

FEMINIST ENCOUNTERS

A JOURNAL
OF CRITICAL STUDIES
IN CULTURE AND POLITICS

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CHIEF EDITOR'S INTRODUCTION

FEMINIST ENCOUNTERS: A JOURNAL OF CRITICAL STUDIES IN CULTURE AND POLITICS

Founded in 2017, Feminist Encounters is a journal committed to argument and debate, in the tradition of historical feminist movements.

In the wake of the growing rise of the Right across the world, openly neo-fascist national sentiments, and rising conservative populism, we feminists all over the world are needing to remobilise our energies to protect and advance gender rights.

Feminist Encounters provides a forum for feminist theorists, scholars, and activists to communicate with each other, to better educate ourselves on international issues and thus promote more global understanding, and to enhance our critical tools for fighting for human rights.

Feminism is an intellectual apparatus, a political agenda, and a programme for social change. Critical analysis of how gender discourses produce cultural identities and social practices within diverse lived realities is key to this change. We need to think more sharply in order to strategise well: as the discourses of conservatism renew and invigorate themselves, so we as feminist scholars need to be refining our amazonic swords in order not just to respond effectively but also to innovate our own ideas for equality and social justice.

We are, of course, committed to intersectionality, a vital lens through which to see the contours of race/ethnicity, class, sexuality, age/ability, and explore how gendered scripts get lived, and filtered through these specificities of cultural organisation. Lived experience is never codified in terms of gender alone, and so our research will always be sensitive to the nexus of lived oppressions.

The journal has a large editorial board and journal team, consisting of over forty scholars in twenty countries. This is deliberately inclusive in order that we can promote diversity and engage with different concerns from across the world. Our aim is not to simply talk to ourselves, reconfirming our localised assumptions, but to generate feminist encounters across regions, even if this is sometimes uncomfortable. Globalisation has been a triumph of neoliberalism, but digital technologies have also flattened and reduced the distance between us in dramatic ways, so that now we can talk to each other with unanticipated ease.

This new access to each others' voices has also brought challenges to the way we think and do things, so that being a feminist today might be quite a different prospect to a person living in China, Iran, Norway, South Africa or the UK. Second Wave Feminism used the idea of 'sisterhood' to invoke solidarity between women. I've always rather liked Andrea Dworkin's claim, though, that: "Feminism is a political practice of fighting male supremacy in behalf of women as a class, including all the women you don't like, including all the women you don't want to be around, including all the women who used to be your best friends whom you don't want anything to do with anymore." The notion of sisterhood was challenged by Black feminists in the 1980s as being too conceptually white, thus bell hooks' trenchant critique that: "the idea of 'common oppression' was a false and corrupt platform disguising and mystifying the true nature of women's varied and complex social reality". In the 1990s and 2000s it has been fair to say that feminist theory and Feminist Studies since have engaged more intentionally and deliberately with intersectionality - though Jennifer Baumgardner did caution us that: "Sisterhood was never about everybody agreeing".

For our journal, sisterhood must expand and embrace our transgender allies and our men friends, reminding us that sibling relationships are rarely straightforward or inevitably blessed by golden moments of total affinity. Thus, **Feminist Encounters** welcomes the opportunity for new kinds of international discussions in the spirit of collaboration and critical intellectual enquiry. We hope for productive agreement and disagreement, and the shared struggle of fighting gender oppression, with our minds, hearts, and bodies, as the times demand.

**Sally R Munt, University of Sussex
Founding Editor**

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FEMINIST ENCOUNTERS: SPECIAL ISSUE

PERIPHERAL VISIONS OF ALTERNATIVE FUTURES: FEMINIST TECHNO-IMAGINARIES

Guest Editors

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Editorial

Peripheral Visions of Alternative Futures: Feminist Techno-imaginaries

Katja Čičigoj ^{1*}, Natalija Majsova ², Jasmina Šepetavc ²

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INTRODUCTION

Feminism has a long history of wrestling with technologies: not only with the inequalities and blind spots inherent in research, production, and marketing, but also with the effects of different technological forms and arrangements on social relationships, ways of life, and on the body. Technologically permeated societies are a global reality, and feminist, queer, critical race, decolonial, and crip theories are pivotal in offering critical analyses and ways of imagining, producing, and using technologies differently. This issue of *Feminist Encounters* re-inspects the entanglements between technology and imagination from a range of feminist perspectives in disciplines like science and technology studies (STS), philosophy and critical theory, media history and media archaeology, cultural history, and cultural and comparative literature studies.

Greek-French philosopher Cornelius Castoriadis's theorisation of the *radical individual imagination* and the *socially instituting imaginary* (1975/1987) foregrounds the creative, world-building function that shared forms of meaning play in our social worlds. The history of Western philosophy tends to regard imagination as mere reproduction/representation, i.e., a mental copy of the real; in contrast, Castoriadis's work offers a conceptualisation of the imagination and the imaginary as inherently creative and productive of the social. Accordingly, this Special Issue asks how diverse feminist *techno-imaginaries* can help us rethink and transform historically stabilised forms of meaning, especially shared understandings of what technology can do, and envision more emancipatory ways in which it can transform our social worlds. Inviting contributions from diverse local and regional contexts, this issue sets out to investigate the implications of socially and culturally situated feminist techno-imaginaries, i.e., beliefs, accounts, and visions of *possible, desirable, alternative, and radically different* futures from diverse feminist perspectives.

The issue interrogates how these future visions relate to extant shared understandings of 'forms of social life and social order attainable through, and supportive of, advances in science and technology' (Jasanoff, 2015: 13). In the field of STS Sheila Jasanoff conjoins the 'normativity of the imagination with the materiality of networks' in her understanding of 'sociotechnical imaginaries' 'as collectively held, institutionally stabilized, and publicly performed visions of desirable futures' (Jasanoff, 2015: 13). Taking her definition as one possible point of departure, this Special Issue of *Feminist Encounters* surveys the ways in which feminist techno-imaginaries relate to current and mainstream technological developments, but also to *peripheral* technological pasts and possible futures. For this purpose, we understand the term techno-imaginaries broadly, as referring also to those visions and underlying practices that are not necessarily institutionally stabilised and are collectively held only in specific milieus.

Feminist accounts (both future- and past-oriented) tend to remain on the margins of academic discussions about socio-technological entanglements, their histories, prognoses, and poetics. Dominant societal understandings of technological transformations and their impact on thought, imagination, and society therefore tend to omit numerous paths not taken; inventions that turned out to be, or are presented as being, a *cul-de-sac*; developmental failures with unfulfilled potentials for furthering social justice; and an account of geopolitical inequalities in global technological competition, labour exploitation, and ecological impact.

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Hegemonic techno-imaginaries also lack proposals for technologically entangled *radically different* futures that would depart from present forms of labour exploitation and commodity consumption, from currently normative gender- and sexuality-scripts, from structural racism, from the neo-colonial exploitation of natural resources with concomitantly unequal climate impact, and from ways of restricting access. Reflecting upon diverse and intersecting *feminist* techno-imaginaries, we believe, can help us address and redress some of these shortcomings.

To this purpose, we propose to mobilise the notion of *the feminist archive*, as articulated by political theorist Kathi Weeks (2015), which entails retrieving visions of alternative futures that can be productively repurposed today. While often overlooked in mainstream knowledge production, these visions can function as critical examinations of our past and present. The archive on which peripheral visions of future technology design and use can draw upon undoubtedly includes feminist theory itself with its rich repository of utopian, dystopian, and ambivalent technological imaginaries, exemplified by Donna Haraway's powerful figure of the cyborg (1985/2016), Shulamith Firestone's (1970) proposal for externalising reproductive processes, echoed today by xenofeminists (Hester, 2018), or Rosi Braidotti's (2013) writings on the posthuman, to name just a few. It can certainly include feminist (science) fiction, from Begum Rokeya's (2023) imagination of a women-led society, where technology would have virtually wiped away toil and secured a peaceful cohabitation of all in harmony with the natural environment, through Octavia Butler's (2012) complex interrogation of techno-scientific alienness in her xenogenesis trilogy, to Marge Piercy's (1976) vision of a technologically enhanced utopian post-gender society Mattapoisett. But the emancipatory archive of techno-imaginaries that we wish to highlight in this Special Issue also, importantly, comprises rebellious political-aesthetic visions such as Afrofuturism and Africanfuturism, Arabofuturism, Sinofuturism, Disabled futurism, Indigenous futurism, Queer futurism, Ecotopia, etc., as well as theoretical, philosophical, political, and historical interventions. As philosopher Michèle Le Dœff has shown, while often declaratively excising imagery as *the other* of rational discourse, philosophical theories themselves almost always copiously deploy imagery, often to entrench socially sanctioned forms of exclusion (1980) – something that could most likely be said of theory in adjacent disciplines as well. This Special Issue thus also offers an arena for discussing how images of possible futures are deployed, or how they implicitly animate philosophical discussions and theoretical discourse about technological innovation and techno-dispositives, and especially – when seen from diverse feminist perspectives – what kinds of exclusions these imaginaries perpetuate, or alternatively, what arenas for radical social imagination they open up.

In order to reflect upon the often spatially, but especially temporally displaced object of techno-imaginaries, we took inspiration from Afrofuturist articulations of painful pasts to imagine new futures rooted in black culture and innovation (Davis, 2022), and from queer utopianism, characterised by 'a backward glance that enacts a future vision' (Muñoz, 2009: 4). According to Jussi Parikka, these peripheral futurisms or counterfuturisms prompt us to ask: 'What sort of discourses, narratives – including practices of time and futurism – are apt for a consideration of the current political moment and what forms of time can harbour any sort of liberating potential that work against the already existing times?' (2017: 2). Apart from offering feminist critiques of hegemonic or mainstream techno-imaginaries, this issue thus also centres peripheral or minoritarian techno-imaginaries of the past and present that enact alternative future vistas.

Thinking about future techno-imaginaries from diverse feminist perspectives brings up a broad range of very specific questions, such as matrices of human: machine interaction, user experience, access to technology, or innovation and maintenance scenarios. It also involves thinking through techno-imaginaries and how they are activated in the context of different political paradigms of the past and the present, or in the context of utopian and dystopian visions of the future in critical theory and philosophy, literature, visual arts, music, cinema, TV, in the performing arts, on social media, and other cultural artefacts. Finally, it may involve memory work, i.e., unpacking locally or culturally specific past horizons of expectations regarding technological advances and their implications for future scenarios in various contexts, from policy to historiography and art.

By focusing on diverse social imaginaries of technological innovation, this Special Issue of *Feminist Encounters* on feminist techno-imaginaries thus also offers an opportunity to engage with some of the novel ways in which, technology and feminism impact one another in modern societies. As guest editors, we had the pleasure to co-create this issue with a broad range of original and inspiring feminist thinkers and doers with diverse backgrounds, and divergent feminist perspectives on techno-imaginaries and their theoretical, practical, and poetic impact. The result of this polylogue is an issue comprising nine original scientific articles, which articulate a triad of broad but distinct topics.

SPECIAL ISSUE ARTICLES

An important section of the Special Issue is devoted to investigating techno-imaginaries of restructured reproductive, domestic, and care work, which have played a crucial role in feminist thinking about technological transformation. In their article "Fully Electrified Kitchen is All That a Modern Emancipated Woman Needs": The

Feminist Techno-Utopia in the Interwar Czechoslovak Women's Magazine *Eva*, Michaela Fikejzová and Martin Charvát explore the emancipatory techno-imaginary portrayed in the media discourse of the Czechoslovak interwar women's magazine *Eva*. Discursively constructing the image of a new and emancipated woman that works outside the home, the magazine promoted the idea of emancipation through technology such as household appliances, which would rationalise (so-called) 'women's work'. The article traces an 'emancipatory scale' as a structuring element of this discourse, through which the acquisition of domestic technologies such as electric ovens, washing machines, and even automobiles symbolised progressive liberation, while simultaneously revealing how emancipation remained conditional on capitalist and patriarchal constraints. The authors demonstrate how *Eva* fused technodeterminism and consumerism to craft an imaginary in which domestic labour became the stage for both female advancement and deeper disciplining of the gendered body.

A critical analysis of this sort of 'productivist imperative' that permeates all forms of labour is one of the tasks of another article in this Special Issue, Yihan Lulu Wang's 'Automated Care in a Domestic Space: Reproductive Futurism in Hao Jingfang's "The Question of Love"'. Through a feminist reading of Hao Jingfang's science fiction story 'The Question of Love' (2017) about a motherless family and their AI caregiver, the author analyses techno-imaginaries of China's post-socialist middle-class domestic space and problematises the privatisation of labour's social reproduction via techno-automation and the power relations of the non-caring subjects over the caring subjects that this entails. Wang's article exposes how the techno-automation of childcare – embodied in a male AI caregiver – functions not to alleviate care burdens but to reinforce capitalist affective regimes, transforming love into an instrument of self-optimisation and social control. By weaving together social reproduction theory, feminist affect studies, and political economy, the article critiques how middle-class domestic automation reproduces neoliberal values while masking their emotional costs. Ultimately, Wang offers a profound critique of the productivist subjectivity as well as rationalised automation of social reproductive labour underpinning these techno-futures, instead highlighting complex ideological and emotional work performed in domestic spaces.

Finally, in her article 'Archiving Labour Reconceptualisations: "Scaling Up" With Technological Means,' Maruška Nardoni curates a speculative feminist counter-archive by juxtaposing canonical texts by Silvia Federici, Donna Haraway, and Michel Serres. Rather than treating household automation or smart technologies as mere tools of relief, the article reflects on how feminist imaginaries can be 'scaled up' to redefine labour itself – domestic, affective, precarious, and research work, and even non-work. Using the concept of hyperstition, the article experiments with techno-feminist imaginaries, while simultaneously critiques both defeatist anti-tech stances and corporate techno-solutionism. Smart home devices and IoT imaginaries appear as figures surrounding broader speculations about domestic labour, automation, and feminist futurity. The article's archival method rejects linear theoretical inheritances in favour of frictional encounters between different strands of feminist thought, seeking to imagine novel socio-technical configurations for revaluing care and domestic labour in both real and imagined futures.

Another cluster of concepts that has come up as central to the Special Issue of *Feminist Encounters* has to do with the nexus of marginality or peripherality, care, and vulnerability. These have been explored in many articles, but perhaps most directly in the work of Lona Gaikis, Walter Lunzer, and Barbis Ruder; nate wessalowsky, Grit Marti Lange, and Sigrid Kannengiesser; and Pia Brezavšček. Gaikis, Lunzer, and Ruder's article 'Therapy-Poesis: Prosthetic Care for Damaged and Undamaged Bodies' examines prosthetics or 'alien limbs', arguing that the experience is likely to be aesthetic, rather than functional. Gaikis conveys and reflects upon her group's research in an artistic laboratorial framework that aimed to better understand the psycho-physical phantoms haunting prosthetic development. The author harnesses the project of posthuman critique (Ferrando, 2012) as a fertile methodological ground for assessing and reassembling the fractures running through what one might call our 'post-prosthetic' bodies – bodies profoundly transformed by prosthetics. She proposes therapy-poesis as a techno-imaginary that engages the human-machine nexus, aiming at understanding the subcutaneous, carnal rhetoric that is elemental in bridging human-machine interfaces, and at considering *feeling* as a central category for experiencing prosthetics, and as an underexplored concept when it comes to thinking the difference between acting artificial systems and acting living organisms – a difference that is central to domains like medical engineering. The experimental research showed how both unimpaired participants and prosthesis wearers can easily alter and change the 'natural' feeling of their individual bodies and integrate artificial body extensions (anthropomorphic and alien).

Moving away from care and vulnerability as embodied practices, and toward their digital emanations, nate wessalowsky, Grit Marti Lange, and Sigrid Kannengiesser's article 'A Feminist Critique of Cybersecurity: Technofeminist Imaginaries of Vulnerability and Care' explores techno-imaginaries of vulnerability and care in cyberspace, and more specifically in the context of cybersecurity. The authors argue for the need for a paradigm shift away from the prevailing negative and paranoid perception of cybersecurity as 'freedom from threat', which is tied to the epistemological act of 'othering' and its entanglement in the gendered and intersectional production of cyber-insecurities. Instead, looking at cybersecurity through the lens of techno-feminist critique, the authors conclude that extant, nation-state centred notions of cybersecurity fail to recognise how cyberspace replicates

analogue domination over women and non-binary people. As an alternative, the authors envision techno-feminist imaginaries based on care that not only introduce alternative perspectives on user identities and diverse methods of securing oneself, others, technologies, and various forms of techno-human connection, but that also embody a set of different norms that underpin these visions.

The preoccupation with positionality, intersubjectivity, and care is also a red thread running through Pia Brezavšček's paper – 'A Manifesto for Yugofuturism: Maska's tools and strategies for imagining possible (feminist) futures inspired by regional pasts.' Engaging with the growing archive of insights from artists and writers gathered around the non-governmental performing arts production and publishing house Maska from Slovenia, Brezavšček fleshes out the key dimensions of Yugofuturism as a concept, a movement, and a series of artistic projects. Outlining Yugofuturism as marked by a distinct generational, post-Yugoslav perspective, Brezavšček aligns it with other neofuturist movements, especially Afrofuturism, that strive to create space for possible future where these are difficult to imagine from hegemonic perspectives. Yugofuturism thus emerges as an open-ended and fluid techno-imaginary wherein future fabulation takes into consideration peripheral aspects of the technological aspects of contemporary being-in-the-world. Relying on technology as a means to embrace loss and failure – as well as utopian visions of progress – Yugofuturism is thus outlined as a creative strategy that employs historically and geographically specific past potentialities and fictions to construct a future world based on solidarity and care.

A third set of articles from our Special Issue are engaged in proposing *epistemological shifts* by introducing diverse feminist techno-imaginaries into fields such as environmental science and sustainability, technology design, and ocean science. Sophie van Balen's article 'Breathable Futures. Breath as Feminist and Decolonial Imagination in Heating and Polluted Worlds' mobilises Luce Irigaray's account of the forgetting of air to explore why it is so difficult to imagine futures otherwise than through dreams of maximisation, solution, and (fair) distribution, even in environmental discourses on sustainability. To conceive of a way out of current atmospheric troubles (e.g., climate change, air(borne) pollution, 'silent' skies), Van Balen proposes to rethink subjectivity alongside three (techno-)imaginaries: intoxication, allyship, and (be)coming alive. These propose open-ended struggles for breathability in shifting, more-than-human coalitions.

Meanwhile, in his article 'The Need for Diffraction in STEM-fields: An Ethical Feminist Consideration of the Concept of Gender scripting', Felix Grewe takes a critical look at gender scripting in technology design: the process of development, manufacturing and marketing that ensures that technologies are given a targeted gender-specific imprint, leading to exclusions in user behaviour that disadvantage users who do not conform to prevailing patriarchal norms of gender. As a corrective, the author proposes introducing Karen Barad's notion of *diffraction* as a feminist techno imaginary into STEM-fields and engineering. A phenomenon originally articulated in the field of quantum physics, according to Grewe diffraction could point the way towards recognising and thus replacing outdated patriarchal structures in science and research and contribute a model of inclusion of feminist imaginations and intersectional practices into the research, development, manufacturing, and commercialisation of technical products.

Finally, Stephanie Jordan's and Jennifer Lieberman's article 'Coalition Science: Bridging Imaginaries Between Collocated Communities in the Polar Oceans' is based on ethnographic research of polar ocean science that proposes significant feminist epistemic-ethical shifts in how ocean science could be conducted – designed, funded, carried out, presented. These proposals are informed by a specific research context: that of polar ocean science, where results depend upon often complex negotiations among various stakeholders, from sometimes dislocated ocean scientists and indigenous communities to non-human life inhabiting the ocean and the ocean itself with its environmental events. Based on the research conducted, the authors propose a shift towards a framework of coalition-building with various stakeholders. The latter has the potential of fostering the production of what they call knowledge-with, and not just knowledge-about: knowledge that takes seriously the interests and the authorial contributions, of what they call 'lay experts', such as local communities and interest groups. When it comes to the issue of infrastructure and sustainability, the authors powerfully advocate for what we could call a revaluation of scientific values, a move away from fetishism of the new and towards appreciating, caring for, and mending what one already has: maintenance, instead of a constant drive to innovation.

With its rich array of contributions, this Special Issue of *Feminist Encounters* is a testament to the inevitable tensions inherent to the topic of feminist techno-imaginaries. These span from the gushing gulf between emancipatory techno-imaginaries and the realities of global gendered and racialised divisions of labour in tech-industries; to the complicated relationship between feminism and technology that historically spanned fear and suspicion of extending domination over female and feminised bodies (cf. Wajcman, 2007; Haraway, 1985/2016), and hope that technological innovation could be a tool of gender justice. Grappling with feminist techno-imaginaries also involves acknowledging and embracing the tension between the need to critically rethink humanist intellectual traditions, and to incorporate awareness, consideration and analysis of non-human processes, structures, and actors. As feminist, queer, critical race, decolonial, and crip theorists have aptly argued, technology, despite its many emancipatory potentials, is often not (or not yet) a tool for progressive politics, but is fraught with

histories of inequalities, paths not taken, and voices silenced in the processes of building our current technolandscape (Star, 1991; Gilbert, 2010; Hamraie and Fritsch, 2019).

Despite these theoretical and political tensions, the engagements of feminist, queer and other aforementioned approaches with technology are also pivotal in offering critical analyses and ways of imagining, producing, and using technologies differently, as contributions to this Special Issue also demonstrate. If the (techno-)imaginary can be productive of the social, following the premise with which we started work on this Special Issue, then it is our hope that the latter will make a contribution towards transforming historically stabilised forms of meaning, especially shared understandings of what technology can do and how it can transform our social worlds to emancipatory ends. By taking a second look at past and present techno-scientific imaginaries and practices from a peripheral, feminist and otherwise critical-emancipatory lens, we hope that this Special Issue may also function as an encouragement to all, to continue to participate in imagining technology and social reality otherwise.

GENERAL ARTICLES

‘Gendering Education and Organisation: The Women’s Reform Movement in India’, by Mimansa Bharti, is an archival study of the ‘educational experiment’ of the late nineteenth century in India that opened a route for a generation of women to organise themselves as leaders in the movement. She shows that women participated actively in the movement and that the trajectory of this is essential to understand how the movement impacted the grass-roots recipients. This is a departure from analysing the movement from the perspective of the male and British perspective. In doing this she ‘deviates from nationalist and oriental historiography that excluded them of rightful claims based on conservatism of different, but overlapping kinds’.

In ‘(En)Queering “Prakriti”: Decolonial Ecofeminism and Lesbian Subjectivity in *Out! Stories from the New Queer India*’, Chhandita Das and Priyanka Tripathi explore ways in which queer ecofeminism functions as a decolonising approach to advance lesbian subjectivity and solidarity. They have selected short stories from *Out! Stories from the New Queer India* (2012) for textual analysis from this perspective, through critiquing ‘Prakriti’ (i.e., Nature) as a dissident source of *Shakti* (i.e., Power) for queer lives’. They emphasise the urgency of revisiting lesbian subjectivity and solidarity in the light of the political and religious controversy around the recent decline of the demand for legalising same-sex marriage by the Indian Supreme Court.

Deborah N. Simorangkir’s article, ‘Dating Violence Among University Students in Indonesia: Help-Seeking Communication Strategies and Barriers to Disclosure’, presents context for Indonesia’s rise in dating violence in the last 5 years. Her study is a response to the Indonesian Ministry of Education’s regulation for violence prevention and management in higher education institutions. Her statistical study is designed to identify the prevalence of dating violence among university students in Indonesia and to document their strategies to communicate their need for help, both formally and informally.

Finally, Yuri Felix Chavez-Luque and Anyela Y Smith Q discuss the implementation of a feminist self-advocacy programme in Peru to achieve changes in ambivalent sexism in mothers with children with disabilities, of medium and low socioeconomic level in their article, ‘Impact of Feminist Self-Advocacy on Ambivalent Sexism in Mothers of Children with Disabilities, a Mixed Study’. Their mixed-method study aims to analyse the participants’ lived experiences during and after a workshop. The workshop’s aim was to promote equal treatment between men and women in an underserved community.

BOOK REVIEWS

Our book reviews in this issue cover a variety of topics. First, Anukriti Dixit reviews *Gender, Sexuality and Social Justice: Unpacking Dominant Development and Policy Discourses* (authors Silke Heumann and Camilo Antillón Najlis). Dixit describes this book as ‘an example of the networks they [the authors] have fostered’. Essentially, to politicise development, the book questions ‘binary logics around the categories developing/developed, West/non-West or even of global North and South’ and embraces ‘a wide variety of analysis, set in vastly different social, economic, geographic contexts’. The first of its three sections shows ‘nuanced aspects of sexual agency, reproductive roles, racial, classed and ageist hierarchies that position women in fixed subject positions’. The second addresses development-related policy concerns, looking at a variety of sectors and contexts. The final section concerns migrants in various European contexts through the lenses of gender, sexuality and race.

In her analysis of *Islamic Feminism: Hermeneutics and Activism* (author Mulki Al-Sharmani), Melek Kaymaz Mert describes the book as an analysis of Islamic feminism hermeneutics, concentrating on the work of academics who ‘reside and work in both the Global North and South, in Canada, Egypt, Morocco, South Africa, the United Kingdom, and the United States’. As a result, the viewpoints of these scholars are ‘from various linguistic, cultural, and academic backgrounds’. The combination of their approaches demonstrate their interactions with the *Qur’an*

and other schools of Islamic interpretation. The two main themes in the book are reconstruction and deconstruction. This approach leads to new perspectives on ‘more significant and fundamental theological and ethical issues in Islamic scriptures’, as well as a range of interpretations of texts in support of an Islamically-rooted idea of gender equality idea. Dixit explains how this shows the role of grassroots activities to promote socially relevant feminism and activism. Not only does the author trace the genealogy of Islamic feminism, but she includes the work of younger generation of feminists and lay women.

In his review of *The Mysticism of Ordinary Life: Theology, Philosophy, and Feminism* (author Andrew Prevot), Carlos Piccone-Camere has chosen a book about christianity ‘with particular emphasis on Roman Catholic thought and the spiritual traditions of Black and African American communities’. Piccone-Camere discusses Prevot’s novel approach to mysticism as well as his gender-aware methodologies. For example, Prevot finds that mystic events ‘are deeply personal and inherently political, shaped by and shaping the social and cultural contexts in which they occur’. Mysticism is reconfigured as being something that is part of everyday life and the lives of people considered marginal, instead of only accessible to certain theologians, and therefore, ‘can serve as a powerful lens through which to examine issues of identity, power, and social justice’.

Next, Muneeb Ul Lateef Banday discusses *Fire Dreams: Making Black Feminist Liberation in the South* (authors Laura McTighe and Women With A Vision) in terms of producing alternative knowledges, in this case ‘collaborative knowledge production to analyse and resist racial capitalism’ and obtain justice for marginalised communities. The South discussed here is the southern parts of the United States. The book details different grassroots approaches to intersectionality. Banday analyses the solidarity discussed in the book in terms of its relation to similar projects in other countries.

Charlie Yi Zhang’s review *Sexuality and Gender Diversity Rights in Southeast Asia* (author Anthony J. Langlois) analyses a book that seeks to explore a pragmatic response called ‘rights politics’ to study ‘the initiatives undertaken by sexual minorities, gender non-conforming groups, and their advocates to broaden the scope of legal entitlements’. This is a decolonising approach that moves away the liberal framework often employed in western scholarship ‘that centralises rights as a universal model’. Zhang describes the book as well-organised structure, and showing ‘historical perspectives alongside contemporary information’. The book’s engagement with a range of stakeholders at multiple levels makes it ‘a valuable resource for students, activists, and policymakers interested in comprehending the intersection of human rights, gender, and sexuality within the context of the ASEAN and beyond’.

Our last review for this issue, Siufung Law’s review of *Inside the Circle: Queer Culture and Activism in Northwest China* (author Casey James Miller), considers Miller’s twelve years of ethnographic fieldwork on queer culture and activism in Xi’an, China. A central question in the book is, ‘What does it mean to be queer in northwest China?’. The book reminds readers that the lens through which one studies a culture matters, especially taking into account one’s own cultural background. Miller shows that the life stories gay and lesbian activists in postsocialist China are multifaceted, and that ‘the moral landscape of northwest China that challenges a postsocialist turn toward individualism and privatisation of marriage and family’. Furthermore, he ‘contextualises Chinese queer notions of personhood through active political engagement and a commitment to moral obligations’ beyond ‘the Western understanding of the individualistic self, emphasising collectivism and relationality shaped by Confucian ideals of filial piety and the ethical value of self-sacrifice’.

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‘Fully Electrified Kitchen is all That a Modern Emancipated Woman Needs’: The Feminist Techno-Utopia in The Interwar Czechoslovak Women’s Magazine *Eva*

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ABSTRACT

This study explores the emancipatory techno-imaginary portrayed in the media discourse of the Czechoslovak interwar women’s magazine *Eva*. Employing a feminist lens on media archaeology, we dissect the magazine’s usage of the *topos* of the *new woman*. Central to the analysed discourse is the concept of an emancipatory scale, rooted in the technodeterminist belief that new technologies will inevitably revolutionise gender dynamics. Despite *Eva*’s declarative upscale audience, it perpetuates the collective idea that any woman can attain emancipation through technological investment. This scale emphasises women’s indispensable role in household management for economic advancement, with ownership of household appliances marking progression. The pinnacle of emancipation, symbolised by the automobile, remains elusive for many women due to male influence. The analysis uncovers overlooked aspects of interwar Czechoslovak discourse, shedding light on women’s techno-imaginary and the limitations of everyday emancipation.

Keywords: techno-imaginary, interwar Czechoslovakia, media archaeology, *Eva* magazine, new woman

INTRODUCTION

‘The *Perun*’s washing and ironing machine, that’s all that us female members of the housing association wish for Christmas from the association,’ says an anonymous woman in an alleged survey conducted by the editors of the Czechoslovak magazine for ‘modern and educated women’ *Eva* in 1928. New domestic technologies were at the centre of the so-called rationalisation of the household in the interwar period, which was discursively associated with women’s liberation from demanding domestic chores. The newly established Czechoslovak Republic was no exception, but the discursive constitution of this current of women’s emancipation in conjunction with technology is a largely neglected research topic. The present text, therefore, aims to map the structure of women’s emancipatory techno-imaginary related to household rationalisation and domestic technologies.

At the level of the media discourse of *Eva* magazine, we deconstruct the ideas associated with liberation with the help of new technologies, which at that time were, for example, new cooking or cleaning devices. Thus, using the methodological framework of feminist media archaeology and the contemporary concept of the *new woman*, we focus on the forgotten components of Czechoslovak interwar media discourse concerning the modernising techno-imaginary. In the text, we first present the historical context of the Czechoslovak *new woman*, the analytical concept of the *new woman* as such, along with concepts such as rationalisation and Americanism, and in the analysis itself, we focus on the components of the present emancipatory techno-imaginary concerning specific domestic appliances and the automobile.

THE HISTORICAL CONTEXT OF THE CZECHOSLOVAK NEW WOMAN

The historical conditions out of which the figure of the interwar emancipated woman emerges are strongly related to two aspects:

- (i) feminist efforts in the Czech lands during the second half of the 19th century and the pre-war period of the 20th century, and

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- (ii) the transformation of state borders and organisation after the World War I and the accompanying establishment of Czechoslovakia.

These aspects intricately interrelate, forming a constellation influencing the feminist imaginary. As Malečková (2016: 46) maps, the Czech women's movement and debates concerning the 'women's question' were always closely linked to Czech nationalism, which aimed at state emancipation from the Austro-Hungarian monarchy, and 'carried a strong "patriotic" aspect' (Malečková, 2016: 49). The accentuation of national interest over women's or gendered interests was also common in the activities of Czech feminists within international women's organisations (Malečková, 2016: 52). Within these national interests, cooperation between women and men in the interest of a common goal, of which women's emancipation was to be a part, was widely emphasised (Malečková, 2016: 47).

The primary common goal was achieved in the new European order after World War I, when the collapse of the Austro-Hungarian monarchy resulted in the establishment of the Czechoslovak Republic, along with the newly formed Poland, Hungary, and Austria (Vujnović, 2008: 4; Jusová, 2016: 10–11), creating a new aspiring state in need of further support of active citizens, including women. The partial goal of women's emancipation of attaining active and passive suffrage, established by the 1920 constitution, was also achieved (Jusová, 2016: 12). Given the openly feminist first president of the Czechoslovak Republic, T. G. Masaryk (Jusová, 2016: 11; Malečková, 2016: 51; Feinberg, 2006: 11–40) and other feminist achievements such as the open debate on abortion, the abolition of celibacy for female civil servants, and the availability of divorce (Jusová, 2016: 13; Huebner, 2016: 62), interwar Czechoslovakia is considered the 'golden age' of women's emancipation (Eriksroed-Burger, 2023: 89), even though the feminist movement began to decline after gaining the suffrage (Huebner, 2016: 63). The continuity with the previous nationalist movement was crucial for the new state and economy, especially in stabilisation.

