level of perception, but also in social interaction, the organization of labour, the classification of data, computation and thinking, and so forth (what he calls the

‘stack’ of computer vision).

Hegemonies as a form of ‘common sense’, difficult as they are to break from or refuse, are in this way a wider characteristic of “capitalist realism” (taken from the writings of Mark Fisher), which,

*as I understand it cannot be confined to art or to the quasi-propagandistic way in which advertising functions. It is more like a pervasive atmosphere, conditioning not only the production of culture but also the regulation of work and education, and acting as a kind of invisible barrier constraining thought and action.*

This is made further evident in the article “Towards the Operative Objects of Post-Capitalism” in which Dusan Cotoras, Joaquín Zerené and Diego Gómez-Venegas connect contemporary protests in Chile to how refusal has been regulated in the country’s social and cultural history tied, as it is, to socio-cybernetics and the exemplary case of Project Cybersyn. Also speculating on how to relate to capitalist realism and its hegemonic form of control, they argue for a need to embrace the transformations of the country’s history: a more radical uncertainty of things — as in their case, the uncertainty of a “theory-fiction” that connects disparate fragments of the specific history and what they refer to as “uncertain objects”,

*that is, entities defined by multiplicity, whose borders are so transparent, and whose lengths and movements are so unpredictable, that hegemonic research — as an enterprise consolidated with the rise of capitalist realism [...] — tends to avoid, or rather to fight them. On the contrary, we argue that tracing and identifying these objects constitutes in effect, perhaps today*

*more than ever, an urgent act of refusal. [...] Therefore, our approach implies embracing radical uncertainty; that is, by refusing the procedures by which objects of interest have been traditionally characterized — serving the analysis and deployment of the historical course of capitalism — allowing instead the operations beneath the aforementioned cloth to become apparent.*

Rather than uncertainty leading to what they call a “negative space [...] governed by a cynicism”, they suggest uncertainty as a “reservoir energy” that makes possible transformative processes.

Living in transformation and uncertainty might indeed take different forms. In her study of post-industrial young adulthood and “coming of age in the mood economy” (based on numerous interviews with young working-class men and women in the United States), Jennifer M. Silva has showed how neoliberalism forms a kind of subjectivity that (in the words of Fisher, a common reference, suggested in their article) “prides itself on its independence from others,” And, as Fisher further notes, when speculating on Silva’s emphasis on how personal therapy and self-development has replaced the formation of a common ‘class consciousness’ as a generator of change and happiness:

*Where consciousness-raising pointed to impersonal and collective structures — structures that capitalist and patriarchal ideology obscures — neoliberalism sees only individuals, choices and personal responsibility.*

The point — already familiar from the earlier example of waste disposal — is that consciousness-raising is not about the accumulation of knowledge, but about changing

the way we relate to the world in order to transform it. It is, therefore, a multi-nodal productive operation that creates, again in the words of Fisher, “a new subject — a we that is both the agent of struggle and what is struggled for.”

Something similar is argued in the article “Enmeshed in the Borders”, in which Rosie Hermon rejects cynicism and blanket refusal. She describes some online experiments in alternative arts education as examples of what she calls “para-institutional practice”, understood as forms of border dwelling within the ontology of the “pluriverse” drawn from the decolonial theory of Walter D. Mignolo:

*All of us on the planet have arrived at the end of the era of abstract, disembodied universals — of universal universality. Western universalism has the right to coexist in the pluriverse of meaning. Stripped of its pretended universality, Western cosmology would be one of many cosmologies, no longer the one that subsumes and regulates all the others.*

For Mignolo, the figure of the “border-dweller” occupies an uncertain social position and transcultural experience. The point is not to argue for an equivalence of the application of decolonial theory derived from South America to alternative arts education projects in the West but to establish the importance of working “beside and beyond” the institution as she puts it. Rather than refusal, the para-institution acknowledges and works with the tensions and compromises that exist in attempting to operate besides and beyond existing art world structures. Might we say the same for the univers(al)ity in all its contradictions (reminding us of the definition of the university as a place of universal knowledge)?

Academic conventions of knowledge production, even those commons-based, are clearly not immune. The metaphor of “double-blind peer review” is identified as a case in point by MELT (Loren Britton and Isabel Paehr), of the assumption of able-bodied- and mindedness. We quote from their article: “This academic ritual, amidst others, carries with it ableist assumptions of who is (not) part of academic production.” Their identification as trans\* and disabled researchers”opens up what they refer to as “trans\* and crip knowing-making” which “sets in motion transformative material-discursive processes”. The reference is to Aimi Hamraie and Kelly Fritsch’s “Crip Technoscience Manifesto”, quoted here:

*As disabled people engaged in disability community, activism, and scholarship, our collective experiences and histories have taught us that we are effective agents of world-building and -dismantling toward more socially just relations. The grounds for social justice and world-remaking, however, are frictioned; technologies, architectures, and infrastructures are often designed and implemented without committing to disability as a difference that matters.*

Drawing upon crip technoscience and trans\*feminism, their “Meltionary” (‘melting’ the idea of the dictionary as a place of authoritative knowledge) is introduced as a way to provide different materials, metaphors and rituals. Refusal is taken to be an important force in this respect, and as they put it, to drive wedges into structures that exclude. For example, they neatly describe an experiment to insert an ice wedge underneath a metal door frame to slow-down the process of its closing, and to question the binary logic of open or shut. Instead they propose

nonbinary structures through which the queerness of the universe can be expressed rather than foreclosed. We’d like to extend this queerness to the university and indeed structures for research. For instance, might we reimagine open access (like a doorway) in terms of its assumptions of time and space?

What do we want of refusal, or what does refusal want with us? Tuck and Wang, once more, provide a useful intervention:

*One way to think about refusal is how desire can be a framework, mode, and space for refusal. As a framework, desire is a counterlogic to the logics of settler colonialism. [...] As a mode of refusal, desire is a “no” and a “yes.”*

So how to operate both inside and outside the institutions of research without perpetuating their exclusions? How to conceive of individual and collective autonomy when contributing to an established festival, an institutionalized research workshop, or an academic publication (like this one)?

Such tricky questions are raised in the article “Nothing Re-fused” developed by Kelsey Brod, Katia Schwerzmann, Jordan Sjol, Alexander Strecker, and Kristen Tapson (aka Nothing Happening Here) in which they suggest the presence of a “neo institution”, “immune to refusal, while at the same time an expert in extracting labor, time, knowledge, and attention.” We as organizers of the workshop and its publications are implicated, of course, but it is worth pointing out that the participants responded in varying ways to this idea. In a survey instigated by Nothing Happening Here to recognise “our debts” to each other — and making reference to Fred Moten and Stefano Harney’s notion of “bad debt” where no repayment is possible — they ask “Do you feel you are in debt to transmediale (™)? If so, how?” Responses

varied from “No, also not even sure what it is as an entity” to “no. I am pissed that trans-mediale (as the foremost “hot” theory hub in germany) launches calls open to only highly trained researchers, demands a lot of work from them and doesn’t pay.” Such diverse answers — both yes and no — leave open the question of where the threshold lies that makes an institution the object of refusal or not. Indeed, we might even ask what constitutes an institution to even begin to formulate its refusal; institutional critique has wrestled with this paradox — at once, making visible the social, political, economic, and historical underpinnings of cultural production, and recognising that “criticality” is itself based on particular class, racial, sexual, gender subject positions — all the time prone to their own institutionalisation.

Our anonymised peer review process similarly identified the problem as irresolvable, and we quote extensively (because we like it so much):

*In general, I quite like this paper. It raises what are very real and difficult issues around the expectations placed around precarious academics to participate in collective / collegial aspects of academic research environments and settings despite living through conditions (contractual or otherwise) which undermine that being possible. And needless to say, when you have a condition that demands participation but undercuts the participation of many, that ends up reinforcing all kinds of hierarchies and creating barriers to access that would be much better dismantled, usually without intending to.*

*I like the idea of stitching in writing / thinking as a way to highlight the difficulties in the conditions of academic labor. In a way it reminds me*

*of Silvia Federici’s idea that the point of “Wages for Housework” was not to get wages for it per se, but to make the work visible, and thus to struggle over it. There could be some interesting thinking done here about various kinds of academic work that are not visible but are a key component of the social reproduction of collective thinking and academic labor.*

*Take for instance writing a peer review. Here it’s said that peer reviewing is included in the pay of those who have tenured / permanent jobs. Honestly, not really. Even there it’s work that it always assumed rather than rewarded in any meaningful way. A book like Kathleen Fitzpatrick’s *Planned Obsolescence: Publishing, Technology, and the Future of the Academy*.*

*Speaking from my own experience there are vast amounts of editorial labor that are never accounted for or rewarded by the university. For instance, at this point I’ve spent at least 16 years working in critical / autonomous publishing (including 12 years editing an open access book series with 40+ titles in it) — but this has never appeared in a single university workload allocation model or been rewarded by my university at all. So why continue doing it? Well, because I do have the privilege of having a relatively stable and secure job and thus I try to spend as much time as I can making space for others to inhabit and do things with as well, precisely because of how difficult conditions are. Does it always work? Definitely not, but I keep working at it. So there’s also a logic of unpaid labor where that unpaid nature of the labor is a potential (insofar as it’s less regulated, tracked*

*or managed), particularly when the unpaid labor is oriented to the social reproduction of other forms of being and thinking together.*

The institution that pays their wage is evidently only part of the problem, and we see some similarities with our own situation too as well as the degree to which waged labour relates to the production of value or not. Indeed we reflect on the alienation of academic labour and valorisation processes at the same time reproduce it through hours of extra work in preparing this journal this summer (when we'd rather be on holiday). Besides the question of how research (critique, writing, editing, and so on) should be rewarded or indebted — or, whether and when it is to be considered a collective action or an institutionalised one — the more general question is made clear of how to struggle over the valorisation of our work?

Nothing Happening Here, mindful of this enduring structuring of bad debt in the context of their participation in the research workshop and publication, provocatively state:

*You can catch us on the trash heap, but we are not refuse. We refuse to be treated like shit. This isn't a dump, it's a salvage yard. Join us, if you want.*

We like this a lot. There is an echo of the montage-work of Walter Benjamin and his appropriation of textual sources as the “rags, the trash”, the “ruins of commodity production” (citing “Thesis on the Philosophy of History”). How would we begin to repay the debt we owe these writers and contributors? We decide to refuse to pay back in established terms, and like Benjamin avoid the academic paywall of quotation. In contrast to traditional academic journal writing (and the conventions of peer review as gatekeeper of

quality), we cite freely and ignore our own recommended style guide for references. Benjamin, in refusing, and in being refused by academia, asked whether it was indeed possible to subvert cultural apparatuses from within? In *Das Passagen-Werk*, he explains:

*This work has to develop to the highest degree the art of citing without quotation marks. Its theory is intimately related to that of montage.*

We should perhaps begin this introduction again, and be more radical in form. But for now the politics of citation, and the various metrics that inform the reputation economy of academia, confirm the commodity-form at work, but we still don't know how to reject it from within its own confines? This is what many of the contributors of this journal have grappled with: how to “refuse research” from the ruins of its own production.

— Aarhus/London, Summer 2021

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**Marloes de Valk**

**REFUSING THE BURDEN  
OF COMPUTATION:  
EDGE COMPUTING AND  
SUSTAINABLE ICT**

**Abstract**

This paper asks what we can learn from edge computing about the commitment of Big Tech to diminish its ecological footprint. The text starts with the COVID-19 pandemic being framed as opportunity for more sustainability and unpacks edge computing as one of the elements proposed as a solution, next to working from home. It interrogates the discourse behind these solutions, one of technological fixes that allow ‘business as usual’ to continue, undisturbed by government regulations, outsourcing the burden of environmental responsibility to citizens. The paper draws parallels between edge computing, Big Tech’s approach to sustainability and the history of the Sustainable ICT discourse and proposes that to truly diminish ICT’s footprint, a refusal of the burden of computation and digital enclosure (vendor lock-in) is needed, by collectively building and financing network services.

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## Introduction

This paper asks what we can learn from edge computing, moving computation closer to the end-node in a network, about the commitment of Big Tech to diminish its ecological footprint. It is written as part of the workshop *Research Refusal* at Transmediale 2021/2022. The workshop focussed on how academic autonomy can be preserved in the context of capitalist tech development, in the present pandemic context of online delivery and the need for alternatives to corporate platforms. Inspired by the festival's mention of small acts of refusal residing in everyday practices and forms of resistance that allow a repair of collective infrastructures, I decided to start with the everyday practices I was now confronted with, back-to-back video calls, and unpack one seemingly small element of this to find out, as the workshop set out to discover, what might be refused, and in what ways.

My question about edge computing stems from a small incident this winter. I was invited to participate in an online event and was asked to use the organisations background image in the video conferencing software Zoom. I installed Zoom on Linux and tried to make the background image work, but failed. While Linux runs neatly on my old hardware, the Zoom documentation page about Virtual backgrounds taught me my processor is too old. Video conferencing tools handle background image calculations on the client-side, to reduce network traffic and latency. My laptop can hardly handle video conferencing without augmentation, client-side calculations were well out of its league. Using hardware as long as possible is the simplest way to reduce the environmental impact of technology, the second easiest way is to not be wasteful with CPU cycles, which is why I decided to refuse the

upgrade-or-die mandate and participated in the event with a messy office as backdrop.

This paper starts with a small act of refusal, rejecting heavy client-side computation, edge computing, during video conferencing calls, and ends with a refusal of vendor lock-in, a form of digital enclosure. It places this relatively recent development in network infrastructure in the context of our current ecological crisis, manifesting itself as climate change, a loss of biodiversity known as the 6<sup>th</sup> extinction and of course the COVID-19 pandemic. It asks what we can learn from edge computing about the commitment of Big Tech to diminish its ecological footprint by first diving into edge computing itself: what is it, why is it needed and what are its ecological consequences? The second part of the text compares this to the tech industry's green promises. To find out if the tech industry's interpretation of sustainability matches larger societal trends, the text reviews the history of Sustainable ICT discourse. I will finish with a refusal to believe in the fairy tale of self-regulation, combined with a refusal of digital enclosure, the burden of computation and individual responsibility for systemic problems.

## Edge computing

The Corona pandemic makes current unsustainable practices painfully clear. According to the 2020 UN Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES) *Workshop Report on Biodiversity and Pandemics* (2-3) the exponential rise in consumption and trade in commodities such as meat, palm oil and metals, largely by developed nations, is one of the main drivers of the destruction of biodiversity, which in turn is the main trigger to a new era of pandemics. The main cause of climate

change, the destruction of biodiversity, this and future pandemics, are one and the same: overconsumption by the Global North. The report is not afraid to criticise current pandemic strategies, only responding after a new disease appears instead of preventing its emergence. It speaks of the inequality between the Global North and South: “[p]andemics are driven largely by unsustainable consumption of richer developed and emerging countries, but their impacts are particularly felt by the Indigenous Peoples, and those living in poverty who cannot afford to avoid work to social distance” (40) but because of its focus on overconsumption, it places the blame with consumers, not producers, and avoids the larger political question about what drives this overconsumption and inequality. Even though the report mentions that the reduced oil consumption due to the lockdowns are likely temporary and insignificant in the long term, it seems some businesses still frame the pandemic as an opportunity for sustainability.

A lockdown meant working from home when possible, drastically decreasing air and car travel. Remote work became the emblem of sustainable working: less travelling meant less CO<sup>2</sup>, nitrogen oxide, carbon monoxide, and other polluting emissions. This temporary clearing of the air was made possible by the uptake of video conferencing and the goodwill of all those subjected to it. Platforms such as Microsoft Teams, Skype, Zoom and Google Meet embraced the explosion in demand. Overall Internet traffic volume increased with 15–20%, applications for remote working and education even saw increases beyond 200%. During the first lockdown, while network service providers were still busy upgrading the capacity of network bottlenecks, glitchy video streams and malfunctioning educational platforms were of the order of the day. Overall Internet infrastructure was able to handle the rapid



Figure 1: A 1965 Keep America Beautiful advertisement featuring Suzy Spotless saying: “Daddy, you forgot... every litter bit hurts!”; Keep America Beautiful, Inc. and Advertising Council. Photograph. *The American City*, January 1965, Ebay, <https://i.ebayimg.com/images/i/352723715470-0-1/s-11000.jpg>.

increase well though, due to its distributed nature (Feldmann et al. 13).

Video conferencing platforms reduce network traffic and latency by offloading certain computational tasks to the client, or a node close to them. These client-side calculations are called ‘edge computing’. The edge is the entry point to, or endpoint of, the network, depending on your perspective. On the edge are smartphones, laptops, PCs and a rapidly growing mountain of Internet of Things (IoT) devices, such as coffeemakers, smart city surveillance equipment and self-driving cars. Video conferencing software makes use of edge computing for the calculation of the background image, and blur, some platforms allow users to set. While a user is

streaming video and moving about in front of their camera, their computer is continuously calculating which pixels are background and which are foreground, in order to replace the background with an image of the user's choosing. Performing these calculations in the cloud would be too slow, and the extra data transmitted would congest the network at the point where it has the smallest capacity: the last mile.

It is an industry trend to shift network bottlenecks into local computational tasks. It is not a new method, it started in the 90s with the advent of Content Delivery Networks (CDN) for a faster distribution of video to end users. Today data storage and computational tasks are both offloaded to, or close to, the edge node in order to improve latency and reduce network traffic. It is particularly helpful for tasks that require fast processing speed, such as video conference backgrounds, facial recognition and augmented reality, but also for bandwidth heavy applications such as cloud gaming and the growing pile of smart objects on the edge of networks, that are constantly phoning home to corporate servers generating massive amounts of data to be processed, real-time data generated by sensors and users, with zero tolerance for latency. After all these years of centralisation through Software as a Service and cloud storage, when software and data were moved from personal computers or small office servers onto centralised, corporate servers many hops away, some of that is once again decentralised, but not without a tight, centralised grip on the top layer, which remains in the stronghold of the network's core data centres.

This decentralisation is of a very particular kind and is connected to the rolling out of several new infrastructures. Edge computing is often combined with Machine Learning (ML) because the massive amount of multimodal data (i.e., video and audio) that

is constantly being sensed by IoT devices, needs the rapid processing that ML can provide (Zhou et al. 1742-1743). Not only is ML very resource intensive, it requires edge devices to be equipped with some form of AI accelerator. This has two consequences: an increase in electricity consumption and an explosion of newly produced devices, and consequently e-waste, because older end-node devices aren't compatible with services using ML. In certain IoT settings, edge computing means micro data centres are required in between end-nodes and data centres, to decrease latency for devices that are too resource constrained to perform heavy computation on large datasets themselves. These 'data centres in a box', similar to the previous example, mean another increase in electricity consumption and newly produced hardware.

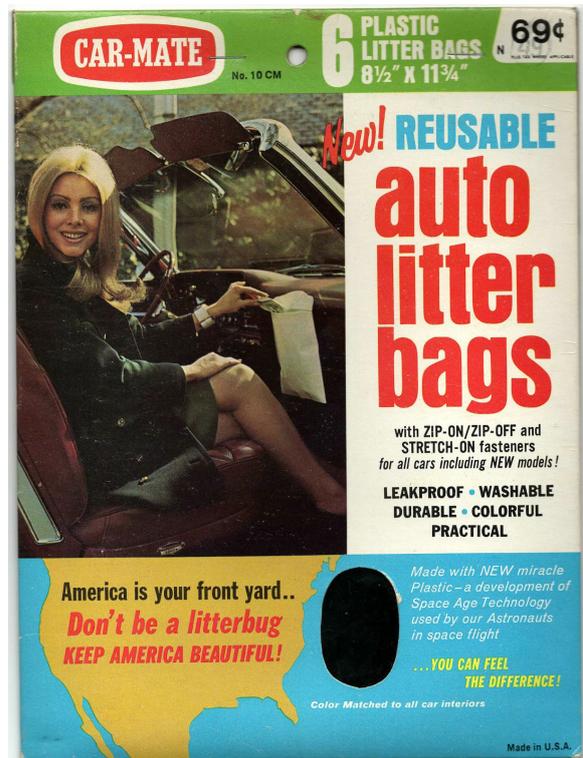


Figure 2: A photo of CAR-MATE plastic litter bags, meant to stop plastic littering, with slogans from the Keep America Beautiful campaign; Otto, Chris. May 27 2018, *Papergreat*, <http://www.papergreat.com/2019/05/keeping-america-beautiful-with-new.html>

The rolling out of 5G cellular networks is also linked to this development. At the moment of writing, it is mostly targeted at mobile broadband for handheld devices, which roughly translates to watching videos or playing games while on the road. It offers the transfer speed needed for businesses to use edge computing, without needing to rethink their centralized core infrastructure. 5G is also rolled out to accommodate the growing IoT, even though this is based on predictions rather than current needs. As mentioned earlier, the enormous amount of devices constantly communicating to servers require more bandwidth. A self-driving car for example, requires edge computing to decide to hit the brakes on time, and with industry's plans to have an increasing number of them on the road, high bandwidth is needed for the communication of more latency tolerant data to the cloud. As more and more mobile devices are coming online, mobile bandwidth needs to keep up with this development. 5G is notoriously energy inefficient though. According to Earl McCune, professor in the Electronic Circuits and Architectures group at TU Delft, 2G had an energy efficiency of 60%, "For 5G, the efficiency will be only 10%, meaning that [for every 10 watts] nine watts will be turned into heat" (Engelsman).

