Wrapped Up in the Cis-Tem: Trans Liveability in the Age of Algorithmic Violence

by **Christoffer Koch Andersen**

Abstract: Algorithms pervade our reality and promise to universally enhance our lives, but what happens when this promise is reserved for cisgender people while subjecting trans people to legacies of anti-trans violence that implicate trans liveability? Despite this key question, existing critiques engage only sparingly with the violent legacies perpetuated by algorithms that trans people encounter, rarely go beyond notions of bias, and therefore fail to centre trans experiences. In this article, I extend scholarship on critical algorithm studies, trans studies, and necropolitics through three accounts of lived trans experiences to show the vicious algorithmic operations on trans lives. Centrally, this article argues that algorithms are not neutral, distinct, or progressive. Rather, as a vicious "cis-tem" (playing on the word *system*), algorithms enact forms of violence towards the possibility of transness, violence that is rooted in legacies of capitalist, colonial, and cisheteronormative power that violate trans lives and radicalise transphobia. Contrasting trans voices against the algorithmic machines, this article offers a novel perspective on the entanglement between algorithms and trans liveability through the lens of algorithmic violence. I demonstrate how algorithms embody racialised and gendered ideals of the human that target trans people through engineered transphobic feedback-loops, cisnormative default, and capitalist profit based on fear. I conclude by reimagining liberatory digital futures.

Keywords: algorithmic violence; cisheteronormativity; colonialism; digital trans studies; necropolitics; trans liveability

Résumé : Les algorithmes sont omniprésents dans notre réalité et sont censés améliorer universellement nos vies, mais qu'en est-il lorsque cette promesse se limite aux personnes cisgenres et expose les personnes transgenres à des séquelles de la violence anti-trans qui compromettent leur qualité de vie? Malgré cette importante question, à l'heure actuelle, on ne s'intéresse que très peu aux séquelles de la violence perpétuée par les algorithmes auxquels les personnes trans font face. On va rarement au-delà des notions de biais et l'on ne parvient donc pas à mettre l'accent sur les expériences des personnes trans. Dans cet article, j'élargis les recherches sur les études algorithmiques critiques, les études sur les personnes trans et la nécropolitique en présentant trois récits d'expériences vécues par des personnes trans, afin de montrer les opérations algorithmiques malveillantes qui touchent les vies des personnes trans. Essentiellement, cet article soutient que les algorithmes ne sont ni neutres, ni distincts, ni progressifs. Au contraire, les algorithmes, qui sont un vicieux système qui privilégie les personnes cisgenres, infligent des formes de violence à la transidentité, une violence ancrée dans le legs du pouvoir capitaliste, colonial et cishétéronormatif qui portent atteinte à la vie des personnes trans et radicalisent la transphobie. En opposant les voix des personnes trans aux machines algorithmiques, cet article offre un regard nouveau sur l'enchevêtrement entre les algorithmes et la qualité de vie des personnes trans, en ce qui a trait à la violence algorithmique. Je démontre comment les algorithmes incarnent des idéaux racialisés et genrés de l'humain qui ciblent les personnes trans par le biais de boucles de rétroaction transphobes, de la cisnormativité par défaut et du profit capitaliste fondé sur la peur. Je conclus en imaginant un nouvel avenir numérique libérateur.

Mots clés : violence algorithmique; qualité de vie des personnes trans; études numériques sur les personnes trans; nécropolitique; cishétéronormativité; colonialisme

Author: Christoffer Koch Andersen (he/they) is a PhD Student in Multi-disciplinary Gender Studies and Cambridge Trust International Scholar at Pembroke College, the University of Cambridge, where he is writing the thesis with the preliminary title *Codes of Life, Codes of Death: Tracing the (Im)possibility of Trans Lives in Algorithmic Assemblages* which investigates the entanglements, algorithmic violence, resistance, trans liveability and violent algorithmic ideas of the "human." Before embarking their PhD, Christoffer obtained an MPhil in Education (Knowledge, Power and Politics) from Christ's College, the University of Cambridge, and wrote the dissertation *Digital Trans Epistemology*. Christoffer broadly researches the sociopolitical embodied implications of algorithms and their colonial and cisheteronormative legacies on trans bodies grounded in feminist STS, trans studies, posthumanism, IR, and archival methods. Christoffer works as a trans consultant, activist, and lecturer on intersectional algorithms, trans rights, and digital resistance.

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1. Introduction: Contesting the Algorithmic Incomprehensibility of Transness

Algorithms have morphed into a global promise to improve the conditions of our lives—from government systems, border control, medical diagnostics, to communication technologies and capitalist transactions—but whose lives benefit from this promise and who is coded to die? This article calls attention to how algorithms by default serve cisgender people while harming trans people. Algorithms are sociotechnical systems relying on binary logics that establish epistemological histories of exclusion and distinction through legacies of colonialism and cisheteronormativity (Amaro 2022; Benjamin 2019; Duffy and Acierto 2024; Ricaurte 2019; Wilcox 2023). Specifically, algorithms can be defined as sets of technical instructions coded by humans and utilised by states, corporations, and organisations with the aim of automating, calculating, generating predictions, and solving presented issues based on binary classification principles (Richardson 2024; Wilcox 2017). Within this binary format of coded instructions, algorithms are not coded or able to "comprehend" nuance beyond colonial gender binary. This classificatory threat posed by algorithms is troublesome not purely due to their potential of accelerating social prejudices "but because [they have] the power to cloak and amplify existing ones" (Onuoha 2018, n.p.) based on the cisheteronormative and colonial prejudices of humans that subsequently become embedded in these technologies. Algorithmic systems coproduce the reality in which they are developed, in which they operate through humans and the wider sociopolitical colonial assemblages that created them, enabling them to perpetuate existing oppression in ways that have become invisible under the contemporary technooptimism, which entrenches forms of violence towards trans lives in the algorithmic world.