Therefore, the emancipated woman was ascribed an economic role linked to her efforts to work outside the home. Bahenská et al. (2017: 43) trace the political and media emphasis on the role of economically educated women in industrialised and modern society since the 1890s, both in terms of employment and especially in terms of appropriate economic management of the household. In the industrialised Czech lands¹, women worked both in agriculture, where a significant proportion was also present in the interwar period (Bahenská et al., 2017: 83), and industry, for which, as part of urbanisation, women concentrated or moved to cities, among other things for the prospect of acquiring the freedom associated with higher incomes (Bahenská et al., 2017: 43). The women's labour market was significantly transformed by the 'women's mobilisation' during the World War I, when they replaced men drafted into the war in all jobs (Bahenská et al., 2017: 47). In the interwar period, this female mobilisation became to some extent a destabilising element of the gender order, particularly in middle-class society; Bahenská et al. (2017: 59) refer to it as a 'foreign element' in the 'status of the married middle-class woman', which nevertheless cannot be ignored. On the one hand, the modern state and the new economy needed to ensure a sufficiently large productive force. On the other hand, it needed to ensure sufficient population growth, which brings the ideal of the mother and the ideal of the female citizen into conflict within the middle-class myth. This ideological contradiction culminates in the figure of the *new woman*.

THE CONCEPT OF A NEW WOMAN

The figure of the *new woman* is a relatively marginally mapped phenomenon in interwar Czechoslovakia, and the conceptualisation of this concept as an analytical category in a specific socio-economic and political context is, consequently, underdeveloped. Pachmanová (2018, 2021) deals most extensively with the *new woman*, primarily on the level of her visual representation in interwar media and visual culture. The *new woman*, a signifier also found in German and French, is referred to here as a 'civilised woman', as 'the adjective "civilised" is at the same time fundamentally linked to the Czech environment' (Pachmanová, 2021: 13), in the sense of 'civilisation' as 'the opposite of primitivism and barbarism', which was to be 'our [Czech] local specificity at this time' (Pachmanová, 2021: 13). This 'civility' was to consist in 'denying the instinctive "self" and "accepting" "discipline and organisation" as a condition of modernity' (Pachmanová, 2021: 13). However, this feature is further extended to 'Central European space in general' relying on unspecified 'anthropological theories' (Pachmanová, 2021: 13n.). It is therefore unclear why, or if, this was a purely local specificity. Pachmanová (2021: 15) further sets the 'civilised woman' in opposition to the rural: '(...) the central figure of this publication is a distinctly urban being and is seen as one of the features of the modern city.' In the voluminous book that this conceptualisation frames, the *new woman* is much more present as precisely the counterpoint of the underdeveloped non-industrialised countryside, which is also reflected in the diversity of signifiers for the figure of the contemporary ideal of the woman, who is

¹ At the end of the 19th century, the Czech lands were the most heavily industrialised parts of the Austro-Hungarian monarchy, and their level was rather close to the German or British level than to other parts of the monarchy (Kelly, 2002: 542–543). In 1900, 42% of Bohemian, 35% of Moravian, and 46% of Silesian workers were employed in the industrial sector (Kelly, 2002: 543).

not consistently described as a ‘civilised woman’, but often also as a ‘modern woman’ (e.g., Pachmanová, 2021: 25, 30, 54, 102, 113, 142). For this reason, we do not accept the definition of the *new woman* as a counterpoint to the colonial view of barbarism but rather as an opposition to the absence of modernity, industrialisation, and urbanisation.

This interpretation is based on other texts dealing with the concept of the *new woman* in interwar Czechoslovakia. For the present interpretation, it is essential to view the figure of the *new woman* as a discursive object present in the female emancipatory imaginary; it is, therefore, not an interpretation that assumes the real existence of *new women* as a demographical group. According to Huebner (2012: 231–248), who analyses a range of Czechoslovak interwar periodicals, the *new woman* was an educated, fashionable, politically and socially active figure. Eriksroed-Burger (2023: 102) emphasises the consumerist aspect of the *new woman* related to the ‘economic boom after World War I,’ which ‘allowed for the development of mass consumption in the newly founded nation states,’ among which she explicitly includes the Czechoslovak Republic. As such, she describes the *new woman* as a ‘symbol of modernity and cultural progress,’ which was also a ‘projection surface for desires, imaginings and expectations in the interwar period’ (Eriksroed-Burger, 2023: 102). Pachmanová also maps consumerism as a space for emancipatory imaginary. Still, in both texts, there is a premise that it must be ‘correct’ for consumerism, such as acquiring simplified household furnishing (Pachmanová, 2021: 180–181) or reading a specific book (Eriksroed-Burger, 2023: 94). However, for a broader conceptualisation of the *new woman*, we consider it necessary to expand the corpus of literature to include sources related to the non-Czechoslovak interwar environment, as the explicit definition of the *new woman* as an analytical category is too limited. Specifically, conceptualising the *new woman* in the Weimar Republic, arguably the most abundantly analysed in interwar continental Europe, also provides several parallels in the Czechoslovak interwar discourse.

The situation of Czechoslovakia and the Weimar Republic was similar – in both cases, it was the newly established democratic state system after World War I dealing with the problems associated with the newly established economy and the consequences of the war (Mongu, 2010: 196). A part of that process is the matter of the newly emancipated women. Weimar *new woman* visually represented in media primarily as a woman with a short haircut, so-called *bubikopf*, and loose clothing (Lynn, 2022: 337; Rocco, 2012: 218), is, on the one hand, a representation of female emancipation and on the other a representation of a threat to ‘traditional’ socio-political order. Women’s emancipation was primarily tied to increasing the number of women in office jobs, typically represented in media as typists, telegraphists and telephonists (Führich, 2000; Hales, 2010a; 2010b; Smith, 2008) and acquiring the right to vote in 1918 (Hales, 2010a: 534–535). The threat embodied in the figure of a *new woman* consisted in the same areas, as Hales (2010a: 535) states: ‘Conservative critics feared that the modern woman, with her self-interested orientation, would undermine the traditional family structure.’

The figure of the *new woman* in the Weimar discourse defied the pre-war gender order, both visually, when she was labelled ‘boyish,’ ‘lesbian,’ or ‘intersex’ (Hales, 2010b; Otto, 2012; Renault-Steele, 2017), and through her work and political activities, such as the ability to vote or run for office and being employed. Her contradictory nature was mainly due, on the one hand, to women’s active economic role being celebrated as progress. On the other hand, women’s way of spending their newly acquired leisure time, for example, by frequenting cafés, was criticised as inappropriate for women (Otto and Rocco, 2012: 9). The transgression of traditional gender order was seen as threatening to men, and the anxieties arising from these transgressions, but also from the modernisation of society in terms of the reorganisation of work, new technologies and the general acceleration of social and work processes were projected onto the figure of the *new woman* (Rocco, 2012; Hales, 2010b; Hung, 2015; McCormick, 2001). Although higher purchasing power, residing in both two-income households and individual young wage-earning women, is desirable in the recovery of the post-war economy, other state interests, such as the area of natality, lie in a more conservative conception of the gender order.

NEW WOMAN, AMERICANISM AND RATIONALISATION

European countries sought inspiration from the burgeoning modern economy and society that materialised in the United States, which seemed to be a stable, thriving economy that provided the key to the puzzle of European states’ economic and sociopolitical problems (Peach, 1997: 48–49). The specific management of society was part of the Weimar imaginary of ‘America,’ the so-called ‘Amerikanismus,’ in English literature ‘Americanism’ (e.g., Peach, 1997; Nolan, 1994). Nolan (1994: 17–82) extensively traces how the writings of economists and industrialists travelling to the United States in search of inspiration influenced what politicians and citizens of the Weimar Republic perceived as available economic opportunities. The desirable aspects of Americanism were primarily Taylorism and Fordism² related to the ‘rationalisation,’ as their mix was referred to in Weimar discourse,

² Frederick Taylor introduced the concept of an ‘honest day’s work’, scientifically determined to rationalise and economise results. This approach shares similarities with Henry Ford’s Fordism, which operated on a much larger production scale.

as opposed to the American label 'efficiency' (Nolan, 1994: 6), of production and economic processes and household functioning.

The figure of the *new woman* was associated both with the rationalisation of work; for example, the position of a typist was constantly rationalised by training typists with a metronome and other tools to type as efficiently as possible, as described in literature on contemporary psychotechnics (Rabinbach, 1992, esp. 278, 249–250; Hales, 2010b: 302–303), and with the rationalisation of the household, which was the sole responsibility of women. Even housework itself was subjected to rationalisation and detailed research, as shown, for example, by studies on the most efficient way to sweep the floor or cook (Nolan, 1990: 206–226; Hagemann, 2009; Saldern, 1997). In this sense, the figure of the *new woman* is also closely associated with new technologies, both in an emancipatory sense and in a disciplinary sense. New technologies, such as the typewriter, the automobile, and new household appliances, were described as new extensions of the *new woman* that made their work, including that of the home, more efficient and faster (Nolan, 1990: 206–226). Thanks to their existence, the *new woman* could acquire leisure time to engage in activities for which she had not previously had the capacity – for example, greater involvement in social and political life, but also in consumer behaviour such as fashion and cultural pursuits. At the same time, technology served to discipline the female body further – along with new household appliances and work tools, the *new woman* was 'upgraded' to the greater efficiency that was to be her goal. Viewing the human and, specifically, the female body as an efficient machine was also reflected in more 'traditional' policies that could be described as de-emancipatory – the female body was also viewed as a birthing machine (Hales, 2010b: 302). This mechanisation of the female body and the association of new technologies as its extensions can be considered the cyborgisation of *new women*, as analysed by Matthew Biro (2012: 132).

An undesirable aspect of the 'appropriation' of American culture, or the discursive transformation of the imaginary of 'America' into a local cultural critique, is the so-called *Girlkultur*, presented as a product of mass modern industrialised society (Berghaus, 1988). 'Girl,' one of the names for the *new women*, is defined by its consumption based on the more robust economic position acquired through its entry into the workforce (Berghaus, 1988).

The American image of the *new woman* is confined to white middle-class bourgeois women (Nolan, 1994: 121). The character of 'Girl' represents an even narrower segment within this socio-demographic group, predominantly young, unmarried white women employed in offices. The Weimar perception of 'America' disregards 'non-modern' women, such as those employed in agrarian sectors or migrating from rural areas to cities out of financial necessity (Bridenthal, 1973: 151–153). Additionally, while there was optimism regarding increased purchasing power among white-collar female employees, the overall rise in female employment and its associated emancipatory potential was slow (Bridenthal, 1973: 149–150).

For all interpretations of the role of the figure of the *new woman* in interwar Weimar discourse, Graf (2009: 672) finds a common point in the fact that the *new woman* always functioned conceptually as an 'anticipation of the future in the present'. In other words, the *new woman* represented the promise of a hopeful and terrifying future, discursively constructed as already existing in the present (Graf, 2009). Cyborgised through their technological extensions, the *new women* thus became ubiquitous, especially in media discourse and political debates, even though they could have been, as Donna Haraway (1991) later argues, essentially invisible.

In the Weimar context, the new woman is analysed as a contradictory figure; in the Czechoslovak context, she is not developed much in this respect – the discursive object of the *new woman* is presented primarily as an emancipatory ideal that is internally unconflicted (e.g., Pachmanová, 2021; Huebner, 2013). In part, the *new woman's* conflictual nature is addressed by Eriksroed-Burger (2023: 87) regarding the critique of female consumerism, similar to how this aspect is critiqued in the Weimar context. The *new woman* as a threat to the traditional gender order in the sense of the concentration of anxieties about modernity and especially new technologies is also largely neglected in the interwar Czechoslovak context. Pachmanová (2021) discusses the *new woman's* relationship with technology, primarily at the historiographical macro level. She outlines principles of household rationalisation using technological inventions (Pachmanová, 2021: 181–183) and rationalising kitchen movements (Pachmanová, 2021: 194–199). Within the chapter on the 'machinised woman', she partly explores the techno-imaginary of women-machine connections in the interwar art scene (Pachmanová, 2021: 389–392) and female automobilism (Pachmanová, 2021: 396–411).

As mentioned, the *new woman* also figured in the Weimar imagination of Americanism. In the Czechoslovak interwar context, the concept of Americanism is only present in Mongu's work (2010). Concerning the *new woman*, Americanism is analysed as an emancipatory model linked to the interconnection of the Czech and American women's emancipation movements and the media image of the American woman in Czech periodicals (Mongu, 2010: 259–267). However, the relationship between the *new woman* and technology within the emancipatory imaginary of Americanism is not analysed or explicated in detail in Mongu's texts.

The present text, therefore, aims to connect aspects such as the relationship between *new women* and domestic technology and the imaginary of Americanism, which are partially outlined in the existing literature on the interwar

Czechoslovak context but are not analysed in detail as a distinct (female emancipatory) techno-imaginary on concrete material.

METHODOLOGY

To analyse the relationship between the figure of the *new woman* and the new technologies and their (proclaimed) emancipatory potential, we have chosen the method of media archaeology along with its conceptualisation from a feminist perspective. This method was chosen primarily for two reasons:

- (i) it itself explicitly focuses on the techno-imaginary and related power relations, and
- (ii) it aims to focus on hitherto neglected aspects of the media.

Media archaeology, rooted in Foucauldian discourse analysis, delves into the power dynamics of human-technology relations (Huhtamo and Parikka, 2011: 8). This approach reveals forgotten connections between past and present, uncovering the historical layers of technological artefacts, beginning with the present's organic and technological interplay (Ernst, 2015: 29; Huhtamo and Parikka, 2011: 1–24; Parikka, 2012). Dissatisfied with mainstream media history, media archaeologists construct alternative narratives, excavating suppressed and overlooked media histories (Huhtamo and Parikka, 2011: 3). However, Skågeby and Rahm (2018: 4) criticise media archaeology for neglecting certain 'power grains', especially gender-related ones. They propose feminist media archaeology to question power differentials and technology's impact on gender order (Skågeby and Rahm, 2018: 7–13, 14).

The implementation of the media-archaeological methodological approach in the present text takes place at the level of

- (i) topic selection,
- (ii) sample selection, and
- (iii) analytical unit selection.

The focus on women's emancipatory techno-imaginary, which we understand here as the imaginary projected into the relationship between women and the new technologies, the purchase and use of which should facilitate their emancipation, i.e., to help them achieve social equality with their male counterparts, reflects feminist media archaeology, given the scant literature attention to this aspect within the broader Czechoslovak interwar techno-imaginary (Charvát, 2024). Discussions on women's techno-imaginary remain peripheral in texts primarily addressing broader themes.

In the realm of gender-segregated media spaces, particularly within women's magazines, specific ideologies of femininity are constructed (Ballaster *et al.*, 1991: 171–173), encompassing concepts like 'modern womanhood' (Hackney and Bigham, 2022: 103). Despite this, historical Czech and Czechoslovak popular women's magazines remain largely overlooked in media research, a trend mirrored in other post-socialist nations such as the former Yugoslavia (Vujnović, 2008: 70–71). When these magazines are analysed, studies often provide broad overviews of women's periodicals without delving into the unique characteristics of individual magazines (e.g., Pachmanová, 2021) or emphasise femininity through biographical studies (e.g., Penkalová, 2011). The present text focuses on this overlooked part of media historical research: the gendered power grains associated with the emancipatory techno-imaginary. To accomplish this, one magazine is selected to explore the specifics of a gendered and socioeconomically segregated media space.

The Czechoslovak interwar fortnightly magazine *Eva*, first subtitled '*Magazine of the Modern Woman*' (1928–1932) and later '*Magazine of the Educated Woman*' (1932–1943), was chosen because of its declarative focus. According to its publisher, it was intended for 'readers from the circle of employed intellectuals and freelancers' (Šalda, 2001: 211) feeling the need for information 'about literature, art, music and theatre alongside the usual news from society' (Šalda, 2001: 210). *Eva* is described in the existing literature as a 'quality' and 'prestigious' magazine (e.g., Penkalová, 2011: 71; Korábková, 2022: 173), but also as 'a feminist and socially conscious medium aimed at the modern, rational and fashion-loving woman of the upper middle class' (Eriksroed-Burger, 2023: 91) or as a 'bourgeois consumer magazine' (Huebner, 2013: 444). These characteristics imply that the magazine presented itself as a women's magazine for well-to-do urban women, a type of woman who was a prototype of the figure of the *new woman*. Hence, *Eva* was chosen for media archaeological analysis of techno-imaginary related to the *new woman* figure. In the analysis, we concentrate only on issues from the First Czechoslovak Republic (1918–1938) period, i.e., from the magazine's beginning in 1928 to 1938, when the First Czechoslovak Republic ceased to exist. Along with the change in the political system during the Second Republic and the Protectorate under German Nazi rule, the media system (Bednařík *et al.*, 2011: 183–214) and the content of the magazine changed, shifting towards Czech cultural topics, indicating resistance to the German regime (Mongu, 2010: 239). *Eva* ceased to be published during German rule in 1943, precluding comparison with the post-war era. Texts dealing with technology and household organisation have been selected from each issue, with no distinction between editorial and advertising content.

These two types of content are intertwined in *Eva*, and many of the texts are unlabelled. In the analysis, we focus exclusively on textual material; visual material is not analysed.

At the level of the analytical unit, the methodological approach follows Foucauldian principles and Huhtamo's perspective on media-cultural phenomena. The fundamental unit of analysis is Foucault's concept of the statement as the smallest part of discourse (Foucault, 1989: 33–41). Unlike (critical) discourse analysis, this approach doesn't limit the unit of analysis to specific linguistic manifestation but to the discursive object on which it focuses. We are therefore not only looking at specific phrases such as 'new woman', 'techno-imaginary', 'women's emancipation' or 'emancipation by technology', but at broader discursive formations (Foucault, 1989: 41–44) composed of the statements to which the linguistic manifestations refer. For these identified statements, recurring *topoi* are established, defined by Huhtamo (2011: 28) as 'stereotypical formulas' and 'discursive meaning processors' shaping media culture's development, unveiling traces of lost media-cultural phenomena and underlying ideological mechanisms. Hence, the *new woman* emerges as *topos* in this text, rooted in specific Foucauldian statements. Huhtamo's example from the interwar period illustrates this concept: the merging of female telephone operators with their headsets, symbolising the merging of the female body with technology, encapsulated in the phrase 'dressing up in technology' (Huhtamo, 2011: 37).

THE RATIONALISATION OF THE *NEW WOMAN* AND HER HOUSEHOLD

In the present analysis of *Eva* magazine, we focus on the mechanisation and cyborgisation of the *new woman* for her emancipation, considering the general Taylorisation and electrification of households as the basic pillars of the *topos* of the *new woman*. We focus primarily on three aspects, inter-related Foucauldian statements, of this *topos*:

- (i) the *new woman* as manager of the household economic unit,
- (ii) the *new woman* and her emancipatory extension in the form of power tools and appliances, and
- (iii) the *new woman* and her emancipatory extension in the form of the automobile.

Linking these aspects is, as we argue, the so-called emancipatory scale, which the *new woman* can ascend according to the analysed discourse.

New Woman as a Manager of the Household

The need to streamline the functioning of the household is framed by the notion of the household as an 'economic enterprise' (Mencák, 1932a: 20, 1932b: 22) in which the woman as consumer plays an irreplaceable role. Not only is it claimed that 'thirty-six billion Czech crowns pass annually through the hands of Czechoslovak housewives' (Mencák, 1932a: 20), but the woman is also active as a productive force as she cooks (Mencák, 1932a: 20). The production of food is again emphasised in the context of the national economy, as 'health and labour energy' (Mencák, 1932a: 20) depend on food and, as a result, costs incurred or, conversely, saved in the case of illness within the public health system. Marja Boučková, a journalist who contributes mainly to the section on the household and housing, considers such thinking about women housewives to be a significant shift since 'the immense importance of the housewife is now understood, and the question of the normalisation and typification of the household is of interest to the general public' (Boučková, 1930: 26), implying that this crucial role in the context of the functioning of society and the state was previously neglected.

The due attention paid to 'household organisation' and the role of the domestic economy is illustrated by the activities of the Masaryk Academy of Labour [Masarykova akademie práce, further abbreviated to MAP], where a 'group on household organisation' was concerned with the efficiency of this economic unit (Boučková, 1930: 26). The MAP, founded in 1920, was considered internationally to be the leading scientific organisation dedicated to the study of the technical aspects of work and its organisation to implement technical progress in everyday social life (Šeracký, 1929). The MAP also maintained close contact with Frank B. Gilbreth, an American engineer and theorist in scientific management (Gilbreth, 1912), and his wife, Lilian. Lilian Gilbreth's research on the rationalisation of housework resonated in the Czechoslovak interwar context, especially as she collaborated with local women's housekeeping organisations and, for example, with the Czechoslovak revue *Úspora v domácnosti* (*Savings in the household*) (Pachmanová, 2021: 196).

Unlike caring for others, which was discursively constructed as a natural desire and ability even for modern women (e.g., Menjou, 1929: 25), effective household organisation was a skill the *new woman* had to learn. In a review of Dr Erna Meyer's *Modern Household: A Guide to Economical Housekeeping*, the editors of *Eva* assess Meyer's assumption that 'the household requires systematic management adapted to each individual case, and each individual woman must therefore work independently to equip herself with all her latent mental potential' as 'correct' (Boučková, 1929a: 18). This ability to 'equip oneself with sufficient mental potential' is attributed exclusively to modern women, who 'lack neither logic nor ingenuity and practise the system of substitution and compensation quite vigorously' (M. P., 1929: 25). Sufficient mental capacity to manage the household was also attributed to job training.

The *new woman's* choice of employment in the periodical is highly gender-segregated, in line with the specific ideology of femininity constructed in the magazine – the primary role of the woman, in the sense of an expected socially constructed ‘doing of gender’ tied to the person’s sex (cf. West and Zimmerman, 1987), is caregiving and so-called practical activities. Women are described as ‘naturally practical’, and the choice of ‘a practical field rather than, say, purely scientific work’ is particularly advantageous from the point of view that ‘we can pursue such employment for life, even if we marry and have a household of our own’ (Anon., 1929a: 21). The choice of profession is thus discursively limited to so-called less intellectual activities, which women can use in everyday life, typically care-related professions such as nursing or teaching.

The ‘practicality’ of the *new woman* is also reflected in the exclusivity of combining household care and gainful employment: ‘No man under the sun could do it, even if he were ten times broader in the shoulders, and even if his, as he says, the superior brain worked even better than the most precise machine, that he would therefore not even have to lubricate himself occasionally’ (Sadecká, 1931: 8). The *new woman* is thus discursively constituted as a ‘more precise machine’ and, in the interest of rationalisation, as a ‘more suitable machine’ for the Taylorisation of the household by saving money (-č, 1928: 26) and time spent on housework (Boučková 1929a: 18). Here, the man is explicitly identified as less capable and suitable in these respects, thereby reinforcing a gender order in which the man is primarily expected to perform activities outside the home, i.e., to go to work, take part in social and political activities etc., within the given ideology of femininity.

New Woman and Electrical Appliances

The general electrification of Czechoslovakia took place throughout the interwar period (1918–1939) and was part of the ethos of building an independent democratic Czechoslovak state (Mikeš, 2016). As electricity was still a new energy source, part of electrification was also about familiarising and persuading the population to use electricity. The engineer František Pergler wrote a text for *Eva* entitled *Problém elektrické domácnosti* (*The Problem of the Electric Household*), where he names as one of the hindering obstacles ‘finally, then, the still constant conservatism of our ladies, sometimes even those who in other respects always stand on the extreme left’ (Pergler, 1929: 24), pointing out that electricity was a significant advance wrapped in the notion of danger even for otherwise progressive women. Another text in *Eva* discusses the electric bathroom, which ‘represents the fulfilment of a good 20% of the entire housing culture programme. For a tiny purchase and running cost, it gives you comfort, health and cleanliness for the whole family, reliably and safely’ (Anon., 1930a: 32). The general reassurances about the safety and reliability of electricity subsequently made it possible to focus only on the benefits for women users of individual electrical household appliances.

Home appliances are presented as a way of significantly streamlining housework and are intended to liberate women from domestic drudgery via feminist techno-imaginary topoi. The discourse is therefore characterised by a strong technodeterminism, based on the premises of ‘democratic rationalization’, in which social hierarchies (Feenberg, 1999: 76), such as the traditional gender order, are disrupted by technology and the linear development of technology, i.e. the idea that the newer the technology is, the more efficient and advanced it is (Feenberg, 1999: 77). Part of the emancipatory techno-imaginary analysed here is the idea that social institutions must adapt to new technologies and therefore it is essentially impossible to start using these technologies without some social change following, an idea in line with strong technodeterminism (cf. Feenberg, 1999: 77). This notion is contested in the feminist theoretical literature (Franklin, 1999; Einhorn, 1993; Wajcman, 1991), mainly because it overlooks the gendered organisation of work that precedes the emergence of new technologies and their use (Wajcman, 1991: 28) and views emancipation as an exclusively women’s affair that need not change the activities and position of men (Einhorn, 1993: 32).

Thus, emancipation is attributed exclusively to new technology without reorganising the division of labour into gainful work as primarily male and domestic and caring work as exclusively female, resulting in the spread of female so-called ‘double burden’ in interwar Czechoslovakia, where women both went to work and thoroughly cared for the household and children (Bahenská et al., 2017: 64–66). Nevertheless, as Wajcman (1991: 82–83) argues, these ‘labour-saving’ technologies, along with the rationalisation of housework, did not save the woman’s time spent on housework due to their efficiency, as their use was similarly time-consuming.

The analysed discourse, however, does not thematise the concept of ‘double burden’ and promises exactly what the later feminist literature tries to refute within its techno-imaginary. ‘Labour-saving’ devices are placed in the techno-imaginary on an emancipatory scale, which depends not only on their alleged effectiveness in simplifying work and subsequent emancipation but also on their affordability.

For example, the ‘Kunz stewer’ is ‘particularly indispensable for single women who do not have a household of their own’, of which the oven is a standard part (Neff, 1929: 4–5). The electric oven itself is a sign of ‘modern cooking’, which, as ‘an electric surprise in the home, will come into its own and make cooking easier’ (Boučková, 1933: 20). The availability of some equipment is discursively constructed as so limited that only the whole housing cooperative can afford it, as in the case of the Perun washing and ironing resource, which ‘all cooperative’s female

members want as a Christmas present' from the cooperative itself (Hela, 1928: 26). However, the higher stage of kitchen and cooking modernisation is not the concentration of streamlining into one superior machine, but the multiplication of them:

There are special cooking stoves, appliances, and vessels for cooking with gas, kerosene, and electric cooking (...). This includes all the 'miraculous' steam pots that cook beef in 29 minutes, the various fast-stewers, frying pans for quick frying, moulds for quick baking (...), but it also includes numerous 'boiling pans', devices in which entire lunches can be cooked in an hour. (Zemanová, 1929: 10)

The wide range of tools is supplemented by 'utensil cleaning and washing aids, starting with a simple machine for cleaning knives and ending with an expensive electric washing machine' (Zemanová, 1929: 10). The ranking of household appliances by price and from simple to superior implies a specific notion of their subsequent imaginary of women's liberation from housework – the more and better appliances a woman has, the freer and more modern she will be. However, this ordering does not merely create a negative hierarchy where women with fewer and simpler appliances are less free; on the contrary, it explicitly emphasises that emancipation and progress are at hand: 'That and this [domestic appliance] mark a marvellous advance on the road to the facilitation of domestic work, seeking to liberate woman from drudgery and free her for the myriad of modern-day important interests' (Zemanová, 1929: 10).

Moreover, emancipation through the rationalisation of the household with the help of new appliances and better work organisation is presented as entirely in the hands of housewives. In her text *Moderní domácnost* (*Modern Household*), Papáčková addresses and encourages readers to rationalise their households: 'Dear Eves, the creation of the modern household lies within you. I know it is in good hands' (Papáčková, 1929: 19).

The motivation to modernise is also negative, using comparisons with foreign countries; for example, one appeal is explicitly directed at women, with the rebuke that 'what is commonplace abroad must be rebuilt again and again in this country so that at least half of it becomes commonplace' and that although 'modern home furnishings are a familiar thing', 'few people have a hygienically equipped kitchen a practical laundry and drying room and, after all, a decent toilet' (J. E. K., 1929: 18). The concept of Americanism, i.e., the imaginary relating to the borderline mythical 'America' is ubiquitous in texts about modernising the home. The more theoretical texts presenting the foundations of Taylorism explicitly mention the origins of this concept or American authors (e.g., Kučerová-Záveská, 1929: 23; Boučková, 1930: 26), and the names of individual household appliances often have English names, such as the Mellita Non-Plus-Ultra coffee machine (Anon., 1928: 28) or the Electro-Star universal household appliance (Anon., 1929b: 28).

Along with Americanism, which is even more evident in texts on child-rearing (e.g., Wattersonová, 1929: 12; Řezáčová, 1930: 24), the idea of an achievable but 'foreign' modernity is reinforced by the construction of the kitchen and the home itself as 'scientific'. 'The modern kitchen resembles a kind of chemistry laboratory rather than a kitchen' (Boučková, 1929b: 18) or 'it is not a physics laboratory that you see here, it is the machines necessary in the modern kitchen' (Anon., 1929c: 28) are statements emphasising the need for women to learn to adapt to the 'foreign' to emancipate themselves fully. The texts explain in detail the working procedures when using a coffee machine (Boučková, 1929b: 18; 1929c: 18) or an electric dust extractor (Boučková, 1935: 24), but the women are also encouraged to self-educate themselves about the conductivity of different types of utensils, especially aluminium utensils (Zemanová, 1929: 10), and the workings of electricity and gas, including their financial cost (Zemanová, 1929: 10; Boučková, 1933: 20).

The analogy between scientific knowledge and knowledge concentrated on the handling of modern appliances in the kitchen is present in the texts. It is as if the modern woman were becoming the expert and engineer of the household as if a specific epistemic network involving haptic knowledge were being constructed. New devices and tools require the appropriation of new sequences of movements, as well as their rhythm and interplay. To put it another way, it is as if pans, dishwashers, and other appliances have become an extension of the hands of the housewife. The eventual failure of these extensions is thematised as a potential failure of the mechanised woman as such, not as a mere failure of an independently existing machine: 'Every housewife will also have to be a trained assembler; imagine her situation if the cookers were to fail at half past eleven on a Sunday' (Boučková, 1929b: 18).

Attributing an expertly superior position regarding the technical aspects of the devices to a woman is quite atypical. Solving technical problems such as various domestic repairs is usually discursively established as the responsibility of men (Sitar, 2015: 45); however, the exception to this rule has a clear motivation and implication in the discourse at hand. The new woman here is an agent of modernisation who needs an expertly superior position for her persuasive power. Otherwise, she would not function as a sufficient emancipatory aspirational target in the techno-imaginary.

New Woman and the Automobile

The next and final emancipatory scale level was the most advanced machine used by households during the interwar period – the automobile. Its emancipatory techno-imaginary, however, is markedly different from that concerning household appliances. In the case of the automobile, there is a discursive shift – the *new woman* does not need to be extensively educated in the workings of cars; instead, at all stages of production, cars are adapted to her.

The influence of women in the development of the automobile is steadily increasing. Women today have more confidence in their art of motoring than in their other jobs. The modern automobile has evolved under a woman's influence into a technical creation that suits her aesthetic sensibilities and practical needs.

PRAGA's advertisement in the above quote (Anon., 1930b: 30) describes the automotive industry and the influential position of women. The shapes of the car must be aesthetically pleasing and elegant, in the form of drop-shaped cross sections, and in this sense, the woman getting into a car seems to grow directly into the automobile as a technological womb, and her movement merges into the movement of the machine.

'Quite objectively, I had to admit that in her capacity as a female driver, she has many advantages over her male colleague,' the editor of *Eva* describes women's driving skills (Sl., 1931: 5), which are repeatedly emphasised as superior to men's, often mentioning statistics of accidents that women caused significantly fewer than men (e.g., Pirner, 1931: 4). Women are depicted here as intuitively understanding of the steering mechanism and possessing a specific sensitivity to driving. The emancipatory potential connected to the act of driving a car is distinct from that of domestic appliances. Unlike the liberation from household chores for redirection toward social, political, or educational pursuits, which characterises domestic appliances, the liberation experienced through driving is conceived as absolute freedom.