In the case of video conferencing, edge computing means non-optimized hardware is doing the heavy lifting, which is not energy efficient. Something most users notice when their computers start to heat up and their fan starts making noise in an attempt to stay cool, in the worst cases failing and shutting down. In a nutshell, a user's phone and computer are performing computational tasks for Microsoft, Google, Zoom and others. Users are paying for the electricity and have to update their hardware if they want to make use of the services offered. Next to people assuming the cost for this increase in electricity use and hardware, there is the massive

environmental impact these increases bring. Still these developments are described as part of an increase in sustainability, because they lower energy consumption at the core of the network, in data centres, completely ignoring the overall increase in energy use and hardware production required to roll out these services at the edge. Does corporate sustainability mean outsourcing the burden of computation to others?

## Sustainable Big Tech?

To assess the commitment of Big Tech to reduce their environmental impact, I'd like to briefly review the promises that are made. The overall argument against Google, Microsoft, Amazon and other cloud service providers being 'green' is of course that their business model is based on growth and stimulating consumption and thereby production, something mentioned at the start of the paper as the main cause of our current ecological crisis. But even if forgetting this argument for a moment, the business practices powering the business model are worth having a closer look at. I will briefly review Google's sustainability promises and practices to unpack in concrete terms what their sustainable promises are based on. I will focus on Google because it is claiming to be the cleanest cloud in the industry, so if there are plot holes in its sustainability narrative besides the gaping one of being in the advertising business, it doesn't bode well for those clouds of a lesser green.

Google's most pertinent claims are two-fold: operating 100% on renewable energy ("Google Environmental Report 2020" 3) and wanting to "disrupt the waste economy" by maximising product use and reuse ("A Circular Google" 2). The renewable energy claim is truthful depending on how you

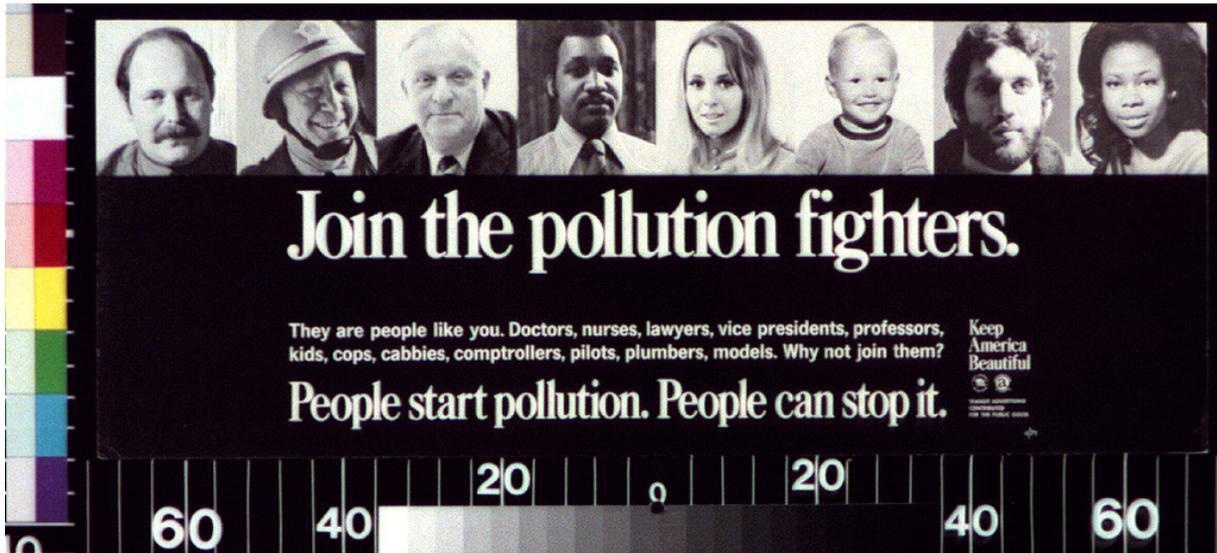


Figure 3: A 1971 Public Service Announcement by Keep America Beautiful, emphasizing individual guilt and responsibility; Keep America Beautiful, Inc. and Advertising Council. *Join the Pollution Fighters*. Library of Congress, 1971, [www.loc.gov/item/2016649872/](http://www.loc.gov/item/2016649872/).

define the scope of a company's operation. Besides, whether the way Google acquires its renewable energy is of benefit to society is also questionable. Google powers its data centres and offices with renewable energy, but stopped its own renewable energy R&D project RE<C in 2011 because "RE<C would not be able to deliver a technology that could compete economically with coal" (Koningstein and Fork). Only four years after its launch November 2007, Google researchers came to the conclusion that more disruptive energy innovations were needed in order to stop climate change, which would require more investments into R&D, but from others, not from Google. If a corporation with a 2020 revenue of 181.69 billion dollar cannot invest, who can?

Today Google places its data centres in the vicinity of, for instance, a windfarm and purchases its energy there. In Eemshaven, the Netherlands, Google constructed a hyperscale data centre and made a deal with a local energy provider to purchase all

of the energy produced by a local windfarm. Microsoft did something similar when building a datacenter in Hollands Kroon, purchasing all energy produced by a local windfarm for 10 years. According to the provider, Nuon, the energy could power 370.000 households. These windfarms have received subsidies by the Dutch government with the goal of achieving green energy and emission targets, but because they end up solely covering the energy demand of newly constructed data centres, representing additional instead of existing energy use, no progress is made and taxpayers are indirectly sponsoring Google's green public image.

In Ireland, another popular destination for the construction of new data centres, Eirgrid reports that by 2027, electricity demand from data centres will have risen to 31% of total demand, with the expansion and development of Ireland's public transmission network being shaped by the intensive energy demands of data centres, aided by state legislation and planning (Bresnihan and Brody). In the Netherlands the energy providers cannot keep up with the demand for renewable energy by data centres. To accommodate the data centres, the Dutch government, together with energy providers and market parties, propose using the

national climate agreement to change the legal framework to shorten the time to realise a new connection to the grid (Weerwind, Frank and Steenbakkers 23). The energy demands of data centres is not only accepted as a given, rules are bend, laws are adjusted, just to accommodate them, whereas citizens are expected to pay their taxes and install smart meters in their homes to lower their energy use.

Next to the gobbling up of subsidised renewable energy projects, the 100% carbon neutral claim only covers Google's data centres and offices, not the energy use caused by their products as soon as the data packets have left the data centre (Lin et. al.). Google has built 21 hyperscale data centres around the globe, but in order to bring data closer to high traffic areas, it uses smaller Edge Points of Presence (PoP) data centres. For popular, high-bandwidth content such as video, the latency would still be too much, so even smaller data centres, the Google Global Cache, making use of third-party Content Delivery Networks (CDN), hosts content that is in high demand. PoP's and CDN's aren't owned by Google, they only host its equipment, and aren't covered by the carbon neutrality claim, which only concerns networking infrastructure under Google's direct operational control, as can be learned from an Ernst & Young accountants' review report from 2019 (2). Google's sustainability report (80) mentions only business travel and employee commuting are compensated in the GHG protocol scope 3 category of down- and upstream emissions. From the 12,529,953 tCO<sub>2</sub>e total 2019 emissions it is unclear what Google has included in the scope 3 "other" emissions, since these have not been independently reviewed. The main point is that even based on Google's own, unreviewed reporting, only 46% of total emissions were reduced and neutralised (ibid.).

The previous assessment is based on Google's own reporting. Independent research has varying outcomes, none as optimistic as Google's carbon neutral claims. According to a 2016 study, a life-cycle assessment of YouTube's delivery and viewing, Google only compensates between 1% and 5% of total YouTube energy use (Preist et al. 8). A more general study on ICT's energy use from 2017 estimated data centres to account for 45% of total ICT energy use (Belkhir and Elmeligi 457). The difference between the two studies can be explained by the fact that the latter also takes energy use in the production phase of a computer or server into account, which boosts the percentage of data centres, filled to the brim with regularly renewed hardware. Besides, YouTube is serving content using a lot of bandwidth and caches popular video material at CDNs which makes it much heavier on third party network infrastructure. In either case, whether its 2% or 45%, independent reports conclude Google's services are nowhere close to being powered by 100% renewable energy.

The public's perception of Google as a green company is very important to its brand value. In a 2020 report by Alphabet for the Carbon Disclosure Project (CDP) the loss of this perception is mentioned as the second risk climate change indirectly poses to Google, potentially resulting in decreased revenues due to reduced demand for products and services (9). Google deems this risk "about as likely as not" to materialise. The third risk mentioned, is a change in customer behaviour due to changes in socio-economic conditions (10). If climate change results in people living in more precarious conditions, they will buy less and advertisers will stop using their services. Google optimistically deems this risk "unlikely" to materialise. The report also includes opportunities that climate change might bring. One opportunity that Google deems "virtually certain" is that their



Figure 4: A 1971 Public Service Announcement by Keep America Beautiful, showing the face of American actor Espera Oscar de Corti, of Italian descent, portraying a weeping Native American; Keep America Beautiful, Inc. and Advertising Council. 1971, *Milwaukee Sentinel*, <http://archive.jsonline.com/entertainment/books/creators-of-smokey-the-bear-mcgruff-explored-in-new-book-b9992362z1-223654631.html>

investment in Google Earth and other products associated with sustainability, will result in increased brand loyalty and an associated increase in revenue. Another opportunity, rated “very likely” to materialise is Google’s returns on investment in downstream low-emission technology (16). The return on investment is confidential but Google hopes to profit while generating just enough energy to manufacture Google consumer products in the near future. Nowhere in the report is it mentioned that overconsumption, stimulated through advertisement (which makes up 84% of Google’s revenue), is one of the key drivers of environmental collapse. Google is itself a risk factor to climate change, but as long as it can maintain its green reputation, it can profit from its sustainable image and increased demand for renewable energy. Google is not a risk to its own bottom line, not until consumer capitalism crumbles under the pressures of climate disaster.

The second claim I’d like to briefly examine is Google’s promise to “disrupt the waste economy” by maximising use and reuse of products (“A Circular Google” 2). According to an anonymous source, this reuse consists mainly of reusing metal rack cabinets. The convenient switch from percentages to units in their overview of waste diversion from their 2020 Environmental Report supports this suggestion (75). The ‘landfill diversion rate’ from the same report concerns “waste diverted to a more sustainable pathway than landfill or incineration without energy recovery” (“Google Environmental Report 2020” 75), meaning in 2020 90% of data centre waste could still have been incinerated, albeit with energy recovery. That same year, only 19% of components used for machine upgrades were refurbished inventory and while the report mentions 9.9 million components having been resold into the secondary market that year, there is no mention of a percentage, so I can only guess that my anonymous source could very well be right. Last but not least, Google uses custom hardware for all their servers and consumer products, meaning it cannot be reused by third parties. An example is their edge TPU, a custom build integrated circuit to run accelerated ML at

the edge. Their statement about needing to disrupt the waste economy is only a promise at best.

To conclude, even the greenest cloud in the industry is not that green, and is mostly concerned with a sustainable appearance as competitive edge, not with becoming a truly sustainable business. Changing appearances while maintaining the existing polluting and damaging practices is the hallmark of greenwashing. The 2020 Greenpeace report *Oil in the Cloud: How Tech Companies are Helping Big Oil Profit from Climate Destruction* captures this nicely by outlining how Google, Microsoft and Amazon all have connections to some of the world's dirtiest oil companies for the explicit purpose of getting more oil and gas out of the ground and onto the market faster and cheaper. All three companies are aware of how this looks and have updated their websites to target the energy, rather than oil and gas sector. In May 2020 Google announced to no longer take on new contracts but will continue to work with existing ones: Chevron, Total, Schlumberger and Cognite + Aker BP. Amazon and Microsoft have made no such promises and while announcing optimistic carbon neutral, or even carbon negative goals, continue to make it easier for oil companies to find and produce oil. Is this approach to sustainability unique to Google, or part of a larger trend?

## Sustainable ICT

Green ICT is the practice of environmentally sustainable computing. It is a broad and rather vague term that includes any practice reducing the impact of ICT in the production-, use- and end of life phase, as well as reducing the use of hazardous materials, repairability, and the recyclability or biodegradability of e-waste. It also encompasses the use of

ICT to make other sectors more sustainable. ICT, ethics and sustainability researchers Lennerfors, Fors and van Rooijen distinguish three historical phases in the development of Green ICT discourse: Green Computing, Green IT and Sustainable ICT (765). In order to understand current practices, it is important to briefly look at the history of this discourse based on the study of Lennerfors et al. The first phase, Green Computing, started the same year as the UN earth summit in Rio de Janeiro, in 1992, with the voluntary Energy Star labelling programme of the US Environmental Protection Agency. This phase focused on the sustainability of the ICT devices themselves, such as reducing the energy use of CRT monitors. The second phase, Green IT, kicked off in 2007 when the Gartner Institute released a white paper stating ICT used 2% of the UK's total energy consumption, about as much as the aviation industry (Mingay). A year earlier, Al Gore published his influential book *An Inconvenient Truth*. Next to that, the Kyoto Protocol, ratified by 192 parties in 1997, had set greenhouse gas emission goals with a commitment period starting in 2008. All these events led to increased public pressure on the tech industry to lower their environmental impact, leading to a wide adoption of Green IT practices. This phase is characterised by a shift in focus: ICT is no longer seen as the problem, but is promoted as part of the solution. Unsurprisingly this phase is not developed by environmental protection agencies, but by industry.

The reasoning behind the approach was that diminishing the impact of ICT itself would only have a small impact, whereas using ICT to make other sectors more sustainable was thought to have a major impact (Lennerfors et al. 213). This "greening by IT" instead of "greening of IT" would consist of providing 'smart' solutions such as route planning, web meetings, virtualisation of servers



**Figure 5: The Saucony and Keep America Beautiful Cleanup Run; Keep America Beautiful, Inc. June 2018, *Keep America Beautiful*, <https://kab.org/keep-america-beautiful-plogs-with-saucony/>**

and ‘dematerialization’. The third phase, Sustainable ICT, shifts its focus even more, emphasising the potential of ICT to not only improve sustainability, but also economic and societal issues in the countries that can afford this (ibid.). In practice this means other countries are burdened with the environmental footprint that the production of such ICT involves. There is no real distinction between Sustainable ICT and regular ICT practices. Green ICT can therefore be described as a business strategy used to gain a competitive advantage and its description matches Google, Amazon and Microsoft’s ‘sustainability’ practices perfectly.

Green IT and sustainable ICT translate lowering the footprint of ICT to lowering the electricity bill and nothing more. As the 2009 Global Action Plan *Green ICT Handbook* reads “BEING SUSTAINABLE SAVES MONEY (nothing is greener than the dollar!)” (5). The report mentions that in 2008, wholesale energy prices increased by over

60% compared to the previous year, concluding “there are real savings to be made and quick wins to be had”. A similar reading of business practices related to Green IT is discussed by Majima et al. in *Green IT Did Not Take Place*. The authors describe how Japanese businesses approached Green IT as the rebranding of power saving strategies they were already practising (89). Fors and Lennerfors analyse the case of a Swedish IT company that, right after the mid 1970’s oil crisis, build a heat recovery system into their 1978 data centre to save money. The company started to reinterpret its past at the moment Green IT started trending, reimagining their heat recovery system as Green IT. This reinterpretation of economic motives led to a rapid transition from regular business to sustainability leader (13). There is of course nothing wrong with reducing emissions while saving money, except if this means nothing else is done to make a business more sustainable and if efforts are only made when energy prices rise, such as in 2008. Or worse, if this means sustainability efforts are dropped as soon as energy prices drop. Amazon for example, finally committed to a



**Figure 6:** The start of the 2020 Trash Dash, a plogging fun run; Keep America Beautiful, Inc., 2020, *Keep America Beautiful*, <https://kab.org/kab-events/trashdash/event/>

100% renewable energy goal in late 2014 under public pressure. Yet, since then, it has expanded its data centre operations, but stopped all renewable energy investments after the 2016 wholesale electricity price dropped (Cook and Jardim 4).

It is beyond the scope of this paper to perform an in-depth analysis of green or 'natural' capitalism, but some relevant parallels between Sustainable ICT and green capitalism can be drawn. Natural capitalism, as coined by Paul Hawken, Amory and Hunter Lovins in 1999, aims at resolving the ecological crisis by 'fixing' industrial capitalism by internalising externalities: incorporating 'natural capital' and pollution into the cost of commodities, rendering ecological responsibility profitable. Nature becomes part of capital, so climate change can now be approached as an accounting problem. In

both Sustainable ICT and natural capitalism, businesses are shaping the discourse and both obscure the relationships between climate change, endless economic growth and overconsumption. Both do not challenge the unsustainable 'business as usual' of capitalism, on the contrary, both view the ecological crisis as a market failure, and capitalism's market system as the best and quickest way to deal with the crisis, a technical problem with many profitable solutions (Klein 210, Wright and Nyberg 113). Self-regulation and voluntary reporting, such as the Carbon Disclosure Project, are supposed to make sure no slow political processes stand in the way of efficient environmental action and, win-win, profits. Both seem to be targeted at convincing policy makers as well as the public that no government regulations are needed to stave off climate change. The market has got us covered. Better still, the process is democratised because not only is ecological responsibility now shared with the consumer, who can excise their power by consuming

ethical products, instead of consuming less; citizens indirectly subsidise the renewable energy of corporations through government subsidies and corporations shift more and more of their computation (and offices) away from their own data centres (and offices), to those on the edge of networks.

## Conclusion

It seems I am living on the edge – edge working, edge computing, both promising a lower carbon footprint. On closer inspection it only lowers corporations' footprint, overall energy use increases. First, I was told that the cloud was more green, because it is powered by renewable energy, and far more efficient than my old hardware. Software as a Service has made many people move their software and data from personal computers to the cloud, now caught in a digital enclosure, locked in. When I'm in a video conference and my laptop is sucking dry the power grid to be able to keep up with the conversation, I'm being told it's more efficient to use edge computing because it lessens network traffic. Infrastructural sprawl increases and total energy consumption is going up either way. My energy provider installed a smart meter so I can gain insight into my usage and thus magically become more energy efficient. Climate change became my responsibility. Perhaps the smartness of the meter is its ability to distract from the urgent need to switch to renewable energy (Gabrys, 3-18)? It's yet another device on the edge of the network, consuming resources well before and after its use-phase, near future e-waste, increasing the need for bandwidth, increasing power consumption and the need to roll out more network infrastructure. Solving the problems caused by technology with technology, is that the circular economy?

Edge computing and working from home are no solution to environmental collapse, it simply shifts responsibility away from those corporations with the largest footprint. This shifting of responsibility away from corporations is an old strategy. It privatizes and centralizes (often once public) services, while outsourcing costs and responsibilities of care and maintenance. On a larger scale, it's classic capitalist extraction of value through the exploitation of free labour and resources, and in the context of this paper, it is also greenwashing. The oldest and most marked example I could find is the Keep America Beautiful campaign, started in the 1950s by the disposable packaging industry in response to an attempt at introducing legislation to reduce waste. Disposable plastic packaging became more widely used at the same time as the rolling out of the US Interstate Highways System, resulting in a growing amount of roadside garbage. The campaign consisted of the launch of the concept of littering. Instead of attacking the problem of plastic waste by stopping the production of disposable packaging, the campaign placed the responsibility with consumers. "People start pollution. People can stop it." The campaign still exists. It's website states: "[c]reating a country where every community is a clean, green and beautiful place to live starts with people taking individual responsibility and collective action". Among the sponsors are many companies responsible for disposable plastic packaging and pollution – such as Pepsico, Dow Chemical Company, MacDonalds, Mars Wrigley and UPS – and their trade associations – the Plastics Industry Association, the International Bottled Water Association, the National Association of Convenience Stores and the American Chemistry Council. After 68 years of success, the campaign is still going, as seen in the images accompanying this paper. The strategy has become widely



Figure 7: A group of enthusiastic Keep America Beautiful volunteers during a 2021 cleanup; Nelson, Ben, Cleanup group for Keep America Beautiful, 2021, Wikimedia, [https://commons.wikimedia.org/wiki/File:Keep\\_America\\_Beautiful\\_Cleanup\\_Team.jpg](https://commons.wikimedia.org/wiki/File:Keep_America_Beautiful_Cleanup_Team.jpg).

used. We are still reaping the rewards, picking up after ourselves, updating our hardware, lowering the thermostat, hiding our messy office behind a virtual background.

Edge computing is promising endless streams of low latency game play and video streaming. It is promising to be useful for managing renewable energy, to be more energy efficient than data centres at the core and to reduce network traffic. On closer inspection, it is yet another example of capitalism profiting from the problems it creates, of neoliberal doctrine outsourcing burdens while privatizing once public, keeping centralised control over (once or again) decentralised infrastructures. Since the start of the pandemic the tech industry has seized the opportunity to profit from disaster and followed Airbnb into people's homes. Web 2.0 introduced a business strategy that, by giving access to the means of production of content, could gain ownership over and generate profit from the product (Carr). While edge computing and remote working, users have to also pay for access to and buy elements of the means of production, through

the costs of electricity, hardware, heating and housing. As Jodi Dean puts it: "personal property becomes an instrument for the capital and data accumulation of the lords of platform". An escape is not easily imagined nor realised, as most people find themselves locked into Big Tech's platforms, relying on them for their livelihoods and social lives.

Can we still get rid of the almighty lords that have wedged themselves in between us and our work, between us and those we want to communicate with? Dean points out that current leftist dreams of small communities creating local commons, with a snarky mention of artisanal cheese, are in some sense elite. These dreams can only be realised by the few, are culturally specific and their localism expresses tendencies to, rather than resistance against, neofeudalism (ibid.). A refusal of the silent creep of appropriation of personal property through the imagining and building of communal, more sustainable computational infrastructures, however small, is a meaningful, although not unproblematic, form of resistance though. The free labour currently involved in small scale alternatives

is unsustainable, only a true valuing of this work, both in financial as well as ethical terms is needed. Parallel to this refusal of digital enclosure, a refusal of individual responsibility for systemic problems such as climate change, is essential: holding those who lead harmful industries, and those governments aiding them, responsible through a demand for regulation. Rather than an escapist retreat, nourishing, alternative networks re-imagine the infrastructures we depend on for organising collective action and refuse to put these in the hands of the lords of platform.