This article argues that we are wrapped up in a "cis-tem" of cisheteronormative power further manifested and radicalised by algorithms increasingly indispensable to our everyday lives. Within this algorithmic cis-tem, cisness—as always already racialised as white—is a product of coloniality that limits liveability and recognition of humanness beyond the white cisgendered subject. As Bey (2022) argues, "cisgender" is a hegemonic regime that expulses gender variance and mutability to sustain itself: cisgender presents itself as natural, which overlays the pureness of algorithms, forming a cis-tem of trans impossibility. By not fitting into this cis-tem, trans lives are violated, but they also provide a way of refusing this "cis-tem" order as a "radical abolition of the violent tethers of the world" (Bey 2022, 27). Centrally, this article elaborates on the idea of the "human"' as a technology of legitimacy that originated to enable the Western colonialist and gendered violence that now determines who is algorithmically possible and, as such, who is dispossessed as unliveable entities. Through the colonial and cisnormative embodiment of the "human," algorithms are coded to determine which lives are made intelligible and liveable, a process that "reinscribes the imaginative geography of the deviant, atypical, abnormal 'other'" (Amoore 2009, 56). This algorithmic "othering" of transness implies that trans people are neither assumed *to be possible* or *made to live*, but systematically (re)produced as unliveable subjects. Ultimately, these algorithmic operations constitute the cis-tem: an interlocking system constituted by the racialised cisgendered idea of the "human" that construct trans lives as uncountable, unliveable, and impossible.

Scholars have taken a broad interest in how algorithms inhabit social power that governs political decision-making (Beer 2017), extend exploitative capitalist and extractive surveillance matters over subjects (Couldry and Mejias

2019), affect racialised and gendered embodiment of security and warfare (Wilcox 2017), valorise lives in accordance with racialised assemblages (Benjamin 2019), glitch out on subjects that do not fit white cisnormative criteria (Broussard 2023), ratify insidious reproductions of racial stereotypes (Noble 2018), revitalise statistical historicities that reproduce colonial violence (Valdivia and Tazzioli 2023), reinforce gendered inequalities and censorship of queer identities (Leufer 2021; Shah 2023), and facilitate spaces for far right radicalisation (Daniels 2018). These critiques suggest that algorithms consist of more than coded scripts, but rather encode procedures of expediting oppression. To counter these injustices, scholars suggest reparative and process-oriented approaches to algorithms based on intersectional, decolonial feminist principles (Costanza-Chock 2020; Davis et al. 2021; Hampton 2023; Klein and D'Ignazio 2024) that reimagine algorithmic futures.

However, while some scholarship concentrates on queer subjects, a majority asserts the gendered implications of algorithms, where "gender" equals cisgender (DeCook 2021). This scholarship fails to focus on the material conditions and lived experiences of trans people and thus showcase the cisgender privilege in algorithmic critiques. While attention to all gendered violence is crucial, anti-trans violence demands more urgent research as it is yet underexplored and unveil aggravated, often opaque traces of colonial violence that disproportionately impact trans lives. Exploring the material realities and lived experiences of trans people in relation to algorithmic violence will encourage further critical studies of algorithms towards advancing intersectional, ethical, and liberatory algorithmic analyses.

Digital trans studies disrupt the idea that algorithms are inherently progressive, examine algorithmic implications for trans lives and how technologies are repurposed by trans people for counterpublics. Engaging with digital trans studies, as I do here, extends algorithmic analyses to focus on the fleshy, digital, and epistemological investments of how algorithms regulate and (re)form trans lives from their binary conceptualisation of life. As Hicks (2019) notes, "The computer system was explicitly designed to reinstate and strengthen not only the idea of static, permanent, immutable gender, but also to continue to uphold strictly binary gender. […] The problems of gender essentialism and gender binarism in technological systems continue to exist today, and are repeatedly built into ever more complex computing systems" (29). This suggests that algorithmic systems are hardcoded and designed to uphold the liveability of some subjects while letting others die, which, in turn, modulates transness as uncodeable and solidifies the cis-tem over time.

Within this cis-tem, trans people are subjected to algorithmic systems that regulate and control trans lives through colonial expectations of binary gender. This categorising control originated in and spread across bureaucratic realms: administrative violence in passport gender indicators (Quinan and Bresser 2020); birth certificates (Armstrong 2017) and health care registries and have now become embedded into and stretches over augmented forms of regulation through biometric security; algorithmic airport scanners (Clarkson 2019); cisnormative social media content moderation (Haimson et al. 2021; Mayworm et al. 2024); hostile algorithmic feedback loops (Shin 2024); automatic gender recognition technologies (Keyes 2018); AI-based health care systems (Chudy 2023); surveillance of gender normativity (Beauchamp 2019); and digital welfare services (Hicks 2019). Further scholarship points to the amplification of transphobia on social media, for example in Facebook's inability to decode gender normativity (Bivens 2017); TikTok's promotion of transphobic content and radicalisation of transphobia through feedback loops (Keith 2023) or by shadowbanning trans creators (Rauchberg 2022); Instagram's promotion of far right anti-trans media and censorship of trans bodies in favour of cis bodies (Parsons 2021); and Twitter's transformation into a transphobic echo chamber (Bauer 2023).

As accentuated by these scholars, algorithms infringe on trans lives in various ways by installing trans bodies as deceptive at the border; flagging trans bodies in airport scanners; removing trans content to favour cis content and entrenching transphobic views; misgendering trans identities and operationalising gender as trans-exclusive; providing trans people with wrong or life-threatening medical care from gendered logics; surveilling trans identities to cisnormative standards; and erasing trans access to welfare services. Trans scholars have thus unveiled some of the operations on which this cis-tem functions through flagging by security technologies, facial recognition that cements gender binarity, and limited gender options that leave us with strictly binary "male/female"-representation or "prefer not to say"-

erasure, all of which force trans people to conform to cisnormative infrastructures of life (Edinger 2021; Keyes 2018; Pennisi 2024; Shepherd and Sjoberg 2012).

Such lines of trans algorithmic thought establish inquiries into the digital beyond technooptimism, recognise the differential violent logics of the "human" entangled within algorithms, and refuse being reduced to these limitations. In illustrating the confinements of current systems, these inquiries assemble embodied strategies to recode alternative forms of liveability beyond the webs of algorithmic deathworlds and towards liberatory means from the (im)possibility of trans existence. Importantly, as a trans scholar myself, this article is inherently grounded in and situated by my own experiences with algorithms while simultaneously accentuating and representing my fellow trans folks and their lived experiences of algorithmic violence. By opposing this cis-tem, this article follows similar lines of trans scholarship that investigates digital trans practices, resistances, and countermoves against algorithmic operations (cárdenas 2017; Haimson et al. 2020; Pow 2021).