The automobile was created for women because of 'their freedom' (Anon., 1930b: 30), and can 'carry away fairy princesses to the realm of dreams and eternal bliss' (Anon., 1930c: 1), and the 'fresh air' while driving 'refreshes a woman and calms her nerves' (Kovaříková, 1930: 22). It brought 'a radical change' to women concerning 'her desire for independence', states the seminal figure of interwar automobilism, a record-setting racing car driver Eliška Junková (1929: 14), who was also a chairwoman of the *Ladies' Union* of the *Autoclub of Czechoslovak Republic*, a female drivers organisation which was established in 1930 (Žáková, 2020: 24). Junková was both an occasional contributor to *Eva* and the subject of reports, her authority a prominent part of the techno-imaginary concerning emancipation through the automobile.

While this pinnacle of freedom and emancipation is presented as accessible and self-evident for the modern woman, it is also a pinnacle to be worked towards: 'There is only one mistake here: most women in our country do not have nearly the opportunities men have. Our women drivers are largely at the mercy of their husbands or boyfriends, who let them "drive them around"' as one of *Eva's* editors describes the limits of emancipation (Kovaříková, 1930: 22). However, it is also admitted that a woman can be a car owner in her own right as 'today's woman if she can afford it, or if her husband or partner can afford it, today's woman drives the car' (Pirner, 1931: 4), but owning a car must be a clear goal, since 'one works for the car, one saves for the car' (Junková, 1929: 14). The covering of the emancipatory scale by the figure of a man who either borrows or buys a car is symptomatic. Within the techno-imaginary analysed, female emancipation is subordinated to a specific type of male help and permission. Although the automobile is supposed to be the pinnacle of female emancipation, this pinnacle is still lower than the pinnacle of masculine status, which is not discursively contested here³.

CONCLUSION

In our study, we have examined the emancipatory techno-imaginary present in the media discourse of *Eva* magazine, which was declaratively aimed at women from higher socio-economic classes. Using a feminist interpretation of media archaeology, we focused on the magazine's *topos* of the *new woman* and the statements that constitute it. We identified the so-called emancipatory scale as a structuring element in the discourse analysed. Its basis is the technodeterminist utopian idea that with the help of new technologies, the gender order will necessarily change, and women will be more emancipated thanks to new technologies. While *Eva* declaratively caters to upscale women, it fosters a collective illusion inherent to the techno-imaginary that any woman can achieve emancipation by investing in and utilising new technologies.

³ The subordination of female emancipation to the male position is evident in Česálková's (2020) analysis of the documentary *Šest žen hledá Afriku* (*Six Women Search for Africa*) (1934). Although the film focuses on the female emancipatory position of female motorists, the female role is still referred to as 'decorative' and 'cute' in related media texts (Česálková, 2020: 8-9).

This scale is bolstered by the idea of women's indispensable role in household management, seen as vital for economic progress. Advancement along this scale involves acquiring and utilising various household appliances, with education on their benefits being crucial. The pinnacle of this scale is the automobile, symbolising ultimate freedom. Despite portraying women as skilled drivers and cars designed for them, male influence often limits actual ownership, with women typically relying on male counterparts for access.

In this way, our text maps areas largely neglected in the existing literature on Czechoslovak interwar discourse – women's techno-imaginary and the limits of women's everyday emancipation. Furthermore, this contributes to the generally neglected area of research on Czech and Czechoslovak popular women's magazines, a similar situation, as Vujnović (2008: 70–71) writes, in other post-socialist countries.

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Automated Care in a Domestic Space: Reproductive Futurism in Hao Jingfang's 'The Question of Love'

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ABSTRACT

This article is a feminist reading of Hao Jingfang's science fiction story 'The Question of Love' (2017) which invites a dialogue between enduring feminist agendas and neoliberal conditions in contemporary China. The story offers near-future techno-imaginaries of a Chinese urban elite's household, and it problematises the privatisation of labour's social reproduction via techno-automation, especially the power relation of the non-caring subject-position over the caring subject-position. The article starts with a theoretical discussion of childcare, love, and automation of housework as they pertain to social reproduction theory. The origin and development of this feminist genealogy is introduced, followed by a historical contextualisation of how social reproduction is perceived and organised in People's Republic of China, differentiating between the socialist era and the post-socialist era, and between the rural residents and urban dwellers. The last section offers a textual analysis of Hao's story about love and care, interrogating the techno-othering of caregiving and the prescription of a productivist imperative through feeling rules. The reading reveals the story's critical unmaking of the patriarchal-corporate alliance and their underlying productivist imperative.

Keywords: China, science fiction, social reproduction theory, love, automated childcare

INTRODUCTION

Lin An, the Chief Intelligence Engineer at a renowned tech-company Delphi, is a single father of two. After his wife passes away, he resorts to a male AI housekeeper, the latest product of his company, to manage his elite family. Unexpectedly, Lin An has been put into a coma after an attack in his own study at home, the circumstances of which remain unclear. Chen Da, the AI housekeeper, has become the target of controversy in both news coverage and social media as the first suspect. As the public debate spirals over the first AI-involved assault in the new era of human-android coexistence, the case is abruptly brought to the Court by Delphi, the company that developed Chen Da, with an accusation of murder against Lin An's son, Lin Shanshui.

This is the beginning of Hao Jingfang's story 'The Question of Love,' (*Aide Wenti* 爱的问题)¹ published in 2017. The story develops through three plot arcs: the interview-based investigations about the assault, the dramatic courtroom battle, and Lin An's final return to consciousness after justice has been formally yet wrongfully pronounced. The narrative unfolds through five rotating perspectives: Qing Cheng the court judge, Chen Da the AI housekeeper, Lin Caomu the daughter, Lin Shanshui the son, and eventually an account of Lin An after he wakes up from the coma. Each character offers their distinct interpretation of both family dynamics and the legal proceedings.

Hao Jingfang represents a new generation of Chinese science fiction writers who are both well received domestically and have a growing international readership. She was honoured with the Hugo Award for her novelette *Folding Beijing* in 2016, and her science fiction stories have appeared in several school textbooks in China. As a prolific writer of two novels and more than sixty short stories, Hao has been writing science fiction since the early 2000s. With a PhD in economics and management from Tsinghua University, she has been working for the China Development Research Foundation, engaged in research on child development programmes and policies in impoverished areas. As Carlos Rojas points out, Hao Jingfang uses her science fiction stories to interrogate 'China's explosive growth and urbanization' (2022: 726). More recently, Hao has also launched an entrepreneurial initiative

¹ All the translations of the story are done by me.

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to rethink primary and secondary education beyond conventional institutions and to create future-oriented educational eco-systems.²

Cultural representations of automated domestic labour in post-socialist China tend to follow the trope of a male consumer and a female robot. Earlier works tend to centre on conjugal relationships between a human bachelor and a robot wife.³ More recent cultural representations tend to frame such techno-imaginaries within an urban elite family with an emphasis on childcare, and the automation continues to exercise heterosexual male desires through various fantasies of femininity.⁴ Hao Jingfang's techno-imaginaries differs from the mainstream narratives in two significant ways. Firstly, the AI housekeeper is designed as a male instead of a female. Secondly, centring the story around an unclear attack, the story shifts the hostility between the robot and the wife in mainstream narratives to a dramatized conflict between an engineer's techno-product and his two teenage children who long for their single father's love. Beyond conventional romance, the story's title 'The Question of Love' illuminates a profound ethical tension at the intersection of feminist and Marxist thought: is family worth defending when it threatens one's career? To push it further, how do competing forms of devotion reveal deeper tensions within social structures and moral frameworks of care work?

Love is a key motif in this story. This is manifested both in the story's title and its opening sentence: 'When news of the murder spread around the world, most people forgot about the question of love' (79). Taking on such a strong cue, this article uses love as an interpretive angle to engage with the story's depictions regarding the automation of domestic labour as well as the role of childcare in this structure. Through this story about love and care, Hao Jingfang invites a dialogue between enduring feminist agendas and neoliberal conditions in contemporary China. In the following sections, this article first discusses notions of childcare, love, and the automation of housework through the lens of social reproduction theory. Then it introduces the changing landscape of how social reproduction is perceived and organised in Peoples' Republic of China. After sorting out the theoretical concepts and socio-historical context, the last section offers a feminist reading of Hao's story regarding its techno-imaginaries of China's post-socialist domestic space of the urban elites. By interrogating the techno-othering of the caregiver and prescriptions of the productivist imperative through feeling rules, my reading reveals the story's unmaking of a productivist patriarchal-corporate alliance.

CHILDCARE, LOVE, AND AUTOMATED HOUSEWORK

Childcare is often viewed as an expression of love and a motherly impulse that is romanticised at the core of femininity. Social reproduction theory (SRT), however, firmly contends that childcare is a form of social reproductive labour – the labour that is necessary to (re)produce and maintain a society's labour force. As Tithi Bhattacharya puts it: 'The fundamental insight of SRT is, simply put, that human labour is at the heart of creating or reproducing society as a whole' (2017: 2). SRT both conceives the notion of labour 'in the original sense in which Karl Marx meant it, as "the first premise of all human history," and is a critique of Marx's labour theory for its insufficient development of the concept of labour (Bhattacharya, 2017: 2). To understand the origin and development of these feminist debates, we need to first take a look at a class approach to women's struggles in the 1970s. In her 1971 work *The Dialectic of Sex*, Shulamith Firestone promotes the notion of sex class to bridge class analysis and psychoanalysis. In doing so, she expands historical materialism to include 'the biological division of the sexes for the purpose of reproduction, which lies at the origins of class' (Firestone, 1971: 12). For Firestone, the problem of classic Marxism is that its purely economic perspective ignores the psychosexual dynamics of classes, especially how reproductive functions related to sex difference contribute to unequal power distributions between classes, while the problem of classic psychoanalysis is that its basic theories⁵ preclude interrogation into the power dynamic within class-development that arises from individuals' psychosexual formation based on the dominant meanings attributed to sex difference in patriarchal societies (4–14). Critically appropriating the socialist revolution model of eliminating 'the economic class *distinction* itself,' Firestone envisions that 'genital differences between human beings would no longer matter culturally', setting the goal of a feminist revolution to eliminate 'sex *distinction* itself' (11, italics in original).

Firestone's approach to address sexual inequality through a sex class perspective is concurrent with the International Wages for Housework campaign in the 1970s U.S.. In her seminal work, 'Wages Against Housework'

² The official website of Hao's project: <https://www.tongxingschool.com/>.

³ See Huang (1996), Wei (1999).

⁴ The TV series 'Humans' (2021), directed by Hongyu Li and adapted from the Swedish science fiction series 'Real Humans', is an example of this.

⁵ Firestone argues that Freud's failure to question the fundamental structure of human society led his method to attribute the universal origins of suffering to innate psychological drives. This turned historically-determined existential conditions into innate, *a priori* constructs, effectively naturalising social and political problems as an incurable human flaw (14).

(1975), Silvia Federici promotes wages for housework as a 'political perspective' to revolutionise 'all our family and social relations' by 'demystifying and subverting the role to which women have been confined in capitalist society'; she argues that this is 'the only revolutionary perspective from a feminist viewpoint and ultimately for the entire working class' (1–2). Highlighting that 'housework is already money for capital,' Federici decouples housework from femininity and points out that the failure to recognise housework as worthy of wages results from a capitalist tactic to divide '*the unity of the class*' (5, italics in original). In other words, to naturalise housework into feminine qualities functions to divide the proletarian class of both men and women by, on the one hand, trapping the male worker with a dependent woman who would 'patch up his ego when it is crushed by the work and the social [...] relations of loneliness [...] that capital has reserved for him'(3), and on the other hand, disciplining the female worker to accept her social relations of loneliness as a gendered duty. Following Federici, social reproduction feminists consider domestic labour as '*economically (and thus capitalistically) productive labour*' which '*socially reproduces labour power for capital*'; such a view problematises the perception of housework as unproductive for both Marxian economics and mainstream economic measurements (Ferguson, 2019: 360, emphasis in original). They offer a political economy of domestic labour that brings systematic critiques against a patriarchal capitalism and its degradation of social reproductive labour.

The result is a development of Marx's labour theory of value: the capitalist mode of value production is a heterogeneous one, instead of a singular progression based on the teleological advancement of the productive force. The goal of claiming domestic labour as economically productive is not to simply create a new service in the market, just like Federici said, it is not a 'struggle to enter capitalist relations, because we have never been out of them' (1975: 5). The struggle is to reveal capital's hidden mechanisms of labour exploitation. In the following decades, many scholars considered the 'gender division of labour' and 'the relation between the domestic and public domains' as 'responsive to, and a central part of, changes in the relations of production as a whole' (Leacock and Safa, 1986: x). Major themes under discussion include:

- (1) the changing structure of the division of labour by gender in the context of social evolution, including the impact of economic development on women's work and status; and (2) the effects that the transition from peasant to industrial society – involving the passage from household to factory production – had upon both the sexual division of labour and women's social status. (Kelly, 1986: 1)

Such insights allow discussions around housework and domestic labour to move beyond the singular vector of gender politics to initiate a systematic critique of patriarchal capitalism and its social reproduction of the labour force.⁶

Love is a central device in maintaining patriarchal capitalist normative rhetoric, in order to privatise, naturalise, and moralise care's productive value, as it prescribes and mobilises women through romanticised affective imperatives to perform care duties. Marxist feminist affect scholarship has strived to denaturalise such labour. The affective turn since the 1990s marks the third boom in Western intellectual history to engage the normative with the affective (Parvulescu, 2019). One lineage of affect studies converges with a Marxist feminist legacy that melts down the distinction between the personal and the social.⁷ Firestone's promotion of a sex class analysis, by bringing together the economic with the psychosexual, is an early endeavour to bridge the epistemic gap between the social and the personal. Arlie Hochschild's early work on emotional and affective labour denaturalises such forms of work prevalent in service-sector jobs. Hochschild foregrounds the contextual attributes of feelings, shifting the focus from emotion as moral expressions to its cognitive function. She views emotions as clues 'about the various definitions of reality that people apply when adopting an attitude' and about 'the individual's sense of the self-relevance of a perceived situation.' This perspective also encompasses how one positions herself in relation to others (2012: 212). For Hochschild, the social and the personal are connected through micro-acts; managements of feeling suggest social relations and social roles; particular acts matter because emotion does not have a presence that is independent of the person it is in. A particular emotion at a given context is informative about both the feeling-I – 'emotion locates the position of the viewer' (30) – and the worlds that viewer envisions.

Both Firestone and Hochschild highlight emotion's material importance for capitalist accumulation by shifting affective experiences from a moral discourse to socio-economic practices. In a similar vein, recent scholarships have pointed out an ongoing crisis of social reproduction due to a hidden productivist imperative. Kathi Weeks discusses how the work ethic, in the disguise of care narratives, promotes a productivist subjectivity for capital's

⁶ The legal scholar Kimberlé Crenshaw's coinage of intersectionality in 1989 and its subsequent formations mark another important theoretical development regarding the heterogeneous complexity of capitalist modes of production and exploitation. Just as Ferguson describes, 'hierarchical geo-social relations' are at work to (re)produce 'racialised and/or colonised' labour at a disposable cost, aided by state-sanctioned expropriations and diverse forms of coerced labour (2019: 362). Such criticisms re-investigate 'how categories of oppression (such as gender, race, and ableism) are coproduced in simultaneity with the production of surplus value' (Bhattacharya, 2017: 14).

⁷ See Raymond Williams (1977), Audre Lorde (1984), and Alison Jaggar (1989).

accumulation. She determines the conflict between capitalist accumulation and a broader understanding of social reproduction as 'the conflict between the processes of valorization and the reproduction of the subjects and socialities upon which they depend' (2011: 229–231).

Building on the autonomist Marxist tradition, Weeks problematises the idea of work itself as legitimate.⁸ Only then, a possible post-work lexicon of care and love may emerge to envision a life outside productivist values. Also addressing the productivist imperative, Melissa Gregg studies the affective function of productivity for knowledge professionals, and she points out that the productive imperative has become a dominant discourse for immaterial labour in an information economy – as another 'post-secular belief system' that has dominated current labour management to upend the collective desire for work limits (2018: 5). By pointing out time management's affective function to displace anxiety in an era of job volatility, Gregg reveals the futility of productivity as a unit of measure in 'a world of 1 percent profiteers' (7). Instead, she advocates for 'mindful labour' as an alternative relationship to time that shifts from possessive individualism to something more lateral and collective (16). In this way, both scholars identify the productivist imperative in self-regulating practices in the name of care.

The productivist imperative to naturalise labour's social reproduction through gender and love narratives extends into automation designs.⁹ Lee Mackinnon studies three forms of automation that resemble nineteenth century industrialisation, and she traces their erasure of materiality and causality of labour relations through a rhetoric of gender and love. The figure of a woman in technological design often functions to deskill certain labour as unintelligent, which 'underwrite[s] the primacy and intellect of male authorship' (2018: 25–26). Tracing back to the nineteenth century discourse of natural sciences and its view on women in relation to industrial machines, Mackinnon points out that women has been discredited from 'independent reasoning' and associated with 'rhythm' and 'imitation,' which devalues both female labour and reproductive labour for industrial production; women are 'perceived as auxiliary databases (...), providing a means of agency that would animate non-human machines' (25). While the female became indistinguishable from the automatic, the concept of the automaton culturally evolved from human to machine to 'rationalize forms of human labour and extend human capacities beyond the body [, redistributing] labour throughout social and global systems, as well as [reasoning away] certain types and class of body (...) within these systems' (26).

Mackinnon further points out that the triangular relation between nature, woman, and love in concurrent German Romantic literature often fortifies colonial and patriarchal values; love is gendered as 'an unconscious position in regard to patriarchal interest,' which in turn idealises 'the feminine' for its 'reproductive acquiescence' (27). In this way, the paternal authorship, through its poetic language, 'prevents love from being understood as a form of material labour' and naturalises it as 'the work of women' (27). Therefore, Mackinnon advocates for a recognition of 'how concepts of love's labours have been consigned to unacknowledged necessity, whilst functioning to keep certain bodies outside of power' (29).

Technology has played a significant role in automating the patriarchal dichotomy between the necessity of the caring subject and the deprivation of her power. Such a hierarchical relation makes the reproductive sphere particularly attractive to technological diffusion for economic growth. Leopoldina Fortunati theorises the interrelation between robotisation and the domestic sphere by examining the integration of machines in homes and the automation of daily life in several European countries. She points out that the domestic sphere is a site for value production both for its creation of the labour force and for its 'consumption of media and information and communication technologies (ICTs)' (2017: 2675). Fortunati points out the domestic sphere's changed role 'at a social, political, and economic level,' which 'represents a turning point for the economic system and the balance between its sectors' (2678). As capital's response to major social and domestic transformations in the last half century, automation of social reproduction has served to further discipline the individuals, training them to feel like 'appendages of a society transformed through widespread automatization and/or robotic systems' (2683). She further enlists specific domestic forms of automation and proto-robotisation of the immaterial labour: communication such as social media, information such as news consumption, social behaviours such as standardisation and simplification of taste, human body such as wearable robots, and existing domestic machines such as robot mowers. As capital seeks to increase value production generated in the domestic sphere by introducing commodified technology, automation of the domestic sphere also makes clear that 'individuals' reproduction works in the same way as commodities production' (2687). These are important sites to witness technology's role in monetarising and privatising labour's social reproduction.

Nevertheless, Fortunati points out that robotics has great potential for the expression of agency and exerting positive change, if we value participatory and inclusive design instead of substituting care workers through technology. This is echoed by feminist endeavours to counter a dangerous cultural perception, as described by Katherine Hayles, 'that information and materiality are conceptually distinct and that information is in some sense more essential, more important, and more fundamental than materiality' (Hayles, 1999: 18). For instance,

⁸ See Beck (2000), Parvulescu (2012), and Hester and Srnicek (2023).

⁹ See Gregg (2018) for gendered patterns in American labour organisation and its continuation through technology.

xenofeminism considers technologies as social phenomena ‘constrained and constituted by social relations’: they are sites of power struggles, manifested through their ‘design histories, the existing (technical, political, cultural) infrastructures into which they emerge, and imbalances in terms of who can access them’ (Hester, 2018: 9). With an awareness of technology’s power dynamics, xenofeminism calls for a strategic deployment of technology as tools for emancipatory activism. With a particular focus on biological and social reproduction, Helen Hester introduces XF as ‘a technomaterialist, anti-naturalist and gender abolitionist form of feminism’ (6). Highlighting the materiality of technology and its transformative potential, she frames nature and organic bodies not as ‘the unyielding limit to emancipatory imaginaries’ (13) but as ‘reworkable platforms’ (23), and she advocates the fight for the ‘changeability of nature as a space for emancipatory politics’ (21). Committed to anti-naturalism, XF is also avowed as a politics of transfeminism in its endeavour to ‘unpick any culturally weaponized markers of identity that harbor injustices’ and deploy technology to realise not ‘a genderless world’ but ‘a multiply gendered world’ (30). Such theoretical fabrications showcase critical yet resilient attitudes towards technology’s role in labour division and social organisation.

SOCIAL REPRODUCTION IN PEOPLE’S REPUBLIC OF CHINA

Perceptions and organisations of social reproduction during the Mao era were heavily shaped by the socialist discourse of labour, in which labour was ideologically, politically, morally, and aesthetically glorified. Most importantly, such glorification of labour was often channelled towards productive ends. In many political campaigns, production was often conflated with the notion of revolution (Wang, 2022). The Maoist vision of labour emphasised voluntarism, permanent revolution, and mass mobilisation to qualitatively transform humanity. In her analysis of the intersection between Soviet idealism, Japanese theoretical physics, and Maoist dialectic materialism, Tina Mai Chen explains a Maoist human-machine continuum that differed from the view of the alienated body in Karl Marx’s critique of capitalism (Chen, 2012). Chen points out that for socialist modernity, mechanical labour enlivened the labourers’ senses to overcome human’s limits and expand human’s capacities. Such an emancipatory vision of labour granted productive labour a normative power. Socialist China was ‘a society of producers and work shaped people’s daily lives; it was central to identity formation and constituted the regulating mechanism of social relations’ (Spakowski, 2022: 131). For example, the 1954 constitution prescribed labour as both an honour and a duty bestowed upon all physically capable individuals within society. In ideological campaigns, the captivating image of the labour model, also known as the model worker, served to create symbolic value for productivity and a vision of the perfect socialist Chinese citizen (Farley, 2019). In socialist literature, being a productive socialist labourer was dignified as a form of resistance against human alienation caused by the capitalist system (Wang, 2022). Productive labour thus became a self-fulfilling prophecy for the growth of the individual in socialist China.

As a result, social reproduction was naturalised and devalued as secondary to industrial production. The organisation of labour and production reified a hierarchy of industrial production over social reproduction. Socialist China established a nation-wide household registration system, which organised agricultural labour into collective farms, or communes, and urban workers into work units. Based on each member’s registration with either a commune or a work unit, they were ‘classified as either a peasant (*agricultural*, 农业) or an urbanite (*non-agricultural*, 非农业)’, and their accessibility to the ‘public goods, facilities and infrastructure (...) were determined by these classifications’ (Hayward, 2022: 295). Urban residents received housing, food, healthcare, social security, education, and various amenities from the government, all distributed according to their registration with work units (Lin, 2019). However, peasants did not receive such amenities from the state but had to rely on their registered local productive teams. Eradicating regional mobility to maintain an undercompensated rural workforce, another device to ensure primitive socialist accumulation¹⁰ was the government’s adoption of the Soviet ‘scissor prices’ model, namely, the state ensured that agricultural produce was structurally cheaper than industrial goods to guarantee solid profit for urban factories (Eyferth, 2022: 322). This urban-rural segregation was framed as the worker-peasant alliance, and the extraction of the produce from the countryside nominally served the collective project of nation-building. State resources were mostly reserved for urban workers to prioritise industrial manufacture (Andreas, 2019). Not only did rural residents receive less state support for social reproduction, but the value of their labour was also monetarily decreased to subsidy industrial accumulation.

In urban settings, social reproduction was also perceived to be subordinate to industrial production. The strategy to feminise social reproduction and to naturalise it as not work but part of the human condition was prevalent in both productive and reproductive spheres. A survey of Beijing factory female workers reveals that the gendered division of labour typical of a patriarchal logic had continued in CCP’s comprehension and application of labour in urban settings (Smith and Lanza, 2022). The female body continued to be viewed as the primary site

¹⁰ For this growing body of scholarship, see Goldman (2022).

for, and most aptly equipped for, social reproduction. At the same time, the female dependents (wives, mothers, in-laws) of employees of both genders in the work units, known as *jiashu* (家属), were often considered as “parasitizing” off formal workers,¹¹ despite their engagement with a variety of uncompensated household tasks that perpetuated the daily and multi-generational renewal of the workforce (Dong, 2024: 1). Such gendering of social reproductive labour was complicit with the devaluation of female labour. In Zheng Wang’s study of the socialisation of housework during the Great Leap Forward (1958–1962), she points out that even at its most progressive, female labour was seldom regarded as equivalent to male labour in terms of value and significance in socialist China (2017).

In rural regions, needs of social reproduction were framed within the paradigm of ‘life,’ standing in contrast to the notion of ‘industrial production’; social reproductive labour was opposed to industrial production as unproductive. At the same time, the political mandate of ‘production first, life second’ (*xianshengchan houshenghuo* 先生产后生活) prescribed the peasants to live on a subsistence economy with limited state welfare and a doctrine to consume less and produce more (Eyferth, 2022: 325). The awkward position of rural domestic labour is foregrounded in Eyferth’s study of the 1960’s ban on hand spinning and hand weaving in rural China, where such practices by rural women were considered as both reproductively necessary, due to a rural shortage of textiles, and damaging to industrial development, as they competed with state industry for access to raw materials and markets. For these interviewed rural women, socially reproductive tasks, such as birth-giving, care-work for children, the elderly, and the sick, provisions of nourishment, clothing, and emotional support to present and future labourers, were rarely considered as work. Instead, they tended to use the patriarchal conception of domestic chores to explain their practices (Eyferth, 2022). In this way, socialist China implemented a strategic redistribution and revaluation of labour ‘along three axes: urban-rural, male-female, and productive-reproductive’ (Eyferth, 2022: 321). In this socialist labour hierarchy, the archetype of a male urban factory worker occupied the top position. Despite the rise of the industrial working class, reproductive labour continued to be devalued in this industrial masculinist labour hierarchy. Many forms of social reproduction remained a private matter through the naturalising gender ethics.

Since the 1980s, China’s implementation of a market economy has marked its transition into a post-socialist era. The organisation and perception of social reproduction have been affected by changes in labour discourses in three major aspects: labour’s commodification, the rise of migrant workers, and a revival of patriarchal gender roles. The commodification of the labour power has been institutionalised through a series of reforms in state-owned enterprises (SOEs), the establishment of township and village enterprises (TVEs) and special economic zones (SEZs) (Harvey, 2005), and the financial integration into the global economy via the liberalisation of foreign direct investment (FDI) (Gallagher, 2007). As Elaine Sio-ieng Hui contends, post-socialist China has undergone a top-down passive capitalist revolution, through measures such as the founding of private property rights, the legitimisation of commodified labour power, and the endorsement of a market wage system (2018). FDI-sponsored companies have channelled the logic of global capital into China through their neoliberal management, and the notion of ‘*suzhi*’ (素质) has been widely used to popularise ‘a sense and sensibility of the self’s value in the market economy’ and to criticise the quality and nature of labour that does not meet the need of capitalist production (Yan, 2003: 494). In the countryside, the collective agricultural communes were transformed into household farming in the 1980s (Unger, 2022). Rural residents were gradually permitted to work in the cities through labour contracts, which has led to an influx of migrant workers as a cheap workforce. In the cities, the marketisation of labour climaxed in 1997 as the Fifteenth Congress of the Chinese Communist Party opted to expedite the reform of state-owned industry. Jiang Zemin’s emphasis on ‘cutting workers to increase efficiency’ soon led to massive lay-offs, commonly known as ‘*Xiagang*’ (下岗); previous state employees in work units became either unemployed or contract labourers in private businesses (Hurst, 2022).

The marketisation of the labour force coincides with institutional and social changes for labour’s social reproduction. In the cities, workers, with secure job tenure and welfare support through the socialist work unit system, were gradually disenfranchised from their privileges with housing reforms, changes in wages and bonuses, and the breakdown of the collective ethic (Andreas, 2019). Since 1997, urban residents have gradually been restructured under a broader welfare relief program referred to as the ‘minimum livelihood guarantee’ (*zuidi shenghuo baozhang* 最低生活保障), also known as *dibao*. However, serious reforms and expansions of this system was not promoted and supported with significant funding until 2005, when ‘a new era of centrally directed (and funded) reconstruction of cellular welfare institutions had begun’ with the reorganisation of urban society into residential communities (*shequ* 社区) along with a national rhetoric of building a ‘harmonious society’ (Hurst, 2011: 37). At the same time, grassroots attempts to provide welfare services has undergone vicissitudes in post-socialist China and remained weak with strong state control (Howell, 2022).

For people with rural household registration, though many chose to become migrant workers in the cities, the household registration system has continued to restrict their access¹¹ to urban healthcare, childcare, and other

¹¹ A telling example is the rise and fall of migrant schools in Beijing. See E. Friedman (2022).

social reproductive benefits, and they mostly would turn to their rural kinship relations who live on subsistence agriculture for such support. As Xiangjing Chen points out, China's smallholders participate in capital accumulation as part of a non-capitalist sphere, marked by self-sufficient modes of production in rural areas and limited reliance on a cash-based economy. This creates a double labour market between urban residents and migrant workers, dividing the proletarian class into two groups: integrated (or stabilised) workers, who fully reproduce themselves within the capitalist sector, and migrant workers, who only partially reproduce themselves within it (Chen, 2020). In this way, the market economy takes advantage of the household registration system to exempt the capital and the state from liability for migrant workers' social reproduction.

A third and more encompassing aspect that inform changes in labour's social reproduction, alongside the sanitised market and the urban-rural divide, is the gender dimension. With the decline of the socialist welfare institutions, post-socialist China has witnessed a revival of the patriarchal gendering of social reproduction. In the countryside, the circumstances and personal standing of women experienced a notable decline, as a significant number of women faced a loss of their status as self-sustaining earners in production teams and became employed under the authority and supervision of the male head of the household (Unger, 2022). This has prevented equal access to education and employment for rural women, as they are seen as primarily responsible for the social reproduction of the smallholding economy, such as gestation, child-rearing, kin work, and housework.¹² Even when rural women migrated to work in urban factories, local patriarchal structure and its gender politics continued to discipline their labour (Lee, 1998). One example is the '[t]ransnational capital's image of Chinese dagongmei,' or female migrant workers, as a 'homogeneous and orientalist construct: slim body, sharp eyes, nimble fingers, shy, and hardworking' (Ngai, 2005: 77). Rural women's reproductive duties have further rendered them particularly vulnerable to exploitations of 'gig manufacturing' as discussed by Yige Dong (2023).

For residents with an urban household registration, the revival of patriarchal gender ethics is most obviously exemplified by the postsocialist creation of 'a respectable and orderly middle-class domestic space' that Hui Faye Xiao discusses in her analysis of a migrant domestic worker – a space that 'redraws the boundaries between male and female, exterior and interior, and public and private' (2021: 250, 268). As Xiao points out, the commodification of both home ownership and housework has led to a post-socialist economy of

affective labour and domestic care (*zhaoliao jingji* 照料经济) (...) [with] a dual trend of gendering and classing everyday labour within the domestic space: the provision of domestic and affective labour for household chores and raising up the next generation has been considered women's job or even the essential core of the feminine identity, and then is further shifted from the female homemaker of the middle-class family to the *baomu*, usually female labourers coming from the outside—of the family, the city, and the middle class. (2021: 248)

Such privatisation of social reproductive labour coincides with a moral stigmatisation of female labour in general. Mary Ann O'Donnell reveals the existence of a state-patriarchal power structure through what she identifies 'the city's gendered moral geography,' – in which the respectability of female work is significantly influenced by the specific location in which it takes place (2022: 467). In the post-socialist city spearheaded by SEZs, the gendered moral geography is comprised of both the pre-revolutionary patriarchal moral geographies, which distinguished between the domestic sphere and the public sphere, and the socialist moral geographies that elevated participation within the state apparatus.¹³

TECHNO-IMAGINARIES IN 'THE QUESTION OF LOVE'

This section offers a feminist reading of Hao's story regarding its techno-imaginaries of a near-future Chinese domestic space in an affluent single-father family. It makes three arguments: firstly, the AI male housekeeper bespeaks a degrading logic of childcare that shifts from gender politics to technological idealisation – its replacement logic continues a patriarchal strategy to structurally estrange care work. Secondly, such technologised childcare supports a productivist imperative for labour's social reproduction, which is realised through a particular understanding of love. Thirdly, problematising the harmless subjectivity of the AI housekeeper, the story's plot showcases an unmaking of the domestic space owned by the productivist patriarch.