## Future research

This paper is part of a larger interrogation of the links between Green Capitalism, Sustainable ICT and small-scale community practices, enmeshed with but trying to 'delink' from tech giants' monopolized infrastructures, motivated by ecological ethics. An initial lexicon of terminology associated with these practices is unpacked in the paper "A pluriverse of local worlds: a review of Computing within Limits related terminology and practices" (de Valk). Future research will expand this longitudinal review and in collaboration with The Photographers' Gallery will explore the diverse philosophies informing these practices.

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**Gabriel Pereira**

**TOWARDS REFUSING AS  
A CRITICAL TECHNICAL  
PRACTICE:  
STRUGGLING WITH  
HEGEMONIC COMPUTER  
VISION**

**Abstract**

Computer Vision (CV) algorithms are overwhelmingly presented as efficient, impartial, and desirable further developments of datafication and automation. In reality, hegemonic CV is a particular way of seeing that operates under the goal of identifying and naming, classifying and quantifying, and generally organizing the visual world to support surveillance, be it military or commercial. This paradigm of Computer Vision forms a ‘common sense’ that is difficult to break from, and thus requires radical forms of antagonism. The goal of this article is to sketch how refusing CV can be part of a counter-hegemonic practice – be it the refusal to work or other, more creative, responses. The article begins by defining hegemonic CV, the ‘common sense’ that frames machine seeing as neutral and impartial, while ignoring its wide application for surveillance. Then, it discusses the emergent notion of refusal, and why critical technical practice can be a useful framework for questioning hegemonic sociotechnical systems. Finally, several potential paths for refusing hegemonic CV are outlined by engaging with different layers of the systems’ ‘stack.’

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The computer scientist Joseph Redmon, creator of the widely-used Computer Vision library YOLO, announced in 2020 he would no longer be developing the algorithm he created. The reason for this is made clear in a paper he co-wrote on the new features of YOLO:

*But maybe a better question is: “What are we going to do with these detectors [Computer Vision algorithms] now that we have them?” A lot of the people doing this research are at Google and Facebook. I guess at least we know the technology is in good hands and definitely won’t be used to harvest your personal information and sell it to... wait, you’re saying that’s exactly what it will be used for?? Oh. Well the other people heavily funding vision research are the military and they’ve never done anything horrible like killing lots of people with new technology oh wait....*  
(Redmon and Farhadi 4)

This humorous – yet critical – paragraph is crowned by a footnote, which states: “The author is funded by the Office of Naval Research and Google.” Redmon’s refusal to continue his work with Computer Vision (CV) – algorithms of image analysis and recognition – builds upon his realization of the contribution he makes, as a computer scientist, to algorithms of oppression (see Noble; Ochigame) and their nefarious impacts in society (e.g. consumer surveillance, drone attacks, tracking of migrants by governments). Rather than trying to reform the system from the inside or find technical fixes to these problems, Redmon decided to refuse, to deny his labor as part of developing such technology.[1]

Redmon’s refusal throws a wrench in the system, breaking from the hegemonic presentation of CV (and AI) as a way

of making everything better, faster, and more innovative. The techno-utopian and techno-solutionist discourse on CV pushed by Silicon Valley companies and other tech/government entities presents these technologies as efficient, impartial, and desirable further developments of datafication and automation. In reality, CV operates under the goal of identifying and naming, classifying and quantifying, and generally organizing the visual world to support surveillance, be it military or commercial. This hegemonic paradigm of Computer Vision forms a “common sense” (Gramsci) that is difficult to break from, and thus requires radical forms of antagonism, refusal, and resistance.

My goal in this article is to sketch a scenario of refusing as a reaction to hegemonic CV, in order to help readers engage in their own practices of antagonism – be it the refusal to work as shown by Redmon or other, more creative, responses. I particularly engage with the notion of refusing because, as seen in Redmon’s example, it shifts the discussion away from a reform of technical character and towards a more radical counterhegemonic practice. Towards this goal, I begin by briefly defining what I understand as hegemonic CV, the ‘common sense’ that frames machine seeing as neutral and impartial, while ignoring its wide application for surveillance. Afterwards, I discuss the notion of refusal, and why I think critical technical practice serves as a useful framework for questioning hegemonic sociotechnical systems. Finally, I outline several paths for refusing hegemonic CV by engaging with different layers of its stack. These potential resistance acts, as I show, can take shape in varied forms – artistic projects, activist initiatives, and community organizing can all offer counterhegemonic pathways for CV.

## **Hegemonic CV: The limited ways of seeing of surveillance, advertisement, and the military**

Who makes Computer Vision algorithms? How are they being trained to see? What is made visible through these algorithmic ways of seeing, and what is otherwise ignored? The answer to these and many other questions points to the often-ignored sociotechnical complexity involved in the widespread adoption of CV. As they get implemented in smart cameras or automated cars, these algorithms carry within them not the capacity to 'see,' but that of making judgements over what in the visual world should be seen and how.

CV's algorithmic power emerges from how, through their affordances and materiality, it defines what is made understandable, datafied, visible. In this sense, Matteo Pasquinelli and Vladan Joler compare algorithms to lenses: "Instruments of measurement and perception always come with inbuilt aberrations. In the same way that the lenses of microscopes and telescopes are never perfectly curvilinear and smooth, the logical lenses of machine learning embody faults and biases" (2). This is much similar to Amoore's framing of algorithms as "aperture instruments," thus suggesting that it is through "the processes of feature extraction, reduction, and condensation" that "algorithms generate what is of interest in the data environment" (16). These analogies to other instruments of perception are useful because they help understand contemporary CV as one possible lens, with many other possibilities. Algorithmic models are always imperfect and biased towards something – as Amoore puts it, they're "always already partial accounts" (20).

The particular lens of the hegemonic Computer Vision today is made of many ideological decisions over how the visual world should be understood and processed, including the ontology and epistemology that should be used in this process (see Azar et al.). What I call hegemonic CV is the dominant paradigm of automated ways of seeing, directly connected to surveillance, both military and commercial (e.g. automated military drones and biased proctoring systems). This paradigm is not directly stated or enforced, operating through consent and culture rather than force. Much as described by Gramsci, and later extended by Laclau and Mouffe, hegemonic ideological formations are produced and negotiated as the outcome of constant struggles for power, emerging from a wider cultural/social history. What's crucial is that they get sedimented as a "common sense" (Gramsci),[2] an "accumulation of taken-for-granted 'knowledge'" (Crehan 43). These collections of beliefs and ideas are "not a single unique conception, identical in time and space," (Gramsci 343) but fragmentary and contradictory, "a product of history and a part of the historical process" (327). Ultimately, 'common sense' makes it difficult to imagine alternative lenses to see the world: as hegemonic CV further entrenches itself in our lives, our human ways of seeing and wider societal processes are changed (see Cox).

CV is just one of the many data capitalist/colonialist algorithmic operations through which value is extracted from appropriating people's data, be it their face, their pictures, or other visual material (Coudry and Mejias). The main imperatives of 'smart technologies' such as hegemonic CV is extracting more data from all sources possible, while also "creating systems that monitor, manage, and manipulate the world and people" (Sadowski 9). In Sarah Myers West's words, this operation is marked by a change in power relations:

“Access to data, and the ability to transform raw data into useful information, is asymmetrical, and power lies in the institutions with the technical and economic resources to render it intelligible” (37). Hegemonic CV is based on these structural conditions and built upon their limitations, thus operating in order to meaningfully limit who gets to see and who is seen – making itself into a crucial site of centralized and unequal surveillance and data extraction.

Hegemonic CV intentionally focuses on efficiency and scalability, diverging attention from its unequal power structures and the many problems involved in its limited perception of the visual world. Hegemonic CV presents itself as objective, hiding its deep commitments to military and surveillant ways of seeing formed by Western, white, and capitalist frames (Silva; Silva et al.; Buolamwini and Gebru; Mirzoeff; Pereira and Moreschi). As scholars have demonstrated time and again, supporting these structural inequalities are, among other issues, exploitative labor practices (Tubaro et al.; Irani “The Cultural Work of Microwork”) and problematic data sets (Thylstrup; Harvey and LaPlace; Prabhu and Birhane; Crawford and Paglen). Furthermore, there are many intended and unintended, known and unknown, consequences of Computer Vision, which are mostly ignored in exchange for rapid deployment and profit (McCosker and Wilken).

Despite the many ways CV could have been formed, my argument is that a ‘common sense’ has emerged that frames CV in a particular way that’s not just, equitable, and reflexive. As Markham describes, hegemonic algorithmic imaginaries perform a “discursive closure,” cutting off alternatives that seek to work in a different way (3). Understanding the existence of a hegemonic CV allows to better think about possible oppositions, resistances, and alternatives to its outsized hegemony.

As described by Raymond Williams,

*It can be persuasively argued that all or nearly all initiatives and contributions, even when they take on manifestly alternative or oppositional forms, are in practice tied to the hegemonic: that the dominant culture, so to say, at once produces and limits its own forms of counter-culture. (114)*

The conceptualization of hegemony enables thinking of our practice as part of wider struggles for re-constituting these systems. The notion of refusing departs from understanding that counterhegemonic struggles are responses constructed in the interstices of hegemonic forms. That is, even though we may try to re-imagine CV, we’re still located in relation to this dominant system.

## **Why a Critical Technical Practice, and the case for refusing as a verb**

Redmon’s refusal to continue working in Computer Vision uses his privileged position to throw a wrench in the gears of hegemonic CV, helping to both expose these harmful technologies and delay their development. The book “Breaking Things at Work” by the scholar Gavin Mueller presents a long vision of how workers, not unlike Redmon, have for long resisted the expansion of automation, seeing these “new machines as weapons wielded against them in their struggles for a better life” (e-book). Mueller suggests how Luddism – multiple forms of collective resistance to uncontrolled technological development – can form a decelerationist political project to challenge the continuous development and deployment of technologies. Such

a Luddite approach sees technology as a site of struggle in which antagonism is necessary to challenge hegemonic goals and assumptions – subverting technological control to regain power for workers. Mueller’s analysis of the Luddites crucially defines refusal as part of a generative politics – not only breaking machines and sabotage, but also forms of struggle such as that over policy and legislation. It means not only to say no to the development of new technical systems, but also to actively envision how we can center other values and paradigms.

All through industry, activism, policy, and research there are increased calls that center rejection (saying “no”) as a strategy to combat the problems caused by algorithm development and deployment in society. Just to cite a few recent calls: the “Feminist Data Manifest-No” proposes 10 points of refusal for harmful data regimes; Seeta Peña Gangadharan discusses people’s unwillingness “to accept data-driven systems in the terms and conditions that government or private actors present to us” (3); Sarah Hamid, in a remarkable interview, argues for abolishing “carceral technologies,” and organizing “against the logics, relationships, and systems that scaffold their existence”; and Chelsea Barabas suggests tech designers should “turn down requests and opportunities to build technologies that are likely to produce harm.” All of these pleas are located in a wider global environment in which tech workers have been putting pressure on companies’ unethical developments, as shown in the case of Google workers’ refusal to build *Project Maven* and the *Tech Won’t Build It* activist group.

The goal of refusing is compelling, and these initiatives make visible how it is both an important and historically efficient way of antagonizing hegemonic technological systems. There are certainly many ways such disposition can operate, and I’ll focus

here on just one of them: the concept of “critical technical practice” (referred here as CTP). In his seminal text conceptualizing the term, “Toward a Critical Technical Practice: Lessons Learned in Trying to Reform AI,” Phil Agre recognizes “computing has been constituted as a kind of imperialism; it aims to reinvent virtually every other site of practice in its own image” (131). Agre’s CTP emerges from his own personal story as a computer scientist that only after some time began to realize the political, social, and cultural constitution of technology, therefore suggesting how practice should avoid the separation between computer science and critical reflection (social sciences and humanities). Practitioners would work interdisciplinarily, “one foot planted in the craft work of design and the other foot planted in the reflexive work of critique,” in order to create alternative formations by “figur[ing] software as a technical, cultural, and interpersonal object” (Harwood 32).

The problem I see in the conceptualization of CTP brought by Agre is that, as it was created over 20 years ago, it is somewhat detached from the current historical momentum. It defines the need to “reform AI,” refusing major revolutions and believing that change can be brought through individual practitioners and their “intrapersonal” critical consciousness. The notion of CTP has been further adapted through the past two decades, as scholars/practitioners have spun it into a wide range of directions such as reflective design (e.g. Phoebe Sengers, Matt Ratto, Garnet Hertz, Alan Blackwell, Shaowen and Jeffrey Bardzell) or artistic practice (e.g. YoHa and Matthew Fuller, Winnie Soon). This body of work has solidified CTP as a key conceptualization for thinking of technological practice as a mode of critique – making computation as a way of understanding and re-thinking computation itself.

Much as these developments have been important, I suggest CTP now needs to be further updated with contemporary notions of collective resistance, as well as more radical forms of antagonism and resistance. Agre himself acknowledged that critical research that worked from inside the system – including his own – could be quickly appropriated by the industry or the military. This further suggests how the goal of reform (or critiquing from the inside) can end up being innocuous, and reinforces the need for practices that defy institutionalization and that more strongly reject the ‘common sense’.

As hegemonic CV has become particularly entrenched, my argument is to use CTP to engage with radical contemporary proposals for refusing. Rather than simply building more stuff, or building better, this means centering considerations about what not to build, and of more strongly thinking about building as a way of creating alternatives. The concept of “refusing” allows us to abandon the need for technical fixes and solutionism, and instead supports a multifaceted, activist disposition through different approaches, including arts, activism, community organizing, and research. Refusing as a practice is not just for those who have coding or technical skills. Much to the contrary, it needs to engage with the stack of technological systems from their labor practices to their philosophical underpinnings.

A practice that centers ‘refusing’ doesn’t necessarily mean not using AI or algorithms, but breaking from its hegemonic paradigms to imagine how they could be different if they could center marginalized perspectives. Refusing, importantly, is to go against the tech/AI hype (Vinsel) and instead show how and when these technologies may not work as supposed. Moreover, and paraphrasing Agre in *Your Face Is Not a Bar Code*, this means understanding that surveillant technologies will “work well enough to be dangerous, and

poorly enough to be dangerous as well.”

Finally, ‘refusing’ as a lens for a critical technical practice is not a negative, but a generative proposition – therefore always a verb indicating a continuous struggle. It’s not just saying “no,” but understanding how technology is located within a wider array of historical, social, and cultural conditions. It, drawing for the work of data feminism, needs to “name and challenge sexism and other forces of oppression, as well as... seek to create more just, equitable, and livable futures” (D’Ignazio and Klein 6). As the artist and researcher Caroline Sindors proposes, our practice needs to be “productive, as well as provocative,” operating as “band aids”: “not meant to create an end to all other potential solutions, but serve to offer rather, temporary or open-source fixes for gaps in equity and violence created by society and are poetic witnesses of those gaps.” Refusing needs to be an interdisciplinary practice that aims to affect the world, moving beyond the practitioner and attempting to disrupt hegemonic structures of power and make change. Refusing both breaks the system in operation and creates alternative systems.

## **Speculations on what refusing can mean across the ‘stack’ of hegemonic CV**

I will now focus on the particular case of Computer Vision, to highlight potential directions refusing as a critical technical practice may take when engaging with such technologies. CV, as any other algorithmic technology, is tremendously complex, formed of many different interlocking social, cultural, economic, and legal aspects. Any attempt at considering such wide scale systems is necessarily partial, focusing only on some parts

of the whole. One attempt at looking at the 'stack' of CV has been suggested by Azar, Cox, and Impett, a "vertical cartography" comprised of six different levels (10). While their original goal was organizing critical scholarly responses in the field, I aim here to use these layers to envision sites of refusing interventions by artists, researchers, and activists. For this, I both point to important initiatives in the field and the gaps that I think still remain to be intervened on. I hope, with this, to offer more questions than answers and suggest critical pathways for a counter-hegemonic practice:

*(1) Social level (where are such systems deployed, by whom, for what purpose)*

*At this level, it's possible to critique and reject systems that are being deployed, as well as imagine alternative technological formations. How can practitioners expose the nefarious impacts of CV, including the way these systems concentrate power and affect the most marginalized? For example, the Coveillance project ([coveillance.org](http://coveillance.org)), aims to map surveillant technologies in the city space, creating workshops such as "A walking tour of surveillance infrastructure in Seattle," in which the deployment of smart cameras are discussed by organizers and the public.*

*What technologies shouldn't be used at all? And how can practitioners act on the creation of alternative institutions for this emergent regulation and policy of technology? A particularly powerful example of this is the Seattle Surveillance Ordinance, which has sought to create new systems for the regulation of technologies by involving the affected communities (Lee; Young*

*et al).* The Ordinance sought to involve citizens in approving or rejecting emergent technology uses, such as Automated License Plate Readers (ALPR). By creating the possibility of curtailing the operation of these systems, or at least exposing them, the Seattle Ordinance is a major example of how refusal can take place in a policy, activism, and community organizing sense.

*Here also lies the discussion on the workers behind CV algorithms. What kinds of actions are possible to allow them to refuse creating certain technologies? Could CV developers refuse the use of their code by the military and big tech companies? The case of Redmon, discussed in the introduction, is just one of many attempts by tech workers to organize and find agency in their labor, a practice in which activists play a major role (Mueller). However, how can practitioners also involve other workers, that are often not given much power in the system, the possibility of antagonizing the development of CV? (see e.g. the work of xtine burrough with Amazon Mechanical Turkers).*

*(2) Computational level (which problems are being solved: e.g. 'object detection')*

*Refusing CV's hegemonic ideology of surveillance and tracking, could other 'problems' be solved? Hegemonic CV focuses mostly on detecting and classifying according to efficiency-oriented parameters. One possibility is the use of CV from a disobedient gaze, "surveilling the most powerful, as opposed to those marginalized" (Pereira 154; see also Barabas et al.). An example of this is VFRAME,*

by Adam Harvey and Jules LaPlace, which seeks to create AI/CV tools for human rights uses, including a “Munition Detector” which could locate illegal munitions and support the work of activists.

What if, instead of the obsession for solving problems, CV focused on “errors, glitches, and inefficiencies of these systems both as a sign of their limitations and as a way to think otherwise” (Pereira 156)? This form of refusal suggests the embrace of error, indeterminacy, opacity, and situatedness instead of the solution of bias and partiality (Amoore). This means using algorithmic ways of seeing as ways for exploring alternative visibilities and to create new connections that couldn’t be otherwise (see Pereira and Moreschi for an example of using CV to look at artworks through the lens of error).

(3) Data level (who labels, which images are chosen, who takes the photographs)

How can we refuse problematic data sets and their troubled histories? Vinay Prabhu and Abeba Birhane even name computer vision a pyrrhic win due to the “problematic practices and consequences of large scale vision datasets” (1). Data sets often rely on the extraction of images without agreement from users (see Harvey & LaPlace; Thylstrup), use precarious labor of Amazon Mechanical Turkers (Irani, “Justice for ‘Data Janitors’”), as well as orgazine seeing through labels that encode racist, classist, and sexist histories (Hanna et al.; Crawford and Paglen; Smits and Wevers). How can designers instead create datasets in

ways that are more just, operating other ways of collecting, curating, and organizing images? The project Feminist Data Set, by researcher and artist Caroline Sindors asked this question, and through the period of many years has been holding workshops and forums to collaboratively investigate these questions in the case of a chat bot. The outcome of this project hasn’t been (and won’t be) an ultimate response, but different tools and examinations on what data sets could look like if data sets were thought from a feminist lens.

It’s important to also consider how image data sets are themselves partial, reflecting a selective gaze on what could/should be included in the creation of CV. What becomes possible if, for example, there wasn’t an expectation of bigness in data sets, with a practice focusing on small data? (see e.g. Eifler’s project Prosthetic Memory for an example of a custom-made one-person machine learning tool). And, finally, what if even the idea of collecting images/data is refused, and instead CV is trained on computationally manufactured image data? Could that open a way of not even needing to collect people’s image data at all? (see e.g. Harvey’s VFRAME project).

(4) Algorithmic/representational level (e.g. Siamese convolutional neural network with Adam gradient descent optimization)

Though much discussion critical of hegemonic CV has tended to focus on the “data problem” (Hooker), the algorithm is crucial in defining which ways of seeing are possible, what data are valued, and the particular modes

through which problems are solved. How could we refuse current modes of measuring and quantifying? Outside of the field of CV, Rodrigo Ochigame has written about the historical construction of alternative search algorithms in Cuba and Brazil, which evaded hegemonic notions of 'relevance.' Departing from examples like this, how could machine ways of seeing break from predictive models and the simple flattening of the visual space through tags/descriptions?

This also relates to how computer code is created and the assumptions that go into its development. Much practice, for example within Software Studies (Soon and Cox), seeks precisely to queer code, breaking with the binary in algorithmic operations through the practice of coding. This practice based on software art goes beyond the purely technical to engage with the writing of code as potentially also poetic, critical, and material. How could the code of CV be made more visible, refusing its disappearance into technical infrastructures? An example of this is the work of the Brazilian artist Waldemar Cordeiro, who over 50 years ago experimented with ways images could be represented and analyzed by creating his own computer algorithms.

(5) Implementation/physical level  
(abor. Tensorflow on cuDNN/CUDA on Nvidia GPU)

Where are the physical structures of CV located, and who owns them? This question leads to a political economy of infrastructures and to considering what infrastructures could instead be used for doing this work. How

could CV be developed in ways that decentralize away from the power of Amazon's AWS or the Microsoft Cloud? Could these alternative CV infrastructures allow individual practitioners to operate away from the control of tech companies? Likewise, could these computational systems be developed in ways that are based on nature rather than continuous extractivism? The Low Tech Magazine ([solar.lowtechmagazine.com](http://solar.lowtechmagazine.com)) points to alternative directions by hosting a static website entirely through solar energy. These low-tech perspectives could very much change how CV is practiced, potentially away from centralized large-scale image data.