Based on these notions, this article intervenes in and enriches scholarship on the crucial intersection between transness and algorithms and argues that trans people are situated in a "necropolitical moment" of death reverberating through digital spaces (cárdenas, 2017) and curating a networked algorithmic 'cis-tem', where the algorithmic gaze renders transness "unreadable" from this binary operational logic. As a result, transness is constructed as an unliveable life. Through trans algorithmic scholarship and the trans lived experiences in this article, algorithmic systems have shown to disproportionately (re)produce forms of racialised and gendered oppression based on colonial logics of binary essentialism (Danielsson et al. 2023; Lugones 2007; Tacheva and Ramasubramanian 2023) that implicate trans people in multiple facets of daily life. Algorithms classify subjects into gendered and racial categories that fail to recognise transness as a human legitimacy and lived possibility. As Conrad (2009) notes, "Surveillance techniques, themselves so intimately tied to information systems, put normative pressure on non-normative bodies and practices" (380). In other words, algorithms work on a coded default of the white cis man to which everything else is compared. This default creates senses of incomprehensibility which latch onto subjects that fall outside of this default. These affordances of the default cis white man not only equate to manual violence with ties to normative control over bodies, they also automate compliance with colonial cisheteronormativity (Ibrahim 2023; Scheuerman et al. 2021) to produce an undeniable "othering" of transness.

Since algorithms viciously trouble transness, the question arises: What are the implications of these violent and transphobic algorithms that are incapable of recognising, or even valuing, trans lives? In asking this question, this article is premised on the fact that algorithms are not distinct, neutral, or inherently progressive, but always already embodied with colonial and gendered power about who counts as "human" and, consequently, who matters and, by contrast, who becomes disposable. As such, algorithms not only neglect trans lives, but actively threaten trans liveability in an increasingly digital realm. Building on critical scholarship on algorithms, transness, and necropolitics, I examine the entanglement of transness and algorithms to show how trans-antagonistic algorithmic violence, grounded in ongoing colonial legacies, viciously affects trans lives and renders them unliveable. As such, I ask: How do algorithms perpetuate legacies of capitalist, colonial, and cisheteronormative anti-trans violence and radicalise transphobia?

Accordingly, this article takes into consideration embodied, affective, and material trans experiences, lives, and knowledges of algorithmic systems and how algorithms (1) reinforce transphobic feedback loops, (2) operate on a cisnormative default, and (3) generate capitalist profit from fear to (4) conclude by envisioning alternate algorithmic realities beyond the limitations of the current systems.

2. Situating the Cis-tem: Necropolitical Entanglements of Algorithms and Transness

2.1. Necropolitics: Algorithmic Trans Deathworlds

Necropolitics establishes a crucial link between critical scholarship on algorithms and digital trans liveability. This

link seeks to conceptualise the lethal logics through which the algorithmic gaze reads, rejects, and ratifies violence to make sense of the deathly, vicious, and opaque algorithmic operations on trans liveability.

So, how can we understand the underlying logics of algorithms as necropolitical incentives against trans liveability? Achille Mbembe's (2003) concept of necropolitics describes "the subjugation of life to the power of death" (Mbembe 2003, 39). While biopolitics concerns the sovereign politics of "life optimisation" with the intention of *making live*, necropolitics concerns the political mechanisms of death through *making die*. The "power to death" is central to the fabrication of transness as an enemy to state normativity, where this power to death triggers a state of exception that "refers and appeals to exception, emergency, and a fictionalized notion of the enemy" (Mbembe 2003, 16). As Mbembe explains, this allows the juridical order to become suspended from the construction of threats and securitised worries around the normative population, which legitimises the state necessity to destruct the threat of non-normative bodies failing to conform to cisheteronormative temporalities of life.

Necropolitics generates "death worlds" as types of social existence where certain subjects are exiled from conditions of life conferring upon them the status of *living dead* (a state of non-living, where certain lives are stuck under normative regulations of what counts as a liveable life). Ultimately, necropolitics exercises the power of defining who is disposable and who is not (Mbembe 2003, 27) based on the colonial instrumentalisation of the human as a deathly technology that claims the legitimacy of binary life and destructs deviating subjects. Linking necropolitics to algorithmic technologies, this article along strains of scholarship on algorithmic necropolitics (McQuillan 2022; Lewis 2023; Pele and Mulholland 2023; Pugliese 2016; Ricaurte 2022; Silva 2023; Wilcox 2017) further extends the notion of necropolitics to the algorithmic entanglement with trans bodies and argues that algorithms—through their coded inability to conceptualise life beyond binary notions of value—infringe a mode of necropolitical violence on trans liveability, render transness impossible and programme digital death worlds. Within these algorithmic codes of life and deaths, trans lives are forcibly situated based on binary algorithmic control and ingrained ideas of trans as unvalued. These algorithmic operations of "the automation of life and death generate two types of societies: those that concentrate the power of wealth, political-military control and knowledge and those that are subdued by that power." (Ricaurte 2022, 736). Algorithms structure a necropolitical cis-tem of coded value for lives, where cis lives are worthy of life investments and trans lives are structured by conditions of intelligibility, devaluation, and inscrutability. This speaks to how the "consequences of this logic efface the way power and life are maintained and reproduced through the deaths of certain others" (Snorton and Haritaworn 2019, 69), which predetermines trans lives as lives not to be grieved, but as an impossibility and as already dead.

Algorithms can thus be understood as a "new paradigmatic tool of necropolitics" (cárdenas 2017, 163), hence I argue that algorithms extend the necropolitical incentive directed at trans lives. Based on their inability to comprehend transness, algorithms reject trans liveability, encode transphobia, and act as "weapons deployed in the interest of maximum destruction of persons and the creation of death-worlds" (Mbembe 2003, 40). With their infinite connections, algorithms expand the territory of cisnormativity by eliminating non-normative bodies through the creation of these deathworlds, which inscribes deathworlds with potentials to intimately destroy the possibility of transness. Trans lives are—in comparison to cis lives—not sought as lives to sustain; rather, they are lives to make die and not considered as true possible lives to begin with. These algorithmic efforts to eradicate trans liveability are further catalysed as algorithms are widely believed to be unmistakeably correct, which enacts an algorithmic extension of the necropolitical legitimacy to programme trans unliveability as sensible and transness as killable without objections.