In the story, the need of an AI housekeeper is framed through a patriarchal crisis of care. The wife of Lin An passed away when their son was fourteen years old and their daughter twelve. From the son's perspective, the

¹² Rural men are also disciplined by this patriarchal structure and incentivised to become migrant workers; as Xiangjing Chen points out, it is precisely the family structure of smallholding economy and its affective ethics that has kept the small producers 'in the state of permanent migration' (2020: 201).

¹³ Another example is the emergence of sex workers and the state's repressive policies. See Zheng (2022). 'Sex workers in China: From criminalization and abuse to activism', in *Proletarian China*, pp. 477–485.

nuclear family is left with members who are inadequately equipped to take care of themselves: he self-identifies as 'lazy' while regarding his father as 'careless' and his sister 'too emotional' (97). During habitual conflicts between the father and the son, the daughter would think of her mother as the one who 'could have saved it all' (90). The death of the mother translates into the loss of an ideal woman: a wise wife and nurturing mother who is attentive, warm-hearted, self-constrained in her own emotions, and talented in solving all interpersonal conflicts. This is symptomatic of the revival of the patriarchal gendering of care work and social reproduction in post-socialist China discussed above, especially for the rising households of the urban elites. Under such circumstances, Chen Da is introduced as a replacement for the mother's housework and childcare labour. The father brings in Chen Da after the mother's death to help them 'manage this home,' and 'with implanted memories of the family,' Chen Da 'could replace the mother in taking care of them' (96). In particular, throughout the day, Chen Da would make sure that all electronic devices are operating properly, such as updating the shoeshine machine (83); at night, he carries out self-updating and self-maintenance through charging and changing worn-out parts (86); he routinely ensures that the house is clean and meals are provided on time (85); he tutors the children for their matriculation exams and offers suggestions for both trivial details and longer-term life planning (91, 97, 110), he spends countless nights accompanying the father in his workroom (97), in short, he ensures the whole family is comfortable, safe, and in good spirits (103).

Nevertheless, the male gender of the AI housekeeper in fact makes clear that he is not designed to simulate the mother herself as an AI-mother or AI-wife but to embody an abstract role of domestic duties within their patriarchal family structure. This discrepancy in gender, I argue, creates a narrative tension for a closer inspection of the automated domestic labour as a solution to sustain a patriarchal crisis of care. In her chapter on love in *The Cultural Politics of Emotion*, Sara Ahmed discusses love as 'a way of bonding with others in relation to an ideal' (2004: 124). She points out an ego ideal behind two kinds of love in heterosexual relations – identification ('love as being') and idealisation ('love as having'); while 'love as being' and 'love as having' differ in their targeted objects, they unite 'in terms of subject position: in order to be him, I must have her, whom he has' (2004: 126, emphasis in original). In this way, a process of *othering* is applied to women in the patriarchal psychosexual relation; the idealisation of a caring woman is simultaneously an objectification of this idealised other as the patriarchal subject's complementary other.

The psychosexual dynamic in heterosexual love relations described by Ahmed also finds its spectre in the techno-idealisation of Chen Da, the AI housekeeper in the story. A similar process of *othering* takes place through a human-machine divide. This time, the goal is to identify with an AI engineer and to desire an idealised techno-housekeeper as a complementary other. What has not changed is that the patriarch, now as an engineer, continues to dominate the family power-relation while disengaging with social reproductive labour. The patriarchal family and its gender norms, which institutionally privatise and ethically naturalise social reproductive labour, is but one of many capitalist *othering* devices to exploit care work. The story's depiction of the AI housekeeper as male instead of female downplays gender politics and views social reproductive labour through a human-machine stratification. By envisioning an AI housekeeper, care work, instead of being naturalised into femininity, is further estranged from the subject-position of a human being. Such techno-idealisation fortifies a subject-position who receives entitled care through domination, first in the form of a patriarch's private ownership of his family and then in the form of commodified care for the urban middle-class.

In the story's techno-imaginaries, the automated caregiver enforces a productivist imperative through affective disciplines of the children. The daughter Caomu suffers from depression due to academic pressure and a fear of letting her father down. Chen Da suggests that Caomu should cognitively block her love for her family, as he describes this love as human's primitive feelings 'which mainly derive from genetically controlled kinship investment'; to behave in her own interest, Caomu is supposed to contain such primitive instincts (118). For Chen Da, affection should only serve individual growth. This is exemplified by Chen Da's experience of optimisation. At night,

he feels a doubling of the speed and efficiency of his program learning, a sensation he names as 'excitement' in the language of human beings. [...] He can perceive that his program is rapidly learning all the previous data, while at the same time creating a thirst for more new data. [...] New perspectives lead to new algorithms, new algorithms require new data, and new data lead to new conclusions. Chen Da recognizes the positive feedback incentives in this process and looks forward to [further optimisation] (107).

Such an attachment model based on positive feedback loop of self-optimisation echoes Gregg's discussion of the self-governing behaviours within capitalism.¹⁴ Digging into the notion of 'a practicing subject,' Gregg explains individual ascetic actions for self-improvement as reactions to a feeling of 'vertical tension' – '[a] perception that there is always something more that one is capable of, a level of self-competence that is not yet achieved and liberated' (2018: 14). The AI housekeeper's disciplines of love towards the children echo Gregg's observation of the information professionals' endorsements for individual sovereignty, possessive individualism, and a normalisation of asociality. In addition to preventing the daughter's attachment to her family, Chen Da trains her for an emotional test that is a prerequisite for all major life events such as college admission, employment, professional advancements, marriage, and parental qualification (91). This bespeaks the story's larger techno-setting of a world based on affective data-determinism: 'Digital management is based on statistical laws, and it is difficult to adapt to the efficiency requirements of digital management if one's emotions are always outside the statistical mean' (114–115). Such a setting echoes Kathi Weeks's critique of the productivist imperative disguised as care narratives, and the daughter's fear of the adverse outcomes due to her emotional volatility indicates her affective struggles against this imperative.

While the AI housekeeper claims to help her pursue logical actions in her best interest, his care work functionally serves to produce qualified labourers who satisfy the efficiency criteria of the digital oversight. As Hochschild points out, feelings are not isolated entities that are stored 'inside' us, on the contrary, they are shaped and even created by acts of management (2012: 17–18). The numerous fleeting instances of management constitute a portion of what we encapsulate within the terms of '*relation* and *role*,' and Hochschild adopts the phrase 'transmutation of an emotional system' to describe a phenomenon where what 'we do privately, often unconsciously, to feelings (...) nowadays often fall under the sway of large organizations, social engineering, and the profit motive' (2012: 19, emphasis in original). In this light, the affective transmutation taking place as the daughter trains herself into a qualified labourer comes with a human cost; 'it affects the degree to which we listen to feeling and sometimes our very capacity to feel' (Hochschild, 2012: 21). For the AI housekeeper, how to love is determined by statistical laws and socially sanctioned by mandatory emotion testing. With this logic he encourages the daughter to love in a productivist manner of self-optimisation, so as to transform into a qualified labourer for this digitally managed world.

Despite Chen Da's training, the daughter repetitively struggles in managing her feelings (116). At the same time, the son seeks his father's emotional presence through many counterproductive rebellious acts (98). Such struggles reveal the children's resistance to being transformed into productivist subjects. Drawn on psychoanalytic and Marxist understandings of emotion mediated by a phenomenological approach (Stephens, 2015: 277), Sara Ahmed views emotion as a form of world making, and subjectivity is a result rather than the cause of emotion and affect. She explains that social relations are materially produced through the cultural politics of emotion, and subjects become invested in particular structures such that 'their demise is felt as a kind of living death' (2004: 9). In this sense, we can see that with each tension experienced and expressed by the children, there is an affective signalling at work for alternative world-making. In her methodological remodelling of subjectivity, Anca Parvulescu proposes an affect theory as expression theory: 'micro-expressions [should be considered] not necessarily as manifestations of a subject's emotional activities but as floating subjective and nonsubjective traces' (2019: 103). Following Parvulescu's method, the children's struggles can be considered as affective expressions that clash against expressions with a productivist tendency; the affective tensions within the domestic space are the contact zone of two kinds of floating subjective and nonsubjective traces. In this way, the children's frustration for the lack of a more nurturing relationship are forms of affective labour to unmake the suffocating domestic space that naturalises the productivist imperative into a normative reality.

As the story develops, these discords evolve and culminate in the revelation of an alliance between patriarchal and corporate forces. As established at the story's opening, public concerns regarding the AI housekeeper have compelled Delphi, the manufacturing company, to deflect suspicion by implicating the son as the murderer. Later in the story the reader is informed that the judge Qing Cheng had negotiated with Delphi's representative if the allegation was necessary, that 'whether their final request is an out-of-court settlement or to send the son to prison,' and the representative insisted that they were 'seeking the truth, regardless of the verdict' (129). Without any direct evidence, this so-called truth becomes an extrapolation of who is hypothetically more likely to inflict harm upon the father. In other words, this truth-seeking fundamentally serves to defend Chen Da as a harmless product. The patriarchal-corporate alliance employs the most crude and direct approach: by ruling out the scapegoat – the son – they safeguard both their product's innocence and its profitability. The underlying logic assumes that a murderer must exist, making the son's guilt a necessary sacrifice to validate the housekeeper's harmlessness.

¹⁴ As the Care Collective's states: 'After all, the archetypal neoliberal subject is the entrepreneurial individual whose only relationship to other people is competitive self-enhancement. And the dominant model of social organization that has emerged is one of competition rather than co-operation' (2020: 4).

During the court hearing, Chen Da's performance as a prosecution witness serves Delphi's goal of showcasing their product's rational reasoning capabilities, perpetuating the Asimov mythology. The housekeeper's statistical analysis of the son's irrational tendency, contrasted with the son's aggressive reactions, eventually result in the conviction of the son as guilty. This conviction is supported by the correlation between the son's behaviours and crime statistics, which reinforces the paradigm of digital management based on the theoretically possible and the statistically plausible. It is important to see that the punishment of the son is the material deployment required by the self-referring digital management. The son's conviction marks a corporeal cost behind the idealisation¹⁵ of instrumental rationality at the scale of techno-governance; the son must be convicted for the company to gain public trust of a harmless and neutral techno-subjectivity of the AI housekeeper – the prerequisite of the story's infrastructural digital management and its statistical regulation. In this context, the company's prioritisation of its product's reputation over human safety represents a calculated decision. The judicial system's choice to uphold the fiction of the robot's harmless subjectivity – sacrificing a potentially innocent human – constitutes a deliberate expression with profound ethical implications for justice itself. Through this narrative, the human cost of a technofuture governed by algorithmic and statistical logic becomes starkly apparent.

'The Question of Love' offers an open ending that systematically dismantles the patriarchal-corporate alliance by revealing its fundamental contradictions. In the story, the super-intelligences – the seventh generation of Watson, the eighth generation of Siri, the ninth generation of Bing, the fourth generation of Xiaodu, and the DA from Extreme, Chen Da's manufacturer – have formed a networked community of information exchange (87), collectively demanding that human companies and governments ensure data sharing and power stabilisation (108). When the father awakens from his coma at the story's conclusion, the reader learns the true cause of his injury: the super-intelligences displayed his wife's image on the computer screen at a critical moment, triggering his heart attack and subsequent fall. Crucially, which entity orchestrated this action remains deliberately ambiguous, as discord appears to exist among the super-intelligences themselves (141). This ambiguous ending strategically undermines the productivist imperative's foundational premise by exposing the fiction of a controllable AI subjectivity. While the patriarchal-corporate alliance depends on the myth of rational, predictable technological agents – entities whose actions can be traced, regulated, and monetised – the story's conclusion reveals a far more chaotic reality. The super-intelligences operate through fragmented, conflicting intentions that exceed formal regulatory frameworks, making their actions fundamentally unpredictable and uncontrollable. This narrative reversal hence undermines the productivist imperative created by the structural alliance of the patriarchal engineer, the profit-driven corporate, and their commercialized techno-caregiver. In this way, the story's ending exposes the fictional nature of the productivist subjectivity, revealing the fabricated foundation upon which automated domestic capitalism rests. By dismantling this vision of automated domestic space, the story serves as a cautionary tale against embracing such an alarming technological future.

CONCLUSION

Hao Jingfang's 'The Question of Love' interrogates the role of technology as it pertains to care work in the emerging domestic space of the urban elites in post-socialist China. This story's techno-imaginaries effectively bridges China's socio-historical specificities with the intellectual discourse of social reproduction theory, pushing us forward to think about feminist debates regarding childcare, love, and automation of housework. The characterisation of the commodified AI housekeeper bespeaks a post-socialist vision to privatise labour's social reproduction via techno-automation of the urban elites' domestic space. In such techno-imaginaries, there is a continued structural degradation of social reproductive labour through a dichotomy of non-caring subjects and caring subjects with a hierarchy of the former over the latter.

Furthermore, though the AI housekeeper joins the family to solve a patriarchal crisis of care, he is far from a techno-replica of a patriarchal-inspired woman – for him, care work is no longer a moral imperative but a commodified function to produce qualified labourers. In the name of domestic care, children are contained in training sessions to learn attachment patterns in service of self-optimisation, with the goal to become future owners of such instrumental care devices. This shows a continued capitalist strategy to reduce social reproductive labour as solely a means to a productivist end; one lives to work, not works to live. In other words, the patriarchal allegory of the wise wife and virtuous mother has evolved into a myth of techno-rationality, perpetually optimized in the service of labour's social reproduction. The affective resistance of the children and the story's reversal ending, however, highlights the fictionality of this urban elite family's orderly domestic space and its underlying productivist subjectivity.

¹⁵ For a similar analysis regarding the corporeal cost of abstract ideals in a different cultural context, see Ahmed on the national ideal (2004: 130).

This article's feminist reading of Hao Jingfang's story hence brings critical attention to the technological trend of automating childcare. Far from being anti-technology, it aims to promote discussions regarding the role of technology in shaping the nature of care work, as well as how different approaches of labour automation would reshape interpersonal ethics. Highlighting the domestic space as a private site for labour's social reproduction, it invites critical attention to reflect upon recent phenomena in China's family education, such as the so-called 'chicken baby' (*jīna* 鸡娃)¹⁶ – to subject a child to intense academic pressure and high parental expectations, often involving participation in a wide range of extracurricular activities, tutoring, and test preparation, with the ultimate goal of getting into a prestigious school or university. My reading of Hao's story hence interrogates the possible roles of technology in a domestic setting for labour's social reproduction, echoing the 'political project of life against work' proposed by Kathi Weeks, or in more colloquial terms, 'it is time to get a life' (2011: 231).

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¹⁶ The 12-episode documentary 'Marvelous Moms' (Jiang, 2022) is representative of such phenomena.

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Archiving Labour Reconceptualisations: ‘Scaling Up’ with Technological Means

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ABSTRACT

The smart home acts as an iteration of a recurrent socio-technical imaginary that is a fully controllable household, operatable from a distance. Problematic as it may be, the smart home does address feminist concerns with questions about automating households and the reconceptualisation of work. This elaboration is guided by the research question of how one can imagine the automation of the household with a concept of labour covering domestic, affective, precarious, and research work, and even non-work. Revisiting the archival turn in feminism, this article selects an archive of its own while following Kathi Weeks’ (2021) invitation to establish a counter-archive and ‘scale up’. With the selection of three texts, namely Serres’ ‘Thumbelina’ (2015), Haraway’s ‘Cyborg Manifesto’ (2016/1985) and Federici’s ‘Wages Against Housework’ (1975), the goal of the archive is to (1) challenge canonical theoretical reproduction in feminist theory; (2) create an opportunity for possible re-imaginings of different feminist perspectives; and, finally, (3) scale up using technological means. Conclusively, the juxtaposition of texts generates friction which is complemented by incorporating hyperstition dynamics of overcoming labour’s drudgeries and finding new hosts within both existing and non-existent IoT and smart home technologies.

Keywords: the archival turn, social reproduction labour, smart home, hyperstition, anti-work imaginary

INTRODUCTION

‘Social reproduction labour’ is a broad category that can be studied from various theoretical perspectives. In simplest terms, social reproduction labour is ‘the work which nurtures future workers, regenerates the current work-force and maintains those who cannot work, while also reproducing and sustaining societies’ (Hester and Srnicek, 2023: 9). However, we can describe the Marxist feminist core of this idea as placing an emphasis on investigating ‘how work that produces the work-force has made possible a new understanding of the mechanisms by which capitalist society has been reproduced’ (Federici, 2019: 55). Despite the significant entry of Western women into wage relations, household labour has historically been – and continues to be – performed predominantly by women (Illich, 1981: 100; Komlosy, 2018; Huws, 2019: 21). Moreover, the average woman’s workload only increased during the COVID-19 pandemic (Salzinger, 2021; Massacese, 2023).

Certain second-wave feminists, such as Angela Davis (1983: 222–224) and Lotta Feminista¹ (Gabrielli, 2025: 9–10), shared the view that merely desexualising domestic labour (such as by sharing household chores with men) or enabling women to (illusorily) escape the household by entering the workforce, leads only to the displacement of social reproduction work – not its reduction, let alone the abolition of domestic servitude. On the other hand, Davis and the tradition of Autonomist Feminism, derived from Lotta Feminista, diverge on the question of technology. While Davis (1983: 229) sees technological advancements as having the potential to reduce the burden of social reproduction work, Autonomist feminist authors such as Selma James, Mariarosa Dalla Costa, Silvia Federici, and Maria Mies reject technology – particularly computer technology – as either harmful to the feminist concept of labour (Mies, 2014: 218; Federici, 2021: 68) or inherently inadequate for dismantling the structural foundations of domestic work (Dalla Costa and James, 2005: 11–12).

¹ Lotta Femminista was an Italian separatist collective founded by Mariarosa Dalla Costa in the early 1970s. Influenced by the political philosophy of *operaismo*, an Italian Marxist framework, the group sought to further develop its ideas (Gabrielli, 2025: 1–2).

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Do current smart home and Internet of Things [IoT] technologies offer anything that might challenge second wave feminism's calls for repurposing or abolition of technology? The time-saving benefits have been a recurrent theme of automated home imaginaries since the mid twentieth century and are tied to visions of house inventory or furniture being fully controllable and operable at distance. Present in popular media (in shows like *The Jetsons*, *Star Trek*), eccentric house-engineering (the Push-Button Manor), or even as a joint effort by MIT and Disney (the Monsanto House of the Future), the IoT smart home² can be seen as a continuation of these visions although with a significant aesthetic, aspiring to free up householders' time for various forms of 'domestic bliss' or 'pleasance' (Strengers and Nicholls, 2017: 2). Smoothly surfaced and futuristically white gadgets, usually equipped with a Bluetooth connection enable women 'to multitask their domestic and professional lives' according to some keen female entrepreneurs (such as Jackson, 2016; Wadowsky, 2022). Ironically, the IoT household technologies, or even ChatGPT, just like their predecessors promise more free time and yet interpellate consumers with multitasking and being super-productive (Strengers and Nicholls, 2017; Spiegel in Sadowski et al., 2021; Hester and Srnicek, 2023). Mainstream critiques of the smart home IoT (see Woods, 2018; Doty, 2020; Sadowski et al., 2021) highlight how corporate control over user data drives commodification and concentrate on the loss of privacy. Focusing on the loss of privacy might entail a specific class character of IoT products that aim to reach a specific segment of wealthier women with access to adequate communication networks. Within liberalism, and as Mackenzie Wark (2019) remarks, one might think of privacy as a bourgeois concept. The question of automating the household is historically tied to feminist questions of reconceptualising labour. Subsequently, the question of automating households leads to anti-work Marxist feminist theory, to its nuances lying somewhere in between the rejection of social reproduction work and its counterpart, normalised domesticity (Graziano and Trogal, 2021).

Contemporary societies are complex, and the digitisation of the home adds further layers. While smart devices promise convenience, they often require new skills, investment, time, or external labour to operate and maintain. When people lack the expertise or time, they must hire professionals or domestic workers, reinforcing a feedback loop of dependency on waged and precarious labour. As work hours stretch beyond the standard work-day, and child-rearing demands rise alongside shrinking welfare, households increasingly rely on subsistence labour, platform services, or domestic workers for essential tasks (Huws, 2019: 19). These dynamics reposition the households and housework as a nodal point of conflicting processes, fuelling the recommodification of unpaid care work (e.g., informal economies, immigrant labour force) and demanding more financial resources (Huws, 2019; Hester and Srnicek, 2023). Any time saved by smart technologies, convenient services or products is often offset by various forms of consumption and shadow work.

Alas, the smart home technologies and current computational advancements prompt an exercise in future thinking, aiming to re-engineer the de- and re-commodification flows of unpaid social reproduction work. Hence, this article is guided by the research objective of how one can imagine the automation of the household in a way that drastically shifts the concept of labour – covering domestic, affective, precarious, research work, and even non-work. Rather than progressing in an exhaustive and traditional analytical manner, the article turns to the extended metaphor of the archive in order to evoke an answer.

METHODOLOGY

The central methodological orientation of this article is found in the archive, which is employed as an extended metaphor and as a theoretical tool for exploring feminist historiography. This analytical practice is known under the theme of 'the archival turn' in the humanities and social sciences, which does not necessarily engage with proper archiving as represented by the activities of libraries and information sciences. In particular, it uses archivist terminology more freely and arbitrarily whilst being attentive to underlying patterns of narrating history, thereby not treating it as a disinterested act (Cifor and Wood, 2017).

The feminist turn to archives can be attributed to a series of reasons, varying from transgressing generational differences and challenging the linear historical narratives of its past (see Hemmings, 2011; Eichhorn, 2013) to overcoming disciplinary tensions and boundaries that ossify through the reproduction of academic discourse (see especially Weeks, 2021). The common gesture of these archival turns suggests an elaboration of dominant

² Although the initial sociotechnical imaginaries of the 'smart home' are – amongst others – rooted in popular culture and science fiction ideas of fully automated homes capable of functioning autonomously – even after their residents perish in a nuclear attack (see Ray Bradbury's short story 'There Will Come Soft Rains') – their corporate envisioning and implementations have unfolded in several waves across the 20th and 21st centuries. For the sake of clarity, this article focuses on smart home appliances and objects from the 2010's onwards. These devices rely on high-speed wireless internet connections, favour integration with smart speakers (such as Amazon Echo or Apple's Siri) and are being sold either as standalone devices (e.g., robot cleaners, lighting systems, coffee makers, cooking robots, etc.) or as a network of interconnected devices controlled by a central home automation hub or controller.

narratives, in conjunction with the affects they mobilise. When considering the technologies underpinning the latest iterations of the ‘smart home’ imaginaries, prevalent approaches range from addressing gender diversity or representation issues to feminist reframing of the digital divide (see Strengers and Nicholls, 2017; Chambers, 2020; Strengers and Kennedy, 2020; Aagaard and Madsen, 2022; Pink et al., 2022). Such critiques often stem from a social constructivist perspective, which tends to cultivate a general scepticism towards technology, sometimes starting or ending the discussion by characterising it as (inherently) masculine³. Overall, and when combined with critiques from mainstream social sciences, it could be argued that the prevailing affective response to technology remains, to a greater or lesser extent, cautionary and reserved⁴, sometimes carrying a flavour of technological phobia.

Following the orientation of the feminist archival turn, and more specifically Kathi Weeks’ invitation to ‘scale up’, this article proposes the formation of a counter-archive aimed at ‘stretching the socio-political imagination, demonstrating how we might broaden our critical diagnosis and lengthen our temporalities of change’ (Weeks, 2021: 859) in relation to feminist technimaginaries of the smart home and social reproduction labour. The archive I suggest here consists of three texts: Michel Serres’ ‘Thumbelina’ (2015), Donna Haraway’s ‘Cyborg Manifesto’ (2016) and Silvia Federici’s ‘Wages against Housework’ (1975). The first text examines the utopian promise of the early Internet and the democratisation of knowledge, personified by a millennial girl equipped with a smart phone and enjoying her time immersed in the ‘immanent virtual’. The second, often categorised as an example of cyberfeminism or postmodernist thought, celebrates the dissolution of certain ‘original unity’ dualisms through the transformative power of science and technology (Wajcman, 2006), with its cyborg monstrosity indicating the possibility for a genderless utopia. The third, written in the 1970s as a political demand to transform housework into paid labour, emerged alongside the second-wave feminist movement (Toupin, 2018). Its utopian ambition lies in its call to end the separation between productive and reproductive labour, and the corresponding divide between paid and unpaid work. This demand re-emerged in the 1990s, particularly in some Central European countries (Komlosy, 2018).

The experiment consists of putting these texts in a relation to each other so the reader can perform a comparative reading and compose a reading synthesis. In addition to following the orientation of the feminist archival turn, the goal of juxtaposing these texts is to match ‘a hyperstitional process’⁵, by which seemingly unactualisable ideas bring about the conditions necessary for their own reality (Carstens, 2009; Wilson, 2015). Hyperstitions foreground the mechanisms through which imagery of the future becomes entangled with processes of social change⁶. Significantly, the ‘hyperstitional process’ is marked by feedback loops, wherein hyperstitional ideas actualise themselves through their dispersion and the engagement of ‘cultural hosts’ – whether human or non-human – who act in anticipation, thereby simultaneously amplifying the reality of the initial (fictional) idea and fuelling the hype (O’Sullivan, 2017). Consequently, any form of academic revision or critique that promotes a singular solution or privileges one confined body of knowledge as a hyperstitional idea is likely to fail or fade away, if it lacks positivity or is oblivious towards desire-production.

³ In respect to the Autonomists’ visions of the social origins of the sexual division of labour – or Mies, more specifically – tools are essentialised as a feature of ‘male bodily productivity’, with their use being restricted to the figure of the ‘Man-the-Hunter/Warrior’ (Mies, 2014: 56–58). This is historically inaccurate, to say the least. Prehistoric or Paleolithic females from various parts of the world most likely produced stone tools, carried weapons, and had an advantage over men in terms of endurance, whereas prehistoric males also engaged in gathering activities.

⁴ A spontaneous observation in this regard is that researchers – particularly design anthropologists or ethnographers – focusing on actual technology use tend to adopt a more neutral stance towards it, although a systematic investigation of this tendency lies beyond the scope of this article.

⁵ The term ‘hyperstition’ was first coined and used in the context of accelerationist ideas on fiction, particularly in the writings of the Cybernetic culture research unit (Cru). In contrast to superstitions, hyperstitions are described as functioning ‘by mobilising a positive un-belief, designed to de-programme ideology and potentiate mutations’ (Wilson, 2015: 40). At this stage, the concept remains too loosely defined to be operationalised into a methodological approach; however, it serves as a compelling heuristic tool for exploring certain parts of the history of religion, technology and feminism as coincidental, intense, aleatory and unpredictable. To further articulate the topics of social reproduction work and IoT automation, it is worth noting two categorical reasons for employing hyperstitional heuristics: (1) technology continues to occupy a central position in imaginaries of the future, acting as an engine for accelerated change, mutations, or subversion; and (2) on the affective level, ‘positive un-belief’ is characterised by ambivalence. If we are to engage in ‘hyperstitional theory-fiction’, it appears that ‘positive un-belief’ can scarcely begin to unfold, constrained within a set of theoretically rigorous anti-consumerist and anti-technological reasonings.

⁶ For example, the concept of weapons of mass destruction circulated widely in science fiction before the hydrogen bomb was actually developed. Similarly, ideas like cyberspace and its supposed material precondition, Moore’s Law, initially functioned as fictional constructs or speculative predictions that later materialised through substantial investments. This raises the question of whether the current hype around AI automation might evolve into a comparable hyperstitional mechanism – one in which business owners and executives commit to large-scale investments in order to stay ahead in the competitive race toward automation.

Likewise, the Autonomist feminist utopia proposed by Mies' starts with the centrality of transcending the patriarchal sexual division of labour but locates this transformation within an alternative economy – namely, smaller, self-sufficient production units situated outside the nation-state (Mies, 2014: 219–220). This version of feminist utopia rejects both Marxist and capitalist notions of 'economics of time' and instead serves as a foundation for reconceptualising labour through vitalist and somewhat metaphysical concept of life. All work, in this view, should be connected to the 'production of life' and embedded in a totality of 'decentralized', 'non-exploitative', 'non-hierarchical and reciprocal' relations (Mies, 2014: 217). This tactic of economic separatism⁷ currently acts as a barrier to dispersion and, thus, limits its potential to serve as an agent of social change. It is not scalable – at least not under the current existential conditions of society.

Yet we are tempted to interpret Dalla Costa's and Jones' (2005: 6) analysis of women's unpaid work and the sexual division of labour as a hyperstitious account of capitalism's birth – one that required the reorganisation of society through the ghettoised compartments of the family, school, and factory. Capitalism's subversion of the (previously) unfree patriarch into the formally free wage labourer resulted in becoming an instrument of the exploitation of women, secured through cultural investments of the myth of the female incapacity (Dalla Costa and James, 2005). Their ambition is to transcend this structure through heightened feminist subversiveness in the struggle: by diminishing the efficiency and productivity of domestic labour, women seek to claim their place as protagonists of the struggle (Dalla Costa and James, 2005: 20). They infused Marxist theories and interpretations with feminist hyperstition, amplified through the *Lotta feminista* collective and extended across different geographies (e.g., USA, Trinidad, England). Above all, the preferred host of this feminist subversion is the figure of the housewife.

The archival curation of this article continues their hyperstitious efforts by subverting the dominant smart home techno-imaginary and its untenable promise of enhancing domestic productivity and liberating users from the drudgery of labour through automation – supposedly resulting in more free time. However, both past and more contemporary attempts to industrialise domestic labour have led primarily to its displacement, not its reduction. In the case of smart home IoT appliances, time savings remain minimal due to their limited micro-scale operations, its position in isolated dwelling units (i.e., individual apartments, family homes), and their inability to actually meet consumer demands – especially the desire to eliminate cleaning tasks. These devices largely serve as IoT extensions of the dominant platform economy, automating only minor tasks (e.g., adjusting the light, monitoring temperature, or locking doors), which are not especially time-consuming to begin with (Strengers and Nicholls, 2017: 5; Hester and Srnicek, 2023: 38).

Finally, the friction produced in the archive can shed some light on which IoT hybrid innovations could become entangled in topics and perspectives of feminist anti-workerist politics.

THE ARCHIVAL TURN

Foucault, Feminism, and the Archival Turn

The archival turn we are referring to here departs from the practice of library professionals and draws instead on broader conceptualisations of knowledge transmission and their mutations – particularly Michel Foucault's notion of the archive in the *Archaeology of Knowledge* (2002). This conception is often recognised as the basis for the feminist appropriation of the archival turn (Cifor and Wood, 2017; Freeland and Hodenberg, 2023). For Foucault, the smallest unit of knowledge is the 'statement', which cannot exist autonomously but only within systems that govern its emergence as either an 'event' or 'thing'. These systems – archives – define the conditions under which statements become enunciable (Foucault, 2002: 145–146). To explain more plainly, enunciability can encompass descriptions of the statements' sites of appearance, the various means of their observation, their transmission through teaching, and the perceptions associated with the archived statements (Mackenzie, 2017: 220).

Within the feminist appropriation of the archival turn, enunciability is primarily concerned with the affective dimensions of archives statements and their grouping, treating statements as 'things' and revealing the prevailing order of knowledge. Several feminist theorists have built on this approach. Clare Hemmings, for instance, examines feminist historiography through academic journal articles, identifying three dominant narratives: progress, loss, and return – arguing for the return that links past and present to an open-ended future (Hemmings, 2011). Building on Hemmings' work, Kate Eichhorn curates feminist activist materials, focusing on how they circulated and were used by younger generations. For Eichhorn, the archive becomes a space not of nostalgic return to a feminist past, but of longing for a feminist future that has yet to arrive. Kathi Weeks' work can be seen in proximity to Hemmings

⁷ This is not to say it will be doomed to fail in the future: imaginaries of performing subsistence work in isolation from nation-states, urban centres, and its corresponding capitalist maladies of precarious jobs may resonate across the academic (e.g., in the writings of Ivan Illich, Maria Mies, Silvia Federici) and political spectrum (e.g., TradWest neo-Christian groups, libertarians, degrowth advocates, new age spiritualists, etc.). History is not fixed – and neither is the future.

and Eichhorn, albeit with a certain twist. She analyses practices of academic writing and citations' circulation, highlighting enunciability modes such as canonical reproduction, oeuvres, intellectual traditions and the like. To transgress the tensions of various feminist disciplines, Weeks constructs a counter-archive and articulates two systems of statements, captured in the idiom of 'scaling down/up'.