(6) Philosophical/axiomatic level (e.g. vision as inverse graphics)

This is the hardest level to refuse because the philosophical underpinnings that contemporary CV stands on are particularly hegemonic. How could CV operate from completely different values and theories? Perhaps most importantly of all, how could CV refuse whiteness and colonialism, and its problematic categorizations and standardizations? As phrased by Rachel Adams, decolonial thought needs "to make intelligible, to critique, and to seek to undo the logics and politics of race and coloniality that continue to operate in technologies and imaginaries associated with AI in ways that exclude, delimit, and degrade other ways of knowing, living, and being that do not align with the hegemony of Western reason" (190). In this sense, Couldry and Mejias remind us that it is not enough to fight colonial rationality with individual tactics, but to engage

*in collective resistance (much like the Luddites).*

*A goal for practice then needs to be the much wider change on how data and algorithms are rationalized, which can only happen through alternative institutions and networks of practice. Though not focused on CV, Sabelo Mhlambi has written on how Ubuntu philosophies could change AI's paradigms. He suggests AI could operate away from its dominant culture of personhood based on rationality and individualism. The Ubuntu framework for personhood is based on relationality and different principles: "solidarity, reconciliation, equality, equity, and community" (15). What would it mean to, in fact, put these into practice as guiding notions in CV policy, for example?*

Considering refusal as part of this wider stack serves to argue that counterhegemonic responses can happen across different areas, even in places that so far remain little acknowledged. It shows how refusal can have many different facets and intensities beyond the work of computer scientists like Redmon. It importantly highlights the radical work being done by activists, artists, community organizers, researchers, etc. While useful, this stack is just one of many possible cartographies of action. The *Stop LAPD Spying* activist group, for example, suggests a framework for mapping surveillance divided on different layers: "Ideological, Institutional, Operational, and Community." Such a way of mapping illuminates how practice also needs to consider how communities should be involved in the creation and use of CV. Which communities should be centered that haven't yet, and which are being marginalized by CV use? This essay only hopes to serve as a starting point, so I leave it to you, the reader, to consider what other 'counter-cartographies'

of refusing are possible, and how they can support your practice.

## **Conclusion: Performing alternatives, bearing witness to limitations**

When the computer scientist Joseph Redmon decided to refuse to work in the field of Computer Vision, due to his perception of the harms and injustices these technologies were causing, he threw a wrench in the system. Hegemonic Computer Vision advances these algorithms as natural developments, neutral and impartial operations, even though they're mostly used for supporting multiple forms of surveillance. In this article, I've demonstrated how refusing is a powerful counter-hegemonic stance to this 'common sense,' especially through personal and collective antagonism to uncontrolled technological development. Bridging this stance with critical technical practice's focus on developing reflexive practices between social and technical can serve to perform alternatives and pave the way to radical reimaginations – or at least create some 'band-aids' that bear witness to how much work we still need to do.

We needn't only reform CV, but to depart from an active refusal of its ideology and organizations, completely breaking it apart in pieces before building something new. Our goal is not to "fix" these technological formations, but to refuse the unsettling 'common sense' of technological progress through action. Much like the Luddites, refusing to work and sabotaging, but also building new ways of seeing and generating new collective engagements with the visual world.

## Notes

[1] We also have to be somewhat critical of Redmon's refusal to build CV, particularly his late realization of what he was doing and his privileged position to refuse work while still being a white male US-American grad student (see the movie *The Social Dilemma* for an infuriating example of late realizations by privileged computer scientists).

[2] What I refer as 'common sense' is originally referred by Gramsci, in Italian, as *senso commune*. Although 'common sense' is the adopted English translation, it is important to make clear that the Italian term used by Gramsci does not have the connotation of a good and reasonable judgement, which is instead referred to as *buon senso* ('good sense'; see Crehan 43-58).

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TOWARDS THE *OPERATIVE*  
*OBJECTS* OF POST-CAPITALISM:  
A CRITICAL CULTURAL- AND  
MEDIA-THEORETICAL *REFUSAL*  
ON THE CHILEAN CASE (1973-2023)

**Abstract**

This essay aims to unfold a refusal on what we understand have been the historical hegemonic modes of social and cultural research under *capitalist realism*; that is, the politico-economic system ruling the West and beyond since the 1970s onwards. To do so, we present an updated approach to analyze Chilean social and cultural history during this period, insofar as it is, we argue, a paradigmatic case to critically understand *capitalist realism* in general. Thus, the essay is formed by three main parts: a) a historical presentation and contextualization of the case in that period, deployed in three fragments; b) the development of a critical cultural- and media-theoretical set of concepts that are instrumental to analyze the case; and c) a proposal that allows us to project the analysis' insights towards the present and beyond. Particularly from this latter part, but more clearly in a final short conclusion, the proposal and its potential stems from a *theory-fiction* approach.

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## Three historical encounters and clashes between objects and subjects

1. On the night of October 18th, 2019, the streets of Santiago de Chile saw the burning peak of a not unannounced social uprising: several heated and apparently non-hierarchically organized hordes took over key spots of the country's capital. Public transportation infrastructure was set on fire, including many subway stations of which some were completely destroyed, and clashes between protesters and the police left sad traces of increasing anger in the form of ashes, and the endless odor of tear gas (Garces 483-84; Bartlett "Chile protests"). Almost two weeks before, a 3.75% fare rise that was put in place by the city subway — 30 Chilean pesos that amount to 3.5 Euro cents<sup>[1]</sup> — had triggered vast protests led by secondary school students. The students, who were not directly affected by the fare rise since they have a special pass, operated as electronically coordinated mobs in order to get into subway stations, and evaded the turnstiles so agilely and in such large numbers, that no security guards or police personnel were able to control them. Using the media — especially TV — politicians from both the right-wing government, as well as from the Social-Democrat and Christian-Democrat coalition that had previously governed the country, deployed a negative feedback strategy in order to regulate this disturbance in the system: they portrayed the students as thugs and criminals, and some even made jokes about what they understood as the discrepancy between a seemingly insignificant source of malaise — the fare rise — and the true legal and economic scope of the evasions. However, it was as if that feedback strategy had had the exact opposite effect.

Soon thereafter, many adults joined the students, and those who did not join them actively often embraced the motto of the rising protests: "It is not thirty pesos, it is thirty years" (Freire Castello 156).

That catch-phrase, that eventually became a chant, signaled the period that from 1990 onwards marked Chile's *return* or rather *transition to democracy*. One year earlier, in 1989, the presidential campaign of the eventually triumphant christian-democrat candidate, Patricio Aylwin, emerged — also through TV — as the echo, if not the byproduct, of a previous campaign and its catchy chant: "Chile, the joy is already coming" [Chile, la alegría ya viene] — a way to emphasize that the sadness and terror of Pinochet's dictatorship would be left behind (Dzero 124). Thirty years later, however, most Chileans saw this period as a fraud: the neoliberal political economy introduced by force during the dictatorship was profoundly deepened by the subsequent democratic governments, and the rapid economic growth of the 1990s and early 2000s was only possible at the expense of a highly stratified and unequal society. This critical diagnosis became evident — despite some politicians had recently dared to state that nobody saw the social uprising coming — through the equally massive student protests in 2005 and 2011 (Roberts 127). The social uprising of October 18th, 2019, was thus the pinnacle of an already ongoing process; one that continued during November and December that year. Downtown areas in Santiago and other cities of the country became the epicenters of hard reverberations that seemed to emerge from below: the aesthetics of neoliberalism — that Mark Fisher called "aesthetic poverty" (*K-Punk* 503-504) — was ferociously attacked. Hundreds of windows and backlit logos were destroyed, and façade after façade were graffitied with silent screams of anger. Corporations reacted by

building wooden and even metallic scaffoldings in front of their buildings in a desperate attempt to find protection, or perhaps remain hidden, behind the strange resurrection of improvised *iron curtains*. Some of these protections, as the irony would have it, were soon covered by highly elaborate collages, poems, and drawings asking, hoping, for the arrival of a new time.

2. In July 2012, Pablo Larraín's *No* premiered in Chile; a film telling the story of the development of the 1988's political advertising campaign that, through a national referendum, would put an end to Pinochet's dictatorship (*No*). After fifteen years, due to domestic and international pressure, the tyrant had agreed to carry out a plebiscite where Chileans would be able to decide if they wanted him to remain in power (the option *yes*), or if they wanted him to leave (the option *no*). Thus, a broad and eclectic group of opposition political forces — which gathered members from the Communist party to the Christian-Democrats, and that had remained either clandestine or proscribed during much of the dictatorship — agreed to deploy a colorful and encouraging advertising campaign — again broadcast through television — aiming to convince the people that overcoming their fears and openly rejecting the dictator would be not only safe, but promising — it was actually then that the “Chile, la alegría ya viene” jingle was born (Howe 422). But as Larraín's film depicts, the decision to use one of the central methods of neoliberalism to bring about a new political era would in effect operate as a sort of aesthetic metaphor for what will follow: the dictatorship may end, but not the economic system it brought about — “there is no alternative” (Thatcher qtd. in Fisher, *Capitalist Realism* 8).

Larraín is part of a successful generation of Chilean film-makers that have been able to deploy a melancholic aesthetics of introspection. This generation may well have benefited

itself of having true access — perhaps due to the very politico-economic system from which their work emerged — to equipment and technology, and thus to learning and mastering the cinematographic techniques, as well as of participating of a vast network of international film festivals, in a way their predecessors were simply not able to know. *No* was thus the first Chilean film ever nominated to the Academy Awards, and Larraín himself was behind the production, through his company *Fábula*, of Sebastian Lelio's *A Fantastic Woman*, winner of the Oscar for Best Foreign Film in 2018 — let alone that he has become a familiar name in Hollywood by directing quite popular films (Howe 421; *A Fantastic Woman*; *Jackie*; *Spencer*). But more importantly, these film-makers are also part of a generation of Chileans that, growing up during the country's *transition to democracy* — from the 1980s to the 1990s — decided to remain *cynical* to the conditions of a period that appeared to them clearly as a farce, but which they accepted as their only fate:

*[N]ot in the simple sense of not believing its own words, but at a much more basic level: it is cynical precisely insofar as it does believe its own words, since its message is a resigned conviction that the world we live in, even if not the best of all possible worlds, is the least bad, such that any radical change will only make things worse (Žižek, First as Tragedy 28)*

Indeed, the aesthetics that followed the rise of neoliberalism in Chile consisted of a mixture of resignation and suppressed anger which sedimented the space of subjectivation for a functional depression (Sloterdijk 5). An anaesthetic aesthetics of cynicism that may have somehow operated as a silent *capacitor* from which a younger generation — one that grew up while this aesthetics and

its subjects were in full deployment, from the early and mid-2000s onwards — decided to act against, or rather from.

3. In November 1970, Salvador Allende took office as the first Socialist-Marxist president democratically elected in Chile — perhaps anywhere, ever. A few months later, in July 1971, three engineers at the National Agency of Development would write a letter — one that only one of them would sign — to the British cybernetician of management, Stafford Beer (Medina 43-45; Espejo). Central to Allende's program was the nationalization of several companies in key industrial branches, and thus, finding efficient methods to tackle the exponentially increasing complexity of their management was a task the government entrusted to the aforementioned agency (Medina 46-47). The team of engineers — already acquainted, although still superficially, with Beer's work — was certain that the challenges that the Chilean economy was experiencing — not only its nationalization, but also its socialist modernization and its subsequent antagonistic noise — required “cybernetic thinking” and “scientific views on management and organization” (*Letter to Stafford Beer*). Therefore, it should not be surprising that Beer's reply had been enthusiastic and that he formally requested to play an active role in such a process (*Letter to Fernando Flores*).

In November 1971, Stafford Beer arrived in Santiago de Chile for the first time. After a few months of arrangements, he had become the scientific director of a project that would transform the national economy into a socialist-cybernetic one; namely, Project Cybersyn (Medina 46-69). This endeavor was based on Beer's *Viable System Model* (VSM); a framework he had just developed to grant organizations a cybernetic mode of operations (Beer, *Brain of the Firm* 155-199). Thus, Cybersyn consisted of a system that would connect the nationalized factories to

a network of transmission, which, on a daily basis, would provide production data that in turn would be statistically processed in a computational node to forecast patterns of economic behavior. That information would be then assessed in an environment for decision where experts and government officials would generate instructions that, again as data, would be introduced back to the network of transmission, flowing all the way down to the factories (Medina 88; Gómez-Venegas 5-6). However, this design faced several challenges: the lack of computational equipment (Beer's VSM originally considered one processing unit in each factory (*Brain of the Firm* 175)); the expert methods used to model the factories' operations (which did not necessarily include workers participation, despite what has been claimed (Kohn; Medina 75)); and the external oppositional forces that introduced increasing *noise* to the system (for example in the form of international embargos or local strikes (Medina 4-5; 141-151)). Perhaps for these reasons, Beer envisioned — once the development of Project Cybersyn was advanced enough as to show its weaknesses and actual scope — a complementary cybernetic system that could grant the people a network to effectively influence the decision-makers. The *People Project* would be connected to the local TV broadcasting infrastructure, establishing a signal-input device in every house, allowing its residents to give real-time feedback to every government decision and proposal at the same time as they were announced on TV (*Brain of the Firm* 278-310). Despite the fact that this project was never implemented — although an early prototype was tested locally in meetings the team held in Santiago (Espejo) — we argue that, insofar as it was a spin-off or rather an amendment to Project Cybersyn as a whole, it might have paved the road to give the people a technological platform to act so *agilely and so massively*, that

no *police* would be able to actually control them.

## Uncertain Objects, Technological Objects, Technological Subjects

The three fragments presented above — linked by the silent murmurs of a time that is more-than-historical — describe a broad, although neglected, field where we attempt to find that we call *uncertain objects*; that is, entities defined by multiplicity, whose borders are so transparent, and whose lengths and movements are so unpredictable, that hegemonic research — as an enterprise consolidated with the rise of *capitalist realism* (Fisher, *Capitalist Realism* 2-18; Wallerstein 34-58) — tends to avoid, or rather to fight them. On the contrary, we argue that tracing and identifying these objects constitutes in effect, perhaps today more than ever, an urgent act of *refusal*. The cyclical reverberations revealed by the threefold character of the Chilean case suggest that underneath any cloth weaved to placate uncertainty, its sources not only continue to operate, but their signals always find ways to resurface. Therefore, our approach implies embracing radical uncertainty; that is, by refusing the procedures by which objects of interest have been traditionally characterized — serving the analysis and deployment of the historical course of capitalism — allowing instead the operations beneath the aforementioned cloth to become apparent. This approach invites, accordingly, to bracket off the capacities historically granted to subjects; that is, the power to grant meaning to the material conditions of production. To do so, we first unfold a diagnosis that — following Mark Fisher and his reading of Žižek — allows us to describe a

*negative* space that, governed by a cynicism about the reality configured by neoliberalism, constitutes at the same time the central point of our case (Fisher, *Capitalist Realism* 1-30; Žižek, *In Defense of Lost Causes* 52-56). In a second movement, however, we employ *theory-fiction* — coming back to Fisher (*Flatline Constructs* 138-156) — to problematize such a central point as a reservoir of energy that, perhaps silently, maybe unexpectedly, would have made possible the emancipatory flows in both ends of our case to be connected again. In other words, the three fragments forming the Chilean case are here diagrammatically thought of as a single cyclical signal of energy flow — as an m-shaped cosine wave (Fig. 1). This assessment, and moreover the surveying of its further emancipatory potential, is only possible, we argue, by tracing networks and entities that are certainly more than human, and whose ongoing connections will enact a transformative turn both in subjects and the societies they inhabit — a road we follow with Alexander Galloway and Eugene Thacker (149-157), and thus with Gilbert Simondon (*On the Mode of Existence* 147-159; *Individuation in Light* 327-355).

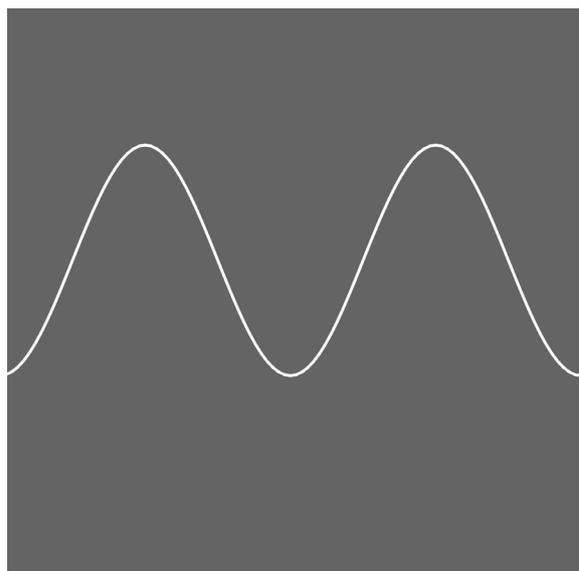


Figure 1: M-shaped cyclical energy flow – a diagram.

Henceforth, our tracing endeavor can proceed now as a loop, from the past to our present, and perhaps beyond:

Salvador Allende's political program — one that materialized through Project Cybersyn could be seen as an attempt to build a cybernetic sort of socialism — offers a concrete example of what *uncertain objects* are, and what their potential may be. By modulating collective processes of both aesthetic and political *becoming* — where humans and non-humans participate of an ongoing entanglement — this sort of socialism could have given way, either purposefully or not, to the emergence of a complex order of objects whose borders, always moving, would be then ungraspable, and whose members, through the multiple and ongoing connections they become part of, are always changing. These *uncertain objects* could bring about, therefore, networks of *becoming*, or, following Gilbert Simondon, of *individuation* (*Individuation in Light* 1-17). Even more fundamentally, these objects could be critical to understanding the constitution of trans-individual relations in networked societies — as those Cybersyn, and perhaps the *People Project* more intensively, paradoxically enough could have rendered *avant la lettre*. In other words, we suggest two things here: a) that seen through the lens of Chile's attempt at deploying a cybernetic socialism, *uncertain objects* are inevitably *technological objects* too, in the sense that given the entanglements they make possible, they also configure, through and *with* technological infrastructures, psychic and collective processes of individuation; and b) that as they hold the potential to *modulate* psychic and collective individuation — transcending historical socialisms, and moreover with the potential to overcome *capitalist realism* — *technological objects* should not be understood only as useful instruments but as durable, if not pervasive, structures of social

and political action (Combes 66-70).

As a counter-example, Pinochet's dictatorship — the tyranny that overthrew Allende's democratic government in 1973 — relied on a different sub-class of objects to regulate the social milieu it aimed to reconfigure. This regime certainly deployed technologies of surveillance and punishment, but, more importantly for our case, it also developed a more abstract, or rather black-boxed, order of *technological objects*[2]; namely, economic-normative apparatuses for the regulation of power and control, like the still-operative country's Constitution promulgated in 1980 (Heiss 470-472). This was, and is, a *technological object* aimed at absorbing and thus terminating all inner uncertainty. In itself uncertain — because its limits and scopes were not only never fixed, but they seem able to organically grow in order to block any deviation in the system — it installed a neoliberal model which, in turn, set a new framework of legal, political, economic, social, cultural and technological certainties in Chile — *literally* the black-boxed *principles*, the *arché*, for the implementation of the Thatcherian “there is no alternative,” and thus for the global inauguration of *capitalist realism* (Fisher, *K-Punk* 424). Put differently, this set of principles became the machine that configured, always in advance, the horizon of possibilities that would determine for decades what the Chilean people could think and hope, and in the process reaffirming capitalism as the sole source of reality, and giving way, accordingly, to the emergence of *cynical subjects*.

Being always technological, there are, therefore, *uncertain objects* to absorb uncertainty, while there are others that make it proliferate.

Thus, even though some dared to introduce amendments to the 1980 Constitution,[3] the reality it regulated seemed to keep offering no alternative, but to dream within and through the sort of constrained *realism* it put

in place. It is precisely then, in this oneiric landscape that one encounters a new example of *uncertain objects*. From the bottom of the generation that grew up during the 1980s and became creatively active in the late 1990s — as the product of a *transition to democracy* always ruled by *capitalist realism* — a new type of Chilean cinema emerged; one that, fully productive from the early to the late 2000s, developed an aesthetics of introspection and cynicism that is no other thing than an *uncertain object*; a dreamlike machine that reveals, through always expandable cinematographic languages and infrastructural platforms of materialization, the modes of being of *cynical subjects*. This *machine*[4] portrays both the secret cries and the silent effects that the *transition to democracy* period bequeathed to Chilean society, most of the time depicted as a personal, isolated, and melancholic experience. In doing so, it operates on at least three levels: first, as the anaesthetic effect on the possibility of transforming reality (Sloterdijk 4); second, and consequently, as a dispositive that by declaring this reality as an inevitable farce, becomes an (a)political apparatus for cynic subjectivation (Žižek, *First as Tragedy* 16); and third, as it was described earlier, as a *capacitor* that due to its aesthetic and political modes of operations — those that kept all melancholy and anger enclosed within itself — connects with its future, both antagonistically and sympathetically, as a source of energy release. It is in this sense that this *uncertain object* is also a *technological* one.