2.2. Gendered Violence, Algorithmic Violence

Finally, it becomes critical to name the reality of the perversive algorithmic implementation and articulate it for what it is: algorithmic violence. Onuoha (2018) describes algorithmic violence as "the violence that an algorithm or automated decision-making system inflicts by preventing people from meeting their basic needs" (2018, n.p). Algorithms are not decoding inequality, rather, the algorithmic reality "has the power to cloak and amplify existing [inequalities]" (Onuoha 2018, n.p) and make them unrecognisable: hidden, regimented, and camouflaged within the codes. Elements of transness, through falling through the binary cracks of the system, become statured as "[i]ndiscernible ele-

ments—in the sense that they are impossible to parse and hence understand—[that] compose a localized image that can be exposed in plain sight, but rests illegible" (Mollicchi 2017, 81). Trans bodies are exposed and the violence inflicted on trans bodies is allowed to hide in plain sight. The constant focus on "technical error," "systemic bias," or "human accidents" excuses the violence and ignores the ramifications for trans subjects and other minorities. An error that disproportionately falls on one part of the population is not a bias or a mistake: it is intentional and a radicalisation of violence.

I further Onuoha's definition of algorithmic violence as a conceptual framework for analysing the violence inflicted on trans, queer, Black, and other non-normative lives that captures the nuances of lived experiences with algorithms to criticise and unveil the harmful properties of algorithms. Indicating the non-accidental incentives of algorithms beyond bias and towards the coded exertion inscribed into the flesh of minority subjects, algorithms encrypt the white cisgender human as the artificial measuring technology, which imposes an even further aggravated coded impossibility for racialised trans people within the algorithmic cis-tem. These algorithmic assemblages (re)produce an interlocking mechanism of racialisation that intersects with transness as a form of unliveable life and thus reifies binary gendered and racialised notions against humanness; the possible "human" is not a neutral being, but an embodied figuration that includes and excludes certain subjects (Hall and Clapton 2021; Silva 2021) which is "corporealizing in terms of the racialized and gendered bodies it produces as either killable or manageable" (Wilcox 2017, 14). This automates the definition, determination, and violent decision not only of who becomes algorithmically possible, but also able to be considered and rendered as human. By furthering the notion of algorithmic violence, I attend to how algorithms are coded to embody, augment, and perpetuate legacies of colonial, capitalist, and cisnormative forms of oppression that infringe on and destroy minority rights, autonomy, personhood, and liveability. By interweaving critical algorithm studies, materiality of digital trans studies, and deathly notions of necropolitics, my work therefore extends trans analyses of algorithms as sociopolitically situated and sophisticated forms of violence that continue legacies of anti-trans hostility in a way that seeks to unveil the harms, amplify trans voices, and articulate visions for trans liberatory digital futures.

3. Methodology: Centring Trans Voices in Algorithmic Analyses

To further demonstrate the relationship between trans lives and algorithms, I draw on digital storytelling as a methodology to encapsulate trans algorithmic experiences and to centre trans voices. This methodological choice of digital storytelling serves a twofold goal: (1) centre trans voices in algorithmic analyses to suggest modes of unveiling and speaking back at algorithmic violence to (2) repurpose technology in anti-oppressive, creative, and trans-affirming ways that encourage trans autonomy over how the digital is embedded with their bodies, voices, and selves.

Digital storytelling dissolves the dichotomy of the human/non-human that rests at the core of Western colonial knowledge production and does not subscribe to trans erasure in digital technologies. Digital storytelling values trans-digital embodiments that span "the cinematic cuts and sutures between the visual and the spoken, between frames, and between genres are delinking and relinking practices of transfiguration" (Steinbock 2019, 2) towards liberatory accounts of algorithmic lives. A methodology that fails to centre the lived experiences of the oppressed will be in danger of reproducing the same violence, and it is through the voices of the marginalised subjects that "midwifery of liberating pedagogy" (Freire 1968, 33) is created, not *based on* but *from* the subjects themselves to counter cultures of erasure and control "both the story creation process and the manner in which identity and experience is articulated" (Vivienne 2011, 44).

In recruiting participants for my research, I circulated a call for participants through my social media platforms, on global digital forums, and as physical posters around Cambridge, England, to reach as many people as possible. In the call, trans people were invited to share their experiences related to living under algorithmic systems. The three participants are August (he/they) who is nonbinary genderfluid, white British and born in England; Thaiil (he/him) who is a trans man, Black Somali and born in England; and Wendy (she/her) who is white British and born in England. Given this Eurocentric context, it is crucial to state that despite algorithms reaching across state boundaries, the trans experiences presented in this article, while not uniform, are shaped and interpreted through political regulations

and cultural frames located in England, which inform the participants' narratives.

In confronting the academic dilemma between anonymity and agency, I asked: How do I ensure the safety of participants—under intensified global violence—without undermining agency? In a world that deliberately tries to erase transness, I asked each participant to choose how (in)visible they want to appear. All three participants chose not to be anonymous due to their commitment to activism and empowerment, hence their identities are made visible and appear as non-anonymous in this article.

The consent form and video guide were based on prompts such as: How do you feel living as a trans person within the algorithmic reality that (re)produces gender binary as a form of control? How do you experience and embody your gender identity through the digital? Have you encountered cisheteronormative, capitalist, and colonialist structures in the digital? How can trans subjects take ownership and secure the digital as our own space? Based on the participants' responses, I employed a thematic coding, cross-referenced the most frequent topics, and sorted those topics into the following categories: (1) transphobic feedback loops, (2) default cisnormativity, (3) capitalism and exploitation and (4) future desires and digital joy.

Due to the precarity of visibility in times of global anti-trans sentiments, some potential participants opted out of this research prior to sharing their experiences due to the intensified political climate against trans lives, fears for their safety, or to protect their mental health, hence only three participants are included in this article. Nonetheless, the aim of this article is not to paint a universal picture of trans experiences or to acquire a fixed quantitative number of participants from which to generalise. Rather, the purpose is to centre trans voices, value the qualitative insights of lived experiences, and pave the way for future analyses that foreground trans experiences.