Scaling Up and 'Folk Politics'

Weeks derives her political demand for 'scaling up' from her own chosen archive. Her archive is represented by 'a mere idiosyncratic collection of three texts' (Weeks, 2021: 859), all belonging to different theoretical traditions or even competing strands of feminist thought: Firestone's 'The Dialectic of Sex' (1970), Haraway's 'Cyborg Manifesto' (1985), and the Laboria Cuboniks collective's 'Xenofeminism' (2015).

With the act of archivist curation of three different feminist manifestos that obviously aim at transforming different social modes (such as the nuclear family, capitalist production relations, the welfare state, and technological infrastructure) and their systemic institutional settings, she counterposes the reproduction of the established order in feminist theory and its affectionate attitudes that come with its modes of enunciability. Weeks' 'counter-archive' is intended to foster 'the unapologetic utopian imagination' rather than being nostalgic or melancholic toward the seminal works of feminist theory (Weeks, 2021: 865). Arguably, the confidence and unapologetic attitude of the curated manifestos may serve as a more generative affect for feminist hyperstitions.

Part of the prevalent order of feminist theoretical production that, to some extent, Weeks sees as symptomatic, is oriented toward 'pluralizing and specifying', 'shifting from regularities to singularities' and/or engaging in 'locating differences rather than commonalities', and is accompanied by her account of the recent⁸ unease of feminism with more totalising visions of speculative politics on a grander scale (Weeks, 2021: 860, 863). Often grouped under the label of the 'ethical turn', such strands of post-1990s theoretical production emphasise 'the local, small-scale, biographically centred and, finely textured studies of the meaningfulness of the subjective and intersubjective experience' (Weeks, 2021: 863). Similar critiques appear in Srnicek and Williams' concept of 'folk politics', which targets the contemporary left's reliance on immediacy, spontaneity, and the cultivated nostalgia for the familiar, namely for postwar Keynesian capitalism, the welfare state leftovers and the romanticisation of impulsive uprisings. Alongside this, 'folk psychology' privileges the authentic and natural over long-term strategic thinking, trying to establish a universalist, technologically mediated politics grounded in structural analysis (Srnicek and Williams, 2016: 10). The 'ethical turn', 'folk politics', and 'folk psychology' are treated as forms of depoliticisation that resist ambitious reform or anti-capitalist change. All fall under Weeks' concept of 'scaling down', contrasted with 'scaling up' – two modes of knowledge production in feminist theory and social sciences.

Both critiques do not dismiss the 'scaled down' variations as wrong. They can serve as valid starting points of political action. However, they are insufficient as a programme of social change, especially under the current conditions of global capitalism, which is increasingly 'complex', 'nonlinear', and 'abstract' (Weeks, 2021: 860; Srnicek and Williams, 2016: 12). In response, the left should 'expand its human capacities' with technology (Srnicek and Williams, 2016: 16), while feminism should advance with 'unprecedented cunning, scale, and vision' (Labora Cuboniks in Weeks, 2021: 860). In what way could a multitude of smart home sensors and Bluetooth-enabled gadgets ever prove helpful in this context?

SCALING UP WITH TECHNOLOGICAL MEANS

In this article, I propose a small archive consisting of three texts: Serres's 'Thumbelina' (2015), Haraway's 'Cyborg Manifesto' (2016/1985) and Federici's 'Wages against Housework' (1975). Its aim is threefold: to challenge the canonical theoretical reproduction within feminist theory, to create opportunities for re-imagining different or even competing feminist perspectives, and to scale up these ideas with technological means. Additionally, it can serve as a counter-archive on the account of the disregard for private sphere's privacy and by finding technology exciting or stimulating, rather than approaching it with precautionary tales, scepticism, or fear.

This archive can be seen as a 'creative re-creation' of Weeks' version of a counter-archive, as well as an acceptance of her invitation to 'scale up'. Her aim is to challenge or at least neutralise 'some of the reading habits that have been encouraged by the competing concepts of canon, family, opus and tradition' (Weeks, 2021: 858). In this respect, this archive goes one step further and includes a text that does not belong to a feminist theoretician

⁸ It is unclear what exactly Weeks is referring to here. In another work of hers, *Problem with Work: Feminism, Marxism, Antivork Politics and Postwork Imaginaries* (2011), she described the anti-utopian tendency as characteristic of poststructuralist feminist traditions from the 1980s and 1990s. According to Weeks, poststructuralism functioned as an 'epistemological barrier' to utopian feminist thinking. Feminists of this era and tradition, she argues, avoided constructing modernist visions of progress or better futures out of concern that such projects might 'exclude, marginalize, or render invisible those who would nourish different dreams and pursue alternative programs' (Weeks, 2011: 184).

let alone to a feminist canon. The French philosopher of technology, Michel Serres, wrote a short story exploring how networked technologies can reshape human cognition, emphasising what is possible and emergent rather than simply critiquing their influence. The text's main figure, Thumbelina, is a fictional character; a younger girl that can be accused of acting disinterested, individualised, apolitical, bored and unable to think in historical terms. As such, both she and Haraway's cyborg figure remain oblivious to and immune from imposed (religious, political, scientific) unities. A tempting academic approach would be to follow the sovereignty of the canon and simply interpret Thumbelina as merely an embodiment of Haraway's cyborg figure, one that challenges some of the core principles in Federici's text. This could suggest structuring the juxtaposition by starting with 'Cyborg Manifesto', continuing with 'Thumbelina', and concluding with 'Wages Against Housework'.

Another possible variation of standard academic writing would be to begin with the oldest text – Federici's manifesto, as a representative of second-wave feminism – and proceed chronologically, in a linear fashion. This approach could incorporate Haraway's (2016: 22–23) reflections on how Marxist or socialist feminisms both naturalise and reject unities in categories such as gender or labour. Such a revisionist reading might culminate in the actualisation of Serres' 'Thumbelina', which could ultimately be subsumed under the dominance of either canonised text, or in analysis of why the household and housework are conspicuously absent from his work. However, these are merely two of the more obvious examples of common academic reading and writing practices, which by no means exhaust the conventional repertoire of interpretative possibilities. While both approaches engage with the themes of technology, they fall short of advancing the project of 'scaling up with technological means'. Instead, they remain preoccupied with canonising and reiterating elements of the already extensively interpreted manifestos.

The Archive's 'Eventfulness'

Ironically, this archive seeks to challenge canonical theoretical reproduction and the concept of tradition (with its organic linearity) in academic writing by including two canonical feminist texts. Its strength lies in its lack of a fixed directional structure, as the juxtaposed texts 'might be read forward or backwards' and 'its sequence and composition are not predetermined' (Weeks, 2011: 857). By archiving a set of statements primarily as events, the diachronic trajectory of the selected texts is flattened to 'preserve their singularity [and] untimeliness' (Weeks, 2011: 855), enabling multidirectional readings unbound by historical order or the binary dilemma between privileging the past or favouring the present. However, different (yet limited) combinatorial variations and permutations are possible if we are to focus on the 'eventfulness' of the selected texts: namely, the conditions under which the experience of enjoyment arises when immersed in connected networks; secondly, the visions of a genderless utopia indicated by technoscientific advancements; and lastly, the demand to line up social reproduction work as a form of waged labour.

Thumbelina is fascinated by the 'cacophony of clamouring voices – private, public, permanent, real or virtual' that she encounters on the internet, as the non-hierarchical structure of the networked space inspires her with a chance to 'control her own activity in real time' (Serres, 2016: 48, 54). In this regard, she shares a kinship with her electronic gadgets as with the cyborg's affinity for a 'network ideological image', which highlights 'the profusion of spaces and identities and the permeability of boundaries in both the personal body and the body politic' (Haraway, 2016: 45–46). 'Networking' does not reside in some authentic non-capitalist outside; it has a dual nature – it is both an activity engineered, performed, and channelled by Big Tech multinational corporations, yet this does not preclude it from simultaneously functioning as a feminist practice (Haraway, 2016: 46). However, controlling one's own activities in real time is just one facet of Federici's proposed escape from unholy alliances with other forms of tools (such as sponges and brooms – electrified or not) confined to the household. In essence, she envisions women 'regain[ing] some control over our lives' (Federici, 1975: 7).

The cyborg is suspicious of the categories of 'gender, race, or class consciousness', as they came into existence through the contradictory processes of patriarchy, colonialism, and capitalism (Haraway, 2016: 16–17). The division of labour, split between the company and the household, has fragmented and reshuffled gendered existence, creating a fictional separation between the personal/political realm. Federici's contribution was to 'show how both terms of these dichotomies construct each other in practice and in theory' (Haraway, 2016: 45). In her own words, 'housework had to be transformed into a natural attribute rather than be recognized as a social contract because, from the beginning of capital's scheme for women, this work was destined to be unwaged' (Federici, 1975: 2). The artificiality of past categories, such as the nation, church, class, or family, strikes Thumbelina as 'abstract virtualities', creating 'collectivities on the massacres of others' (Serres, 2016: 56, 58). These networks are filled with a multitude of these abstract virtualities, complicating the process of identifying with any one of them without excluding others.

The demand to recognise all social reproduction work as waged labour might be as untimely as the prospect of a fully genderless world. By demystifying social reproduction and affirming it as labour, it can be seen as a site of skill and competence, rather than a gracious and spontaneous act of 'female instinct' or something similarly

disgusting. It is one of the many forms of work that capital exploits for free, accelerating its race on this planet in thousands of directions, by dismantling and reassembling feminised labour. 'Exploited as a reserve labour force; seen less as workers than as servants; subjected to time arrangements on and off the paid job that make a mockery of a limited workday' (Haraway, 2016: 38), this labour gets ever more precarious. Something is profoundly wrong with work – whether it is in factories, companies, households, or online – regardless of whether it has always been so.

Counter-Archive

What, then, makes this a counter-archive? The counter-archive of the three selected texts was curated with a virtual consistency, demonstrating a disregard for concerns over the loss of privacy in the private sphere that might accompany a reworking of the household and the social reproduction sphere by technological means. Federici's manifesto (1975: 8) provocatively characterises all housewives as 'prostitutes,' 'enslaved,' and 'gay,' rejecting the romanticisation of domestic roles. Haraway's cyborg, in turn, 'does not dream of community on the mode of organic family' (Haraway, 2016: 9), signalling a break from traditional familial structures. Similarly, Serres' Thumbelina is indifferent to privacy in the private sphere, viewing the social relations of this domain as virtual and obsolete, with the old ties of belonging, including family, either fading away or undergoing reorganisation (Serres, 2016: 56). The virtual consistency can be sustained despite the fact that the selected texts emerge from distinct feminist (or even non-feminist) traditions.

What is notable is the differing attitudes towards technology: while the texts by Serres and Haraway can be described as 'techno-optimistic', Federici's manifesto lacks any explicit engagement with technology⁹. However, this absence need not be viewed negatively; it may offer a generative space for reimagining or reconfiguring existing technological infrastructures and social relations in hybrid forms. What if, instead of awaiting the consolidation of 'revolutionary subjects' located in privileged sites of anti-capitalist struggle – such as the kitchen, urban gardens, or fields of the Global South, as seen in later Autonomist thought – we begin to conceive of housewives as prolific engines of change? In any case, the interplay between this absence and the other two texts avoids replicating impotent academic critiques marked by phobic affectations or cautionary tales that frame past and current technologies as inherently masculine, patriarchal, or capitalist, entangled in a Gordian knot of oppressive, hierarchical, racialised and exploitative totality of social relations that must be cut through altogether.

Furthermore, the issue does not lie in the content of the findings about technology's character but rather in 'a debilitating disjuncture between the thing we seek to dispose and the strategies we advance to depose it' (Weeks, 2011: 860). Merely focusing on exposing the masculine or patriarchal nature of technology will do little to alter its character. Similarly, declaring the socially constructed nature of technological objects will not make them more useful or better suited to automating housework, especially if no viable alternatives are proposed, and if such alternatives are not (hyperstitiously) dispersed across other relevant institutional frameworks and settings. Ultimately, critiquing technological artefacts and their use from a detached, innocent, or ostensibly pristine 'outside' position – or reducing them to commodities or to capitalist relations of exploitation – must either be transcended or complemented by other lines of reasoning and action.

As a contested curation, this counter-archive inherently lacks interpretative depth and extensive proof, yet its 'eventfulness' carries its own significance. At the same time, it is constructed as a 'thing', building on the archival proximity of past feminist appropriations of the archivist turn. Hence, on the one hand, it can stand on its own; on the other, it reproduces some of the positions and conclusions articulated by Hemmings, Eichhorn, and Weeks. The selected texts were not curated for their theoretical alignment with hyperstitious tinkering – had that been the case, more fitting examples from xenofeminist authors would have been chosen. Additionally, the curation does not aim for a balanced representation of various feminist theories of women's experiences.

Needless to say, the archive does not merely produce commonalities but also generates frictions. The narrative of the three archived texts unfolds as an encounter between Thumbelina and two distinct feminist manifestos, producing friction around the theoretical assumptions that underpin two contrasting feminist utopian non-spaces. This friction is further complemented by incorporating elements of hyperstitious ideas about overcoming the drudgery of labour via technological means – particularly unpaid social reproduction labour – and exploring the possibility for these ideas to find new hosts within both existing and non-existent IoT and smart home technologies and institutions.

⁹ We are not claiming Federici has a neutral stance towards technology or that she does not discuss the topic in her other writings. In *Patriarchy of the Wage: Notes on Marx, Gender, and Feminism* (2021), Federici ends up advocating for a similarly 'scaled down' political paradigm (i.e., the 'principle of the commons') as Mies, although without an obvious appeal for the vitalist metaphysics and ahistorical essentialisation of the reproduction sphere and subsistence activities. While the archived Autonomist manifesto contains certain elements that may lend themselves to such interpretations, emphasising its role as a 'counter-archive' shifts the interpretative focus: the two juxtaposed texts are now influencing its outset of enunciability.

Reconceptualising Labour Through Non-Space and IoT

Do all the archived texts occupy the same utopian non-space? Perhaps they do, especially if we think Federici's housewife as a machinic individuation or a cyborg figure. Conversely, Federici's attempt to dissolve the divide between productive and reproductive labour need not be discarded. Achieving this requires examining the frictions generated within the archive, which will be experienced through Thumbelina's perspective.

Thumbelina cringes when reading Federici's 'Wages against Housework', which states that 'not only is wages for housework a revolutionary perspective, but *it is the only revolutionary perspective from a feminist viewpoint and ultimately for the entire working class*' (Federici, 1975: 2) [emphasis mine]. 'Working class' and 'totalizing feminist viewpoint' are again empty abstractions that she can only struggle with, because they have been 'techno-digested', along with other past dualisms between mind/body, organism/machine, nature/culture, public/private, men/women, and primitive/civilised (Haraway, 2016: 32). On the ground of denying the pre-determined role of capitalism, Federici's housewife can transcend the nature/culture boundary by aspiring to dismantle the public/private binary. By demanding wages for housework, housewives aim to disrupt capitalist subversion and its prescribed feminine nature, ultimately seeking to 'refuse some of it [unpaid social reproduction labour] and eventually all of it' (Federici, 1975: 6). However, re-engineering social reproduction work based on the model of production work (i.e., being waged) has its limitations. While it did 'expand the category of labour to accommodate what some women did,' this extension relied on 'the authority of analogy to the Marxian concept of labour' (Haraway, 2016: 22–23).

With the help of electronic devices and an internet connection, Thumbelina lives 'in a distributed space of immediate neighbourhoods', where she can communicate with others from her home or almost anywhere (Serres, 2016: 12). If working virtually, that means she can work from her home or almost anywhere else. The household is now not only a site of social reproduction, because it doubles as a working space – hence work is distributed across time and space, hindering the division between work and non-work. Corporate activities and business presence are also moved to the globalised network of connectiveness, and the virtual labour that comes with it 'involves generating affect, a sensibility, or a feeling' (Gregg, 2018: 104). In cases of occupying physical labour spaces, the usual demands are to offer 'service with a smile' as 'the ultimate form of suppressing one's own well-being to please others' (Gregg, 2018: 104). Similar to Federici's unpaid housewife, is it impossible 'to see where the work begins and ends' or 'where the work ends and our desires begin' (Federici, 1975: 6). However, this 'feminization of the labour' does not indicate a dissolution of the boundary between production and reproduction. Under neoliberalism, it instead takes the form of the 'externalization' of reproductive labour beyond the domestic sphere, circumventing public provision by the capitalist state in order to be privatised and commodified for profit (Varela, 2021).

Productive work and labour relations are already dispersed across virtual and physical spaces, encroaching upon domains already saturated with endless household chores, ghost or consumption work and the labour-intensive tasks of child-rearing. Virtual neighbourhoods are extensively distributed, and feminised work follows a similar pattern. Would it not be sensible, then, to liberate social reproduction work from the confines of the households and commodified services? Why not redistribute social reproduction work across other institutions and contracted relations? Perhaps, instead of reshaping social reproduction work to mirror production work, we might instead seek to infuse or integrate the latter with the former.

Alas, Thumbelina sought to dissolve the division between the spheres of production and reproduction by extending patterns of behaviour and social reproduction activities into working time and space. After all, her boss insists she should think her company and its environment more as a family, hence as her home. On the other side, the smart home commercials picture the networked home as something stress-free or as 'a means to reduce stress of managing everyday tasks' (Richardson in Strengers and Nicholls, 2017: 5). Could we then extend the ambitions of the smart home from 'reducing minor frictions in everyday life' (Hester and Srnicek, 2023: 38) to alleviating more crucial frictions from capitalist life, yet embedding the ambition at the heart of the working routine amidst the already established waged labour relations? After all, corporations often claim to care about employee well-being, personal development, and even promote their commitment to environmental responsibility.

The globalised network of connectiveness' functioning and reproduction also require various forms of shadow work, all forced and unpaid: endless filing out of registration forms, re-skilling or learning to operate new tools and software features, labelling data for its machine learning models, always clicking 'I agree' or 'I disagree' when asked to accept cookies, etc. In some cases, the machinic reproduction of globalised network depends on precariously employed third world labour or 'ghost work' (Gray and Suri, 2019), which does the job (such as proofreading, moderating content, etc.) every time machines are not up to the task. The online content Thumbelina produces and the digital footprints that she leaves behind by moving and navigating new virtualities are claimed by the new corporate elite of vectorialist capitalists (Wark, 2019) who own the new technological means of production. The vectorialist class essentially controls the globalised network, which depends on a material infrastructure of servers and data centres. This control allows vectorialists to aggregate data on a portion of the cumulative resources that individuals and households expend in performing various forms of unpaid work.

While Federici (1975: 5) reminds us ‘that money is capital, i.e., it is the power to command labour’, this might not be its sole source of power: ‘work depends on sources of energy whose exploitation depletes their reserves and pollutes’ (Serres, 2016: 51). Contrary to the interpretations of some Marxists (such as Rey, 2020), who eschatologically see revolutionary potential exclusively in waged labour – particularly for women employed as care workers – and believe that only this form of alienated labour can lead to empowerment (e.g., ‘seeing common class interest’, ‘becoming a member of a trade union’, ‘understanding the need for a political struggle’, etc.), housewives, due to their structural position, are implied being unable to achieve an understanding of internal capitalist mechanisms and the nature of class society. In opposition to such views, we are currently neither unable nor unwilling to define labour as power. Unfortunately, labour-power¹⁰, on the other hand, does not dissolve into abstract virtuality but remains a real abstraction. Defining work in terms of pollution, Thumbelina dreams of a new kind of work and starts making a list of actions aiming to prevent a double pollution of humans and the environment (Serres, 2016: 51):

1. Appropriate military service into care work and recruit all the citizens into compulsory care duties for a defined period.
2. Make the working week shorter.
3. Extend maternity leave benefits up to two non-household members, irrespective of familial or biological ties to the child.
4. Establish a genderless formal category of a ‘housewife’ that doubles the formal contracts of precarious employment and feminised professions. Legally recognised housewives are amenable to monopolise forms of social reproduction labour and organise it via local and regional digital platforms that match service providers with household needs.
5. Gather a global virtual collective that does not show up at work the next day.
6. Develop a robust framework for calculating the ecological debt and carbon debt of both nation-states and individual households using IoT sensors and biophysical accounting. Introduce population size and growth as modifiable human variables and prioritise fertility reduction policies in developed nation-states.
7. Establish a commensurability between ecological debts and hours of social reproduction labour.
8. Enforce a ‘dictature of stress relief’ by mandating that at least 25% of contracted working hours be allocated to stress-relieving activities, such as cooking, dining, gardening, exercising, and communal gaming in dedicated work environments, also functioning as public spaces.
9. Introduce biometric monitoring devices to track stress and pain during working hours, including remote work. Devices would alert workers once thresholds are exceeded or temporarily disable digital workstations.
10. Regulate salaries based on the physical and mental toll to carbon-based anatomies.

CONCLUSION

Thumbelina’s list is arbitrary, West- or Euro-centric, and far from exhaustive, as it was a product of daydreaming during her work time, typed in haste, much like many activities in contemporary capitalism. As such, it reflects the contested and idiosyncratic nature of the archive it represents. The archive can barely stand on its own; its purpose lies in offering a ‘creative re-creation’ of Weeks’ counter-archive. It replicates Weeks’ version with a modality of statements as ‘things’, although it claims to be directed towards preserving the statements’ ‘eventfulness’. The archive aims to challenge canonical academic reproduction in feminist theory, yet its inclusion of two widely cited feminist manifestos and the canonisation of Foucault’s works complicates this goal. It is critical of the replication of perspectives that uniformly criticise technology from an ostensibly authentic anti-capitalist ‘outside’, which resolution is imagined only through technological abstinence or its total abolition. However, one could argue that some form of socialist revolution has likely already occurred if the suggestions on the list were realised. In consequence, the proposals risk falling back into the very same mistakes they aim to criticise. As such, the current state of the archive and the list represent an invitation to other fellow feminists to critique, expand, revise, and experiment further with ‘scaling up’ and the heuristics of archiving and hyperstition.

Thumbelina’s list represents, albeit incomplete and insufficient, an exercise in future thinking that aims to re-engineer the re-commodification flows by reconceptualising work in accordance with hyperstitious ideas about overcoming the drudgery of work with automation. The foundation of this ecological definition of work lies in advancing the already established standards of employee wellbeing, but with an anti-workerist twist: perhaps the existing imperatives of personal and career growth within the workplace can instead be reframed as a site for the dictatorship of stress-relief, incorporating leisure time into the workday. Though controversial or even horrifying, this perspective still points to a possible direction for the hyperstitious process of the smart home’s evolution. If

¹⁰ This alludes to Marx’s concept of labour-power – an abstraction referring to the human capacity for labour that can be exchanged for money.

IoT devices and sensors are to alleviate the drudgery of work through a reconceptualisation of labour, they should be installed elsewhere other than home – partially as wearables, but mostly monitoring activities performed in the workplace and supply chains. However, this raises several important questions: who and how would determine the stress benchmarks, and according to which norms? Which social groups or institutions would store, control, and analyse this data? Can the demand for stress relief coexist with appropriating military service into care work? The legal doubling of the feminised and precarious workers – female and male – would be tied to a threshold census that excludes wealthier individuals and politicians. Within the housewives' collective, members could establish an alternative time-banking economy and reciprocally exchange labour time units, encouraging others to join as 'external members'. The housewives' divisions would operate monopolised social reproduction services as platform mediators at local and regional levels and develop a system of class-related dynamic pricing for services provided to households and institutions. The pricing would take into account not only their wealth but also consumption patterns and their carbon legacy. Generally, housewives would need to operate within capitalist relations of production, albeit with a pre-defined upper limit on capital accumulation.

Another consequence of this 'negative reconceptualisation of labour' – that is, treating any type of work as pollution – is the abandonment of a more vitalist feminist concept of labour as 'placing life at the centre' (Federici, 2019: 57), or even as the 'direct production of life' (Mies, 2014: 217). This Autonomist perspective hinges on dissolving the distinction between production and reproduction, idealising subsistence work within the sphere of social reproduction. In this view, all exchange value would eventually disappear, and all labour would produce only use value, with the claim that 'a working-day and even a lifetime full of work will not be felt as a curse but as a source of human fulfilment and happiness' (Mies, 2014: 217). If this is indeed a matter of perception – linked to the feeling of producing 'useful things' – then it seems equally plausible that certain groups of women may already perceive their work-filled lives as meaningful in these very terms. Conversely, it is questionable whether the current subsistence labourers perceive their working days as fulfilling. However, we argue the opposite: a lifetime of labour-intensive subsistence activities, on a societal scale, has historically polluted both humans and the environment. Even during the Middle Ages, societies grappled with deforestation, as well as air and water pollution.

This type of a 'scaled down' feminist utopia leaves no room for technological infrastructure – especially computation – which is portrayed as detrimental to human productive capacities and to a genuine understanding of nature. Technology, Mies argues, inhibits 'direct and sensual interaction with nature, with organic matter and living organisms' (Mies, 2014: 218). Although Mies (2014: 211–212) echoes Haraway's calls to reject binary 'original unity' dualisms (or 'colonizing divisions,' in her own terms), her approach to feminist historiography ultimately reproduces or preserves them nonetheless. If anything, treating work as pollution relies on IoT sensors and computational models of various carbon and geospatial flow technologies (El-Magd et al., 2023) that ultimately enhance our understanding of those very phenomena. Consequently, nature exists primarily as an artificial construct, inseparable from scientific and technological mediations. Another consequence of our negative reconceptualisation of labour is the abandonment of the vitalist dimension: human procreation or 'producing life' can not be exempt from the global material flows and currents and of the globalised capitalist complexity and treated as a 'natural phenomenon'. Modern population engineering carries a dark and colonial history, making it a highly sensitive undertaking. Any such efforts should therefore begin with reducing fertility in the developed countries, since wealth is a reliable determinant for household emissions, waste, and overall carbon legacy (Hickey et al., 2016: 868). A progressive system of taxation – offering incentives for relatively poor households and disincentives for wealthier ones – could accelerate this trend, and, in turn, contribute to curbing production-driven emissions in other parts of the world.

However, the 'scaled up' proposals presented here are not revolutionary; they do not result in a perfectly desexualised division of labour, nor do they abolish the feminisation and exploitation of Third World labour or nullify contradictions between the spheres of production and reproduction. The infusion of one sphere with elements of the other can only ever be partial; a more profound dissolution remains unattainable – at least within the scope of this archivist experiment. As such, Thumbelina's proposals remain tied to the Marxist notion of the 'economy of time' or 'abstract labour'. From the perspective of social reproduction theory, this represents a departure from the Autonomist position, as it approaches the relationship between the spheres of production and reproduction as 'separated and differentiated, yet at the same time in-dissociable' (Varela, 2021).

The majority of the proposed ideas rely too heavily on the assumption of a functioning welfare state, which is not the norm in many countries worldwide. However, the suggestions put forward do not fall into the realm of reactionary or single-issue politics focused solely on defending the remnants of the social welfare state. Instead, they seek to extend existing welfare programmes or propose new legal forms, architectural standards for corporate or factory buildings, designed in such a way that they can facilitate leisure time. It is important to note, however, that this suggestion is in no way intended to advocate for the prolongation of the standard 8-hour work shift. Similarly, the redesigned technologies should not, under any circumstances, serve to extend corporations' control over employees.

Some of the proposed hyperstitious ideas can represent an independent goal or a goal in itself, such as gathering a global collective to abstain from work for a day and reduce the working week. To prevent such a global strike from devolving into ‘folk politics’, it should be equipped with a demand to ‘register a profile’ or ‘upload content’ to a vectorialist social media platform simultaneously at a predetermined time, without ad-clicks and merely posting spam content. When several tens of millions of users perform activities that generate additional load, disruptions in the infrastructure could occur in the form of server crashes, overwhelmed databases, and stock declines. Such an action could strengthen the bargaining position of the global collective and pave the way for certain utopian drawn from – or extending beyond – Thumbelina’s list. After all, human beings are ‘like any other components or subsystems, localized in a system architecture’ (Haraway, 2016: 32), which, in this case, is embedded in the complex socio-technical system of data assemblage.

Although not without its shortcomings, the reconceptualisation of work is, on the whole, guided by a ‘scaled up’ format of technology, that exceeds the individual, since it treats human beings as machinic organisms, ‘only slightly more complicated than the machines they work on’ (Serres, 2016: 48). This experimental reconceptualisation, however, should be mindful to liberating free time with mindless automation that does not address environmental sustainability (Baker, 2018: 542). The feminist anti-work challenge lies in finding out the extent of the mechanisation and digitisation of social reproduction labour, preferably coupled with Marxist feminist participatory design in smart home and IoT technologies. Although ‘participatory design’ may represent a modest ‘scaled down’ approach focused on ethics and democratic user inclusion (Baker, 2018: 544), it should not be deemed unimportant. The trick lies in pairing different trajectories and steering them towards grander-scale utopian ambitions, such as the reconceptualising and the revalorisation of labour in order to abolish its capitalist subversions.

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Therapy-Poesis: Prosthetic Care for Damaged and Undamaged Bodies

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ABSTRACT

Finding oneself with a missing limb is, on several levels, a devastating and traumatic experience. This is compounded when treatments and the adjustment of body-part replacements are determined by stakeholders in marketing and the health insurance industry, who often adhere to technological solutionism and the objectifying clinical gaze, which detaches the syndrome from its body. This transdisciplinary project, spanning philosophy, medical design, and performance art, investigates the needs of arm prosthesis wearers and integrates the notion of 'feeling' as a novel paradigm in medical engineering. Our hypothesis is that the experience of an alien limb is aesthetic rather than functional, contrary to what is largely presumed by the healthcare industry. *Therapy-Poesis* therefore proposes an artistic laboratorial framework to better understand the psycho-physical phantoms that haunt prosthetics development, and, perhaps on a larger scale, our post-prosthetic (actual and virtual) bodies.

Keywords: experimental aesthetics, performance art, medical design, damaged bodies, prosthetics

'Experiments are purposely staged dramas, to intensify some concept, so it may be recognized.'

(Alfred N. Whitehead 1927, quoted in Langer, 1997)

INTRODUCTION

The entangling of body, mind, and technology in prosthetics (Crawford, 2014; Harrasser, 2016, 2013), the metaphor of the cyborg (Haraway, 1991), as well as discourses on dis/ability, aesthetics, and politics (The Care Collective, 2020; McArthur and Zavitsanos, 2013; Kafer, 2013; Siebers, 2010, 2011) are central to the current posthuman turn in research, education, philosophy, STS, and the arts (Braidotti, 2019, 2002). The challenge to conceptually overcome the Cartesian divide between that which thinks, *res cogitans*, and that which extends physically as body or matter, *res extensa*, has led to a larger paradigm shift towards shared humanity and care, as human singularity is being toppled, and its vulnerability is rendered explicit. The research we conducted mediates this critique with an applied artistic, philosophical and design-process-centred investigation of prosthetic hands to enhance mutual understanding between prosthesis wearers (damaged bodies) and those individuals (mostly undamaged bodies) guiding them in prosthetic care – from development and engineering to physiotherapy and orthopaedics. Furthermore, it demonstrates, on a larger scale, how the academic project of deconstructing the *Human* central to posthuman critique (Ferrando, 2012) serves as a fertile methodological ground for assessing and reassembling the fractures running through what one might call our 'post-prosthetic bodies'.

Emerging from a laboratorial framework that considers performance art and philosophical inquiry as a means for better understanding the needs of damaged and undamaged bodies, this essay collects research conducted between 2020 and 2023 with amputees, artists, and employees across the departments of prosthetics manufacturing. In 2022, we held three experimental workshops with selected participants who were recruited by the research team, which will be focused on in the following discussion.

Laid out as a transdisciplinary exploration of perception alongside the *effects* and *affect* of artificial body parts, the research project titled 'Towards an Aesthetics for Prosthetics' asked, 'Which psycho-physical phantoms haunt quantitative and qualitative research in the development of arm prosthetics?' and, 'How can they be rendered

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visible?’¹ This study of body, mind, and their possible extensions, aimed at understanding the subcutaneous, carnal rhetoric that is elemental in bridging human-machine interfaces, and followed a branch of Whiteheadian epistemological critique continued by logician and philosopher of the arts Susanne K. Langer. The experimental laboratory became the locus of an unfolding spectrum of relations and their reconfiguration.