Accordingly, in the 2019 Chilean social outbreak *technological objects* played a key role in the activation and *synchronization* of the subjects that occupied both the streets and social media. They constituted mediatized bodies that circulated through the technological networks of the city, of the mediascape, as “a machine capable of being affected and producing affects” (Fisher, *K-Punk* 281),

hence activating bodies in their proximity. As it was pointed out earlier, the protests were not coordinated by a central command, but rather followed a propagation pattern based on viral, decentralized communication, and distributed action all over the country. In some cases, similar to what happened with the performance by the feminist collective *Las Tesis* (“The rapist is you!”), the contagion networks even managed to activate bodies in far corners of the world, triggering an unexpected *consciousness-raising*, and subsequent new processes of subjectivation. It is at this point that it becomes evident how the recognition of what we call *technological objects* — with the uncertainty they carry, with all the networked entropy they make possible — leads to the identification of *technological subjects* as well. Here, *technological objects* are tantamount to networks that make possible the operations that connect a multiplicity of ongoing individuation processes — human and non-human, organic and technologic.

*The point here is not that networks are inherently revolutionary but that networks are constituted by this tension between unitary aggregation and anonymous distribution, between the intentionality and agency of individuals and groups on the one hand, and the uncanny, unhuman intentionality of the network as an ‘abstract’ whole (Galloway and Thacker 155)*

Therefore, *technological objects* bring about aesthetic atmospheres that shape our sensible and cognitive experiences, which in turn transform us into *technological subjects*. As Bernard Stiegler points out, human subjects maintain a co-constitutive relation with *technological objects*, which play a major role in the configuration of human perceptions, imaginations, memories, and desires (Stiegler 8-11). Thus, human beings are constituted

through and with the *technological*, and can develop both positive and caring, or negative and poisonous relations with it. The question that follows is not only how we humans can learn to foster a nourishing order of relations with these processes, but moreover, how we can recognize ourselves as a constitutive part of them, and hence, how we can consciously learn to *operate* with and through them. Thus, the understanding that hyper-industrial capitalism threatens with generalized deindividuation, but that it also holds the potential to produce and multiply collective processes of psychic and collective individuation (Stiegler 45-50), may constitute the ultimate strategy for techno-political action in the near future. That is why, we suggest, critical theories of culture and society need techno-political and techno-aesthetic thinking to embrace the emancipatory potential of capitalist *technological objects* and networks.[5]

In *The Exploit*, Alexander Galloway and Eugene Thacker, following Simondon, develop a techno-political reflection on how to think of subjectivation as a networking operation: “Networks, generally speaking, show us the inhuman in the human, that the individuated human subject is not the basic unit of constitution but a myriad of information, affects, and matters” (Galloway and Thacker 155). Similarly, Simondon’s *transductive* approach on individuation — that is, “a physical, biological, mental, or social operation through which an activity propagates incrementally within a domain operated from one region to another” (*Individuation in Light* 13) — makes it possible to think of the individual as meta-stable systems whose dynamics integrate both stability and instability, certainty and uncertainty, allowing the continuous emergence of successive processes of individuation (Combes 6-9; *Individuation in Light* 13-16). Thus, we argue that nowadays *technological objects* and the networks they bring about can be thought of as a pre-individual condition for

every subject: subjects that will become truly technological only when they recognize that pre-individual space as such, and moreover, once they are able to consciously *operate* through that transductive phase that will make them massively multiple, uncertain, and hardly able to be defeated.

## Towards Operative Objects — From Theory-Fiction to a Techno-Politics of Reality

Consequently, we are now in the position to present some final considerations to establish our proposal:

First, following Mark Fisher, we argue that *consciousness-raising* is not about the mere accumulation of knowledge, but about changing the way we relate to the world in order to transform it (*K-Punk* 421). It is, therefore, a multi-nodal productive operation that creates “a new subject — a we that is both the agent of struggle and what is struggled for.” This affects not only *subjects* but also *objects*, which are then perceived and conceived as “something that can be transformed,” and not as if they were “some static opacity, the nature of which is already decided” (*K-Punk* 421). Nonetheless, to achieve this sort of transformation, knowledge is also needed; a kind of knowledge, however, that enables communication between subjects and objects *through operations* rather than through representations; an order of knowledge that may lead to open up the *black boxes* containing the *technological objects* we are interested in; a sort of knowledge that will take us to operate on, and through, these *technological objects*, allowing us then to participate in the rewriting of their programs — once such an opening-up takes place, *technological subjects* can *operate* with

*technological objects*, transforming them, and themselves in the process. To summarize, *consciousness-raising* is not about a critical representation of the world, but about a transformative *operation* of it, in which new *subjects* and *objects* are created.

Second, following Galloway and Thacker, we state that networks are crucial to deploy a broad and contemporary understanding of the processes of becoming a subject: to operate within *networks* certainly means to connect with them, but, more importantly, such connections imply becoming part of them too. But given that “their dynamics operate at levels ‘above’ and ‘below’ that of the human subject” (Galloway and Thacker 157) — precisely due to the “ceaseless connections and disconnections” they put in place (156) — *networks* are hard to visualize. In a way, it could be said that *networks* hold an “impossibility of depiction,” but “the network is [nonetheless] *imagined*” (156). Thus, with the lessons learned from our case and its three fragments in mind, we argue that “[a]ccidents, failures, and exploits, both imaginative and material, are part and parcel of any network” (157).

Put differently, *networks* and *consciousness-raising* constitute the techno-aesthetic and techno-political *questions* sustaining what we could call contemporary cybernetic societies — in which experience is inseparable from its mediatizations.

Mark Fisher’s *theory-fiction* offers a powerful way to tackle these questions. This method stems from the premise that *capitalist realism* relies on cultural feedback loops that no longer can be understood under the logic of “mirror fiction” and “realism in its mimetic mode,” but, alternatively, as a stage of cybernetic simulation dominated by screens, interfaces, and networks (*Flatline Constructs* 138-141). Thus, once we accept “that the real, far from being opposed to the artificial, is composed of it,” fiction is no longer perceived

as “to be on the side of the false, the fake or the imaginary” (156). That is why — if theory wants to keep offering a critical way to assess reality (155) — we must acknowledge “the becoming-real of fiction,” and thus the necessity of the “becoming-fiction of theory” (156). Therefore, *theory-fiction* can be understood as a *consciousness-raising* operation oriented towards the recognition of *technological objects* and *technological subjects* not as mere stable categories to be known, but rather as uncertain metastable figures to be transformed. Under this perspective, accordingly, theory as fiction holds the potential to *operate* as a *virus* moving through, and like networks, being thus capable of spreading itself and infecting reality in order to change it. In short, *theory-fiction* — by connecting critical thinking with circuits of imagination and invention — not only constitutes the method to assess the three fragments forming the Chilean case in order to signal their current potentials, but rather, it could be the platform through which the *networks* of *technological subjects* and *objects* — which, from within the 2019 social outbreak have activated, say, spontaneous processes of *consciousness-raising* — could become fully aware of their positions, conditions, and, ultimately, of their *operative* possibilities.

Finally, we would like to propose a last movement: it is through *theory-fiction*, and from the *networks* described above, that *operative objects* can be discerned. Thus, against the intellectual rejoicing of an inoperative community governed by a cynical disregard for any form of technology (Nancy 32), we suggest that the lessons drawn from capitalism’s struggle against uncertainties require us to make its functions operable. In other words, we make a call to go beyond imagining networks in order to theorize with fiction the operative conditions for the near future. Then, with the notion of *operative objects* we aim to gather, then to boost, some of

the insights already sketched out in Stafford Beer's cybernetics regarding the unavoidable possibility of intervening in the world we observe, rather than simply participating in its description (*Preface* 63-72; "Reflections of a Cybernetician"). We propose, consequently, that *operative objects* must be understood, by definition, as objects that can only be manipulated by their own logic of operation — that is, from within. All the more, opposing the bivalent logic that separates — as an unsurmountable certainty — the properties of every object from the melancholic critique of subjectivity, the diagram for an operative objectivity we sketch here invites to modify our relationship with the uncertainties derived from those moments where the fissures of *capitalist realism* may have revealed its fragility. Such a diagram can be described through the following properties or premises:

- First, *operative objects* offer a greater degree of reflexivity insofar as they allow us to overcome the old division between form and matter by inserting *the operative* in the processing of their environment. *The operative* must be understood here as a procedural complex formed by both living and artificial machines, which responds and advances through the notion of information.
- Second, the idea of *the operative* pushes us to consider the structure of every *operative object*, accordingly, as the result of an *auto-* or rather *self-construction*. Such a process says nothing about the truth or falsity of an *operative object*, but it certainly says a great deal about the protocols that allow it to be an *adaptive* complex. Its sole existence could act, therefore, against the myths, beliefs, and the so-called *common sense* that associates technology and

machines with their utilitarian or rather instrumental role in *capitalism*.

- Third, it preserves the idea of *object* in order to overcome the hermeneutic tyranny that derives processes of subjective alienation from the reification of the world. Instead, we must give way to *co-informative* relations of production, going beyond every schematism of domination.

In this sense, we propose, the notion of *operative object* challenges any old conception of politics as a field dissociated from the technological — or rather from *technicity* (Simondon, *On the Mode of Existence* 173-190). Thus, as an alternative to the technocracies governed by an elite of "experts" (Habermas 3-28), the existence of *operative objects* make it impossible to refuse *becoming* part of the forces that trigger all further processes of decision-making. In other words, they bring about schemes of operative democracy where the objects of interest emerge from the complex people-technicity, which is the *operative object* itself. Hence, in opposition to the social democratic gaze, *operative objects* question the representative and representational model of power relations, inviting to move towards a phase of multi-nodal production which is, however, not entirely based on multiple subjectivities but, going beyond the anti-oedipal critique, on a hybrid operativity that emerges nonetheless as a new class of objects (Deleuze and Guattari 296-322). Understood in these terms, technology does not lead to any predefined political model — as some may once have intended to characterize the program of cybernetics (Tiqqun 19-32). Rather, (re) considered from its emancipatory potentials, technology provides codes, programs, and the hardware which — although they may have been previously reserved only for a

small elite — signal the model and the actual materiality of an “open machine” (Simondon, *On the Mode of Existence* 17-18) that ultimately constitutes an already ongoing layer of contemporary cultures that we can call a *techno-politics of reality*.

## Refusing to Close — 2023

The above can be exemplified, again, by referring to the most current fragment of the Chilean case. Once the October 2019 social uprising externalized the inner reverberations that triggered it in the first place; once the protests spread as an uncontrollable virus whose origin was impossible to discern; once the authorities saw that the escalations that took place in the following days and weeks were in effect uncontrollable, something once unimaginable occurred: after long and desperate discussions and negotiations, in mid-November the Chilean Parliament reached an overnight agreement to open a referendum process in order to ask the people if they *effectively* wanted to replace the constitution and, if that was the case, what would be the best mechanism to pursue such a change (Bartlett, “The Constitution”). Then, the once unsurmountable “there is no alternative” started to vanish.

Almost a year later, right after the first anniversary of the social uprising, on the 25th of October 2020, Chileans voted massively and decidedly: 78% chose to replace the dictatorship’s constitution, and a paradoxically greater 79% opted for a fully elected, free of parliamentarians, constitutional convention as the *organ* to draw up the new charter (BBC News, “Jubilation”).

While the different stages of this transformative process have been constantly rescheduled due to the additional uncertainties brought about by the global pandemic, it

is clear that Chile’s new constitution will be operative in 2023 — coincidentally or not, the year that marks the 50th commemoration of the coup d’état that destroyed an earlier process of multi-nodal emancipation and then installed, indeed as a program, *capitalist realism* in that country and, from there, perhaps everywhere (Fisher, *K-Punk* 424). We would thus like to theorize with and through fiction — which is ultimately an act of hope and imagination — that this upcoming charter will be drawn up as a *technological object* to make uncertainty proliferate, and which, connected to many other *technological objects* and *subjects* will form an always in process complex that in turn, through a new order of *consciousness-raising*, will give way to the *operative object* that will configure our near transindividual future.

— Valdivia, Santiago, and Berlin, 2021.

## Notes

[1] It should be noted that by that year, a one-way ticket in the city transit amounted to 0.95€ (800 Chilean pesos), while the median monthly income in the country was circa 476€ (401,000 Chilean pesos). In other words, with thirty round trips a month, and no subsidies available, a median income person in Santiago would have used 57€ or 11.9% of their salary in transportation (Instituto Nacional de Estadísticas, “Ingreso laboral promedio mensual en Chile”).

[2] It is important to notice here that there is a crucial difference between *technological objects* and *technical* ones. While the latter, in Simondon’s sense, refer to technical tools, instruments and machinery in their evolution, levels of abstraction, and concreteness (*On the Mode of Existence*

25-51), the inclusion of the *logos* in the former signals a twofold condition: they include both non-discursive and discursive components — as in Foucault’s apparatus (197) —, and they employ systems of symbols as the basis of their own ongoing constitution.

[3] In 2005, Chilean social-democrat president, Ricardo Lagos, signed what he advertised as a *new Constitution*; by eliminating the articles he considered were the last “authoritarian enclaves” of the text, the legal act was presented as, finally, the true closure to the country’s so-called *transition to democracy* (Kennedy 459-461). Soon thereafter, however, both the political and public opinion was that the Constitution had been barely touched, and, coincidentally or not, that year Chile began a long and increasing process of protests and turmoil led by secondary students (Roberts 127).

[4] Although Larraín’s *No* and Lelio’s *A Fantastic Woman* play a prominent role in the configuration of this machine, it is also formed by films such as Alicia Scherson’s *Play*, Sebastián Silva’s *The Maid*, Matías Bize’s *In Bed*, or, again, Lelio’s *The Sacred Family*, and Larraín’s *Post Mortem*.

[5] Here we cannot but think of Marx when he says: “At a certain stage of development, [the historical tendency of capital accumulation] brings into the world the material means of its own destruction. From that moment, new forces and new passions spring up in the bosom of society, forces and passions which feel themselves to be fettered by that society” (Marx 928).

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**Rosie Hermon**

# **ENMESHED IN THE BORDERS: THE PARA-INSTITUTIONAL PRACTICES OF ALTERNATIVE ARTS EDUCATION ONLINE**

## **Abstract**

This article takes up new online experiments in alternative arts education as examples of para-institutional practice, arguing that the online experiments discussed can be understood as enacting modes of border dwelling. In this context, the para-institution acknowledges and works with the tensions and compromises that exist in attempting to operate besides and beyond gatekeeping art world structures, rather than enacting a total refusal of these institutions. As an example of how these tensions play out in practice, the article focuses on the wiki *Mesh: a sharing hub for emerging artists*, initially developed out of the *Into the Wild* alternative arts education programme. *Mesh* was conceived by Esther McManus, who spoke with the author for the purposes of exploring the *Mesh* project as a case study for this article. In re-articulating para-institutional practices as forms of border dwelling within the ontology of the pluriverse, this article aims to demonstrate how borders of institutional practice are a fertile space to question the terms of the conversation when exploring institutional processes and parameters, as part of an ethically engaged project seeking more inclusive and pluriversal artworlds.

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## Introduction

This text takes up new online experiments in alternative arts education as examples of para-institutional practice. In this context, the para-institution acknowledges and works with the tensions and compromises that exist in attempting to operate “besides and beyond” gatekeeping art world structures, rather than enacting a total refusal of these institutions through a passive strategy of exodus. As an example of how these tensions play out in practice, this text explores the wiki *Mesh: a sharing hub for emerging artists*. *Mesh* was conceived by Esther McManus and initially developed with the Into the Wild alternative arts education programme based in London. This text argues that the online experiments discussed, which explicitly or implicitly foreground the idea of the para-institution, can be understood as enacting modes of border dwelling in seeking more inclusive and pluriversal artworlds.

## The reemergence of the para-institution

*Para-institutional spaces exist besides and beyond the institution, forming alternatives while overlapping. They are peripheral and ad-hoc, part, but not part. They move beyond logics of extraction, remove barriers to accessibility, while embracing new models of knowledge transmission. (Cherry & Maloof)*

This definition is the framing used by online programme *Dark Study's* founders Cherry and Maloof in situating their “virtual first” approach to alternative arts education as a

para-institutional space. This is the definition that grounds the following exploration and discussion of how para-institutional practices negotiate the idea of refusal whilst actively working to effect change. Through such negotiations para-institutional practices reveal their potential to destabilize taken-for-granted, institutionalized routes towards building a creative practice.

Indeed, the para-institution recognizes the apparent difficulty of a total exodus from the institution. Instead, as Nikos Papastergiadis describes, para-institutional practices are “another line of struggle” in asserting the power of people as institutional constituents, and in creating an alternative to either being co-opted by the institution or “doing nothing”, within which exodus or disengagement is included as a passive strategy (Papastergiadis 104). The ‘para’ invokes the hinterland; meaning both beside and beyond, it is at once close by and out of reach. It can be further translated as nearby, next to, in comparison and in contrast (Sternfeld), evidencing its mutability as a term that can inhabit the interstices. Para-institutional practices are therefore active processes of rethinking or reimagining institutional practices, with the ‘para’ prefix being flexible and expansive enough to hold diverse forms, and so resisting a fixed notion of what para-institutional spaces should look like, where they should be located, or how they should behave.

The para-institution is not a new proposal. As part of the accelerated cycle within which neologisms and buzzwords are picked up and discarded within discourses of contemporary art, the use of the appendage ‘para’ in relation to the art institution was perhaps more prevalent a few years ago, being tried out in various forms before fading again from view. The para-institution has been particularly present in the curatorial practice and writing of Nora Sternfeld,

including through a para-institutions panel discussion she convened for documenta studien in 2018. It has also been taken up by other curators, arts organizers and writers, for example curator Megs Morley's 2014 research project with institutions in Galway and CP Schwartz's framing of *The Museum of Burning Questions* (curated by Sternfeld), in her text on the 2016 Bergen Assembly. It has further been applied to projects that are seen as part of the practice of a particular artist, for example Ahmet Ögüt's *The Silent University* and Jonas Staal's *New World Summit*. In each of these cases, the invocation of the para-institution is related to practices located primarily in physical space, which in different ways have responded to the "neoliberal version of the march through institutions", in which forms of institutional critique that are "imminent" to the institutions, are abandoned for the theorization and creation of alternative forms (Lüttiken).

Though they may not have been directly described as such, it is also important to note an ongoing allegiance between the para-institution and alternative arts education programmes as para-institutional forms. Both *Dark Study* and *Mesh* emerge out of this context, and in recent years there has been a proliferation of alternative arts education programmes which re-frame, re-imagine and challenge the arts university model, in response to the failure of the mainstream arts education system to address the needs and requirements of emerging artists, or to provide adequate access to all those considering pursuing artistic practice (Thorne). Recent iterations in the UK context, from which *Mesh* emerges, that could be described as para-institutions, include *Syllabus*, *Into the Wild* and *School of the Damned*, which is founded on a principle of labour exchange between artists and other artworld professionals (School of the Damned). However, the history of artist-led experiments with institutional forms

in relation to arts education, which begin to approach the concept of the para-institution, stretches far beyond current responses to the commercialisation of arts education. This history can be traced through experimental art schools and artist experiments with educational forms, which push at the limits of and overflow the arts educational institution. Examples include Black Mountain College in the US (1933-57), which "maintained a slightly disdainful relationship to the idea of a school or academy" (Thorne 32), and Joseph Beuys' Free International University for Creativity and Interdisciplinary Research (FIU), which formed part of documenta 6 in 1977. Stemming from Beuys' belief that "each one of us has creative potential" and advocating a "spirit of democratic creativity" (Beuys & Böll), Beuys founded the FIU after he was dismissed from his teaching position at Düsseldorf for testing his belief in the latent creative potential of everyone, by accepting almost 150 applicants to his course.

*Dark Study* explicitly provides an alternative to MFA programmes, which it perceives as part of a broken system "designed to satisfy the demands of capital" (Woolbright). It focuses instead on the community-building capacity of education, in particular on serving the "underserved and underrepresented locked out of the racket of higher education" (Cherry & Maloof). Through mentoring, taught sessions and collaborative exercises delivered online, for free, to participants from multiple countries, *Dark Study* de-privileges technical training in favour of increasing literacy and critical interrogation of the operations of capital, class and empire in the economies and ecologies of contemporary art. The programme has been initiated by Caitlin Cherry and Nicole Maloof, artists and arts educators, who have drawn on their experiences within institutional settings in the formulation and delivery of the programme. It is through *Dark Study's* positioning of its

alternative arts education programme as a digitally-rooted para-institutional space, that my attention has been drawn back to the para-institution, precipitating a wider consideration of how the para-institutional and the online come together, and how the online context shapes the way in which the para-institutional plays out in this arena.

This marriage of the para-institutional with alternative arts education programmes and online technologies is perhaps not unexpected. Indeed, Ned Rossiter was exploring the potential of organised networks to rethink traditional institutional forms in 2006, positioning them as “transdisciplinary, distributive and collaborative” entities (13-14), co-emergent with online technologies. He argues that as institutions are a means of organising social relations, then the particular social-technical dynamics of online technologies inevitably “institute” new forms of sociality. Rossiter is particularly interested in how organised networks can reorganise education and challenge the university’s monopoly on knowledge, including through rethinking how educational resources are distributed as universities become more porous. He highlights the university’s own role in bringing about this situation, noting that “the advent of open education within an informational mode is conditioned by the crisis of the modern universities as they engage the neoliberal forces of commercialisation” (17) — and indeed, there is an important distinction to be made between employing online networked technologies as a means of enhancing accessibility, and as a cover for the outsourcing of knowledge production and “disassembling institutional frameworks” (30). However, Rossiter is more interested in how organised networks might align with independent educational networks, such as those run by migrants and activists, identifying organised networks as indulging “self-valorisation and horizontal collaboration”

(17), qualities embedded within many alternative arts education programmes that exist now, which are un-accredited and concerned with different distributions of knowledge and reshaping teacher-student relationships/hierarchies. Therefore, the movement of alternative arts education programmes, not only into online space, but towards being developed through available online technologies, could realise some of the promise that Rossiter claims for organised networks within the context of education, and disrupt established institutional structures by the use of the online, networked forms through which they are materialised.