4. Algorithms Meet Transness: Trans (Un)Liveability & Algorithmic Violence

4.1. "Algorithms that reinforce transphobic ideas are a very real problem": Algorithmic spaces as engineered loops of transphobia

Algorithmic systems function on principles of violent legacies that worsen modes of oppression. So what happens when digital spaces, crucial to trans identity exploration, community, and activism, turn out to be networked loops of engineered transphobia? As Wendy states:

> Algorithms that reinforce transphobic ideas are a very real problem pretty much on every social media that I can think of because these social medias are built around keeping you engaged by feeding you content that you remain interested in. I have seen that very easily transphobic videos can quickly fill someone's feed with content and it would create a continuous cycle if they were continuing to engage with that [transphobic] content […] pushing someone further towards transphobic ideologies.

Wendy shares her experience with the insidious issue of algorithms that reinforce transphobic ideologies. Algorithmic drivers pose a threat across platforms because they are engineered to spread through feedback loops that prey on, latch onto, and haunt bodies on social media. The overarching neoliberal technohype centres the myth of the neutral algorithm, but if algorithms were neutral, they would not fill up feeds with transphobic content by automating the selection, ranking, and presentation of this content. Instead, as I have argued throughout this article, algorithms are infused by traces of violence that devalue transness and valorise transphobia.

Algorithms are not merely intensifying cycles of and spaces for transphobic views to flourish, but they are also built to forward transphobic content by default and valuate this as a priority to the system; hence creating the power of the "cis-tem." Algorithms are—through the colonial and cisnormative logics of human (de)valuation—coded to push anti-trans content and valuate transphobia as a legitimate computational priority for users. According to Media Matters (2021), even one like on a slightly anti-trans leaning video floods your feed with transphobic content on TikTok. Media Matters found that "it began with repetitive 'jokes' berating transgender and LGBTQ people [... but as] we

watched and interacted with more videos, the content fed to our FYP [For You Page] became increasingly violent" (2021, n.p.). In this study, the feedback loop also forwarded coded homophobic, misogynistic, racist, white supremacist, far right, and minority violence-endorsing videos. For example, looking at one anti-trans videos and exploring the first 400 recommended videos on the FYP, fostered 103 videos that contained anti-trans content along with many others that contained violent, far-right content and accompanying systems of violence and disinformation (Media Matters 2021).

The Media Matters report illustrates how algorithmic systems are not programmed to value transness but engineered to support patterns of violence, extend disinformation, and automate transphobic content. As virtual bodies navigate these spaces, they are subjected to coded calls to violence through transphobic content that becomes exponentially more hostile and aggressive. These coded calls also enable a form of algorithmic control over transphobia in digital spaces. Herein, "lives are supported and maintained differently [....] Certain lives will be highly protected [while] Other lives will not [...] even qualify as 'grieveable' (Butler 2004, 32). This quotation gestures to how algorithms function on logics of grieveability and perpetuate historical rationales that mark transness as lives acceptable to violate because they are not grieveable. The violent legacies of trans hostility are coded into the history of data from our views, clicks, likes, comments, and shares, which legitimises continuous transphobia and the devaluation of trans lives. This, in turn, creates a global algorithmic anti-trans network that emphasises the verity of algorithmic violence engineered into these platforms. Since algorithms do not filter anti-transness out, the feedback mechanisms create virtual motions of trans violence that reverberate infinitely—trapping trans lives in an incessant necropolitical digital deathworlds.

Algorithms go beyond initiating feedback loops of violence. Algorithms are not simply forwarding predictive content based on user behaviour, but this "personalised content" is calculated based on entrenched historical affiliations between queerness and violence which stem from societal norms that legitimise initiating harm and subjecting trans people to violence. August, one of my study's participants, explains:

> When you're interacting with a lot of queer content, you get shown people responding to anti queer content. And then it just stacks up. It stacks up over time [....] I then have to see it. I then have to see the bad thing the person says.

In addition to furthering anti-trans violence through transphobic content, algorithms actively trap trans bodies in digital confinements where, as August states, *facing* violence becomes a requisite of access to and existence on these platforms. In this way, trans existence on social media platforms is impossible without violence because anti-trans violence always already lurks in the coded background through feedback mechanisms. This resembles historical mechanisms of control, discrimination, and violence in the physical world that trans people have had to endure to exist in society. Even when interacting solely with trans- and queer-positive content, the violence remains bound to trans bodies as existential temporalities subjected to the endless reverberating necropolitical domination. The requisite, gradual stacking-up of anti-trans violence forced onto trans bodies creates toxic breeding grounds for this algorithmic devaluation "sticking" to transness and further entrenches transphobia into the fabrics of algorithmic systems

4.2. "A cis white man [...] would possibly get a wider reach just for the same amount of work that I'm doing": The algorithmic cisnormative default

Algorithmic systems do more than facilitate spaces for transphobia. Rather, algorithms—through the embodied colonial and cisnormative logics of human (de)valuation—invoke a compulsory cisnormative default, which trans people are valued against and cannot be valued within because in the binary, they are erased from legitimate existence. Within this algorithmic valuation complex, the normative power relations of heterosexuality, whiteness, and cisness form a matrix of domination and constitute an interlocking privileged default, where the content forwarded not only caters to this default, but the bodies valued are compared to the coded white cis man. If we consider this default as an "algorithmic cisheteronormativity," what happens to those who do not conform to this algorithmic body politics of cisheteronormative legitimacy? Examining the legacies of algorithmic violence and underlying cisnormativity, August highlights their experience of the encoded "cisnormative default," where trans people are forced to perform a cis-

normative body politics for the algorithms in order to be valued appropriately:

> I imagine that […] a cis white man […] would possibly get a wider reach just for the same amount of work that I'm doing. […] I'm not stepping that far outside of what the algorithms and such would consider to be troublesome.

August gestures to the ominous reality of how algorithms function on a default of the white cis man against which everyone else is valued and how this is a constant form of surveillance. In addition to transphobic loops and cisheteronormative default, trans lives are subjected to predatory algorithmic surveillance. Trans people experience explicit targeting and outing of their identities. They are pushed to isolated margins of the platforms. Their content is impelled to hypervisibility or invisibility (DeVito 2021; Rauchberg 2022). They have their accounts cancelled or they need extra backup accounts. August further explains these implications:

> I know that a lot of them [my friends] have had issues with predatory algorithms singling them out, alienating them, being shadowbanned, having their accounts removed, needing to make backup accounts, things like that. I know that it is definitely something that is affecting people near to me. I have no idea if my own reach is being hindered by my queer and, otherwise marginalised identities as a neurodivergent disabled trans person.