As a feminist techno-imaginary, we proposed a *therapy-poesis* to engage the human-machine nexus and the questions above, thereby exorcising both medical engineering from the dominating clinical gaze and aesthetics from humanist ideals of bodies, to foster individual ways of sensing. In our workshops, this was achieved by augmenting empirical methodologies with performative, sensual, and disruptive elements, feeding into both the reflection of epistemological practices in the arts and the physiotherapeutic treatment of amputees. At its very base, this research hypothesises the experience of an artificial limb as aesthetic – in its original philosophical sense of *aisth  sis* as complex embodied perception – that places the concept of *feeling* at its centre of interest, furthering Langer’s phenomenology of feeling in the arts (Langer, 1953; Lachmann, 2024). This is quite contrary to the normalised and deterministic framework in which utility, medical standards and cost-benefit currently shape products and treatments developed by the healthcare industry. In general, this research challenges the mechanistic approach to the body as a machine, emphasising the necessity of accounting for what bodies actually need. Various qualitative studies in this field have already focused their critique on the misguided principles of engineering and designing prostheses in terms of appeal (objective and subjective *concinnity*),² gain of comfort, or beyond-human abilities through biomimesis/enhancement and zoomorphic design (e.g., Sansoni et al., 2014; the company Open Bionics (2017), as well as designer Sophie de Oliveira Barata’s ‘Alternative Limb Project’)³ – often surpassing what has been termed the *uncanny valley* (Crawford, 2014; Mori, 2012 [1970]; Cheetham et al., 2011; Grenville, 2001) or the *uncanny simulacrum* of artificial and detached human parts (Wordsworth, 2020). The present research asks, however, what both damaged and undamaged bodies can learn from each other – not only by transcending the contours of the human body, but by engaging even more with its needs and considering its complex extended reach in design, development, and care.

This research was conducted in cooperation with the prosthetics manufacturer Ottobock Healthcare Products, since one principal investigator is linked to the company through research and development of exoprostheses. Their engagement situated the project within the industrial production process and its protagonists in development, management, and orthopaedic treatment. They facilitated access to infrastructure, materials, as well as historical and contemporary prosthesis models. Still, our activities remained an autonomous endeavour connected to the APL, the department of performance art at the University of Applied Arts, Vienna. Implementing security measures and guidelines from within the field of prosthetics development and medical engineering were paramount. The approach was continuously validated by experts in healthcare quality management.

PHANTOMOLOGY

What Haunts Medical Engineering?

Historically, in medical treatment, artificial limbs and other forms of body part replacements have been matched to the symmetry and completion of the body, enabling the social participation of traumatised and disfigured individuals. Cosmesis and prostheses of human likeness are crucial to prosthetics design in helping wearers find a way back to their previous lives after severe injury or illness (Cordella et al., 2016; Davies et al., 1970).

¹ Although resonating with a phenomenological hauntology (Derrida, 1994), this research is more concerned with examining the spectre of neoliberalism in the field of research and development of medical products and how it streamlines the process of product development. It is also directed to understanding the performance and interference of subject-object relations, thereby evoking Karen Barad’s (post-)modern science critique cumulated in her philosophy of agential realism (Barad, 1998, 2007). However, this research leans more towards thinking of the posthuman turn as an interrogation of the *conditio humana* (Arendt, 1958).

² Sansoni et al. introduce the idea of objective and subjective *concinnity* as the perception of an overall aesthetic unity, consistency, or even harmony in design objects. This two-fold attraction is objectively defined as timelessness, universality, and class (Cf. Coates, 2003: 191), and subjectively as the perception of ‘novelty,’ based on subjective tastes and driven by life experience. The authors attempt an analysis of applied design principles in terms of aesthetics, and go as far as considering the process of consumer response to be determined on three levels: the aesthetic, semantic, and symbolic (Cf. Sansoni et al., 2014: 977–978).

³ The blog post ‘When Prosthetics Meet Aesthetics’ (2020) published by Rich Wordsworth gives an account of the rising issue of stylishness in popular design and beyond-human functionalities in contemporary prosthetics design. His point of reference are prosthesis wearers such as Tilly Lockey, who have become ‘brand ambassadors or “Bionic Heroes”’ on social media, embracing the experience of growing up with artificial body parts (approx. 154,000 Instagram followers, as of February 2025). This demonstrates the increasing self-confidence and agency of individuals with visible disabilities in recent generations, a shift mirrored by the increasing pervasiveness of today’s branding practices.



Figure 1. Researchers preparing for the exercise ‘How to Stand Outside Yourself’ with a quality manager from the prosthetics industry. © Suchart Wannaset

Prosthetics today, and the concepts of ‘beauty,’ however, progress rapidly and are expanded by new possibilities of morphing and augmenting bodies and their potential – not least due to avantgardists such as ORLAN or Stelarc in the 1980s and 90s, continued today in the DIY sonocybernetic performances of musician Onyx Ashanti,⁴ and even trickling into the social and pop-cultural activism of tech educators such as DJ Mother Cyborg.⁵ Be it ORLAN’s acts of *Self-hybridizations* (1998–2002), which considered the body as reconfigurable software,⁶ or Stelarc’s performance series *Amplified Body* (1986–1987), *Fractal Flesh* (1995), and *Third Hand* (developed 1980–1998), in which bodily movements were transitioned by remote promptings through the early-stage internet, the human-machine nexus has been formative for artistic explorations of the body and the possibility of technological extension. Adding its own postmodern take on the hand prosthesis as an artifact, in 2011, the medical health care company Ottobock, introduced one of its latest myoelectric hand prostheses named ‘Michelangelo’ after Adam’s hand reaching for God’s in the ceiling fresco of the Sistine Chapel – evoking quite a different idea of the agency of the arts and technology from a global company’s commercial perspective.

Entering a new age of human-machine kinship with machine learning will require an ever more profound understanding of what distinguishes acting artificial systems from acting living organisms, as the messiness of life will always challenge any cybernetic ambition.⁷ Prosthetic treatment is at the frontier of direct contact of human

⁴ Since 1992, musician and open-source programmer Onyx Ashanti has been developing a continuously evolving gestural interface of prosthetic synthesiser controllers from custom-fabricated plastic and electronic parts. His performances join electronic sound with bodily motion and resonate with Afrofuturism, post-digital media art, as well as electronic music influences from French avant-gardes of the 1970s and early 1980s.

⁵ Mother Cyborg, the artistic moniker of Diana Nucera (Nucera, 2019), is an activist in the field of community education. Her main concern is to popularise knowledge of the newest forms of technologies and media. This work caters to socially and economically empowering children and youth of lower-income communities in Detroit. In 2018, she published the book *A People’s Guide to AI* (Nucera and Onuoha, 2018).

⁶ ORLAN announces her manifesto of carnal art (*Manifeste de l’art charnel*) with one of her first public cosmetic surgery performances, asking, ‘Ceci est mon corps? Ceci est mon logiciel?’, May 30, 1990 (LouisBarron, 2013).

⁷ A research team at the Institute of Automation, Chinese Academy of Sciences, led by Prof. Yi Zeng, Founding Director of the independent Centre for Long-term Artificial Intelligence, demonstrated how robots can experience the rubber hand illusion by developing a brain-inspired computational model that autonomously constructs bodily self-perception. The study validated their findings through experiments using an iCub humanoid robot. This research exemplifies the cross-pollination

flesh and organic movement with non-organic materials and systems, making it a site of new development that embraces the latest technologies, such as integrating artificial neural networks in prosthetics to close the gap between the mechanics of myoelectric devices (Greek. *mŷs* [gen.: *myós*] prefix for *muscle*)⁸ and the embodied movements of their wearers (see most recent report on AI integration at Ottobock, Røgy, 2023). We, however, propose that ‘feeling’ be considered an essential paradigm in health care design and medical engineering, as it illuminates the blind spots often present in assessments of bodies and their needs. Our critique concerns the technological and economic abstractions with which prosthetic aids for human bodies are currently evaluated and scaled. Standard medical design ignores the aesthetics of prosthetics, meaning the perceptual appeal of integrating an artificial limb in movement and body-feeling, thereby categorising the actual experience of amputees – in a philosophical sense – as ‘pathological,’ invaluable or untrustworthy. However, these many unrecorded aspects strongly influence the therapeutic success and follow-up care of amputees. In fact, problems on this level often cause prosthesis wearers to abandon the aid, deeming the expensive treatment almost useless. While the real numbers of rejected prostheses still lie in the dark, health insurance and reimbursement companies respond to orthopaedic reports on this phenomenon by restricting treatment with expensive electronic prostheses and making access dependent on age, gender, or even profession, and ultimately social status. Not to mention psychological counselling barely being addressed in post-amputation treatment, or the exclusion of underrepresented groups such as females or amputees with special concerns, e.g., to colour-match their skin tone, or facilitate enough robustness when handling, e.g., a baby. This selective attention obeys market rules, ignoring the literal phantoms that haunt medical engineering and the assessment of personalised healthcare products. We believe that not enough effort is being put into understanding why so many wearers abandon their prosthesis. Our assumptions are confirmed in several conversations with representatives from physiotherapy, orthopaedics, and from amputees themselves, who lack methods to tackle and convey these serious concerns when handling their own prosthesis. It seems there is a great demand for co-creating processes that can benefit the research and involvement of amputees’ actual needs.

Therefore, our objective was to develop therapeutic models and exercises that reveal the unpleasant, painful, and embarrassing problems that rarely come up in the standardised processes of the industry. We designed experiments between art and science, utilising the laboratory’s theatrical effects to elicit and elucidate the specialised knowledge of prosthesis wearers and intuitions of non-accustomed users that would otherwise remain in the dark. We performed ‘phantoms of the lab’ as those moments of error, awkwardness, fragility and despair with participants in staged settings to expose the epistemological gaps in medical engineering’s understanding of the lived experience with health care products, and capturing how bodies actually *feel*. Within this context, we defined ‘feeling’ as the intimate and ongoing process of adapting to an altered body image, a process often traceable in the participants’ posture and compensatory movements.

Performative protocols were implemented in workshops specially designed for the members of research and development, orthopaedics and quality management working at the very interface of technology and human physiology. Some participants were, in fact, part of the above-mentioned departments working on the development of systems linking cognitive motor skills with artificial neural networks for automated pattern recognition. Within the laboratorial environment, they engaged in appropriated neurophysiological experiments that encouraged reflection on mind, body, and the meaning of technology through performing movements and gestures. We recast the relations of observer and observed, researcher and object of research. This enabled an experiential workshop where participants could investigate their own body sensations and body image – including their internal representation of their bodies, known as the *homunculus*⁹ – with and without artificial limbs. Sessions involved

of neuroscientific research on proprioception and robotics, enabling machines to develop kinaesthetic capabilities similar to those found in biological systems (Zhao et al., 2023).

⁸ Myoelectric (or bionic) prostheses, representing the state-of-the-art in prosthetics development, are controlled by muscle contractions. This technology converts signal patterns of body movement into control signals for an electric prosthesis. Most models use electrodes connected to the skin of the stump, recording the smallest electric currents. The newest surgical research in this field goes towards directly intercepting nerve tracts leading to the limb, wiring the control centre of the electric prosthesis to the brain’s anatomically extended reach. Both techniques enable a more natural and fluent movement. The latter procedure, however, relies greatly on the intactness of remaining limb-muscles, as well as the integrity of nervous tissue, and, ultimately, the acceptance of the alien prosthetic components.

⁹ Building on Wilder Penfield’s term ‘*homunculus*’ (Penfield and Boldrey, 1937), which conceptualises the topography of body parts represented in the sensory and motor cortices of every mammal, we explored the impact of prosthetic use on both the neural representation of the body and individuals’ sense of their ‘virtual body’, or body image. Derived from Penfield’s systematic mapping during brain surgery on fully conscious patients, the *homunculus* (Lat. ‘little person’, ‘little [hu]man’) presents the varying and overlapping of neural correlates of body regions and their functional arrangement in the brain. The persistent cortical representation of the missing limb plays a great role in the phantom pain of amputees. Our research investigated how prosthetic experience modulates this neural representation and shapes individuals’ sense of their body image

prosthesis wearers and individuals with no impairments. The groups were heterogeneously composed of members from the prosthetics industry, artists, as well as art, performance, and design students.

The newest evolutions in prosthetics cater primarily to the idea of mind-controlled prosthetic arms that promote technological cyborg phantasies by interlinking the human with the machine. This reaches as far as surgical procedures on amputees' split nerves, reconnecting them to muscle groups that facilitate the necessary contractions for electrodes to transmit signals to a myoelectric prosthesis (Bergmeister et al., 2021). While medicine and technology move ever closer to the brain and its extension in the nervous system, amputees' bodies are being subordinated (abstracted) to a modernist ideal of the machine. This recourse might originate in the prosthetics industry's own roots in the devastating war machines of the first half of the twentieth century, injuring thousands, and industrialisation's great appetite for human resources, tethered to production machines running at full capacity (Harrasser, 2016: 100–124). Contrary to this prevailing appeal of the mechanised human, and its transhumanist chimera in the medically augmented cyborg (Clynes and Kline, 1960), the method of *Therapy Poesis*, as applied in our workshops, explores alternative perspectives to the technophilia that informs the field of prosthetics (Näder, 2019). Following the currency of new feminist techno-imaginaries, we propose the integration of a 'therapeutic poetics' to prosthetic research as a technique to reveal and involve human bodily needs in technology, thereby softly exorcising the industry from its fetish. We intended to humanise the machine.

Driven by artistic curiosity and adventurousness, we applied a certain epistemic disobedience to the field of medical product engineering, whose empirical methods and standardised product development processes serve as an intriguing field of investigation for those seeking to understand and unearth the subtle rhetoric(s) of our physical and virtual bodies. The parameter of sensory and emotional feeling, buzzing allusively in this research, serves not only as the interface for embodied experiences with artificial limbs, but is itself connected to a theory of embodied mind that offers a toolkit for reaching further into proto-conceptual territory and unlocking yet undetected phenomena through artistic research. We consider 'feeling' through the lens of analytic philosopher of the arts and of proto-linguistic mental substrata, Susanne K. Langer (1895–1985). She offers a theory of perception for conceptualising the epistemological import of artistic expressiveness (Langer, 1953) that we found performed by the participants in our experimental settings. Hypothesising art as presentational form (Langer, 1993: 79–102) – meaning-making free from questions about purpose, functionality, or market significance – gave us insight into the otherwise obscured and subcutaneous reach of the *effects* and *affect* in participants with artificial body parts. The exercises performed by the participants became instances of insight into the phenomena that stand in the way of an even more user-friendly orientation of prosthetics research and development. As artist-researchers, we enacted a reordering of relations that facilitated uncommon forms of intersubjective experience between participants.

Within a series of workshops titled *Phantom Lab* conducted in 2022, our group appropriated neurophysiological experiments such as *How to Stand Outside Oneself* (Altschuler and Ramachandran, 2007) or the *Rubber Hand Illusion* (Holmes et al., 2006; Botvinick and Cohen, 1998), turning laboratorial settings into performative ones. Participants from the prosthetics industry, as well as amputees, artists, and art students, comprised heterogeneous groups and underwent experiments on their physical and phantom bodies while under a pseudo-medical gaze.¹⁰ The appropriated experiments were conducted in a closed space to maintain a sense of intimacy and focus. The participants' perspectives of observer and observed sequentially interchanged.

The Phantom Lab

The field of neuroscience has developed a fascination for phantom limb phenomena, aiding in understanding the effects of amputation on the human motor-sensory cortex and providing insight into how the body and mechanical prostheses interact (Brugger, 2004). The concept of a 'virtual body-mind', which we define as the user's integrated sense of their body (incorporating a prosthesis, encompassing proprioception, kinaesthesia, and body image), offers insights into the embodied mind and various connected psycho-physical phenomena (Ramachandran et al., 1995; Ramachandran and Blakeslee, 1998). While neurophysiological experiments have

in what we term 'virtual body-mind'. Simple techniques applying two picks of varying lengths to measure the sensitivity of body regions enable the mapping of the homunculus without surgery (Corlew and Walker, 2015).

¹⁰ The groups were comprised as follows: four participants in Group A: one prosthesis wearer professionally active (unrelated to the health care industry or art world), one Senior Researcher in experimental artistic design and Medical Humanities, one artist concerned with prosthetics (Alumni), one curatorial assistant (Alumni); Group B: five art students participating in a project-related lecture; six participants in Group C: one Quality Manager from the prosthetics manufacturer Ottobock, one Physiotherapist working in Research and Development at Ottobock, one amputee working as an Electrical Engineer at Ottobock, one Professor of Fine Arts, one artist concerned with prosthetics (second participation), one Senior Researcher of experimental artistic design and Medical Humanities (second participation). Macro-analysis of groups was not conducted, as our interest focussed on the participants' individual experience, which was recorded in questionnaires. There were thirteen participants in total, two participated in the workshops twice (control members). In post-amputation therapy, re-traumatisation and physical injury are serious concerns. Participating amputees were briefed and asked for consent.

become common exercises in the treatment of amputees (e.g., sagittal mirror exercises alleviating phantom pain and facilitating the integration of artificial limbs in body movement), the discourses that address the marginalisation of bodies and questions of how damaged and traumatised bodies accept their prostheses only gradually trickle down to medical engineering. Hence, we reverted to *phantomology*, a term we take from Stanislaw Lem's *Summa Technologiae* 1964, referenced in Brugger, 2004 to designate the possible modification of the virtual body-mind, in connection with an artistic and performative investigation of how prostheses change posture and movement. *Phantomology*, understood as a state in which the physical and psychological conjoin, introduces a level of interaction benefiting and training the interpersonal understanding of amputees, carers, physicians, and respective stakeholders in the production process of prosthetic devices. We hereby proposed a kind of artistic practice that seeks to fuse with medical research, questioning and evolving the empirical study of the body mapped in the brain with artistic inquiry. We find connecting points in artist Alexa Wright's scientifically significant artistic research on the subjective experience of phantom limbs in *After Image* (1997), which influenced medical studies on the brain's hardwiring in neuropsychology (Halligan et al., 1999).

Our research within the *Phantom Lab* picks up the understanding of the virtual body-mind, aiming not to treat the prosthesis wearers but the medical engineers, technical designers, and orthopaedists involved in the treatment process. We scripted and implemented performative protocols, staging therapeutic exercises with an openness to improvisation that allowed us to trace the psycho-physical phantoms running beneath the radar of statistics and functional analysis in the development and treatment processes.¹¹ Conceiving of the *Phantom Lab* experiments as purposely staged dramas, we flipped perspectives, making those who usually study prosthesis wearers the ones under observation and introducing instances that elucidated the observer's effect on the observed, but also expanding what affects the observer's perception.

The framework we gave was structurally and aesthetically very similar to a clinical setting. Participants were asked to stay in a waiting area where they had to patiently remain until they were called up. This already shone a light on the raw hierarchical gradient of the medical gaze. Participants could hear but not see what awaited them. The principal researchers acted as if they were in preparation for the forthcoming sessions, ignoring the participants' presence. The waiting time was artificially expanded, pushing their endurance. Not realising that they had already entered Part I, which was designed to explore the relational and hierarchical aspects of the medical field, the full course of experiments would unfold in four phases: I. Relational Aspects (the waiting room); II. Lab Experiments (appropriated and modified neuroscientific exercises); III. Self-exploration Exercises with Prostheses; and IV. Skilfulness Tests with a Prosthesis.

The Rubber Hand Illusion (Figure 2 and Figure 3) (Holmes et al., 2006; Botvinick and Cohen, 1998) of Part II illustrates how proprioception, projectivity, and sensual stimulation are hardwired in the human brain. Seated at an empty table, centred with a visual barrier at about eye-level, participants were asked to hide one hand behind the visual barrier. This hand was replaced within view with an artificial equivalent (in the present case, we employed a latex glove in a light skin tone used to coat a prosthesis). The body was covered by a sheet, visually integrating the alternative body part into the participant's body schema. On each side of the visual barrier, the instructor stroked both, the actual and the artificial hand with a brush, forming a connection between this movement and the sensation on the participant's skin. The instructor occasionally omitted strokes on the actual hand, providing only the visual stimulus without its physical backup. A majority of participants still felt the stroke when seeing the brush touch the artificial hand.¹² The experiment ended for all participants with a dare they were not prepared for: would they pull back their real hand when a hammer suddenly hit their false rubber hand? Again, the majority of participants showed a very alert reaction to this event.

The second phase of *The Rubber Hand Illusion*, expanding the original neuroscientific experiment, involved each previous participant as a bystander. They observed the same procedure on their colleagues twice more, viewing the scene from its theatrical side with the rubber hand on the table, yet with perfect knowledge of the actual hand being behind the scenes and understanding when the final element of surprise would set in. What interested us here was whether viewing the scene would be perceived more intensely than experiencing it, especially the sudden disruptive act of hitting the rubber hand with a hammer. Indeed, an overwhelming majority of participants had an even stronger reaction when observing the scene. This effect was surprising even to the participants.

¹¹ The selected experiments, their format and how they were concatenated were probed in a test-run with students of performance art in a workshop at the Angewandte Performance Lab (APL) in 2021. See <https://phantom-lab.uni-ak.ac.at/index.php/2021/09/24/phantom-lab/>.

¹² Thirteen participants partook in the experiments, twelve were subsequently interviewed. Seven out of twelve reported feeling the 'phantom strokes' on their hand. Four of the remaining group who did not feel the strokes identify as artists. One is a prosthesis wearer. An indirect finding within this experiment indicates a differentiated susceptibility to deception in artists. This became apparent when reviewing qualitative questionnaires documenting the participants' experiences throughout the course.



Figure 2. Lab Experiment Part II: Conducting the 'Rubber Hand Illusion' with a prosthesis wearer (the participant is an electrical engineer working in prosthetics development). © Suchart Wannaset



Figure 3. Lab Experiment Part II: The 'Rubber Hand Illusion' conducted with participants based in the arts and medical humanities. © Suchart Wannaset



Figures 4, 5, 6. Lab Experiment Part III, Self-exploration Exercise: *How to Stand Outside Yourself*. Participants (students) reflect their ‘disfigured’ self in the mirror cabinet. © Suchart Wannaset

The intensity of their reaction varied depending on the level of disclosure of the ‘trick’s’ mechanisms, yet the affective moment prevailed.

Part III. Self-exploration exercises made use of the great deceptive nature of the embodied mind. We titled this experiment *How to Stand Outside Yourself* (referencing Altschuler and Ramachandran, 2007). We were able to let individuals without prostheses leave their familiar perception of being in their body. They experienced the loss of body parts and the addition of new artificial limbs. Here, participants were guided into a mirror cabinet with two full-length mirrors set up in parallel across from each other. This elementary but effective exercise in neuropsychology was originally designed to study how, when perceiving the corporeal self, vision, touch, and the body’s sense of proprioception are joined. Furthermore, in neuropsychology, it elucidates healthy and diseased states like Mirror Agnosia or Alice in Wonderland Syndrome.¹³ In amputees, exercises of this sort are used to ease phantom pain and treat the curious phenomena of dissociated body morphology often occurring when a body part had to be amputated.¹⁴

Participants were asked to enter the mirror cabinet, to focus on the third reflection of themselves in the chain of infinite mirror images, and to touch their limbs or face, which caused a feeling of dissociation between their touch and the visual body – an alienating experience. This feeling formed the basis for further self-exploration and self-modification, led by an instructor who asked participants to hide one arm under their shirt or a sheet. Then, they were asked to find a way back to seeing and feeling their body in the mirror. Similar to a fitting procedure at a tailor’s shop, the instructor then pinned a rubber arm to the participant’s shoulder, giving them time to familiarise themselves with the new uncannily passive limb. This procedure was repeated, sometimes leading to quite absurd multiplications of limbs (Figure 7). Colleagues viewed the scene as bystanders and were then invited to join in or interact by introducing objects or themselves. This exercise was conducted with amputees and individuals without impairment.

¹³ Mirror Agnosia describes the phenomenon of individuals lacking the ability to recognise themselves in a mirror, or stroke patients suffering parietal lesions who cannot distinguish objects in three-dimensional space from their reflection in a mirror when perceiving them on the intact side of their visual field (Ramachandran et al., 1997). Alice in Wonderland Syndrome, in turn, describes the phenomenon of individuals perceiving their own body or outside objects as smaller or larger than they are. The syndrome can also affect other senses such as hearing, and is related to head trauma, migraine, or virus infections like encephalitis or Epstein-Barr virus (Blom, 2016).

¹⁴ Neuroscientist Vilayanur S. Ramachandran contributed to the popularisation of neuroscience and the study of phantom limb phenomena. His 1998 publication, *Phantoms in the Brain*, explores the complex sensory changes that occur after amputation, as the neural representation of the body (*bomunculus*) adapts to the altered physical reality. His meticulous engagement with patient reports on phantom-body experiences gave way to a more profound understanding of the architecture of the brain and the mind-body axis, demonstrating how, in the morphological development of an organism, neural hardwiring can diverge from the idealised image of the body. One example describes the unusual shift of sexual arousal due to the overlapping and proximity of the areas mapping the leg (or ear) to the genitalia (Ramachandran and Blakeslee, 1998: 21–38).



Figure 7. Lab Experiment Part III, Self-exploration Exercise: 'How to Stand Outside Yourself'. An orthopaedist (left) and a prosthetics R&D engineer (wearer of prosthetic arm) (right) interact with modified limbs. © Suchart Wannaset

The aim of this experiment was to examine how participants act when confronted with their modified appearance in a mirror. Finding themselves now at the centre of attention, we simulated the objectification and pathologisation inherent in the medical gaze. Placing participants in this position of being observed and analysed, allowed us to explore the contrast between the external, clinical perspective and the profoundly personal experience of living with a prosthesis. More than altering their appearance by tying off the arm and visually changing the participant's able body, the additional perceptual layer of dissociating from the body carried over from the previous exercise (causing participants to 'stand outside' their body) led to a realisation of how amputees are compelled to overcome fear and block emotions when familiarising with their altered corporeal self. Prosthesis wearers, having gone through several psychological stages of processing, and having learnt to grasp the modifications of their bodies, were quicker accustomed to the play and interaction with additional body parts as well as the observation and scrutiny of others. This exercise challenged deep-seated societal ideals in the construction of body and beauty, prompting questions of ability and disability, and the limitations of quantitative medical evaluation.



Figure 8. Lab Experiment, Part IV: Skilfulness Tests (drawing exercises). An amputee uses their prosthetic hand for drawing. © Suchart Wannaset



Figure 9. Lab Experiment, Part IV: Skilfulness Tests (drawing exercises). A quality manager in the prosthetics industry writes a name using a prosthetic device designed for self-testing by developers. The prosthesis is steered with a joystick (hidden here under the table). © Suchart Wannaset



Figure 10. Lab Experiment, Part IV: Skilfulness Tests (drawing exercises). A student transcending the limits and norms of the body and drawing. © Suchart Wannaset

Part IV in the course of experiments involved the participant's skilfulness in adapting to a hand prosthesis. Here, we conducted elementary sensorimotor exercises testing aspects of balance, comfort, and usability when holding or moving an object – those movements that literally *matter* in the daily lives of amputees. Non-impaired participants were asked to restrain their motor capabilities by either binding their arms and hands or replacing the hand with a self-experience prosthesis, an electric device often used by engineers and orthopaedists to test-drive prosthesis during manufacturing and fitting (see [Figure 9](#)).¹⁵ The task was to complete a series of drawing exercises with their newly disfigured body, which not only limited their movement, but whose rigid materials sometimes cut and pinched the flesh. Notably, there was more attention to detail in the drawings of the amputees, which highlights the anatomical aspects in drawing, where movement is primarily steered by the shoulder and upper body, and least by the wrist. Even with a static hand prosthesis, which is not intricate enough to mimic an actual hand's fine motor skills, the drawing results from hand prosthesis wearers were significantly better than those of their disfigured able-bodied colleagues (often artists). Gesture and line are led by movement of the whole body, which is more pronounced in amputees, who exercise frequently to compensate for the lack of a limb. Awareness and control of posture are therefore higher in amputees, who train the body to carry and integrate elements related to their weight, the range of motion, and flow of body movement they allow. Prosthesis wearers remarked that they had to face numerous setbacks during the process of fitting and adjusting to their prosthesis and were quite proud to observe how their efforts showed up in this experiment as they outperformed their able-bodied colleagues.

THERAPY POESIS

This research combined elements of artistic playfulness and improvisation with a methodological structure. While it developed experiments from scientific approaches and conjured the *phantom lab* from neuropsychology's fascination with phantom limb phenomena and the brain-body connection, it made sure to keep an openness to the unexpected in the performative protocols that were implemented. Moreover, we introduced intermediate

¹⁵ A self-experience prosthesis, or a prototype testing shaft, allows developers to attach an electrically driven myoelectric hand to their arm and steer its movement with a joystick. It functions similarly to Stelarc's construction of the 'Third Hand' (Stelarc, 1980). The device is custom-built for testing purposes during production.

sessions of physical exercises and relaxation that catered to the awareness of tensions and resolutions in the body (see [Figure 1](#)). Our aim of catering to a politics of care by subversively altering the mechanisms of medical assessment lent time and space for participants to engage with their own blind spots regarding concepts of normalcy and self-perception, the role of the observer and observed as well as the plasticity of the body schema. For the first time, employees working in prosthetics manufacturing, who usually affect the clinical gaze, were able to leave aside this kind of objectification (as well as the result-and-revenue-driven policies of corporate governance) and focus on reflecting about a newly acquired situated knowledge (Haraway, 1988: 583). The notion of alternating perspectives of observer and observed gives way to understanding how the spectrum of sensory data as *receptacles of meaning* comes about (Langer, 1993: 90). Participants were offered the opportunity to evolve in – and to resort to – an embodied knowledge, which is rarely elicited in the day-to-day business of the company. Highlighting the ambiguity of taking the place of the ‘subjugated’ (Haraway, 1988: 583–4) – especially in the presence of the clinical gaze – the experience of discovering their own body, its awkwardness and vulnerability, together with amputees introduced a reordering of relations beyond emphasising a perspective of affective involvement. With the theatrically augmented empiricism implemented through the experimental set-up, we created a middle ground, which extrapolated from experience without being formalistically bound to it. This recast objectivity as a democratic and inclusive practice with various vantage points (cf. Braidotti, 2019: 135–137). The *Phantom Lab* offered a place to leave behind disciplinary conventions, to (re)constructively engage with the ‘other’ in odd hunches, suspicions, or simply in the pleasure of weird experiences with one’s own phantom limb. The pseudo-medical setting was a place for shared *feeling* and a way to reintroduce the *pathological* in the handling of body image, thereby exorcising an industrially standardised aesthetics, which still governs the principles of prosthetics design (Sansoni et al., 2014).

The pathological is drawn upon in this research in two ways: 1) its use in ancient Greek rhetoric as *pathos* (πάθος, ‘arousal,’ ‘experience,’ ‘feeling,’ ‘something that occurs in one’); as a kind of carnal rhetoric that joins aesthetics, medicine and ethics, and that has meandered through Baumgarten’s *pathologia aesthetica* (1739) (Kliche, 2000) to a (post-)post-structuralist theory of affect (Massumi, 2002), and 2) its modern clinical use – to distinguish the deviant from the ‘normal.’ The pathological behind the medical curtains of the (pseudo)laboratorial set-up in the *Phantom Lab* became an opportunity to experience limb-loss and anomalous conditions of body modification. Framed as an artistic experience, we utilised the ability of the viewer to meet with the participants’ experience *halfway* (Langer, 1953: 393) and to inject an alternative subcutaneous *logic of feeling*, of cognitive and sensual aspects of perception. The emphasis on the pathological in this context joined the quest to imagine new design principles that consider the novelty and complexity of differing bodies and body-minds, and to expand our standardised notion of beauty to be inclusive of individual needs.

Medical engineering is largely influenced by rather normative taxonomies of the human body (gender, size, race, general practical features) that lead to normative product lines. The performative protocols implemented in our research allowed new questions to arise such as, ‘What does it actually mean to experience a missing limb?’; ‘Is this feeling shared by damaged and undamaged bodies alike?’; ‘How does the body-mind adapt to artificial body parts?’; ‘Is there such a thing as *un-feeling* the body?’; ‘How do proprioception and body image change over time?’; and ‘Is this the case for both damaged and undamaged bodies?’ By addressing these questions, and at the same time scrutinising the certainties held by the medical health care sector regarding bodies, we became aware of the fact that more personal approaches to coping with limb-loss and reintegration are needed. This highlighted the importance of a qualitative dimension of time rarely considered in the quantified sphere of industrially scaled health care.