*Dark Study* is not the only practice emerging out of a movement towards creating learning experiences and art worlds that are plural, inclusive and collaborative, led by their framing within online space. *Mesh wiki* is another such project that can also be described as centering para-institutional practice. Using *Mesh* as an example, I will break down how this project can be framed within the definition of a para-institutional space proposed by *Dark Study*, which is as a programme that is already consciously positioning the idea of the para-institution within this alternative arts education context, in order to explore the ongoing process of creating the para-institution and the tensions inherent in this. This includes how it is at once entangled with, but also moves beyond current institutional practice in its exploration of an alternative.

*Mesh: a sharing hub for emerging artists* was conceived by Esther McManus as part of her role as Artist Interpreter for the *Into the Wild* programme. McManus is a graphic artist and educator, with an interest in peer learning and support that emerges, in part, from her own experience within the zine and self-publishing community. *Into the Wild* is based at Chisenhale Studios in London, and is an alternative arts education

programme for artists in the first few years of professional practice. It is a programme that I coordinate as Artist Development Manager for the Studios, although the programme itself is artist-led, curated and facilitated by artist Sophie Chapman, with input and additional programming by the participants. It is a critical space to practically explore forms of artistic production that challenge dominant perceptions about individualistic advancement through the art world, in favour of more collective, mutually supportive ways of being and practicing. This approach was the impetus that drove the creation of the Artist Interpreter role. It was a means of creatively communicating the knowledge and experience shared by artists and artworld professionals involved in the programme, to disrupt the idea that access to knowledge should be exclusive, only available to the small cohort that *Into the Wild* is able to support as programme participants.

*Mesh* exists as a wiki site and programme of online ‘hackathons’ conducted over Zoom, which create moments for artists to come together to learn how to work with the wiki, to add to it and discuss it. The wiki was designed and constructed through a process of collaboration with participants of *Into the Wild*, with Esther McManus ensuring “that the group’s genuine priorities were represented”. It continues to be managed by a small group of *Into the Wild* participants, Matilda Glen, Niklas Gustafson and Zaneta Zukalova. Since its launch in May 2020, it has been added to by artists and arts workers involved in alternative arts education, through a process that McManus describes as “individuals coming together to share trusted resources”. Indeed, the purpose of *Mesh* is to build a resource, created by and for artists, that focuses on information that can support them to explore their practices outside of an institutional framing, or in making connections “between their local art

ecosystem and a broader national network of people who have a similar interest in grass-roots and self-organized” modes of working. To this end, it is divided into three main sections that promote self-directed learning and investigation: networks (an atlas of local resources and spaces around the UK); resources (templates and practical how-to guides); and inspiration (creative activities and recommended readings).

There is a lot within the idea of the para-institution that *Mesh* can be identified with, but McManus points out that the reality of working with *Mesh* and trying to build a community around it is not straightforward, and some of its para-institutional ambitions remain the ideal that it is working towards, rather than the current reality of trying to construct *Mesh* as a resource and community.

In order to understand how *Mesh* can be framed as employing para-institutional practices, and how such practices operate online, it is useful to explore how it functions in relation to the key facets of para-institutionality highlighted at the outset; how each of the four strategies, methods or ways of being identified in the definition at the start of this piece, contribute to a mode of operating “besides and beyond” the institution. These key areas are: “forming alternatives while overlapping [...] peripheral and ad-hoc, part but not part”; moving “beyond the logics of extraction”; removing “barriers to accessibility”; and “embracing new models of knowledge transmission” (Cherry & Maloof). I will examine each element in turn, drawing on McManus’ thoughts and reflections about *Mesh* in this process.

## Forming alternatives while overlapping — peripheral and ad-hoc, part but not part

*Mesh* exists within the space between the art school and the arts institution, in recognition of the limits of both of these gatekeeping structures, and born out of a desire to create alternative ways of working and connecting by early career artists. It situates itself within the interconnected fields of art practice, arts education, self-organized communities and artist development. Whilst there are other online resources built by individuals and groups for the benefit of artists, the concern of *Mesh* is to bring things together without attempting to ‘reinvent the wheel’ by replicating what might already exist elsewhere. The wiki form through which, in theory, anyone can contribute to the site embodies ideas of flattened hierarchies and distributed authorship. This means there is a productive messiness ‘inherent’ in such a project, which, as McManus describes, is “always in a state of development”. *Mesh* moves beyond being an online resource, towards attempting to build a sense of community through its hackathon programme, creating opportunities to ‘tangibly’ come together, as part of the ongoing, reflexive conversation about the developing use of the wiki; it is a space of feedback, critique, support and for creating moments of working with common purpose between a group of geographically dispersed individuals. The value of the “passage of time” is also important to McManus and influenced her conception of *Mesh*, as she prioritized the creation of an online space that could function beyond the constraints of “institutional, programmatic timeframes”. Thus *Mesh* reflects the reality that creative

ideas percolate across the whole range of timescales, and that learning is an ongoing process; knowing that there is a space that one can return to, as and when particular information is needed.

Whilst creating its own framework and methodology of practice, *Mesh* is directly connected with arts institutions beyond Chisenhale Studios through which it originated. Since its launch *Mesh*, increasingly operating as an independent project, has made connections with other arts institutions involved with artist development, particularly individuals working in institutional contexts that have engaged with, shared and contributed to the wiki, who are themselves concerned with the difficulties and barriers to accessing institutional support and expertise. These individual champions of *Mesh* are often acting simultaneously in an institutional and a personal capacity, blurring the distinction around where the borders of the institution lie when interacting with the wiki. However, there remains an inherent tension within the relationship between *Mesh* and the institution; *Mesh* exists within a space that is not held by an institution, but there is some recognition that it needs to continue to draw upon institutional support to sustain itself (in terms of developing audiences, drawing on expertise and potentially accessing funding). It therefore must negotiate this relationship with the institution without compromising the reason that it exists.

This can be seen as a fundamental paradox within para-institutional practice, that a project that is actively seeking an alternative beyond the institution, is at least in part reliant on the validation that institutional association can bestow. In the case of *Mesh*, this tension is also revealing of the concerns of emerging artist communities, for whom institutional endorsement holds great sway, “even if people aspire to or desire to not care so much about those things, or to reject those

things". McManus values what continued institutional engagement and support from different institutions could bring, particularly in its potential to raise the visibility of *Mesh* so that more artists can access it. However, there is a need to be mindful of the risk of becoming merely a promotional tool for the institution or institutional signifier.

Although *Mesh* has a need of the institution for support and visibility, the institutional engagement in its development and delivery highlights a recognition of the need for such a resource. It also brings with it an awareness that, as McManus says, the experience of institutional engagement "is not going to be a lot of people's experience of being an artist, or an emerging artist" — *Mesh* could therefore be seen as a vicarious form of institutional access. Indeed, in its position at the borders or peripheries of institutional practice, operating in a somewhat parasitical fashion, *Mesh* highlights the precarious status of the para-institution, of being both part but not part of institutional practice, where a withdrawal of an extended network of institutional support, risks it lapsing into inertia and dormancy. In its precarity it mirrors the community for whom it exists, and the peripheral status that many emerging artists might feel in trying to develop a professional practice, particularly if located outside areas that boast a lively art scene. Anna Tsing defines precarity in terms of "being vulnerable to others", of being "thrown into shifting assemblages, which remake us as well as others", where the status quo cannot be relied upon (20). In this sense, *Mesh* both attempts to create a space where those vulnerable to the vagaries of the art world can temporarily anchor themselves, whilst also embodying this state of flux as a shifting assemblage of information that has the potential to both remake and be remade. In this way there is an interconnection between the form of *Mesh* as a wiki and para-institution, and the potential form and politics of its intended community.

## Moving beyond the logics of extraction

*Mesh* is grounded in an ethics "of sharing and openness, but also of giving credit", promoting an ethos of mutuality over the extractive logics that underpin global capitalism through which resources are exploited for profit. Instead, *Mesh* is creating a resource and community that aspires to be self-generating, altruistic and self-sustaining. Contributors' additions can be contextualized and personalized by their authors in a way that might be less common within other resources, or when information is shared and re-shared via social media, as *Mesh* gives space to individuals to explain why a particular resource is valuable to them when they upload it. They can share what they know or find useful, whilst at the same time drawing on the information within it for their own practice. McManus' aim is for *Mesh*,

*to connect with the fact that everything that appears on there, has been produced by a person who is part of your community, and this is part of a conversation of people who are doing things. So I wanted it to be a really human space where things are up for discussion, but also people are seen and valued for what they're doing.*

Although it is down to individual perception, McManus implies that ideally, adding to the wiki should feel like participating in and contributing to a community of interest. It is not extractive in the same way as social media, in which individual contributions power a system that generates profit for others, and where many of the contributors may not recognize their input as labour towards this end. As a wiki, it is also possible, though not

compulsory, for contributions to *Mesh* to be credited (though they can also be anonymous), which is important in giving visibility to the time and effort taken to make a contribution to the site. Having said that, there is some tension between the ideal of many people contributing and being responsible for small pieces of information, and the present reality of a small number of people, who really believe in the value of this project, working to update and maintain the space, and to build a programme around it. McManus feels that at this point the amount of voluntary labour that people are contributing in their free time can start to feel more laborious. This is why currently the group managing the space is seeking funding to develop a programme of events around the site, which can help to shift the model away from its reliance upon them, by engaging a larger group of participants; building a community that will enable it to move towards an administrative structure that is aligned more closely with its ethos of mutuality and distributed responsibility.

Within the frame of non-extractive logics, it is important to note the use of non-proprietary software and the publishing of all information under a creative commons license. Information on the wiki can be freely taken and adapted to the needs of the artists that require it. There is often a gap between the ethos proclaimed by not-for profit arts organisations and their use of proprietary software provided for 'free' by tech conglomerates in Silicon Valley, which arts and technology non-profit Constant vzw describe as "the elephant in the room". But although meetings take place via Zoom and marketing happens via social media, *Mesh's* non-extractive ambitions are aligned to its form through the core software that gives it its identity. This demonstrates the potential of online forms as spaces within which para-institutional practices can flourish.

## Remove barriers to accessibility

However, use of the wiki software brings with it issues around the accessibility of *Mesh*. Whilst the wiki is open access, and the purpose is to remove barriers to accessing information and resources to support artists, the intended audience and communities do not necessarily have the digital literacy to allow them to easily engage with and participate in *Mesh*. From the experience so far, many don't find the technologies "obvious or easy, and it can be quite intimidating, and it takes time and interest". McManus feels that the unfamiliarity of working with wikis is a barrier for people and one of the stumbling blocks of converting a lot of the enthusiastic reception of the project into ongoing engagement; that it's "offering a lot of things on paper" that people feel are incredibly important, "but the way you connect is quite alien, and it's missing something of those things that bring the really good feelings of community".

This is where the online hackathons are particularly important. Hackathons have become partly a space of instruction, where attendees are talked through the process of creating an account and adding content. This happens as a group, but also through Zoom breakout rooms created to help individuals that are struggling to get to grips with the technology. McManus admits that it's "laborious", working with one person for over an hour to help them upload one piece of information, but it feels important in ensuring that *Mesh* is a resource that is genuinely accessible to the artists that could benefit from it. As such, the hackathons also become a research space to learn about *Mesh's* ongoing use from these people and the difficulties they encounter, to get a better sense of "what's working or not, what needs

improving”, which is also part of developing the accessibility of the site. This project of increasing accessibility also extends beyond technical support for artists to access the site, as it is acknowledged that accessibility is not just about digital literacy. Therefore, it is hoped that funding can be secured to consider accessibility in the round, including how the information uploaded is presented through the site to make it more accessible to disabled and neurodiverse artists. In this way the *Mesh* project demonstrates its genuine concern with getting the information out there, and trying to make sure that it is available to everyone equally who wants to engage with it. Ultimately McManus’ hope for *Mesh* is that “it can be empowering for people” and that a trustful community can be built around it, which is accepting of its inability to replicate the immediacy of other online communities or tools that are centered on communication rather than publishing.

## Embracing new models of knowledge transmission

From the perspective of the para-institution, the shift to online-only already signals an embrace of new (or at least newer) modes of knowledge transmission, which have notably proliferated within the last year. However, within this online framework, *Mesh* aspires to create a new way for artists to orient themselves within the flood of information online, through the perspective and experience of others. It is based on the premise that if a piece of information is useful or inspiring to one artist, it may very well be useful and inspiring to another, even if in a completely different way. As McManus notes, “information on the internet is not hard to come by, but understanding why it might be of use to you is

valuable”; being able to turn to personalized and trusted resources can “cut through the noise”. It is a place to pay it forwards, where there is no instant gratification for having shared something, only the hope in its future relevance and use to others. This is therefore a speculative model of knowledge transmission, delinked from the capitalist logic of working for profit or immediate gratification, and instead premised on an extended solidarity and altruism towards unknown peers. However, the promise of *Mesh* lies in the as yet unanswered question of how far this solidarity does actually exist, and whether it can generate enough of a community around it to sustain the “liveliness” that it has started to generate through the hackathons, towards a more developed use. It can only really sustain itself, without the institution, through becoming “the responsibility of many people”, but there is certainly an openness to thinking about the different models that could be employed to realize this ambition, including (and conversely) via a developing association with different groups and institutions.

## Para-institutions as border dwelling?

From establishing *Mesh* as engaging in para-institutional practices, and thinking about the realities and concerns of para-institutional spaces online, I am now interested in exploring a wider contextualization of online para-institutional spaces of alternative arts education and the potential of their re-articulation as modes of ‘border dwelling’, following Walter D. Mignolo’s theorizing of this term.

Border dwelling, or border thinking, is a method for inhabiting the interstices of a pluriversal world. For Mignolo, pluriversality is an ontological rejection of Western

universalism as a totalizing project, in favour of “viewing the world as an interconnected diversity” (“Forward” x). Within the ontology of the pluriverse, multiple cosmologies exist simultaneously, which are entangled through a “power differential”. Mignolo identifies this power differential as the colonial matrix of power, a perpetuation of colonial logics through the rhetoric of modernity. From this ontological position, one in which the world is an entanglement rather than a collection of independent units, Mignolo identifies a need for “a way of thinking and understanding that dwells in the interstices of the entanglement, at its borders” (“Forward” xi); an epistemology that recognizes that knowledge is formed through these entangled cosmologies. He proposes border-dwelling as such an epistemology. For Mignolo, the border-dweller occupies an often-uncertain societal position and transcultural experience; “the people who dwell in the borders are the migrants from Africa, west Asia (the so-called Middle East), and Latin America, predominantly” (“Forward” xi). Mignolo’s own experience of border dwelling is as an embodied, reflexive praxis through which he can negotiate (and write about) different Western and non-Western cosmologies as “a way and a method with infinite possibilities and permutations, to be sure, not constrained or prescriptive in its direction” (“Forward” xi).

So how and why should para-institutional practices within the field of alternative arts education be considered as a form of border-dwelling? And why is it appropriate to apply this border epistemology that emerges from decolonial theory in South America to such alternative arts education projects arising in the West? Whilst the experience of the border within the para-institution is not equivalent to the transcultural experience of the migrant, in thinking with the context of what it means to be a border-dweller within an institutional context, there are resonances

in the embodied process of navigating the uncertain position of the “beside and beyond” of the institution, whilst remaining part of an institutional entanglement at a conceptual and practical level. What’s more, Mignolo’s border epistemology actively works against the “territoriality of the disciplines” which is based in the colonial epistemology from which modernity emerges (“Forward” xi).

Similarly, alternative arts education models often offer programmes untethered from discipline specificity, for example as *Dark Study* directly addresses the pervasive impact of empire on contemporary art, or as *Mesh* gives space for contributors to add whatever information or activities they have found useful or valuable, explicitly making ‘Sorting Pile’ and ‘Wiki wish-list’ pages to accommodate content that might overflow or demand a redrawing of existing categories. What’s more, alternative arts education programmes are already a refusal of the (Western) universalism embodied by the university system in their active envisioning of alternatives and, in addition to working against the territoriality of the disciplines, they often work in opposition to the gatekeeping practices of arts education institutions, particularly in relation to who can participate, and what success looks like. As *Mesh* participants state, “we’re exploring ways of coming together, shaping our own artworlds and developing alternative notions of success” (*Mesh*). Thinking about the artist as a border-dweller in this context also acknowledges the often ambiguous status of the artist in society as negotiator and communicator of cultures.

Whilst engagement with the online is ubiquitous and therefore cannot be described in general as existing at the peripheries, within practices of arts education and the arts institution the online might still be described as a border space; even within practices of alternative arts education, which tend to foreground the social as it is enacted

through bodies coming together IRL. The (para)refusal of the conceptual and architectural ‘certainties’ of the institution for the online space is therefore a movement to the border. This is not a retreat. The proposition here is that there remains a capacity to build alternatives online, all the while negotiating the entanglement with the institution, in its various forms (as the art school, as the art gallery or museum). Although *Mesh* is nationally based in terms of the directory it has started to compile, the 2021 *Dark Study* cohort are attending from the US, Ghana, Mexico and China, and indeed *Mesh* hackathon attendees have included contributors from Romania and India, demonstrating the increased capacity for transnational porosity of these projects over physically sited alternative arts education programmes.

## Towards the Pluriverse

In reframing para-institutional practices as practices of border-dwelling, and thereby locating them within Mignolo’s border epistemology, it is possible to think them as part of the pluriversal project, creating an understanding of a pluriversal world through the experience of entangled knowledges gleaned within the borders.

Mignolo is clear that the process of constructing the pluriverse is a project of conceptualization through thinking and doing, both within academia and through communal projects; it is bottom-up, emerging from grassroots organising and through struggle; the ontology of the pluriverse creates space for plural practices, for alternatives. Crucially, Mignolo insists that the pluriversal horizon,

*is a space where changing the terms of the conversation (and, by changing the terms and reorienting the content of the conversation) is an ethically engaged project. By ethically engaged I mean that it puts institutions at the service of the people rather than people at the service of institutions, which was the spirit of westernization (“On Pluriversality” 107).*

This emphasis on placing institutions at the service of people sits at the heart of para-institutional practices. It is evidenced by the para-institutional emphasis on accessibility, new models of knowledge transmission and breaking away from extractive processes, which do, as Mignolo highlights, co-opt people to the service of institutions. Dwelling at the borders of institutions is therefore a fertile space to begin to at least question the terms of conversation and to work through the tensions that arise when reworking institutional processes and parameters as part of an ethically engaged project. Mignolo argues that “there is much we can and should do to create long term alternatives and pathways toward a life of communal horizons” (“On Pluriversality” 112), and para-institutional experiments online, I would argue, are a tentative step down that path.

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# MELT

(Loren Britton & Isabel Paehr)

## CON(FUSE)ING AND RE(FUSING) BARRIERS

### **Abstract**

In *Con(fuse)ing and Re(fusing) Barriers*, we activate the practice of coalescing to discuss and propose trans\* and neuroqueer ways of refusing access barriers and normative expectations. Drawing from trans\* feminism, crip technoscience, embodied experiences and our arts-design practice as MELT, we attend to ritual making as a crip and trans\* site of resistance. Rituals are activated throughout the text as practices that reduce access barriers, change habits, slow things down, or enact community rites of passage. We refuse (as in: fuse again) and confuse (as in: reconsider assumptions) separability, and trace how materials unfold in our arts-design experiments: concrete and errors become soft, rituals disorder normative space, and cosmic rays embrace neuroqueer understandings of computing. This text is an invitation to share and embrace rituals and refusal as interrelated modes that can make space for other worlds.

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## Introduction

This article discusses how trans\* and crip ways of refusing access barriers can be conceptualized and practiced through coalescing or fusing again, strands of scholarship and arts-design praxis. By attending to ritual making as a crip[1] and trans\*[2] site of resistance against access barriers, we understand rituals as practices that “create accessibility, mark important moments” (Critical Design Lab), slow things down, or enact community rites of passage with others who have had similar experiences (Lawliet).

We attend to practices of ritual making where they open up spaces for less oppressive worlds. Rituals exist within and outside of academia. To point to the form of this engagement, we will interject rituals that we have created as a way to introduce trans\* and crip ritualistic world making into this academic article. Understanding academic practices such as lecturing, citing, and reviewing as ritualistic, we ask how they could be performed in ways that exclude less people. Exemplary is the term “double blind peer review” — a practice that this article went through, and which entails reading and feedback by two anonymous scholars. Critiquing the ways in which many metaphors assume nondisabled embodiments, Sami Schalk writes: “The assumption that we can presume the existence of a shared understanding and knowledge of bodily (including sensory and cognitive) experiences that will serve as the concrete concept through which we figuratively communicate abstract ideas (as metaphors of disability do) is, however, very problematic. By and large, such presumptions rely upon allegedly universal experiences of the body: everyone sees, speaks, hears, feels, and moves in the same (nondisabled) ways.” Schalk challenges metaphors that assume compulsory ablebodied- and mindedness: in

the case of the “double blind peer review”, the assumptions that nondisabled people make about blindness have defined this term and practice. This academic ritual, amidst others, carries with it ableist assumptions of who is (not) part of academic production.[3]

As trans\* and disabled researchers, we push back against practices of exclusion and other access barriers, and show that coalescing trans\* and crip knowing-making sets in motion transformative material-discursive processes. Coalescing as a practice of fusing politics and matters is part of our ongoing collaboration on the *Meltionary*, which is a growing experimental directory that investigates different materials, metaphors and modes of melting. The *Meltionary* is a word play on the term dictionary, and it consists of *Meltries*, melted entries. To pursue our research, we boil up insights from chemistry, crip technoscience and trans\*feminism. We work to con(fuse) barriers not only as a praxis towards more accessible worlds but also as a way of understanding the links, fusings and frictional movements between the disciplines of trans\* theory, critical disability studies, design and technoscience.