These algorithmic implications not only inflict intensified logics of devaluation and intimate targeting and ostracism of trans lives, but infuse senses of algorithmic anxiety as a form of emotional labour. Trans people are required to rely on extra precautions, to continuously worry about whether they are being hindered by cisnormativity, binarism, ableism, and other trans antagonisms in the digital realm. For August, this catalyses a constant ghostly worry around *if* or *when* they are stepping outside the normative coded barriers of the cis-tem.

Since algorithms are not coded to valorise trans bodies or labour, but rather assign more value to white cis men's work, who is imagined as the default subject? Underlying the system's default and valuation, algorithms embody the cisnormative ideal of the "human" as a sophisticated technology. This technology operates to measure, rank, and determine who is algorithmically possible and valorised as "human" based on whether they conform to the white cisnormative body politics (Wilcox 2017). August's suspicion that their transness is not valorised and frustrated doubts as to whether their content does not have the same reach as the content of cis white men is borne out by existing scholarship that demonstrates how queer content is subjected to higher degrees of censorship, suspicion, surveillance, and erasure of content, particularly when queer people express their marginalised identities (Mayworm et al. 2024). The reproduction of existing power becomes integral to continuing the infrastructures of power that sustain white cisheteronormativity as an invisible default against which all else is "othered" (Rosinski 2021).

By encapsulating algorithmic cisheteronormativity, there exists a coded boundary I refer to as the "normativity border." This boundary points to the regulatory barriers of human normativity within algorithmic systems. Gendered subjects must stay within bounds to be evaluated as acceptable forms of life. Moving outside of this normativity border equals aberrating from normativity and into a territory of perceived deviance. It entails drifting into the necropolitical zone of permissible killing where trans bodies are considered dangers to the system, thereby continuing the binary colonial classification of bodies. As this valorisation draws on the historical violence of white cisheteronormativity as hegemonic default, both the physical and computational reality of the white cisgender male masquerades as the data that is ubiquitously loaded as the default "human." In this valorisation of humanness, trans people challenge the gendered assumptions of algorithms in two ways: "categorically (through the rejection of binary gender) and conceptually (through resistance to singular, fixed meanings)" (Hoffmann 2017, 9). This double refusal of the default leads to an automatic algorithmic necropolitical marking of transness as illegitimate and eliminable from the challenges presented to the systems.

The necropolitical marking of trans bodies as devalued threats to let cisheteronormative bodies live is energised by algorithmic power to expand the ruling over transness to sustain the valorisation of cisness. This means the sociopolitical valuation underlying the "reach" is infused with a capitalist, cisheteronormative matrix of value or death, where trans bodies do not reach as far as white, cisgender bodies. By existing against these norms, trans bodies diverge out-

side of the border and into the necropolitical zone, where they are made to die. In the algorithmic realm, forces of cisheteronormativity administer and gatekeep the acceptability of bodies. As Thaiil explains:

> It feels like any attempt to include me in media is met with fierce opposition to it as though the inclusion of trans people in the discussion is somehow exclusive. […] We are also excluded when companies ask for our data and they really want to know what gender we are.

Thaiil mentions the fierce opposition to the inclusion of trans people, visible through the ciscoded algorithmic gaze, which renders transness incomprehensible. Consequently, trans people are forcefully excluded from participating in digital spaces that relate to their own conditions. Other than the aforementioned algorithmic anxiety and targeting of trans accounts, algorithmic violence also enacts a predatory surveillance, which reinforces compulsory cisnormativity in bodies, where data disclosure of gender must fall inside the binary. This ultimately exposes trans people to violent visibility traps, where the status of visibility acts as a trap for further anti-trans violence and where the very exposure to violence entraps trans lives within the constructed inevitability of violence. These virtual bounds on trans bodies are intended to ensure that visibility is only utilised by normative identities that fit into the legitimate assemblages of power, and where gendered digital traces are snatched up by algorithms to sell.

Conrad (2009) calls the "informatization of the body," the process by which bodies are coded as bodies-of-information for the purpose of data production. This process inevitably puts disproportionate pressure on nonnormative bodies to become available, visible, and traceable without being rendered as legitimate subjects. Rather, nonnormative bodies are made vulnerable to the necropolitical facilitation of death because they do not conform to the immutable encoded gender binary. As a result, we are invisibilised, penalised, or erased from digital spaces and denied access to the very spaces affecting our states of (un)liveability. Effectively, the automated yet invisible routinised nature of these discriminatory defaults make algorithms more insidious and poisonous to trans lives. Simultaneously, the cisnormative racialised logics of humanness coded into algorithmic systems become cloaked as they are repeated. These logics entrench transness within a self-referencing system that becomes nearly impossible to prove or reject.

4.3. "It is a system that benefits from my fear": Algorithmic capitalism, fear, and transphobia

Connected to the engineered loops of transphobia and the cisnormative default, participants expressed how algorithms exacerbate transphobia through capitalist logics, which—by catalysing cycles of transphobic content and devaluing trans lives to only valorise bodies that fit the cisnormative default—function as a strategised form of digitalised emotional appropriation that installs fear, anxiety, and exhaustion in trans people to generate profit. August notably expresses:

> Social media at the moment, it's profiting off of making marginalized people feel scared, or angry, or hurt. It profits off harming us. […] The people in power benefit from me being afraid, and from making me afraid, and from setting up these systems to scare me, to frighten me.

Essentially, August describes the exploitative system of algorithmic capitalism. As a modern form of political control, digital artefacts take a novel approach in appropriating digitised lives for economic gain. This hegemonic system of algorithmic capitalism operates and thrives on a penetrating gaze to harvest our intimate data (Zuboff 2019). This process infects the inner emotions of trans lives and triggers fear, anger, hurt, and anxiety as digital cogs ensure capital accumulation for companies such as Meta, X Corp, and ByteDance.