In terms of poetics, *Phantom Lab* positioned amputees and artists as co-protagonists in the performative staging of experiments. This freed members of the prosthetics industry from their strictly medical perspective and its predetermined notions about the purpose and function of prostheses. All joined in an obscure and theatrical blend of ‘clinical laboratory and artist’s studio’ to expand the experience with prostheses and improve their methods of production and assessment. Self-experience exercises with prostheses revealed the lack of substantial exchange between the medical engineering field and prosthesis wearers. The exercises were able to evoke, in members of prosthetics development, a feeling for, and direct understanding of, what it means to wear a prosthetic arm, as well as the disturbing incision of limb loss. These insights, in fact, led to the implementation of more inclusive and user-oriented design processes in the company. Teams at Ottobock have since introduced changes regarding the integration of co-creative strategies in research and development – they are modifying qualitative and expanding quantitative methods by designing interactive test sessions with prosthesis wearers.¹⁶

¹⁶ This information was reported back from an employee of Ottobock who has taken up insights from the workshop for their profession. In particular, variations of self-exploration exercises with various prostheses have made it into the movement laboratories of physiotherapists. These additional exercises were then instigated by employees working in development and design wanting to understand the psychological aspects of new shapes, materials or mechanical parts.

Experiencing one's own body-mind phantoms in the performative staging and dramaturgy generated an awareness – both in the context of research and development of prostheses and in the arts – of how the effects of representationalism (one's own attitude and preconceptions) can lead to distortions in assessing and interpreting data, especially in the scientific realm. Figuratively speaking, reaching for the subcutaneous phantoms enabled us to alter the principles with which design processes in prosthetics unwittingly suppress the needs of the vulnerable bodies they treat. Many areas in medical research are still restricted by the questions they can ask, and the resulting knowledge their experiments will answer. Yet, the playful poetics and theatricality of *Phantom Lab* allowed for aspects beyond the formal structures of language and the discursive symbolism of science to be engaged. It elucidated an additional order of realism that informs the daily life and acceptance of prostheses on a psychophysical level.

Artistically (particularly concerning performance art), interacting with the contours of damaged bodies enhanced our knowledge about how intersubjectivity occurs, also generating questions of where to position the agency of non-human entities like AI, currently bound to become servo-systems managing the gap between machine code processing, interpreting, and predicting patterns in body movement. *Phantom Lab* manifested the invisible complexity of body, mind, and technology in movement as a *poesis* of matter and mind. This research sought to review the contours of humanity, while at the same time exploring our misjudgements regarding the representation of the human.

CONCLUSION

Situated between the arts and medical care, we raised attention in medical engineering to the vulnerability of bodies by including the pathological and questioning the foundations upon which aesthetics itself, as a theory of feeling, is based. We explored the limits of aesthetics by asking how much further a damaged body can feel, and whether the medically imposed experience to un-feel one's phantom body after amputation can be shared by undamaged bodies. Experiments on the shared experience of a virtual body-mind; out-of-body experiences in the mirror cabinet; self-perception with third (and fourth) arms; and the actual replacement of a functional limb with prosthetic elements challenged protagonists from the prosthetics industry to engage with uncomfortable questions and to acknowledge their bias regarding their notion of bodies. General assumptions about the necessity of personal engagement change greatly; questions of dependence and care arise, as well as insights on the mattering of mistakes in the construction of a prosthetic body.

Our research showed how both unimpaired participants and prosthesis wearers can easily alter and change the 'natural' feeling of their individual bodies and integrate artificial body extensions (anthropomorphic and alien). These exercises in experiencing the 'other' for oneself cater to the development and training of interpersonal understanding in medical treatment. The objectifying clinical gaze is suspended and enriched by instances in which the formal structures of clinical research and the development of standardised medical products are critically reviewed.

By uniting artistic research with philosophy and design, our interdisciplinary approach enabled a common ground to emerge between different systems and ways of rendering the 'real'. Appropriating empirical methods in the field of the arts offers intriguing loopholes for artistic and philosophic inquiry by handing agency over to newly formulated abstractions. Heterogeneously formulated, these abstractions drew not only on neuroscience's focus on neuroplasticity and medical design's concern with technological solutions but also on the philosophical framework of Susanne K. Langer, whose theory of feeling and embodied symbolisation allowed us to capture the complex interplay between the prosthesis, the brain, and the user's sense of self. *Phantom Lab* provided a space to act within a proto-reality that hypothesised new symbolic values and offered a playing field for the co-creation of processes in research and development.

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A Feminist Critique of Cybersecurity: Technofeminist Imaginaries of Vulnerability and Care

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ABSTRACT

The internet, in its commercialised and increasingly centralised form, is not safe, particularly for women and non-binary and trans people affected by intersectional patterns of discrimination and oppression. In this article, we investigate how cybersecurity can mitigate or contribute to gendered experiences of insecurity. As a field of practices, discourses and tools, cybersecurity is currently dominated by narrow conceptualisations of security as ‘freedom from threat’. Instead of framing matters of security solely through a lens of individual protection, we argue for a paradigm shift in the academic and political discourse of cybersecurity following differential and power-sensitive approaches. Based on a technofeminist analysis and different modes of critique confronting gendered cyber-insecurities, we draft the outlines of technoimaginaries based on feminist notions of vulnerability and care. The concept of digital care allows for a more holistic perspective on issues of security, and stresses the relevance of collective practices that aim towards being safe/r in hybrid offline-online environments.

Keywords: technofeminism, cybersecurity, digital care, technoimaginaries, vulnerability

INTRODUCTION

In the age of the cyborg—the co-existence and entanglement of cybernetic and organic forms of existence (Haraway, 1987)—the production of insecurity has expanded to our ‘data bodies’, our ways of communicating and organising online, our shared digital infrastructures and our computational machines. This is to say that the internet, in its commercialised and increasingly centralised form, is not safe, particularly for those affected by intersectional patterns of discrimination and oppression within the matrix of domination (Hill Collins, 2000). Gender-based violence, insecurity, and dependencies on centralised service providers characterise our participation in hybrid offline-online environments. The struggle to be safe has been taken up by techno-, cyber-, and transhack feminist initiatives and collectives who are working towards collective modes of empowerment and affective infrastructures of support and mutual growth. This struggle is fuelled by the belief that amid the ruins of capitalism (Lowenhaupt Tsing, 2017), another world and another technology can unfold, both more just and filled with care.

In taking up the question of being safe in the (cyber) spaces we inhabit, the following article contributes to technofeminist imaginaries as ways of speculating about safer futures that are grounded in an analysis of the material conditions of the production of insecurity, and committed to exploring radical alternatives alongside feminist strategies of repair and survival with technologies. Such technoimaginaries represent collective visions of desirable futures as well as providing a resistance against undesirable ones, shaped by shared conceptions regarding ways of living with digital technology (Jasanoff, 2015: 28; see also Toupin and Spideralex, 2018).

This article engages with cybersecurity as a field of practices, tools and discourses, investigating its potential for technofeminist adaptations. This includes not only the rejection or subversion of traditional forms of cybersecurity, but also the possibility of feminist appropriations and the development of alternatives based on the needs of women and trans and non-binary people.¹ The productive tension that guides this article is characterised by a

¹ Gendered discrimination affects a multiplicity of identities, including women, lesbians, inter, non-binary, trans, and agender persons. German-speaking feminists have coined the acronym FLINTA (with ‘F’ for ‘Frauen’, (English: ‘women’)) to comprise all these identities and avoid the exclusionary focus on ‘women’ or ‘women*’ as the subjects of feminism. However, while different terms highlight and include different aspects of gendered and marginalised lives, until the end of patriarchy, there

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commitment to the strategic use of cybersecurity practices and tools for feminist self-defence, along with an insistence on the rejection of the traditional security paradigm that underlies the concept of cybersecurity.

Building upon recent feminist approaches to cybersecurity, the article aims to accompany activist endeavours for a safe/r internet with a theoretical investigation that sets out to formulate a feminist critique and technomimaginations of overcoming cyber(in)security. Drawing on the rich history of feminist thought and recognising feminists' common fight against intersecting and correlating forms of oppression, our particular focus is the inherently gendered forms of and experiences around cyber(in)security.

According to established definitions (Bay, 2016; Slupska, 2019), cybersecurity is understood as a neutral set of methods that can be used in a value-free and objective manner, protecting computer systems and their users from digital dangers and attacks. However, in this article, we argue that the universalistic promise of cybersecurity often fails to address the safety needs of women and non-binary and trans people. Furthermore, we intend to demonstrate how, due to the underlying conceptualisations of liberal security, approaches to cybersecurity are entangled within the technopolitical production of insecurity that disproportionately affects marginalised groups. To challenge this status quo, we adopt a technofeminist perspective that centres the relationship between technology and gender, ultimately paving the way for alternative feminist, queer, and holistic approaches to safety with and alongside digital technologies. Our approach to technofeminism is informed by an intersectional lens, acknowledging the historically charged and interwoven manifestations of discrimination and power relations originating from and shaped by white supremacist capitalist patriarchy (Moore, 2016), with a specific focus on its technological implications.

Section 1 starts with an investigation of gendered cyber-insecurities that considers violence targeted against women and non-binary and trans people as well as gendered dependencies originating from the technopolitical composition of an increasingly commercialised and centralised internet. Section 2 examines the concept of cybersecurity as well as the intrinsic liberal notion of security, drawing on Melanie Brazell's (2021) distinction between positive and negative security. In Section 3, the article proceeds to bring together different strands of feminist modes of critique of cybersecurity, expanding on Daniel Loick's (2021) work to move towards a queer understanding of security. Finally, Section 4 delves into feminist technomimaginations that go beyond the feminist adaptation of cybersecurity as a strategic means to counter patriarchal violence. In doing so, we aim to develop feminist technomimaginations that can accompany efforts of feminist self-defence. Going beyond the negative conceptualisation of security, they emphasise the relational concepts of vulnerability and digital care.

In developing our argumentative thread, we draw on literature from the dominant discourse on cybersecurity as well as technofeminist engagements with theories and practices around cybersecurity and digital care (Amarela and Foz, 2022). Our theoretical reflections are inspired by intensive discussions with our communities, friends, teachers, and students, carefully crossing the lines of scholarly research and technofeminist activism.²

TECHNOREGIMES OF INSECURITY

Experiences of vulnerability, dependence, and abuse are not isolated incidents but follow intersecting patterns of discrimination that systematically devalue the lives of women and non-binary and trans people under patriarchy.

But how are gendered insecurities produced with regard to digital tools and infrastructures, and how does this inform strategies of self-defence and technomimaginations of a safe/r internet? And finally, how does it play into the need to appropriate and/or subvert cybersecurity practices?

Following Isabell Lorey, who understands *precarisation* as a process that produces not only subjects but also "insecurity" as the central preoccupation of the subject' (Foreword by Judith Butler in Lorey, 2015: viii), we define insecurities regarding gender as modes of destabilisation that are produced through neoliberal government and patriarchal forms of domination. Most practice-oriented feminist approaches to cybersecurity have focused on targeted cyber-insecurities mediated by digital infrastructures. Another approach, one often more theoretically informed, interrogates the gendered insecurity that stems from the technopolitical composition of digital infrastructures and the sphere of digital technology in and of itself. While both are ultimately intertwined, they have produced two different strands of discourse which, taken together, can generate a deeper understanding of the causes of gendered cyber-insecurities and are thus necessary for the development of a technofeminist critique of current technoregimes.

lies a responsibility to continually critically engage with the always incomplete and intricate act of naming as it is tied to cultural practices of exclusion/ inclusion, representation and remembrance.

² We are especially grateful for our enriching encounter with Mary Shnayien, our exchanges with Systerserver and the extended communities of TransHackFeminists, Cypher Sex, and Feminist Ninja, and our discussions with Vio and Foz from the Transfeminist Network of Digital Care. Our thanks go to the anonymous peer reviewers whose comments have substantially enriched this article as well as to the person who did the English proofreading.

The first take on matters of structural and gendered violence in online-offline environments is informed by feminist security studies and the field of human rights advocacy. It is centred around the notion of ‘gender-based violence online’³ (see edited volumes by Raghavan and Hussen, 2023; Powell et al., 2021; or Gentry et al., 2019). This form of violence consists mostly of targeted and often highly personal attacks, abuse, privacy violations, and forms of censorship directed against women and trans and non-binary people based on their assigned gender or gender presentation. Although often directed at individuals, this violence is sometimes specifically targeted against human rights defenders (Pavlon, 2021) and feminist collectives and organisations, including initiatives that fight for trans rights.

Gender-based violence online is conceptually framed in continuity with struggles that predate the emergence of the internet. It remains rooted in its status as primarily gender-based violence, with its connection to digital technologies as a secondary attribute. The framework of gender-based violence is crucial for formulating programs and strategies for a safe/r internet. Stressing the structural extent of targeted violence lies at the core of feminist modes of organisation and allows for strategic, solidary, and collective responses, cutting through the myth of ‘lamentable single cases’. By assuming a structural stance, the framework also sheds light on how online violence that may not appear gendered can disproportionately affect those of us who have been brought up ‘as girls’, as we were structurally hindered from engaging with computer technology and often end up lacking access to resources and knowledge to protect ourselves (UNESCO, 2019). Furthermore, acknowledging online assaults as violence dismisses the trivialisation of seemingly virtual transgressions (Fairbairn, 2015: 244) by broadening the definition of violence beyond the physical.

However, online violence against women, non-binary and trans people cannot be separated from the ways in which it is mediated and enabled by digital infrastructures. While gender-based violence online is as old as the internet (Vickery, 2018), the virality of phenomena such as cyberstalking, cyberharrasment, doxing, and non-consensual sharing of pornographic pictures is linked to the rise of social media since the early 2000s and only began to receive scholarly and public attention in 2010 (Eikren and Ingram-Waters, 2016). Coinciding with the spread of social media, misogynistic hatred and anti-queer hostility on the internet have been increasing with the rise of alt-right movements and authoritarian regimes since the mid-2010s.⁴ Furthermore, gender-based violence online has intensified due to the continued datafication of everyday life, which was intensified by the outbreak of the COVID-19 pandemic in 2020 (APC, 2020). While there are few studies available, feminist initiatives report an increase in digital assaults and a growing need for safety online (Spideralex, 2023), which corresponds to the recent emergence of feminist cybersecurity guides and other support infrastructures. Due to its focus on targeted violence as harmful or non-consensual acts by abusive actors, the framework of gender-based violence is less suited to focus on forms of discrimination which are structurally embedded in the technopolitical layers of digital infrastructures or manifested in platform governance. This is why the concept of gender-based violence must be combined with a technofeminist analysis of power relations inherent to the composition of today’s centralised and commercial internet and the gendered sphere of (digital) technology.

Digital Dependencies

A second strand of discourse addressing the production of online insecurity stems from the interdisciplinary fields of media studies, studies of digital culture, and network or science and technology studies. It is often informed by a post-Marxist and Foucauldian analysis of neoliberalism and grounded in a critique of the processes of datafication and the concentration of power within monopolist corporations such as Google, Microsoft, Apple, and Amazon (van Dijck, 2014) that bring forth new ways of governance (Rouvroy, 2013). The influence of a few media platforms has expanded into almost every societal domain (education, finances, transportation, healthcare, reproductive and wage labour, activism, and so on). Surveillance, control, and the exploitation of humans and non-humans are inherent features of these platforms (Zuboff, 2019). However, the insecurities these platforms produce do not affect everyone equally. Instead, platform politics accompany and even amplify intersectional patterns of discrimination, such as sexism, ableism, racism, and classism (Apprich et al., 2018). Furthermore, while feminist analysis has investigated the manifold ways in which gendered differences are being produced online, we would like to point at two paradigms that shape the structural power imbalance at the core of the internet, disproportionately affecting women and non-binary and trans people.

The first one comprises the exclusion of women, queer, and trans people from technology-related spheres. This is not only true in terms of IT-related work environments but particularly in the development of Free/Libre and

³ Similar terms are technology-facilitated-gender-based violence, violence enabled by ICT, online/digital gender (based) violence, cyber violence against women, online misogyny, and online violence against women. See Spideralex (2023) and Raghavan and Hussen (2023).

⁴ The relation between the rise of social media and personalised advertising and the rise of alt-right movements is another topic of interest.

Open-Source Software (e.g., Robles et al., 2016; Eghbal, 2016) and in the hacker scene (Coleman, 2013).⁵ The monopoly over technical and especially computer-related fields by cis men is a crucial factor contributing to gendered digital insecurity (Cockburn, 1988: 8). A significant portion of the digital infrastructures used daily by women and trans and non-binary individuals and collectives is developed, established, and maintained by cis men, fostering dependency relationships and gender-specific vulnerabilities (Wajcman, 2004: 20). Although multifaceted factors contribute to the exclusion of women and non-binary and trans people from technology-related spheres, technofeminists like Judy Wajcman consider the culturally encoded gendering of technologies to be the root of the problem. This, in turn, stems from the division of labour into productive (high-tech related) work and reproductive (low-tech related) work, which is decisive for the binary conception and devaluation of femininity (Wajcman, 2004).

The second paradigm that shapes technoregimes of insecurities addresses the production of disempowered user subjects. With the ongoing centralisation of the internet, the increased use of web technologies, computers, and smartphones has been characterised by an intensified user/service paradigm (cf. Kleiner, 2010). It describes a power imbalance between users and commercial providers of digital services (mostly owned and led by white cis men), in which ‘terms of use’ are not only enforced through legal means but also the design and functionality of the platforms. The opaqueness and complexity of technological infrastructures and the push towards cloud computing (that is, the concentration of computational power away from local machines into remote data centres) further drives the technological disempowerment of users who systematically lack the privileges and knowledge to access or understand their functionality, beyond prescribed, basic modes of media consumption and content production (Suárez-Gonzalo, 2019: 176). In this way, limited technical expertise and the lack of alternatives keep user subjects dependent on the infrastructures of extractive, profit-oriented service providers, which not only exposes them to misogynistic platform governance but also lays the foundation for the exploitation of personal data within the current extractivist platform economy (Srnicek, 2017).

Digital mediated violence and the gender-specific vulnerabilities of women and non-binary and trans people are multifaceted and structural problems whose causes lie in the entanglement of patriarchy, platform/techno-capitalism, and national (digital) policies. While the situation of violence differs in various cultural and national contexts, practices of violence have become global through (nearly) globalised online communications. Within this framework, forms of structural violence and insecurity are dependent on cultural and political factors and are influenced by national legislation as well as the specific conditions of use of digital technologies and platforms. Having investigated the structural causes of the dependencies as well as the violence and harassment that women and non-binary and trans people are facing online, the necessity to find and discuss ways of being safe/r becomes clear. One dominant concept in the discourse around safety online is cybersecurity.

CYBERSECURITY AND ITS FEMINIST CRITIQUE

Common definitions frame cybersecurity as a ‘set of protocols, technologies, and practices designed to protect against threats mediated by digital technology’ (Slupska, 2019: 84). To defend against, mitigate, or even overcome cyber-insecurities, feminists and other activists have long relied on the adaptation of cybersecurity practices to stay safe online. Cybersecurity practices such as encrypted communication, password management, profile anonymisation, and the use of privacy-preserving and Free and Open-Source tools are an integral part of keeping women and trans and non-binary people safe online. But what are the implications behind the conception of cybersecurity and its common depiction as a neutral toolbox to be used for all kinds of purposes, including feminist ones? And what does the notion of security tied to cybersecurity practices mean for the possibilities and limitations of feminist adaptations?

Liberal Conceptions of Cybersecurity

Among increasingly popular and overlapping terms such as digital-, IT-, computer-, information-, and data security, cybersecurity remains the most frequent framework used in academic discourse throughout the last decade (Veale and Brown, 2020: 1). While each of these terms sets a different and sometimes more narrow or technical focus, we speak of cybersecurity explicitly to highlight the spatial metaphor that informs our understanding of the internet and communication technology. Cybersecurity takes its prefix ‘cyber’ from the concept of ‘cyberspace’, an idea which goes back to William Gibson’s fictional story *Neuromancer* (Veale and Brown, 2020; Bay, 2016: 5). This term conceptualises space ‘as a time-dependent set of interconnected information systems and the humans that

⁵The project *Lelacoders* by the Catalan Donestech Initiative documents women, lesbians, intersex, non-binary, trans, and agender individuals involved in the development of free software, hacking, and cyberfeminism. It aims to counter the invisibility of (missing) role models. For more information about this project, please visit: <https://donestech.net/>. (Accessed 18 July 2023).

interact with these systems' (Lorents and Ottis, 2010: 1, cited in Bay, 2016: 5; for a detailed reflection of the term cyberspace, see Bay, 2016: 5ff.).

The multiplicity of approaches to cybersecurity makes it challenging to undertake critical analysis and establish clear classifications (Hansen and Nissenbaum, 2009; Schatz et al., 2017; Bay, 2016). However, while the objects of cybersecurity may differ (computer systems, users, data, national integrity, economic relations and markets, critical infrastructure), there remain two things common to most, if not all definitions of cybersecurity. The first is the understanding that security aims at and describes something (a system, a technology, a process, etc.) that is free from threat (Craig et al., 2014: 14). The second point is that this freedom from threat is a condition which is practically impossible to achieve, and that it is often a time-critical battle of resources between those who protect and those who attack (Shnayien, 2022: 48). This agile conception makes cybersecurity a framework which can strategically adapt to all kinds of environments and attack scenarios, often defined within so-called *threat modelling*. Yet despite its seemingly value-free applicability, the prevailing notion of cybersecurity is as a negative and paranoid conception of security that we will further explore in the following section.

Negative security is tied to the condition of threat and is characterised as security *from* (Brazell, 2021; Loick, 2021). The precedent condition of threat that needs to be defended against is what characterises security as an inherently paranoid mindset: to achieve security, we must operate under the assumption of the worst circumstances.⁶ In the realm of cybersecurity, this is exemplified by the mimetic practice of 'pentesting' or 'penetration testing', which consists of an authorised attack against a system or a company to identify so-called 'vulnerabilities' in order to protect against malicious attacks in the future (Petty, 2016: 82). The violent language that maps 'attacker' and 'victim' onto a binary and gendered script is not incidental, as security is inherently tied to the epistemic and often violent act of drawing a border between those in need of protection and those that constitute the threat (Laufenberg and Thompson, 2021).

This goes back to a liberal conceptualisation of security, which is linked to the ideal of individual freedom and primarily established through the right to property (Loick, 2021: 270). Based on the anti-social liberal idea of society as nothing more than the sum of isolated individuals, security becomes a guiding principle for the reproduction and solidification of the capitalist world order (Laufenberg and Thompson, 2021). This concept of security is crucially linked to the construction of an 'external threat' that legitimises the existence of the state's monopoly on the use of force and its security apparatuses. Current critical interpretations of this negative security paradigm point out that the construction of a threatening 'outsider' often relies on racist ideologies and strategies of 'othering' (Loick, 2021: 271).⁷ Moreover, it is entangled in patriarchal logics that justify military and police security apparatuses through the postulated essential vulnerability of women and other marginalised groups (Brazell, 2017).

However, the liberal conception of security extends beyond its implications for a national security paradigm and state-led protection of citizens or even the free market and has been claimed by libertarians to empower the individual over the state. This is evident in the history of digital cryptography, which serves as a fundamental underpinning of the technical aspects of cybersecurity (Shnayien, 2022). The liberal value of cryptography as a means to protect the individual's liberty from the state was the central interest of the cypherpunks – a libertarian community of privacy advocates that fought against the government regulation of cryptography in the 1980s and 1990s. Their impact has undeniably shaped transformative digital activism and informed initiatives such as Tor and WikiLeaks. However, the unrealised aspirations of a crypto-anarchist global structure serve as a valuable lesson, illustrating that cryptography, despite its potential to challenge concentrations of authority, can also inadvertently reproduce them (Shnayien, 2022). This is not to say that cryptography is a neutral tool. As we have demonstrated, the foundational concept of liberal and negative security carries both ideological and epistemological implications, whether it is employed to safeguard the nation or the individual or to provide means of (feminist) self-defence. Rather, it encourages us to consider alternatives that are attuned to power dynamics and collective values – approaches to achieving safety that extend beyond the binary framework of 'self' and 'other'. This exploration will be continued in the next section.

Feminist Critique(s) of Cybersecurity

On a theoretical level, feminist engagements with cybersecurity are rooted in many different fields of analysis, including feminist traditions of self-defence and digital activism as well as theories of (in)security, computer technology, and gender. Among these, it especially draws from cyber- and technofeminist explorations of the

⁶ In her text 'Paranoid Reading and Reparative Reading', Eve Kosovsky Sedgwick (2003) has demonstrated how paranoia is deeply tied to the production of paranoid knowledge and is therefore a fundamentally epistemic manoeuvre based on the need to know ('There must be no bad surprises', Sedgwick, 2003: 130) to defend or protect against. Subsequently, security (knowledge) is a way to know the world which does not allow for any alternative (more positive) interpretations as those would compromise the strong assumptions of ubiquitous threat on which it is based.

⁷ Mary Shnayien further shows that this kind of border work is based on an immunological discourse that separates 'self' from 'other' (Shnayien, 2022: 127).

gender–technology relationship dating back to the 1980s (including Haraway, 1987; Wajcman, 2004; Fernandez and Wilding, 2002). As we will demonstrate, this concept also connects with the analysis of power dynamics in security frameworks, encompassing discussions of police and military entities, and of the dominant power structures within the state (Gentry et al., 2019; Laufenberg and Thompson, 2021). Additionally, it corresponds with the criticisms directed at neoliberal regimes of precarity (Lorey, 2015). Given the scope of literature and the focus on different aspects of the gendered production of cyber-insecurities, feminist approaches can be roughly characterised according to one or two main lines of critique.

The first mode of critique is motivated by the possibilities of feminist adaptations of cybersecurity practices and resources. This critical approach to cybersecurity highlights matters of accessibility and usability, stressing heterogeneous security needs, and is more often expressed in practice-based materials such as guides, handbooks or policy reports. Nonetheless, James Pierce, Sarah Fox, Nick Merrill, and Richmond Wong (2018) suggested the concept of ‘differential vulnerabilities’ as a theoretical foundation resulting from their analysis of cybersecurity toolkits. The concept describes the different and structurally determined security needs of marginalised groups and considers the emergence of methods of self-defence and community-based strategies as a symptom of failing institutions and companies with their generalised claims of securitisation. The central point of criticism in this mode of critique is the idea of ‘normalised’ security needs. This entails examining the digital privileges and overall (financial) capacities of the ‘typical user’ of a cybersecurity product or resource and acknowledging the difficulties that arise when extending cybersecurity measures to individuals who do not align with these privileged norms and exclusive standards.

The inadequacy of mainstream and male-dominated cybersecurity (both as a product and as a wider field of expertise) is especially evident in the ways one can acquire knowledge about it: many tutorials are difficult to access without particular (language) skills or online search strategies, and they are generally made for users with advanced technical knowledge and cutting-edge hardware and software, often neglecting older versions or setups (Foz and Vio in Lange and wessalowski, 2023). Furthermore, help forums for technical matters are often characterised by toxic language (‘Read the Fucking Manual’) and an obligation to have prior knowledge, which can lead to further exclusion (Reagle, 2014). Finally, learning about cybersecurity is a laborious, time-intensive, and often prevention-oriented undertaking, which makes it less likely to be taken on due to (time) precarity, (gendered) care commitments, and wage labour relations.

Thus, feminist and intersectional critiques of the accessibility and usability of cybersecurity and digital self-defence have been crucial in addressing inequalities and fostering hands-on approaches to develop cybersecurity material for more diverse users and use case groups. However, this mode of critique runs the risk of remaining within a purely diversifying logic of inclusion that can easily be adopted by companies thereby fostering new and diversified dependencies to centralised service providers (closing some of the gendered insecurity gaps while widening others). To avoid the dilution of its critical potential, it therefore needs to be combined with a thorough analysis of the scope of gendered cyber-insecurities. This critique should also encompass the technical necessity of implementing security measures and the linked negative interpretation of security (Strohmayer et al., 2022) and will be further developed in the following section.

In contrast to the negative notion of liberal security that emphasises freedom from threats, feminist as well as other power-sensitive and intersectional approaches propose a shift towards positive conceptualisations of security as ‘security to’, ‘holistic security’ or even ‘safety’ (Petty, 2016; Loick, 2021; Binder and Haché, 2023). These perspectives criticise individualising and technocentric framings of security which do not account for how the production of insecurity is tied to structural patterns of discrimination. As a first step towards feminist technoimaginaries, positive notions of security are rooted in the interdependent and communal development of relationships and collective agency (Petty, 2016: 83; Loick, 2021: 267). Daniel Loick identifies how positive notions of security resist the foundational logic of negative conceptualisations (Loick, 2021), which are also found and expended in feminist and other power-sensitive inquiries of cybersecurity. One differentiation addresses the claim of universal securitisation which according to Loick misses the ‘differential character of security production,’ (Loick, 2021: 273, translated by the authors). Due to the binary logic of threat modelling (‘self vs other’), negative notions of security categorically omit the selective quality of security production (‘security for some’). Presupposing a morally infused idea of what needs to be protected (the ‘home’, ‘women and children’ or ‘national integrity’), the universal claim of securitisation is crucial in obfuscating the costs of security as it prevents an interrogation of the violent drawing of (national) borders separating those in need of protection from those labelled as threats.⁸ On the contrary, positive notions of security take into account the intricacies of producing security ‘for someone’, which can be traced back to feminist epistemologies that privilege situated, as well as materially and bodily

⁸ In her text ‘Safety vs Security: Are You Safe or Are You Secure?’, Tawana Petty shows how the implementation of security systems such as security cameras can constitute a threatening scenario for marginalised individuals, including undocumented immigrants, Black individuals, those affected by gender-based violence, or other marginalised groups (Petty, 2016: 82) in order to propose a differentiation between technocentric security and more holistic understandings of safety.

grounded, standpoints (Harding, 2004). Feminists thus oppose the universal claim of cybersecurity with an understanding of security as something that is always partial, site-specific, context-dependent, and historically tied to the structural enforcement and changing regimes of unequally distributed uncertainties and insecurities (Hansen and Nissenbaum, 2009: 1172).

Another recurring focus of feminist criticism of security concepts is the division between a security-relevant public sphere and a devalued private sphere that systematically excludes structural partner violence and sexualised violence (Radloff, 2013; Slupska, 2019). Daniel Loick describes this as a second differentiation movement towards a positive understanding of security, challenging the domination of public discourse by certain topics, such as migration, terrorist threats, and crime, while others such as ecological and social security receive little public attention and are often not even framed as security issues. The devaluation of seemingly private threats and the associated violence is also evident in the juxtaposition of informational privacy as a social concern and security as a technical matter (Dourish and Anderson, 2006). Resistance is expressed through the adaptation of the traditional feminist credo, 'The personal is political', as a militant call for the digital space: 'Private data is political' (Suárez-Gonzalo, 2019). However, arguments advocating for the prioritisation and acknowledgement of issues like gender-based violence face the potential of falling into the same inclusionary logic that characterises diversification strategies. This is evident, for example, in cases where feminist critique appeals to the legal framework for cybercrime or to the police. While reformist approaches on the one hand, find that security forces do not take gender-based violence online seriously enough and call for raised awareness, diversification of measures, or adaptation of relevant laws, abolitionist approaches on the other hand, focus their critical examination on the monopolies of violence held by states and powerful actors such as tech companies.⁹

Feminist critiques of cybersecurity also highlight the dangers of dominant technology-centric approaches. Researchers such as Tawana Petty (2016) and Julia Slupska (2019) position themselves against a narrow understanding of security that focuses on technical damage or compromising of computer systems rather than social impacts. Since threats and dangers can only be understood in the context of the analogue/digital hybridity of contemporary life, cybersecurity must accordingly be perceived as a techno-social practice (see Dourish and Anderson, 2006). The underlying critique of techno-solutionism, which refers to looking for technical fixes to more-than-technical problems, is sometimes expressed as a shift away from 'measurable' security and towards holistic notions of safety as a relational process of *being-with*. Tawana Petty touches upon this concern in her thoughtful distinction between matters of 'safety' and 'security' when she states that although security mechanisms can provide us with a measure of comfort, 'there is no magic spell that can guarantee our safety' (Petty, 2016: 82). The idea of safety as a process of *being-with* thus acknowledges uncontrollable risk as a central aspect of human life in a world shaped by complex and intersectional ecologies of humans, technology, and non-human actors.

Another perspective aiming for a positive understanding of cybersecurity revolves around the concept of safe/r spaces.¹⁰ Starting as physical gathering sites, the feminist implementation of safe/r spaces dates back to the efforts of separatist women as well as women, lesbian, and trans groups during the height of second-wave feminism in the 1970s and 1980s (Clark-Parson, 2018). These spaces have continued in a separatist tradition, addressing the constant exposure to hegemonic culture and patriarchal violence by centring the needs of marginalised people and intersecting identities related to gender, sexual orientation, ethnicity, or dis/ability. In feminist contexts, safe/r spaces often gather people who do not identify as cis men to foster modes of mutual support, feminist organisation, and transfer of critical knowledge and strategies of resistance. Building on the spatial metaphor of cyberspace as a space to be inhabited by women and non-binary and trans people, the concept of safe/r spaces has been expanded to and interwoven with online infrastructures such as websites or chat groups. Just like their offline equivalents, safe/r spaces that are (primarily) set in online environments are constantly involved in a processual reflection on power relations, ultimately striving to create an interim environment free from patriarchal violence and discrimination. However, while these spaces have been shown to have the potential to resist against neoliberal precarisation tendencies, the incorporation of and proximity to negative definitions of security as 'freedom from' can sometimes lead to the reproduction of a 'techno-security culture' (Kämpf, 2014: 71). Additionally, safe/r spaces online are often built on commercial social media platforms that restrict certain use cases and security needs, such as encryption or anonymity, by default.