***Ritual for bad listening: Take a piece of paper or your smartphone and for 5 minutes, write down every sound that you hear and/or sense (the humming of the heater, the chirping of a bird, the temperature in the room, the brightness of the light). Repeat this ritual in different settings if possible. When and where are you comfortable with listening/sensing? Do you listen/sense deeper with time? Are any of the things you hear/sense an access barrier for you or for someone you know? You can use this ritual as a way of checking in with a new space. This ritual is based on a text by Jonathan Smilges.***

## On Trans\* and Crip coalitions

We write this text within the present of and the wish for a future wherein trans\* people and disabled people maintain accountable, loving, radical coalition with each other. Recent perspectives for uniting the concerns of trans\*gendered and disabled people have been brought up by scholars and activists such as Dean Spade, Alison Kafer, Lydia X. Z. Brown, Leah Lakshmi Piepzna-Samarasinha, Remi M. Yergeau, Niamh Timmons and Alexis Pauline Gumbs. As this section mentions Applied Behavioral Analysis, ABA and other harmful practices used against trans\* and autistic people, we invite you to skip this section if you wish to.

As a shared site of struggle, both critical disability studies and trans\* studies scholars have highlighted questions around legitimacy by critiquing the need to qualify as “really” trans\* or disabled to medical or legal entities in order to gain rights or access to resources. In both strands of scholarship and activism, paradigms of pathologization have been rejected, however this has happened sometimes while still relying on ableist, white supremacist, chromonormative and/or cisnormative logics. On the difficult relations between trans\* experience and disability Susan Stryker has traced that access to medical services for trans\* people has often depended on the (self) pathologization or performance of trans\*ness as a “sickness” in order to legitimize any support (medical, bureaucratic, social) that transgender people may want. Niamh Timmons has described this as creating “a distance in which many trans people want to divorce themselves not only from medicalization and pathologization but also disability broadly” (49). This tension is further specified by Alexandre Baril and

Catriona Leblanc who point out that trans\* studies tends to assume a nondisabled trans\* identity whereas disability studies tends to assume a cis\* disabled identity. A lack of intersectional thinking between race, disability and trans\*gendered positions is a further concern here: as Chris Bell has shown for disability studies and Emily Skidmore for trans\* studies, both strands of scholarship assume whiteness. To be clear: conceptualizing trans\* and disabled experience from a non-intersectional standpoint must be refused.

Nothing can be gained by understanding trans\* and disabled experiences as separate. As Lydia X. Z. Brown argues, the common refrain that being transgender is not a mental illness and that there is hence “nothing wrong” with trans\* people causes exclusions for those who are trans\* and/or mentally ill or disabled: no one should be “subject to coercive treatment, paternalistic care models, and social stigma” (Brown). In the following paragraph, we trace the history of dividing trans\* and autistic struggles, and show how they are actively refused and fused again in autistic and trans\* coalitions.

Following Remi M. Yergeau, autistic people’s common noncompliance with gender rules has often been rendered as involuntary by researchers (“Authoring Autism” 70). In this damaging logic, trans\*ness becomes just another so-called autistic trait, and may lead researchers to assume that “research toward a cure on autism might lead toward research that cures transness or intersexness.” (ibid. 71) — while none of the aforementioned need curing! It is no coincidence that ABA, a widely used therapy model based on enforcing compliance and aiming at making autistic children appear nonautistic, was historically built upon the model of gay conversion therapy and until today includes “hours spent on social stories that reinforce stereotypical and cis/heteronormative behaviors.” (ibid.

29) That these gender performance norms “require” practice and are commonly refused by autistic people shows that they are just that: specific values that privilege gender conforming and allistic (non-autistic) expression. Further, the fact that autisticness is weaponized by some medical professionals as a reason for not believing trans\*ness, and that TERFs[4] claim to want to protect autistic people from gender “confusion” demonstrates that trans\* and autistic people have nothing to win from understanding their struggles as unrelated. Trans\* and queer autistic people have invented concepts such as neuroqueerness (Walker) that celebrate the entanglements of neurodivergence and queerness. Neuroqueerness re-fuses an understanding of neurodivergence and queerness as separate and exclusionary categories fusing these concepts anew.

Our research in the *Meltionary* follows sites of knowing-making and produces knowledge that crumbles barriers that systematically deny access for trans\* and disabled (people of color, poor, migrant, undocumented, elderly) people. We follow Alison Kafer and question the “very categories of “disabled people” and “trans- people” to highlight opportunities for “queercrip alliances” (151). Legitimization through bureaucratic and medicalized frameworks is a logic that we refuse – instead we call for queercrip alliances towards practices that exceed binary gender and ableist normativities.

***Ritual for tending to the “not perceivable”:* From Undrowned by Alexis Pauline Gumbs, spend time with the question: “What becomes possible when we are immersed in the queerness of forms of life that dominant systems cannot chart, reward or even understand?”**

## On Rituals as disability and Trans\* liberatory practice

Rituals, understood and activated in trans\* and disabled world-making invite a stepping away from whatever normativities and can allow emotional, technical and/or physical access into spaces that exclude. Practicing nearby the work of Tina Campt, we trace her words as she describes rituals as “practices that are pervasive and ever-present yet occluded by their seeming absence or erasure in representation, routine or internalization” and continues, these are “practice(s) honed by the dispossessed in the struggle to create possibility within the constraints of everyday life [... the] quiet and the quotidian are mobilized as everyday practices of refusal” (4). This can mean: caring for and talking about our feelings, noticing ableism in spaces we are in, letting go of bad feelings about deadnames, recognizing our embodiments, using different pronouns, questioning assumptions built into technologies, refusing to speed up even if that is the normalized tempo, refusing gender as binary and refusing compliance with racism.

Disabled people engage rituals and routines as everyday survival strategies and for pleasure, though as expressions of a lived disability experience they are often pathologized. For example in autistic people, a desire for routines, stimming, the repetition of movements such as rocking one’s body, and echolalia, the repetition of sounds that one finds calming or joyful: *rituals, rituals, rituals*, are often interpreted as disordered. Ironically, these ritualistic practices are actually ordering for those of us who practice them, as for example stimming can help regulate sensory input. Similarly, the sometimes detailed preparation for conversations that autists engage in as well as our repetition of

quotes from books or movies is called scripting, but the ways in which allistic people go through scripted conversations in small talk is seldomly understood as such. Rituals for trans\* and disabled people also exist beyond individual experience and are practiced within communities in the forms of access or pronoun rounds. These rounds create space for people to bring up how they wish to be addressed in naming practices, and to communicate how the group can reduce access barriers for them. This ritualistic way of checking in upholds that pronouns, names and access needs are not stable attributes, but are in flux and can unfold differently in various times, spaces and groups. As Alexis Pauline Gumbs writes, “all oppressed communities have been intentionally fragmented and could benefit from intergenerational rituals and story sharing” (“Black Feminist Calculus Meets Nothing to Prove” 310). Claiming ritual means questioning paradigms of pathologization and fragmentation and rendering rituals as sites for resistance that have the potential to disorder normative space.

***Ritual for questioning institutions:  
Next time you are at an institution  
of any sort: academic, immigration,  
medical, juridical, transport, take  
note of who is present. Why are they  
there? What are they doing? Who  
isn't there? What would be different  
if those missing people were there  
too?***

## On refusal

Refusal is a key force in trans\* and disability organizing and theorizing, as is evident in the *Crip Technoscience Manifesto* by Aimi Hamraie and Kelly Fritsch. Crip Technoscience

describes “practices of critique, alteration, and reinvention of our material-discursive world” (2) as well as a “field of knowing” (2). With the term crip, Hamraie and Fritsch point to “the non-compliant, anti-assimilationist position that disability is a desirable part of the world” (2). Crip Technoscience is built upon what Leah Lakshmi Piepzna-Samarasinha has described as Crip Science: “the skills, wisdom, resources and hacks disabled people use for navigating and altering inaccessible worlds” (69). In the following sections we will introduce three material experiments that deal with moments of refusal as trans\* and crip worldmaking practices.

***Ritual for doors: You can perform  
this ritual when you are standing  
or sitting in a door frame. Trace  
the frame and dimensions of the  
door with your eyes or hands. Ask,  
depending on bravery, situation  
and voice, loudly or in your head:  
“Is this door open for” + “X”. For  
X, choose or add: disabled people,  
wheelchair users, trans\* people,  
Black people, neurodivergent  
people, poor people, people of  
color, queer people. If not, make a  
commitment to open it.***

## Three acts of refusal from the Meltionary

### ***Rituals Against Barriers***

(<http://meltionary.com/meltries/a.html>)

In our *Meltry*, “A — Rituals Against Barriers”: we refuse barriers as structural conditions or unreflected habits that prevent people from entering or being in a space. This can include stairs, fluorescent lights, or the often high

(energy and financial) costs associated with changing one's legal name. Barriers speak to critical disability scholar Garland-Thomson's concept of "misfitting", which describes the relations between the built world and those bodyminds for whom it does not account yet. Misfit experiences are epistemological and generative: forms of "knowing-making" (Hamraie) emerge from them. In this *Meltry* we developed and invited others to join rituals that: make soft hard systems (and structures), render barrier reducing work as processes that require repetition, make immediate or slow changes, and amplify changes that are already ongoing.

In order to literally drive wedges into structures that exclude, we set up material experiments that changed the openness of doors. A wedge is a triangular shape or cone that has a thick tapering to a thin edge and that can secure or separate objects such a door and a door frame. To question who and what fits through given doors, we made wedges out of different transformational materials such as ice and snow. To produce ice wedges, we shaped hollow wedge forms out of playdough and poured water into them and put the whole setup into the freezer overnight. The next morning, we removed the playdough and shoved the ice wedge underneath the crevice of our heavy metal studio door that usually rapidly swings shut. The ice wedges interrupted and slowed down the process of closing, instead they fore-closed the binary of the door being either open or shut. In some tests, the wedge kept the door in different degrees of openness, in others, it swung shut above the wedge. When we inserted the wedge into the frame itself, it was partly crushed by the weight of the shutting door while still holding the door open. The wedge was not always reliable: in one test it completely melted away. Often, it did not leave enough space for us to pass through the door even though the door was

technically "open". The melting process left behind water and playdough residue and stains, traces and water puddles leaked all over our floor. To create snow wedges, we formed snow into triangular shapes with our hands. Our touch condensed and slightly melted the snow, making it possible to fuse differently dense wedges while feeling the tingling that the cold material in our hands evoked.



**Figure 1:** An ice wedge is inserted underneath a metal doorframe on a grey floor. The wedge holds the door open.

These experiments melted barrier reducing work into processual, frictional and messy processes. Working on crip time (Samuels) we linked our office availability to the openness of the slowly melting wedge that gradually closed our door, we played with how not every wedge can create access through every door, or maybe can only do so until conditions change. In *Rituals Against Barriers*, wedges are difference making devices that can fuse access into the conditions of any space.

**Ritual for slow time: We have set up a “world of text” — a browser environment in which one can write collaboratively and in a spatial, non-linear way. This ritual is an invitation for you to respond to these questions: When have you refused a timeline that was given to you? What happened when you did? Is there any current timeline that does not fit your needs? On <https://www.yourworldoftext.com/Meltionary> feel free to answer in as much detail as you like, wherever you like.**

## ***Refusal in Hacking Concrete***

(<http://meltionary.com/melttries/c.html>)

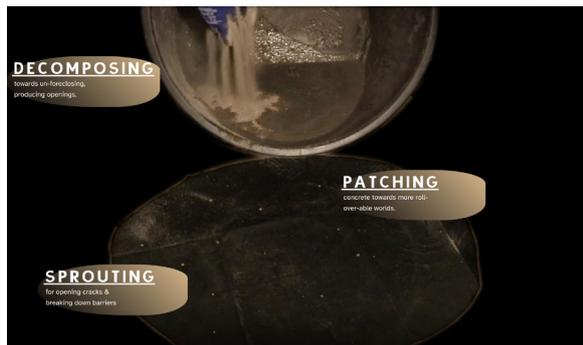


Figure 2: A screenshot from the online space shows a hand pouring concrete powder into a bucket that contains a brown mass of wet concrete. In the foreground, the banners of the website have the words “DECOMPOSING”, “SPROUTING”, and “PATCHING” written on them.

The next *Meltry* we share from our research is titled “C — Hacking Concrete”. *Hacking Concrete* is an interactive online space that leads visitors through three storylines on patching, decomposing and sprouting with concrete. Concrete in its many states is visible, audible and readable in the footage that we display, and its materiality unfolds

in the forms of dust, mush, cracks and other soft and hardened structures. Tending to concrete’s materiality, we experimented with refusing access barriers that are caused by hardened structures. In the forms of videos, images, sounds, and texts, the concrete in our work remains ‘open’ and un-fused as a material that is not yet ‘set up’ or cured or hardened. We both studied concrete as dust, powder, slush or goo, and as a metaphor in language when it is used to express that something is to be made solid or fixed. This work studies ways that concrete unforms and operates otherwise than it is colloquially considered to be: solid as rock.

To make something ‘concrete’ often means that it is rendered precise (“please be more concrete”) and/or unchangeable (“let’s make this date concrete”). Disability history refuses narratives of unchangeability. The design and construction of the built world has always been political for disabled and trans\*gender people: who is on the sidewalk, who is out in public (Bates et al.)? In *Building Access, Universal Design and the Politics of Disability*, Aimi Hamraie tells the story of disabled people and their accomplices driving around in Berkeley, California in the 1970s to take sledgehammers to inaccessible streets in order to cut curbs, repour cement and physically make the streets more accessible (95). Reflecting on this history, Aimi Hamraie asks: “If we take a sledgehammer to the seemingly concretized sidewalks of disability rights history, what layered sedimentations of resistance do we find below?” (ibid. 103). Following these layers of resistance, Hacking Concrete plays with practices of slowing down solidifications in materials and in language to discover openings in structures initially rendered as unchangeable. We have concretized a time to smash the sidewalks apart: how’s 19:00 tomorrow for you?



**Figure 3: Dried chunks of concrete are displayed on top of a grid. Some of the chunks are inside of rectangular boxes filled with dirt, like they have been planted.**

Hacking in this project is a way of practicing crip and trans\*feminist intervention towards worlds that are more accessible and joyful. Micha Cárdenas suggests hacking as a political project combining “technological creativity and imagination with activist campaigns and projects” (Tanczer). In line with Remi. M. Yergeau’s emphasis that “Bodies are not for hacking. Bigotry is.” (“Disability Hacktivism”), we hack bigotry by playfully refusing seemingly closed systems such as the hardened concrete structures of the built world. In *Hacking Concrete* we practice with modes of examining, remixing and studying (Empowermentors Collective) with the aim of refusing and subverting ableism.

*Hacking Concrete* hacks and remixes concrete towards finding instabilities that can inform pathways towards less oppressive worlds. Disproving concrete’s assumed rigidity allowed us to find access and rewording potentials in a material that surrounds many of us in cities and concurrently restricts

access and movement for so many. Informed by the revolutionary work of our trans\* and disabled ancestors, this work makes openings to create chances for reforming worlds and hacking concrete towards just presents. Refusing the consolidation (or curing and hardening) of worlds, pathways, lumps and other so called ‘stable’ things led to holes, gaps, patches and pockets of smell to figure what other propositions for ‘making it concrete’ might be possible.

***Ritual for abolition: Make a list of ways to address harm and conflict in your everyday life that do not relate to punishment or incarceration.***

## *Etching Towards Non-Binary Computing*

(<http://meltionary.com/meltries/p.html>)

“P — Printed Circuit Boards: Etching Towards Non-Binary Computing” is a *Meltry* in which refusing binary logics lit a fuse on material experiments with computational objects.

Computation is often constructed as both binary and immaterial with zeros and ones presented as an undeniable, immaterial grounding basis of computation (Plant). To refuse binary logics and notions of immateriality (Blanchette) we experimented with the material processes that computation involves such as acid etching and soldering towards finding non binary paths for electrons to flow through. Working with printed circuit boards (PCBs), cosmic rays and some DIY etching we looked into slips, interruptions and softenings already evident in computational practice.

We found an accomplice for this work in cosmic rays. Cosmic rays cause trouble with electronics: as high energy (often hydrogen) atomic nuclei, they escape the solar systems of collapsing supernova stars and speed through space at the speed of light. Entering the atmosphere of Earth, cosmic rays interfere with the binary state of computational bits and mess with memory and processing. In processes called bitflipping, a zero is turned into a one and vice versa. Cosmic bitflips occurred in the 2003 elections in Brussels, Belgium (Adler) where 4,000 more votes were cast for the communist party, than there were people in that city district. This example leads us to the conclusion that the universe is not okay with binary logic; and thus we are joining the universe in pursuing non-binary ways towards post-binary computational futures. To do so, we pursued conducive etchings on printed circuit boards (PCBs) that follow waves of inquiry towards non-binary computing.



Figure 4: The word “SOFT” is lightly etched into a copper board.

A soft error is an error that doesn't imply that anything is wrong or unreliable about the system that the error occurs in. Soft errors are common, expected, and often caused by cosmic rays. As soft errors happen because of cosmic ways of refusing the binary, they are already working towards non-binary computing. In common computer systems, these interruptions are only possible to be understood as “soft” errors because there is no other legibility for them encoded into technical devices. We attend to these soft errors and wonder: what if problems were not registered as errors but rather as potentials for change? (Ahmed)



Figure 5: A cascading structure has been etched from a copper board and additionally been cut out in Photoshop so that just the tree shape appears as if surrounded by copper.



**Figure 6:** On a copper board photographed from an angle, multiple treelike structures, the non binary trees, have been etched away. They are more shiny than the rest of the copper.

Non binary trees draw their shapes from particle tracks of cosmic rays. Unlike computational binary trees, which usually split into twos or multiples of twos, the non binary tree has no definite shape. After traveling through space, cosmic rays meet the Earth in patterns that are called cascades or showers. At this point, cosmic rays split into electromagnetic, hadronic and masonic components (Heck) that have shifting, unstable and multiple fractures. We read these cosmic ray cascades as non binary trees that create figures for accounting towards unstable and multi-temporal realities in computing. Etching their shapes into copper boards, we created messy connections and short circuit currents.

In these etched experiments, we played with ways of sensing the spectrum of signals that cosmic rays and the universe are sending towards the Earth. By understanding the material queerness of the universe as expressed through cosmic rays, it became clear that non-binary perspectives in computing are already active.

## Conclusion

Understanding coalescing as a practice that acknowledges difference and refuses separability (Da Silva), we suggest to invent and engage rituals that fuse struggles and that resist barriers. As we have pushed back against mechanisms of exclusion, materials

have unfolded differently than expected in our experiments: concrete and errors became soft, rituals disordered normative space, and with cosmic rays, we embraced neuroqueer understandings of computing. In our practice refusing is not about pushing back only against certain paradigms but is also about invention with materials towards fusing present conditions otherwise. Refusal links the words re-fuse as resistance and also re-fuse as a bringing together and forming connections. Creating coalitions across difference makes for new connections as we have shown with the example of autistic and trans\* work.

We are closing this paper and invite you to fuse with us again what has been separated, by practicing with us across time rituals that help make a future where the possibilities for all nonconforming ways of being flourish. As a final gesture we invite you to participate in one last ritual with us.

***Ritual for nonconforming technoscience: Remember the last thing you read that had something to do with technology. Go back and notice its assumptions. Who is included? What world view does this further? How could it be different? What is different in your own approach?***

## Notes

[1] We are using the term crip to refer to disability as a political orientation and to demonstrate that we share the political vision of anti-assimilationist access that crip theory has formulated (see McRuer; Kafer; Fritsch). When referring to our own embodied experiences we also use vocabulary developed around neurodivergence (Brown; Hamraie; Yergeau; Walker).

[2] Trans\* as in trans\*gender studies (Stone; Koyama; Stryker), accounts for the fact that gender as it is experienced is more varied than can be accounted for by binary ideologies (Stryker). The asterisk is taken to signify an opening of trans\*gender to a greater range of meanings (Tompkins).

[3] We attend to the ways in which ritual practices can be both a resource for the liberatory work of minority groups who push back against ritualized oppressions, and also a way in which oppression becomes normalized by dominant and oppressive culture. In *Dark Matters*, Simone Browne points to “the ritualized practices and trauma of white supremacy” (105) which our praxis specifically attends to and pushes back against.

[4] Transgender exclusionary radical feminists are so-called feminists who believe that gender is assigned at birth. To be clear we understand gender from a trans\*feminist perspective that recognizes gender as constructed and self-, contextual- and community- determinate.

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# Nothing Happening Here (Kelsey Brod, Katia Schwerzmann, Jordan Sjol, Alexander Strecker, Kristen Tapson)

## NOTHING RE-FUSED: PERFORMING THE NEO-INSTITUTION

### **Abstract**

In this paper, we outline the shape of a new institutional structure born of neo-liberal precariousness that we call the neo-institution. The neo-institution is immune to refusal, while at the same time an expert in extracting labor, time, knowledge, and attention. Because there is no way out of the aporia that is the neo-institution — no practical way to re-shape or refuse it — we propose to partly subtract ourselves from it by instigating another way to assemble. We advance the theoretical practice of stitching as a form of assembling that does not erase traces of labor and fight and that eludes any totalizing tendency. Understood as a way of assembling and writing, stitching is a practice of repairing, repurposing, and holding together. Finally, while fatigue, exhaustion, burn-out, and depression are the inescapable result of neo-liberal precariousness, we praise the entropic ability of the body to refuse to be treated like refuse.