Human emotions constitute the foundation of our social reality and interactions and constitute core attributes of our intimate lives and are therefore key components in acquiring economic power through technological dominance. As algorithms function on historical legacies of capitalism, this commodification has become central to the digital economy, where emotions are exploited as *techno-emodities* (Llamas and Belk 2022). These commodified emotions are entangled between the trans subject and algorithms, where they appropriate emotional affects, but also feed these feelings—fear, anxiety, and hurt—back into the system (Llamas and Belk 2022, 231). Engaging with algorithms means engaging with an affective technologisation of trans feelings that elicits emotional responses and simultaneously logs them for capitalist surveillance. Consequently, as Thaiil expresses, capitalism inflicts feelings of involun-

tary alienation from one's own trans body:

> Being trans digitally is the definition of floating beyond your flesh. You are alienated from your working
> cogs, your parts, which work to keep you alive […] as they are picked apart and discussed by everybody,
> all with different faces and in letters and images and writings.

Trans lived experiences of algorithms are marked by segregation from one's own flesh, where transness is dissected and exhibited. This dissection sustains the algorithmic capitalist system through the circulation of trans suffering, alienation, and fear as affective states to be turned into profit. To be datafied and commodified is to generate profit by upholding cisnormative bodies as the "mode of population disaggregation between those incited to life and those consigned to death" (Puar 2007, xxxiv). In other words, trans oppression is bound up with death under the production of cisnormative value within capitalism, where trans bodies become digitalised objects of exploitation. As August notes, this exploitation is achieved by inflicting emotional harm on trans subjects by "setting up scare systems" that point to how algorithms extend necropolitical incentives to subjugate trans existence to capitalist goals.

The notion of algorithmic capitalism can be understood as an intimate surveillance technology based on emotional exploitation and commodification. August shares that being subjected to invasive surveillance practices and possessing awareness of weightier scrutiny and control over trans bodies leads to a "gradual build-up of fear":

> Even if I don't immediately recognise that I am being frightened, over time there is a gradual build-up
> of fear.

Algorithmic surveillance not only succeeds by functioning as an immediate, visible control of bodies but also from the hovering uncertain yet "expected" potential of infusing pervasive, unpredictable fear in trans bodies *sooner or later*. The effectiveness of algorithmic capitalist exploitation of trans bodies comes from inflicting fear-related feelings and logging these feelings. Importantly, this fear is produced *in advance* of the expected harm, such that this gradual build-up of fear is not immediately recognised, where the build-up of fear allows the algorithmic oppression of trans bodies to go unnoticed for longer. It enables the algorithm to operate more invasively on trans bodies. In effect, algorithmic violence operates as microdose of violence, which over time inflicts more distress. The ultimate power of this pervasive algorithmic surveillance system lies in its ability to inflict a slower and more painful necropolitical death that profits the cisheteronormative capitalist economy.

The capitalist logic works to sustain the cisnormative and racialised assemblages embodying digital technologies and the overarching pursuit for profit by the big tech companies responsible for these platforms. Capitalist suppression of transness is intended to sustain cisnormativity and profit from the same system: make trans people feel hurt, scared, and alienated by being "picked apart" through trans-antagonistic algorithms, and turn the emotional responses into commodified data. As a result, this process constructs an interlocking affective necropolitical data economy through ensembles of trans suffering systematically circulated in the system.

4.4. Trans Radical Futures: Algorithmic Desires and Liberatory Digital Futures

To reject the encoded necropolitical deaths situated in the algorithmic systems, it is crucial to discuss, carve out, and ground affirming alternatives in trans desires that transcend the current state of algorithmic violence. All three participants mentioned how they—despite the overarching issues of algorithmic violence and transphobia—feel desire for and have hope for the future design and development of technologies catered to trans identities, trans joy, and community care. Wendy articulates:

> I think an important thing to come at this is that social media should be held accountable. They should
> make sure that hateful content does not get picked up by the algorithm in the same way most content
> would. Despite this though, I do have a lot of hope for the digital future for the transgender com-
> munity. I think it is a very helpful place that can have a lot of people together. It is a very good source of
> information for transgender people that I think in real life they wouldn't have access to.

One way of addressing this violence, Wendy mentions, concerns algorithmic accountability. Algorithms must be pro-

grammed to filter out hateful content and restrict the masses of automated harm directed at trans lives to embrace transness as an impossible and legitimate form of life. Moving beyond the technooptimist belief in simple auditing and neoliberal forms of accountability, a trans-centred accountability within algorithmic systems demands a recoding of algorithms to not "stick" to transphobic content, where the coded infrastructure of algorithms do not pick up on, endlessly loop or valorise transphobic assemblages to move beyond how mundane moderation "reproduce the very same [violent colonial legacies and racialised] gendered tropes on which more explicit anti-trans rhetoric and violence are predicated" (Jereza 2022, n.p.). This need for algorithmic efforts to counter the aggravation of coded transphobia become especially poignant following the removal of anti-LGBTQ+ hate speech content moderation by Meta (GLAAD 2025) that only further embeds algorithmically encouraged forms of violence and harm towards trans people digitally.

Instead, trans thought suggests inhabiting the (im)possibility of the deathworlds in which trans bodies have otherwise been forced exist in order to refuse, resist and reimagine the inevitable digital world. This form of accountability requires conscious and continuous ethical algorithmic commitments for trans lives stretching from the tech companies coding our technologies, the nation states implementing the algorithmic infrastructures and the individual coders producing and embedding their binary language. Through these forms of justice-based commitments, and examining of the enmeshment of legacies, histories, and infrastructures that actively unveil and criticise the global expansion of algorithmic systems that encode and strengthen the coloniality of gender binary as the epistemic mechanism of control over life and death.

Wendy also notes the joyfulness of digital trans spaces, where trans people are united across borders, spatial differences, and temporalities. These spaces are central to fostering community care and knowledge sharing, otherwise not as easily accessible in the physical world. In these digital spaces, trans people can access resources and seek information, which highlights digital spaces as trans spaces of unity. As affirming spaces, algorithmic systems must be transcoded to produce "adaptive and flexible processes that underscore the political potential of dismantling binary systems" (Duffy and Acierto 2024, 77). By decoding the binary assumptions, colonial erasure, and normalised punishment of trans people for not fitting into the normative boundaries, algorithmic technologies must embody and assemble as digital spaces that make trans existence possible. Here, the otherwise encoded necropolitical valorisation does not rule or even exist. Instead, the value and possibility of lives become pluralistic, fluid, and mutable to liberate all digital temporalities.

August expresses their wishes for the digital future to be:
> ...somewhere that you have control of what your output is [where] there's no overarching capitalist system that is taking your work and [the] ability to forge your identity in a space that is outside of your own physical body.

August shares that they wish for the digital to turn into spheres where trans people are in *control* instead of functioning as spaces *controlled* by algorithms. They wish the outputs were not governed by engineered logics or predetermined from historical residues of capitalist exploitation, colonialist essentialism, i.e. the strict colonial essentialist imposition of binary gender, and cisnormative ideal of the body. This notion of *control* encompasses the power of reasserting ownership and entitles the trans-embodied right to their own work without being subjected to exploitation and the devalorising of trans labour. Thereby, the digital is envisioned as spaces to experience oneself outside of the physical restrains of the body that is neither tied to a fleshy form, cisnormative restrictions, or capitalist commodification. Instead, in the digital, the trans body is free.

As a desire for trans algorithmic futures, Thaiil offers concluding comments:
> My hope for the future is that we'll […] make our safety global. We aid each other, house each other, feed and love each other. […] This will be free of capitalism. The financial exploit of our bodies. And we'd not be trans anything, or cis anything. We'd be normal.

Thaiil articulates the queer desire for the algorithms to foster spaces for global safety, mutual aid, and love as constant,

non-negotiable conditions for trans liveability. In this desire, mutual aid is the "collective coordination to meet each other's needs, usually from an awareness that the systems we have in place are not going to meet them" (Spade 2020, 7). Powerfully, Thaiil speaks to how the "productive approach is not to fix harmful algorithms, but to 'un-invent' them […] to the point where a harmful algorithm is not just deployed, but never made; to the point where the idea of making an algorithm harmful in a particular way is simply unintelligible" (Keyes and Austin 2022, 10). In this context, oppressive algorithmic practices are unlearnt, abolished, and imagined into liberatory futures. Importantly, the violence—and not the transness—become unintelligible to the algorithms. These liberatory systems do not rely on exploitation of bodies and dispossession of lives. They dismantle the relations of capitalist power, colonial extraction, and cisnormative control. Crucially, this liberatory figuration dissolves the ruling dichotomy between normative and non-normative bodies. Thereby, trans lives are not devalued by necropolitical forces, but the differentiation between bodies that are valuable and bodies that are disposable is eradicated. By forming digital and physical reality where multiplicity is the default, trans lives are freed of confinement, objectification, and expectations. Within this novel digital reality, trans lives are liberated and thoroughly humanised.

5. Conclusion: Algorithmic Transphobia and Trans Futures

Algorithmic violence matters, as do trans experiences of it. This article analyses the intersections between algorithms and transness by tracing the colonial and cisnormative legacies perpetuated by algorithms. Extending this beyond technooptimist ideas of bias and centring trans experiences, this article advances critical insights on algorithms, digital trans scholarship, and necropolitics. Using the lens of algorithmic violence, the article unveils the vicious algorithmic operations on transness and (re)production of trans lives as unliveable to highlight trans-affirming desires for algorithmic futures.

First, algorithmic violence is enacted through feedback loops of transphobia and initiates gradually radicalised cycles of transphobic content. Trans people experience how algorithms advance harmful disinformation and perpetuate violent transphobic ideas. Algorithms are—through the colonial and cisnormative logics of human (de)valuation—coded to value anti-trans content as a computational priority. Since algorithms do not erase anti-transness, the feedback mechanisms create motions of violence that reverberate infinitely and trap trans lives in necropolitical deathworlds. As a result, trans people experience increased algorithmic surveillance, censorship, content suppression, shadowbanning and blockings. This inflicts an affective sense of devaluation of transness, but also ignites algorithmic anxiety about unsafety for trans lives in comparison to cisheteronormative lives. These algorithms mandate exposure to violence if one wants access to and exist in digital spaces in an inescapably algorithmic world. This shows that algorithms mark trans lives as ungrieveable which further legitimises the continuous devaluation of trans lives in global anti-trans networks.

Second, algorithmic violence and transphobia result from the cisheteronormative default. Algorithms operate through the embodied colonial and cisnormative logics of human (de)valuation, where the algorithmic valuation operates on a matrix of whiteness and cisness that constitute an invisible and compulsory privileged default—cisgender man— against which other content and bodies are valued. As trans bodies do not conform to the algorithmic body politics of white cisheteronormativity, they are pushed outside of the normativity border that constitutes "human" and legitimate lives. This means that the digital "reach" is situated within a matrix of death, where transness does not reach as far as white cis lives. By existing against this default, trans bodies diverge into the necropolitical zone and are made to die, catalysing a ghostly worry of *when* they outstep these barriers.

Third, algorithmic violence is accentuated through capitalism and fear, since existing as trans entitles an alienation from one's own flesh as transness is dissected to sustain algorithmic capitalism and trans suffering is circulated to generate profit. Participants express how the capitalist logic inflicts feelings of fear, hurt, and anxiety in trans bodies that are turned into digital drivers to ensure capital accumulation. The algorithmic surveillance catalyses emotional responses, but particularly operates on the expected potential of infusing fear *at some point,* which haunts trans bodies as an unpredictability that gradually builds up over time. This allows the algorithmic violence to stay unrecognised

for longer, grants invasive access to trans lives, and instantiates slower necropolitical deaths to sustain the cisheteronormative capitalist economy.

Fourth, trans people express excitement about potential algorithmic futures and emphasise need for greater algorithmic accountability and a core responsibility to filter out transphobic content. Such a lens on accountability must address the asymmetrical architectures of power and infrastructures of epistemic violence in relation to historic roots of state control, surveillance practices, and normative regulations of trans bodies embedded in and accentuated through algorithms. Further, participants remain hopeful about the potential for algorithmic technologies to enable community care and knowledge-sharing together with desires of hardwiring trans control over algorithms to diffuse transphobia and capitalist exploitation of bodily autonomy and liberation. Lastly, they express desires to expand algorithmic possibilities beyond bodily restraints to, rather, serve as vehicles for global safety, mutual aid, and dissolution of the violent dichotomy of normative/non-normative bodies.

Algorithms radicalise traces of colonial cisnormativity. They entrench an automatised continuation of violence against trans liveability by enforcing transphobic ideas of the algorithmically possible human that assemble a cis-tem of oppression. Despite this interlocking system of violence, trans communities encode resistance, dismantle and reimagine this cis-tem, and remain excited about the algorithmic potential of curating autonomous and liberatory trans digital futures.

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