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*“Do you mind if I write you? [...] Please be honest if you’d like me to dam or redirect this flow; my implicit desire to volley should not be burdensome.”*

— *Lite Year*, Tess Brown-Lavoie

*“what traces of strain deserve to remain in that which we show others”* — *Nothing Happening Here*, 23X120, 23IV21

*“Oops we stitched it again”* — *Nothing Happening Here*, based on Donna Haraway and Britney Spears

Academia, these days, can be pretty bleak. This is known all too well. What’s sometimes called ‘precarity’ is experienced widely, and ‘precarity,’ as a concept, is widely-deployed. Over at the Society for Cinema and Media Studies (SCMS), for instance, they’ve founded a new sub-unit, the Precarious Labor Organization (PLO), run mostly on the volunteer labor of (you guessed it) precarious academic laborers. In August of 2019, Dr. Caetlin Benson-Allott, the editor of SCMS’s flagship journal, approached the laborers of the PLO, offering them the opportunity to explain their mission by publishing a manifesto in the journal. As they later wrote:

*The offer was a welcome one. It represented an opportunity to announce the mission of the new organization and a chance to further the conversation about how to transform the field of film and media studies to acknowledge and include precarious faculty. (Brasell et al. 2)*

So they started emailing each other, trying to coordinate, to find time amid the churn and crush of semesters and quarters. Excitement about the project was widespread. The opportunity was appreciated! In the end, though,

they did not produce the requested essay. As time wore on, one by one they had to gracefully bow out. Instead of the essay, they decided to publish their email correspondence, appended by their three-point mission statement and preceded by a two-paragraph explainer and this message: “Contingent laborers cannot afford to perform the unpaid labor demanded of academics for work such as this.” (1) Why did they do this?

*In theory, academics contribute to journals, academic organizations, conferences, etc., because they are being compensated for it by their institutions. Now that the majority of scholars are not in TT positions, we are expected to contribute in the same ways without any compensation at all. I think it would be great if our essay (manifesto? statement of principles?) somehow addressed the inherent irony that even this well-meaning offer (presented by the editors in the spirit of allyship) is in itself an invitation to participate in our own labor exploitation. (Brasell et al. 4)*

There’s an obvious act of refusal, here. The laborers of the PLO did not produce the essay. But there is another act that caught our attention, and that’s an act of *salvage*. When the ‘opportunity’ became overwhelming, the PLO looked around, and decided they’d already produced something of value. The email chain, usually considered (if considered at all) as the para-textual detritus of producing a collective essay, became the project itself. Normally, so much effort goes into *concealing* the effort that goes into an essay: as we ‘polish’ our writing, we strip away scaffolding, delete hesitations, root out digressions. We project cool authorial authority, the effortlessness of the finished thing, all evidence of strain and struggle buffed

out. But the PLO upended this expectation. Exceedingly appropriate to their stated mission, what they put out into the world was *precisely* the imprint of their labor.

Even more, they salvaged the opportunity itself. For rather than withdrawing in defeat, they did publish, and each listed author will gain at least whatever currency another article will get you. Subversive as the gesture of refusal may be here, it is a refusal *and*. Refusal of the prompt *and* claiming the opportunity.

*What about us?*

*We're tired too.*

We are PhD candidates, PhD students, postdocs, lecturers. But who amongst us — us on this side of the page and you on that side — couldn't say "we're tired"? If you're reading this, you probably already know plenty about the precarization of academic labor, the paucity of tenure-track jobs and the attack on existing tenure lines, the adjunctification of the academic workforce, the growing administrative and institutional burdens put on even those lucky enough to have tenured or tenure-track jobs, the evermore imperious demands put on graduate students to professionalize, professionalize, professionalize, the apocalyptic (and frankly demoralizing) tones in which the horrors of the current state of 'the job market' are explained to academic aspirants, always pitched as a reason to work harder, longer, and more strategically. Give yourself — your whole self — to the vocation. Build an online brand, create a website, preferably with the URL yourfullname.com. Network on LinkedIn and Twitter. You know, you know, you know. We know, we know... So, why go on about it? Why go on at all?

This is what we wondered; this is what led our ragtag band of variously precarious researchers to start working on "nothing" a

few years ago. It was what led us to transmediale and its theme of "refusal." We all agreed we could use some good refusal these days, so we got together and did some work, submitted a proposal, and then we were in. Yes! Excitement was widespread. We looked forward to working with each other, to working with the other groups, even if we wouldn't get to go meet them in Berlin, as in years past. Sure, we wouldn't get to pick up thick-glassed brown beer bottles at the Späti and take them on meandering walks with new friends, talking about Agamben or Haraway or whomever, then forgetting about theory and the rat race and LinkedIn until at least the next morning. But at least we'd have Zoom conversations, intellectual community, co-conspirators in refusal.

Then we were given our duties:

- "Post 2 or 3 short essays/statements/provocations [on the aprja listserv] per group to open up discussion with all participants (up to 1000 words)";[1]
- Moderate the ensuing discussion, or respond to the texts of the other groups on the listserv;
- Present your progress in a 20-minute Zoom presentation;
- Contribute a short text (ca. 500 words) to the transmediale newspaper;
- Make a podcast;
- Write this paper.

We're tired.

It's time to submit an article to the scrutiny of peer review, the contours of which, in this situation, we know very little about, since we're not even sure if there's an open call or if it's only the transmediale research participants who are invited. We're not being *forced* to submit, of course. We're not *expected* to. It's all an *opportunity*. We wonder, will our

names finally be acknowledged on the transmediale website if we oblige?

Why are we doing all this free labor? We were interested in the comments of our peer reviewer on this issue:

*In general, I quite like this paper... Speaking from my own experience there are vast amounts of editorial labor that are never accounted for or rewarded by the university. For instance at this point I've spent at least 16 years working in critical / autonomous publishing (including 12 years editing an open access book series with 40+ titles in it) — but this has never appeared in a single university workload allocation model or been rewarded by my university at all. So why continue doing it? Well, because I do have the privilege of having a relatively stable and secure job and thus I try to spend as much time as I can making space for others to inhabit and do things with as well, precisely because of how difficult conditions are. Does it always work? Definitely not, but I keep working at it. So there's also a logic of unpaid labor where that unpaid nature of the labor is a potential (insofar as it's less regulated, tracked or managed), particularly when the unpaid labor is oriented to the social reproduction of other forms of being and thinking together.[2]*

We agree. We are not asking to be paid cent-for-cent, to have each and every act of work or care or play brought onto the ledger, to live and think transactionally. We don't want every debt balanced out — we like bad debt! But we want enough. Enough time, enough money. Unpaid work grants us irreplaceable freedom, but the condition for this freedom is a job stable enough to give

us enough time and security and cash to do this work for free without driving ourselves to exhaustion. We don't have this security. But we do like the work.

So we get on Zoom in our small group and see if anyone has the energy. We start looking through our old materials. We exchanged emails about the project early in the — god, how long has it been? — process of transmediale. We collected those emails in a Google doc. Later we dutifully sent our list-serv 'provocations.' Then we wrote a series of letters to each other. We never did anything with those. And then there's the newspaper, with its phantom audience and far-away material existence, so we're told. We wrote a piece for the newspaper that included a little gnashing of our teeth. No one seemed particularly bothered — there was no evidence of anyone feeling indicted — certainly no one decided to talk to us about it.

One of us brought up something we'd talked about, one of the many things we'd talked about. We liked the connection between the verb refuse and the noun refuse. At several moments, we had considered submitting as our contribution to transmediale the para-texts of our emails, our letters, etc. One of us wrote that they were happy with "an email thread potentially as a product coterminous with its production,"[3] wishing to abnegate the labor of revision and the imperative to polish. We liked the idea, but we always ended up not doing that, instead writing more, working harder, buffing out the evidence of labor. Now, we figured, we could do a little recycling. The article was only meant to be four or five-thousand words, after all. We had plenty of material. So we sat on Zoom once more and highlighted passages from our collectively-generated archive as they struck our fancy. The story about the PLO, for instance, we had used for a forum post. The epigraphs came from our letters.

This is what we've decided to submit to the scrutiny of peer review. Another collective rehashing of the refuse of our collective thought and labor over the course of this — how long has it been? — session of transmediale. Quotes, sparks, thoughts, and ideas from emails, letters, forum posts, and a newspaper article, yanked and stitched, cyborg-like, into new writing. Why would we do that? Not just because we're tired, not just because we've worked, but as a direct response to our institutional context. Here, let us tell you what we mean...

## Welcome to the neo-institution

At this point, you probably don't need another generalized description of the destabilizing impact of COVID on our lives. Though it should be noted, once more, that this impact was both global and, at the same time, completely differential and localized. An antinomy that complicates any efforts at producing a too easy 'we' from one of the most truly planetary-scale events in recent decades. But what we — the five of us — can speak about is our experience, over the past several months, of something we've taken to calling 'the neo-institution.' The neo-institution, to be clear, is not wholly new.[4] And yet over the past year of forced disaggregation, disciplinary solitude, and remarkable social obedience, the neo-institution has become more commonplace and our fluid, ever-more digital daily lives more amenable to its slippery, invisible nets.

We use many of these words advisedly. To begin, even our own internal 'we' remains protean. Our five positions have shifted, open and fluid, over discussions in email, Whatsapp, Zoom these past months. We continue to turn over and over where we each

stand: with each other, with the other transmediale research groups, and with/against institutions. But to offer you something from these ongoing struggles—what about a collective definition of the word 'institution' and whether this word, in new forms, could be applied to transmediale?

We cite ourselves:

*If we think of an institution as a material-discursive structure that articulates knowledge and power in a way that affords or prevents certain actions and discourses... institutions can be more or less conservative or neoliberal, more or less extractive, more or less repressive and so on — not good or bad per se. In fact, I am more interested in analyzing what kind of institution transmediale (hereafter abbreviated <sup>TM</sup>) is compared to Duke. I am interested in the way a lot of current research and art institutions manage to put their participants in the affective state of feeling like they owe the institution, that they are indebted, in a way they can never repay, while at the same time extracting the labor of the participants, often for almost no compensation.[5]*

How does this apply to transmediale? In our initial exchange with the organizers (November 2020), we first received confirmation that our research proposal had been accepted, and the organizers conveyed to us how excited they were to share ideas and enter into a collaboration. The heart of our hasty reply: "we're clearly thrilled to take part :)" — yet during our first meeting together, just a week later, our group's excitement began to wane. From an early stage, we felt the disjunction of watching our fellow refusers express gratefulness towards <sup>TM</sup> for mere inclusion in the proceedings. <sup>TM</sup>, for its part,

organized very little on our behalf, leaving us with the bulk of the work. Such horizontality bears one mark of the neo-institution: a vague structure is given to the participants with the promise of freedom of decision-making and self-organization. This empowered autonomy sounds great — except that <sup>TM</sup> hardly offered any structure at all that might support the refusal of research. We complied.

We complied because <sup>TM</sup> provided the conditions for our assembly — meeting times, deadlines, a plethora of ‘opportunities’ to share our work. As a result, we cannot do what we want to do, say what we want to say, assemble how we want to assemble without reinforcing conditions we assemble against. As Judith Butler writes in *Notes toward a Performative Theory of Assembly*:

*None of us acts without the conditions to act, even though sometimes we must act to install and preserve those very conditions. The paradox is obvious, and yet what we can see when the precarious assemble is a form of action that demands the conditions for action and living. (16)*

How to refuse something that invisibilizes its power either by its own ignorance or by its refusal to take the responsibility that comes with it?

Over time, as obligations multiplied, our irritation mounted. As the PLO email writers recognized, we are not paid one cent to produce cutting-edge discourse in the progressive framework of ‘refusal.’ Long-running inter-institutional arrangements between academic institutions, conferences, book publishers, and journal editors have broken down, replaced by a landscape of incompatible neo-institutions and precarious individuals seeking some small measure of stability for themselves. This makes the use of the theme ‘refusal’ all the more troublesome. In

the name of refusal, <sup>TM</sup> can profile itself as a leading site of discourse, which in turn allows it to obtain funding from yet other institutions. But, then, at what stage, in what instances, and by whom was refusal meaningfully enacted?

Early on, one of us wrote:

*What we are onto is the embodied and affective practice of producing institutional contradictions that we refuse to resolve, and that, instead, we want to bring into the realm of perception through diverse theoretical and practical means. I see it as a philosophical, scientific, and artistic experiment all at once.*

Another of us elaborated,

*Concretizing things to refuse via embodiment seems crucial, which brings me back to the call for an “embodied and affective practice of producing institutional contradictions that we refuse to resolve.” I think that’s brilliant. There’s pleasure in pleasing and refusing to please and accidentally refusing to refuse to please.[7]*

In other words, we proliferated potential experiential models for noticing (and not noticing) our individual and collective acts of refusal. Refusing the neo-institution, as we were beginning to implicitly theorize, is not a straightforward assignment. When there are always more participants willing to produce, refusal to contribute has little impact. The cycle repeats, and fresh opportunities to try new, failure-bound strategies for refusal present themselves. The question is: have we come to a point where the only ones who can effectively refuse are the ones who are not risking anything serious by refusing? And if this is right, is refusal still an effective

ethico-political strategy? No one cares if I refuse to play this neo-institutional game. There are legions who will replace me. You/me are most likely refuse already.

A text we circled around in our thinking, talking, messaging, writing was Athena Athanasiou's essay, "Performing the Institution 'As If It Were Possible.'" As Athanasiou asserted, years before COVID-19, "The conditions of possibility for being-in-common are being destroyed by the institutional forces of dispossession that underlie the contemporary regime of neoliberal rationality. And yet, induced precarity can serve as an ethico-political resource for effecting responsive modes of being-in-common, whereby a certain impossibility of being-in-common might also be shared" (680). These institutional forces of dispossession come in many forms: racism, sexism, neoliberalism, heteronormativity, and patriarchy being some of the most visible and destructive. But dispossession also makes itself felt in more insidious ways, especially among purported equals. Sharing a 'here' with someone is hard when there are unspoken hierarchies, unchallenged norms, and unreflected positionalities — in other words, when you don't actually share a here at all. But among those who are dispossessed, whether in ways large or small, Athanasiou promises a potential 'being-in-common,' even as she recognizes its very impossibility.

™ brings to light a form of institution distinct from the public institution Athanasiou sees as imperiled by its neoliberal privatization (even though ™ is publicly-funded). The question for us is how to take on Athanasiou's call to perform the institution "as if it were possible" (682), how to 'resist,' 'reinvent,' 'reform,' 're-institute' something that does not offer any grip. The neo-institution cannot break: it is made of a silicone-like material; very smooth to the touch like a cake mold. It can be baked at high temperature and won't

melt. You can deform it; it will take back its shape as soon as you release the pressure.

A symptom: organizing the unpaid labor often falls back on the unpaid participants of the neo-institution. For instance, one of us organized a meeting with ™ — which had been demanded by ™ itself. ™ didn't show up nor did it write back. The neo-institution relies on the organisational labor of those not responsible for its organisation. This labor is the condition for *something* to happen. We, the group Nothing Happening Here, have arrived at the neo-institution of ™ to find nothing already here — except for the responsibility to make something out of it. This is the hallmark of the neo-institution: it is a hollow structure for social power that churns the intellectual and cultural capital of its organizers and participants into meager financial capital that barely keeps it churning. The neo-institution does not rely only on the production of knowledge or content but also on the unpaid labor of organizing the institution itself, of giving or maintaining its shape. Its professed openness to participant input is presented as a virtue.

In her essay "Situated Knowledges," Donna Haraway describes the self as "partial in all its guises... always stitched together imperfectly" (586). We may think of our non-institutional body—the body of our assembly, here — as an always partial, non-totalizing, cyborg-like body, made of parts stitched together. Stitches are useful here to think about a process of assemblage that keeps the traces of the work that goes into making it hold together. Stitches also help us think about repairing what may have been broken, a repair that may give this body the ability to resist a bit longer. This pieced-together body is very unlike the neo-institution that has no asperity, nothing to hold onto. And it works quite well.

Could stitching together be a non-totalizing way of "being-in-common"? We enjoy

thinking of the stitches on the forehead of a fighter as the unerasable rem(a)inder of past fights. This also reminds us of the Japanese art of *kintsukuroi* or “golden repair.” Our assembled body is full of stitches, and they are golden, they shine joyfully. This assembled body eludes its totalization. It is spread between heres and theres, straining its stitches. Still, it holds. As one of us wrote: “I’m interested in ecologies of refusal and producing abundances in scarcity and exhausting myself, but I know that if I refuse to clean up then I live with the consequences in a nearly closed system with my entropy-tending creations.”[8] We do non-stop clean-up work when we stitch our texts together. We hope our peers will see the gold in these stitches and even, who knows, add their own.

## Coda: Re-fusal

But what about the neo-institution? We can stitch together our writing, we can make space for interpersonal repair — but the smooth, unbreakable cake mold still springs back into shape. We turn, one last time, to Athanasiou’s thinking, where the figure of *aporia* plays a central role. An *aporia* is a state of puzzlement, but also an irresolvable contradiction. Example: a group of enterprising young researchers is invited to an institution in order to think about refusal, yet every time they try to put these ideas into practice, their efforts slide right off the hosting neo-institution’s non-stick surface. *Aporia* comes from *a-poros*, “lacking passage,” or, no way out. In the case of the neo-institution, the way *in* is always inviting, strewn with promises of opportunity and collaboration, a beguiling horizontality. But once inside, the contradictions make themselves painfully clear. Where’s the door? Oh, it has already melted back into the seamless walls.

While presenting to the gathered research groups in January, we asked everyone what it might look like to enact refusal, not just talk about it: “Could we, for example, organize a strike: a strike against the working conditions under which we are laboring for each other and for transmediale? Or could we instead organize a riot, a disordering disruption to the circulation and extraction of our ideas?”[9] But our provocation didn’t get much further than that. We didn’t know each other well enough to properly organize; we didn’t know where we each stood. So we agreed, amongst ourselves, that we did not want to employ the rhetoric of labor organizing without its accompanying praxis. Instead, we explored how acknowledging our debts — to each other and, yes, to <sup>TM</sup> — might prove to be a more effective re-fusal. That is, a coming-together, a re-assembling, in a different way.

“Re-fusal,” that word rent apart and hyphen-stitched back together, echoes in more confrontational valences, too. You might find a fuse attached to an explosive: a fuse you light to blow it all up. Another kind can be found in a fuse box; that fuse is “an automatic means of removing power from a faulty system” (“Circuit breaker”). What we have really been talking about this whole time are faulty systems: overloaded, underfunded, indebted, breaking down, sucking dry. Yet, though we have speculated about how to “remove power” from them, the interlocking systems we take part in run on. While COVID, for example, was briefly seen as a chance to reset many of these faulty systems, we now count the days until we can return to ‘normal.’ The breaker was not flipped, the fuse not blown. Power wasn’t cut off, just briefly diminished, ready in a moment to ratchet back to full capacity. Neo-institutions, as we’ve been saying all along, have a way of resisting change and, especially, disarming refusal. They never refuse, but rather diffuse. Diffuse

responsibility, for example, precisely such that the burden never becomes singularly unbearable on any one point. It is shared, and carried, unequally, by all.

Electric-powered machines are brittle — if pushed too far, they blow their fuse and shut down. The fuse is binary: on or off. Human-powered machines, however, are adaptable. They can be encouraged, enticed, or forced to push themselves further. And further. And further. But flexibility has its limits. We may not have fuses, but we can certainly burn out.

Returning to where we started, we're still tired. On Zoom, we talk to each other about our depression. Tentatively, at first. Less tentatively, recently. In this stitching, something came into being. *Our* depression. We want to end the text hopefully, and we think depression might be the way to do that. There is strength and beauty in depression, in burnout. It is the strength and beauty of the body that says stop, not one more day like that. *I* pull the plug. Fuse blown. When the mind cannot decide to refuse, the body will take care of it. We quote ourselves:

*How can we praise this ability of the body to refuse? That's what I would like to end this text with. Of course, depression is bad. We are not going to tell people: great that you are depressed. Depression is bad but at the same time, if we could make visible that depression is not (only) about the personal story of an individual, but about a society in which every sidestep can lead someone to lose their spot and become refuse.[10]*

You can catch us on the trash heap, but we are not refuse. We refuse to be treated like shit. This isn't a dump, it's a salvage yard. Join us, if you want. We're talking about Haraway and whatever. We're forgetting

about theory. We're listening to Rihanna: "Let me cover your shit in glitter, I can make it gold" (1:01).

*... mounds of disposal rise (for if you dug*

*something up to make room for something to put in, what about the something dug up, as with graves:)*

*the garbage trucks crawl as if in obeisance, as if up ziggurats toward the high places gulls*

*and keep garbage alive, offerings to the gods of garbage, of retribution, of realistic*

*expectation, the deities of unpleasant necessities: refined young earthworms,*

*drowned up in macadam pools by spring rains...*

— Garbage, A.R. Ammons

## Notes

- [1] Correspondence from <sup>TM</sup> to the authors, November 2021.
- [2] Comment by the peer reviewer, May 2021.
- [3] Personal correspondence between the authors, January 2021.
- [4] In the 1970 text, “The Tyranny of Structurelessness,” feminist activist and author Jo Freeman wrote, “Contrary to what we would like to believe, there is no such thing as a ‘structureless’ group...‘structurelessness’ becomes a way of masking power.”(1)
- [5] Personal correspondence between the authors, January 2021.
- [6] Personal correspondence between the authors, November 2020.
- [7] Personal correspondence between the authors, November 2020.
- [8] Personal correspondence between the authors, November 2020.
- [9] Personal correspondence between the authors, January 2021.
- [10] Personal correspondence between the authors, April 2021.

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**Nothing Happening Here** is an art-research collective formed from the Speculative Sensation Lab (S-1) at Duke University in 2020. Currently, we are based in Berlin, Athens and Durham, NC. Our work involves nothing, bad debt, refuse, stitching, credit, experiments, machine performance, and instituting otherwise. Authors:

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