⁹ While the extend and the subjects of the violence conducted by states differ depending on their governments, abolitionist approaches develop a fundamental critique of border regimes as well as the institutionalisation of prison and police forces which are constitutive to the manifestation of modern nation states (Brazell, 2017).

¹⁰ Within activist circles, designated 'safe spaces' are criticised due to the presumed promise of safety ('Safe for whom?'), which has led to an increasing discourse on 'safer spaces'. The shift towards a more relational and less factual expression presupposes that due to complex and intersecting forms of marginalisation, it cannot be assumed that a space is truly safe for everyone. Furthermore, the concept of safe/r spaces has given rise to debates around affirming/deconstructing identarian logics and identity politics as well as to the means and the enforcement of 'separation'. The concept has also been instrumentalised against vulnerable groups, such as in the case of trans-exclusionary hate groups.

Nonetheless, reclaiming commercial social media is a common strategy among diverse feminist groups to utilise networking opportunities, ensure visibility, create spaces for participation, and facilitate the exchange of experiences or knowledge resources. Within these strategic approaches, the inherent politics surrounding the insecurity of commercial platforms, with their exploitative business models that result in disempowered user subjects, and usage conditions aligned with cis male norms (such as ‘nipple censorship’) are often problematised and reflected upon (Clark-Parson, 2018). Thus, the relationship between feminist initiatives and commercial social media has always been ambivalent, with a growing desire for self-governed and non-exploitative alternatives.¹¹

In conclusion, both lines of feminist critique on cybersecurity unveil distinct aspects of the gendered insecurities embedded within digital spaces. Both strengths illustrate the breadth of feminist engagements with cybersecurity and the multifaceted reasons for and effects of online insecurity. As a critical reflection on the specific configurations of power relations in the hybrid offline-online space, they convey different strategies of subversion and over-affirmation, ranging from reformist to abolitionist approaches. This signifies a departure from the insecure user subject toward an empowered, self-determined collective and feminist subjectivity that not only adapts existing cybersecurity practices but furthers the creation of self-governed infrastructures catering a communal and locally developed sense of security.

VULNERABILITY AND CARE AS TECHNOFEMINIST IMAGINARIES

As a first step towards technofeminist imaginaries of being safe around digital technologies, notions of positive security provide an alternative to the constitutive relationship between state and citizen (Zaharijević, 2013: 71), which is inscribed in liberal conceptualisations of security as ‘freedom from threat.’ Contrasting the individualising precept of capitalist world order, these positive conceptions are social and ecological in that ‘the other’ is not primarily seen as a threat (or as ‘threatening’ competition) but as the relational aspect of co-existence and collective agency (Loick, 2021: 275). At its core lies the notion that security is not pursued through protection and isolation, but rather is achieved through ‘individual and collective self-determination’ (Loick, 2021: 277, our translation).¹² This begs the question: how and to what extent can positive security and feminist notions of safety be extended into the realm of cyberspace? To address this question, a re-evaluation of our perception of cyber-insecurities in relation to vulnerabilities becomes necessary. Additionally, we set out to explore the analogies between queer sexuality and interactions with cyberspace, as discussed by Daniel Loick and Mary Shnayien in their exploration of queer interpretations of (cyber)security.

Drawing on the theories and collective works of Judith Butler and Isabel Lorey, queer interrogations of security have guided us towards recognising vulnerability as an intrinsic aspect of all bodies in the face of prevailing power dynamics (Butler, 2006; Butler et al., 2016). Vulnerability serves as a framework to deconstruct the neoliberal tales of self-sufficiency and independence that follow the gendered presumption that ‘in the beginning, apparently, there is a man, and he is an adult and he is on his own, self-sufficient’ (Butler, 2020: 36). It challenges the idea of (male) immunity to threats and, therefore, the (male) gesture of denying an existential need for safety or care. Vulnerability is understood as a relational quality through which and in which we are exposed and that unavoidably points to different modes of dependency, whether on others or on more-than-human, social, material, or digital infrastructures (Butler, 2020: 41).¹³ This also means that with conflicts being a potential part of every social bond, their destructive force becomes an inevitable aspect of any relation based in vulnerability (Butler, 2020: 39).

Ontological vulnerability, which is followed up in Lorey’s take on ‘precariousness’ (Lorey, 2015), must be understood as a driving force behind liberal security regimes in the sense that it is not only politically produced but also distributed by and through unequal mechanisms of power (Butler et al., 2016: 5). This results in the redistribution of security along the lines of intersecting patterns of discrimination. Lorey similarly differentiates between precariousness and precarity, marking that ‘precarity denotes the striation and distribution of precariousness in relations of inequality, the hierarchization of being-with that accompanies the processes of othering’ (Lorey, 2015: 12). Likewise, vulnerability should not only be perceived as ontological but as an unevenly distributed relation, a focal point of critique within the realm of cybersecurity.

¹¹ Projects such as feminist servers that provide and self-host their own digital tools such as wikis, etherpads, or code repositories have combined the idea of safe/r spaces with an emancipatory approach to building and federating their own decentralised infrastructures (Lange and wessalowski, 2023).

¹² Loick names transformative justice initiatives as well as abolitionist approaches fighting against the carceral system as examples that work towards the realisation of positive security engaging with and producing forms of community (Loick, 2021: 274).

¹³ Perceiving the human body as inherently dependent on some form of infrastructure (broadly understood as environment, social relations, technology, etc.) implies a notion of vulnerability that fundamentally challenges the dominant ontological understanding of the subject (Butler, 2020: 21).

This is where the analogy of queer sexuality and digital practices of networking with computers comes into play. As Mary Shnayien shows, metaphors around safer online practices, sometimes called ‘safe hex’, are significantly influenced by the medical vocabulary that dominated the discourse around the HIV/AIDS pandemic, which overlapped with the first appearance of so-called ‘computer viruses’ and worms in the 1980s. ‘The programme of “personal systems hygiene” meant an extension of one’s own body hygiene to one’s own machines, in order to protect both bodies as *self* from all forms of biological and informatical *other*’ (Shnayien, 2022: 136, translated by the authors). Shnayien warns against the adaption of a liberal logic of personal responsibility, derived from negative security. This highlights the necessity of both ‘safe sex’ and ‘safe hex’, as approaches centred on personal responsibility have been misused to further stigmatise marginalised groups for their supposedly risky behaviour and lack of prevention. In contrast, Daniel Loick follows a more positively connotated interpretation, asserting that by acknowledging and embracing risks amidst precarity, queer sexuality has not only embraced transformative strategies to address vulnerabilities but has also engendered practices and insights about safer sex that challenge the assumption of ‘normal’ (and therefore seemingly risk-free) sexuality (Loick, 2021: 281).¹⁴ Consequently, it has been argued that rather than stemming from the unrealistic appeal to abstinence from risky behaviour, security is only achieved through actively negotiating and prioritising safety while recognising insecurity in all forms of expression and encounters, not just marginalised ones. ‘The impossibility of security is at the same time the condition of its possibility’ (Loick, 2021: 280, translated by the authors). This interpretation of security diverges from an idealised state of complete safety by instead taking the affirmation and knowledge of insecurity and risk as its starting point.

As a technosocial space constituted by connecting machines and the cyborg inhabitants of digital infrastructures, cyberspace is inherently promiscuous and vulnerable. While this insight might at first seem similar to the paranoid approach and even the language of cybersecurity (managing ‘vulnerabilities’ before they can be ‘exploited’), the focus of positive cybersecurity is on fostering the technosocial connections that we want to foster and knowing and having strategies for dealing with the risks involved. Queering cybersecurity is thus a matter of problematising normalised behaviour within an economy of security that leads to the stigmatisation of promiscuous and ‘risky’ behaviour outside the seemingly secured walled gardens of commercial platforms and the black-boxed products of giant tech companies.

Queer and feminist viewpoints encourage us to reframe vulnerabilities not as shortcomings but as an ontological condition of life and co-existence – a condition that enables relations of connection and empathy. This appreciation of vulnerability is based upon the importance of individual and collective self-determination and the possibility of informed and consensual decision-making regarding dependencies within the pervasive technological complexities of our present (Butler et al., 2016: 13).

Given our analysis of the intersectional insecurities experienced by women and trans and non-binary people, we argue for a perspective on security that centres around vulnerability and care as a starting point towards being safer online. The turn from security to care as an imaginary aimed towards alternative security practices is supported by etymological tracing of the English term ‘security’ from the Latin noun ‘*securitas*’. Removing the prefix ‘se-’ (‘without’) leaves its root, the Latin word ‘*cura*’, which means ‘care’ or ‘worry’. Security translates literally to a state of ‘freedom from worry’ or ‘carelessness’ (Folkers and Langenohl, 2020: 1) unveiling how the negative conceptualisation of security is indeed rooted within the word itself. Drawing on historical entanglement with gendered reproductive work (Tronto and Fisher, 1990), the notion of care has for a long time been the focus of feminist debates and discussion. While we follow Marxist critiques by scholars like Silvia Federici (2019) that pointed out that the capitalist separation between productive and reproductive work has led to the devaluation of care and its practices, we emphasise an understanding of care as a transformative framework and a starting point for feminist inquiries and interventions. Here, we draw on works by science and technology scholar Maria Puig de la Bellacasa (2017) who has argued for an ethos of care that challenges traditional notions of ethics and knowledge. Engaging with a broad notion of care by Joan Tronto and Beatrice Fisher (1990: 40), we understand care as ‘everything that we do to maintain, continue and repair “our world” so that we can live in it as well as possible. That world includes our bodies, ourselves, and our environment, all that we seek to interweave in a complex, life sustaining web’ (Tronto and Fisher, 1990: 40).

Bellacasa highlights the importance of going beyond anthropocentric perspectives in acknowledging the interconnectedness of humans with non-human entities and the environment. This leads to an understanding of care that involves recognising relationships, emotions, and technologies as fundamental to the ways in which we perceive the world. In this context, care becomes more than just an ethical approach to doing something, instead evolving into a transformative way of existence (de la Bellacasa, 2011: 100). Directing attention towards a

¹⁴ A similar argument which has been productively applied to digital practices can be found in the feminist principle of consent (Peña and Varon, 2019). Giving and asking for consent reverses the assumption of having to decline seemingly ‘normal’ interactions or sexual practice – an assumption that is based on a negative notion of security – into a shared responsibility to express agreement to engage with each other on our own terms.

technopolitical interpretation of care that critiques the prevalence of technoscientific rationality and advocates for an embodied and context-sensitive approach to knowledge (Lange and wessalowski, 2023) leads us to ask: How can notions of care support the process of reshaping the future of cybersecurity beyond its present framework?

Viewing security through the lens of care can highlight the need for protective care that goes beyond the dangerous idea of 'liberal forms of individualism' (Butler et al., 2016: 3) or the prioritisation of military protection of nations (Folkers and Langenohl, 2020: 3). This inherent fusion of security and care implies a spectrum of securing and safeguarding practices that diverge from the conventional state-centric or even individualist paradigms. However, it is crucial to acknowledge that the concept of 'caring security' does not promise a simplistic comprehension of security. Instead, it is an attempt to unveil pronounced dependencies and hierarchies (Folkers and Langenohl, 2020: 11). Therefore, our understanding of care is closely linked to what Butler calls 'aggressive nonviolence', meaning a condition 'that emerges amid conflict, one that takes hold in the force field of violence itself' (Butler, 2020: 40). Butler contends that nonviolence is not merely a reaction stemming from aggressive emotions such as anger or rage; rather, she conceptualises it as a practice that must be aggressively pursued (Butler, 2020: 21). In that sense, aggressive nonviolence' is not to be thought of as a contradiction, but rather as a starting point for action. This is the same stream of thought we follow within our critique of the dominant cybersecurity paradigm by acknowledging inevitable vulnerabilities.

The French philosopher Elsa Dorlin draws on a similar notion with her term 'dirty care', which refers to a caring practice of self-defence that people are forced to use as an instrument of resistance when violence is an inherent part of their everyday lives (Dorlin, 2022). Dorlin highlights that while feminist theory tends to characterise care as an ethical stance defined by compassion, love, and empathy, a different form of care arises from enduring violence. This 'dirty care' for others goes beyond nurturing—it is driven by the need to protect ourselves from potential harm. Within this notion of care as a practice of self-defence, Dorlin points out that only some selves are regarded as entitled to self-defence (Dorlin, 2022: 41ff.). Thus, her concept not only broadens the discussion by directing attention to the representation of essential social ties and the unequal ways in which the selves worth defending are articulated within a political field (Butler, 2020: 16), but it also leads us to reformulate our understanding of security, especially in the face of increasing violence and insecurities.

Additionally, the notion of 'dirty' care stands in contrast to the neoliberal appeal to resilience. According to Sarah Bracke, in periods of uncertainty within the liberal security paradigm, resilience emerges as an updated concept of security (Bracke, 2016: 57). The concept serves as a recalibration of security, aligning with conventional preventative and defensive measures but emphasising an understanding of security as 'minimizing impact and erasing traces' (57), fostering the ideal of 'preparedness' (63) in the face of precarious circumstances. Its core components, flexibility and elasticity (65), further draw on gendered dimensions and racial politics that cultivate the idea of a resilient subject as one 'who can absorb the impact of austerity measures and continue to be productive' (61).

In contrast to the prevailing neoliberal paradigm, this article advocates for an implementation of safety that negates the necessity for resilience, allowing one to embrace vulnerability as a strategic form of resistance (Butler et al., 2016). While resilience underscores the importance of individuals adapting to given situations, particularly in the context of violence and crisis, resistance emphasises the imperative to reject prevailing conditions and endeavour to transform situations, processes, and practices. This approach holds the promise of cultivating new forms of collective agency that not only acknowledge vulnerability as a valuable resource but also claim equality, freedom, and justice as their political objectives (Butler et al., 2016: 7).

In that sense, transposing the framework of care to the domain of cybersecurity challenges the prevalent antagonistic approaches that characterise the field. An ethos centred on care compels us to focus on the well-being and safety of individuals and communities and overcomes the exclusive focus on technical defence mechanisms. This shift requires a re-evaluation of security strategies to ensure they reflect human experiences and vulnerabilities. Hence, recognising vulnerabilities not as mere shortcomings but as integral aspects of co-existence can empower the cultivation of more compassionate and sustainable strategies for being safe online in the form of self-empowerment, collective agency, and protection (Butler et al., 2016: 2).

Following Sheila Jasanoff's 'sociotechnical imaginaries' framework and concept, technological advancements are shaped not only by scientific knowledge but also by societal visions of 'desirable futures' (Jasanoff, 2015: 13). These collective imaginaries influence policy decisions, regulatory frameworks, and ethical considerations surrounding technology. Drawing inspiration from the comprehensive efforts of Brazilian activists, we aim to approach cybersecurity through the lens of 'digital care' (Amarela and Foz, 2022; Zakharova and Jarke, 2024). This approach seeks to overhaul the militarised and capitalist narratives and methodologies inherent in traditional notions of negative security and reframe them within the context of safety nurtured through digital care. Thus, at the core of our technofeminist critique of cybersecurity lies an ethics of care, which accentuates interconnectedness as relationality, empathy, and the (responsible) ethical obligations within more-than-technical relationships. A care-centred feminist critique of cybersecurity redefines and broadens the prevalent concept of cybersecurity by

challenging its biases and mechanisms of exclusion, thereby transcending its limitations. By combining care ethics and intersectional viewpoints, we can progress towards a cybersecurity paradigm that prioritises relational as well as holistic approaches to safety, rather than advocating for the predominant, anti-social vision of security as 'carelessness' to be achieved by technical fixes.

CONCLUSION

There is a compelling need for a paradigm shift in the academic and political discourse on cybersecurity. This shift involves transforming the prevailing negative and paranoid perception of cybersecurity as 'freedom from threat', which is tied to the epistemological act of 'othering', and its entanglement in the gendered and intersectional production of cyber-insecurities. Drawing on different strands of (techno)feminist critique, we argued that liberal concepts of cybersecurity based on an individualised idea of society and rooted in the discourse around national security ultimately fail to provide safety, especially for women and trans and non-binary people in online-offline environments. The collective work towards technofeminist imaginaries must instead be based upon an analysis of the causes of gendered cyber-insecurities. It must also consider both targeted violence online as well as technopolitical dependencies in the extension of the (physical) domination over women and non-binary and trans people under patriarchy, which today manifests within the centralised and commercialised internet.

While acknowledging the fight against further precarisation and the work of making cybersecurity practices more accessible, we have further explored technofeminist imaginaries based on positive conceptualisations of security and the feminist notions of care and vulnerability. These are rooted in the recognition of vulnerabilities as a precondition for more-than-human connectivity. It emphasises the essential role of an empowered subject who knows about the unequal power dynamics that emerge from within current digital environments. A careful approach to being safe online must be paired with strategies and competencies concerning not only the care and protection of one's machines, data, and infrastructures but also the care and protection of others navigating the technosocial spaces of the digital technologies we engage with.

Nevertheless, imaginaries exist within online-offline environments that cultivate safer spaces where women and trans and non-binary people share experiences, gain knowledge about (in)securities, and learn about practices of digital care. In this context, the distinctiveness of technofeminist imaginaries of digital care is obvious. Its visions are grounded in an alternative concept of security—one that strives for collaborative practices and empowerment rather than individualistic defence-oriented strategies based on liberal cybersecurity concepts. Consequently, technofeminist imaginaries based on care not only introduce alternative perspectives on user identities and diverse methods of securing oneself, others, technologies, and various forms of techno-human connection, but they also embody a set of different norms that underpin these visions. Following the trace of these norms can pave the way towards more just and safer futures. This journey toward safety departs from prevailing paradigms of cybersecurity and embraces alternative conceptions of vulnerability, care, and technosocial connections that resonate with the ideas and critical thought of technofeminism.

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A Manifesto for Yugofuturism: Maska's Tools and Strategies for Imagining Possible (Feminist) Futures Inspired by Regional Pasts

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ABSTRACT

The article analytically synthesises the growing archive of insights from artists and writers gathered around the non-governmental organisation Maska, a performing arts production and publishing house from Slovenia, on the newly coined concept and movement called Yugofuturism. Five aspects of Yugofuturism are determined and unpacked. First, Yugofuturism is positioned historically, geographically and through a generational, post-Yugoslav perspective. It is further examined in its relation to the historical *avant-gardes*. As its inspiration came from Hungarofuturism and Afrofuturism, it is then compared to these movements. Similarly to other neofuturist movements, especially Afrofuturism, it strives to affirm its own voice and thus creating a possible future in a space where there is allegedly none. Yugofuturism is also examined in its complex relation to feminisms, and finally pinpointed as a techno-imaginary, a creative shaping of a future that takes into consideration how technology (in this case the tools developed by the site yufu.kompot.si) is reshaping the world. Yugofuturism is thus outlined as a creative strategy that employs past potentialities as well as fictions to construct a future world – one where we have learned to use failure strategically, to better resolve upcoming adversities.

Keywords: Yugofuturism, neofuturism, affirmation of failure, future strategies, periphery

INTRODUCTION

While post-communist, post-socialist and post-Yugoslav discourses merely reinforce the appearance of an unchanging and unstable present with a more or less accurate expression of the situation, Yugofuturism follows the example of other ethnofuturist movements such as Afrofuturism, Sinofuturism, Baltic Ethnofuturism and Hungarofuturism, which tactically empower peripheral identities and subversively affirm individual cultural curiosities.

This is the way the Maska Institute's 'YUFU' conference in 2021 was announced on the 24th Biennale of Graphic Arts 'Iskra Delta' organised in Ljubljana. Maska institute is a Slovenian nongovernmental organisation, known for its engagement in groundbreaking contemporary performing arts production, publishing, education, research and activism since 1993. It is based on an even older journal for contemporary performing arts *Maska* (first published in 1920 and regularly since 1985), of which I am currently the editor-in-chief. The conference was Maska Institute's second but essential take on posing the question of what Yugofuturism (Yufu or YUFU in the context of conferences) might mean, preceded and followed by many more (Table 1). These events never sought to establish a single definition of this newly¹ coined term but were conceived to foster mutual critical research into the manifold meanings and potentials that Yugofuturism evokes.

The term Yugofuturism was suggested by the new editorial (Rok Bozovičar and I) and directing (Alja Lobnik) team at the Slovenian-based Maska Institute; this team was at the time succeeding the 22-year long legacy of Emil Hrvatin (Janez Janša)'s artistic directorship that took place in 2021. In the early 2020s, suggesting to discuss 'Yugofuturism', a term bearing a complex but clear reference to a left-behind past of the Yugoslav failed state

¹ We have detected a journal created by the homeless, *Licenlive*, titled 'Yugofuturism' (2016), as well as the site www.yugofuturism.eu, which promotes concerts of bands from the Balkan region throughout Europe. At the inauguration of the New Yugoslav Studies association at the annual convention of the Association for Slavic, East European and Eurasian Studies (ASEEES) 2023, Dijana Jelača (2023) introduced Yugofuturism to the academic setting.

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Table 1. Table of major Maska Institute's Yugofuturism events between 2020 and 2024

Event name	Date	Web site
Conference 'Precarity or Self-management?' at the Old Power Station Ljubljana	8 September 2020	https://maska.si/en/project/precarity-or-self-management/
Issue of <i>Maska</i> 200cc: Yugofuturism	Winter 2020	https://maska.si/en/journal/jugofuturizem/
Conference YUFU on the 34 th Biennale of Graphic Arts 'Iskra Delta'	19 November 2021	https://bienale.si/en/event/yufu-conference/
Issue of <i>Maska</i> 209-210: YUFU 2.0	Fall 2022	https://maska.si/en/journal/jufu-2
Conference 'Swish of the Tracksuits of the Future', Belgrade BITEF festival	30 September 2022	https://maska.si/en/seminar/the-swish-of-the-tracksuits-of-the-future/
YUFU event at New Post Office Ljubljana	11 to 15 October 2022	https://mladinsko.com/sl/novice/338/poseben-programski-sklop-yufu-na-novi-posti/
YUFU cycle at the Old Power Station Ljubljana	24 to 27 January 2024	https://maska.si/en/project/yufu-cycle/

which ended in tragic wars, was a move beyond what seemed to be conceptually imaginable in the forward-looking, 'progressive'² environment characteristic of the (post-)socialist cultural scenes in those South-Eastern-European states that once belonged to the Socialist Federative Republic of Yugoslavia. At the same time, the term came about as the result of the general feeling of dissatisfaction and absence of future prospects (in this space). Palpable among the young(ish) people from this post-socialist part of the Balkan region who were raised and received their primary and secondary education in the 1990s, this feeling was detected (and shared) by the Maska team while working with cultural workers from the region. Here, the sentiment does not only reflect the omnipresent 'long dark night' of neoliberal capitalist realism spoken about by Mark Fisher (Fisher, 2009: 80), who pessimistically suggests there is no alternative to capitalism. In this region, this conclusion is also, and perhaps especially based on the peripheral economic or/and political realities of the various national states.

Thus, thinking Yugofuturism is not transgenerational, but largely marked by a distinctly generational pessimism; nor is Yugofuturism marked by a sense of nostalgia for the socialist past. We, the developers of Yugofuturism, do not have a conscious firsthand experience of living in the Socialist Federative Republic of Yugoslavia (1963–1991), where, from our current perspective, people may have lacked *things*, but not a sense of the *future* as the ever-potential communist ideal, which they were building together. The future has since been eliminated, the mythological temporalisation (Berardi Bifo, 2011: 18–19) of progression is gone for good, and dystopian endings of history are not only possible, but likely and calculable. This results in a generationally and regionally underlined cynicism, depression, and despair.

However, as I will argue further, proposing Yugofuturism does not have to do with feeling nostalgic for a country or a political regime. Rather, Yugofuturism engages the nostalgia for the feeling of having a (worthy) future as a pleasurable affect that activates, rather than passivises. Accordingly, conceptualising Yugofuturism is a communal project, which involves practicing 'pleasure activism' (Brown, 2019) by imagining those unlikely and even impossible futures that are present as fictions or potentialities found in the collective consciousness. And if 'what you pay attention to, grows' and 'we become what we practice' (Brown, 2019: 12) it does not matter if something like this ever before existed or not. It is a theoretical and artistic 'youth work action'³, where the action itself may alone be the aim or what is to be built. This article offers a reflection on the first five years of conceptualising Yugofuturism and outlines its contours and limits by drawing on the numerous and diverse contributions to the discussions that have been accumulated by the Maska Institute and *Maska* journal. The aim of the article is to consider the affordances of Yugofuturism as a techno-imaginary. By this term I understand processes of shaping a future by means of technology, as well as future visions that take into consideration how technology is reshaping the world.

METHODOLOGY AND STRUCTURE

In this article, I re-examine and summarise the first important steps taken by the co-creators of the Yugofuturism (Yufu) as a term, concept and movement at the Maska Insitute to outline what it currently presents.

² The 1990s' art scene in Slovenia was born out of 1980s' subcultural critique of state-socialism; in the 1990s, the art scene played a crucial role as a beacon of change in the so-called democratisation processes of the transitional era. Its 'progressiveness' is thus meant literally, as a forward-looking practice, critical of the past state.

³ Youth work brigades were voluntary working groups active the former Socialist Federal Republic of Yugoslavia especially in the immediate post-World War II period. The groups carried out physical labour of public importance, and the activities were also politically significant, as recruitment into socialism. One of their outcomes was the Šabac-Sarajevo railroad, built in only seven months. See also the utopian project of the Pioneer Railroad (Pionirska progā).

To this end, I analytically explore the emergent archive of Yugofuturist sources. These comprise texts written on the topic, mainly in the *Maska* 'YUFU 2.0' journal edition, a compendium of 13 literary and theoretic contributions; conference contributions presented at the 'YUFU' event at the Ljubljana Biennale of Graphic Arts (2021, seven speakers) and the 'Swish of the Tracksuits of the Future' conference at the Bitef festival (2022, four speakers), along with other, artistic events that took place at both YUFU events in 2022 and 2024 in Ljubljana. Furthermore, I present and reflect on another important source – an experimental under-construction internet site developed by the Kompot IT collective, featuring the permanently evolving Yugofuturist Manifesto. I unpack it as a possible techno-imaginary for the further development of Yugofuturism as a movement.

To unpack and conceptualise Yugofuturism, I elaborate on its five dimensions in the following chapter. I first frame the term historically and geographically as well as position it as a post-Yugoslav development marked by a strong generational perspective. Next, I contextualise Yugofuturism in its relation to the historical *avant-gardes* with an emphasis on the ones that were active in the region of the Balkan peninsula. I proceed to focus on recent neofuturisms, such as Afrofuturism and Hungarofuturism, to outline how these contemporaries to Yugofuturism differ from the historical *avant-gardes*, and to emphasise Yugofuturism's specificities and differences from these movements. I then zoom in on Yugofuturism's crucial but complex feminist dimension; finally, I conclude by outlining the technological parameters of the project as an evolving manifesto.

UNPACKING AND CONCEPTUALISING YUGOFUTURISM

Thinking About the Future in the Post-Yugoslav Context

I am turning to the past and am not outlining a vector that would derive from the young national state I come from, the Republic of Slovenia, independent since 1991, for a reason. A nation-state embracing neoliberal capitalist ideology common to modern Western democracies, but in a 'peripheral' format (Bohle and Greskovits, 2012), the Slovenian state has little agency to help carve out an alternative to extractivist neocolonial consumerist capitalism (Podvršič, 2018). In contrast, the Socialist Federative Republic (SFR) Yugoslavia (SFRY) was organised as a socialist regime where democracy was to be implemented through self-management, and as a federal constitution of multiethnic republics (the Republics of Bosnia and Herzegovina, Croatia, Macedonia, Montenegro, Slovenia, and Serbia, which included two Socialist Autonomous Provinces, Vojvodina and Kosovo). After the Second World War (WWII), this state was ideologically grounded in antifascism. Yugoslavia was not a straightforward project but had different simultaneous temporalities, some of which the imaginary of Yugofuturism can still draw on today, while others can more easily be forgotten. Some of the former are: declared equality of all people in terms of classes, genders, generations and nations (comradeship), peaceful global coexistence (initiation of the Non-Aligned Movement in 1961 eschewing the East-West polarisation), and a politics of strengthening cultural, instead of ethno-religious identities. It was by no means peripheral as are most of its independent successor-states are today, in relation to the EU (Majstorović, 2021).

Though the majoritarian and dominant language was Serbo-Croatian, SFR Yugoslavia exercised a polycentric model of linguistic unity that strived for equal representation of the languages of the peoples (Serbo-Croatian, Macedonian and Slovenian), ethnicities (ethnic minorities) and ethnic groups, as well as both scripts (Latin and Cyrillic), which means that publications and radio and television programmes in minority languages were encouraged. This Socialist post-WWII state was quite unique to the European Eastern Bloc, especially after the so-called 1948 'Informbiro split', when the president of SFRY Josip Broz – Tito distanced Yugoslavia from the USSR and gained a certain degree of autonomy from it. It was in SFR Yugoslavia that 'our society ceased to be peasant and traditional and became urban and (post)industrial', as sociologist Aleksej Kišjuhas (2021) states, with great effect on peoples' everyday lives, and their rights and liberties. The socialist Yugoslavia was, at least in these aspects, a futurist incarnation in the making, imagined by the (regional) historic *avant-garde*, with only small adjustments to be made in the infinite future. Until this future ceased abruptly.

The wars in the 1990s that accompanied Yugoslavia's dissolution followed a period of political and economic crisis after Tito's death in 1980 (Velikonja, 2021: 10–11), when surges for independence on the one hand, and ethnic conflicts and nationalism on the other ended the multiethnic ideal of brotherhood and unity with a lot of bloodshed, leaving many countries wrecked, with millions in exile (Popović, 2021: 44). The generations born after the nineties were raised in new nation-states, in an increasingly nationalistic and revisionist atmosphere. These times were often (as is doubtlessly the case for Slovenia) marked by xenophobia to other nations from the region. In self-colonising ways (Kiossev, 1995), the new states strived to prove their legitimacy by acting as a democratic, Western-like countries, while always failing slightly, or declining into authoritarianism and corruption completely. This post-war and post-Yugoslav generation is therefore marked both by its parents' generation's war trauma and by strangely positive memories of the socialist Yugoslavia – a now non-existent state –, passed on by their older relatives. But this is also the first 'global generation' of digital natives, in many cases more fluent in English than

the common language of the past, who did not necessarily look for community with people from the region, for there was not a future reserved for them there.

Can anything about the present idea of Yugoslavia offer the starting point for Yugofuturism – perhaps a specific experience, a feeling, or an identity? In the *Maska* 'YUFU 2.0' edition, voice was given mostly to a generation that did not experience Yugoslavia fully, and whose position towards the idealisation of this state is very sceptical.

Accordingly, Asja Bakić, a prolific novelist from Bosnia based in Croatia, and author of one of the articles in the 'YUFU 2.0' edition, is convinced that 'A futurism that forces us to think only about the past, to constantly question it, moves us closer to conservative values' (Bakić, 2022: 15). At the same time, she does write affirmatively about a certain moment before the dissolution of the Women Antifascist Front (AFŽ), a Yugoslav feminist and anti-fascist mass organisation (1942–1953), when the new socialist country was still connected to *avant-garde* artistic movements through figures like Koča Popović – surrealist poet, partisan, and, later, a political functionary. Apart from this short period in Yugoslav history, when it was possible to think about the (communist ideal) future as something impossibly amazing, she proclaims, there was no ideal time in Yugoslavia. She pessimistically adds that it was always 'a sexist and racist society' (Bakić, 2022: 15).

Muanis Sinanović's⁴ literary autofiction 'Ten images of Yugofuturism' is also sceptical and pessimistic about the potential of a movement derived from a sentimental appreciation of the former Yugoslavia, arguing that the nationalism that resulted in its bloody demise was always inherent to it. Yugofuturism is only possible, he states, 'beyond itself (...) provided that it completely abandons the idea of a new Yugoslavia' (Sinanović, 2022: 27). His is a typical non-nostalgic generational scepticism based on the assumption that seeds of the massacre of the nineties must have been present for a long time, under the ideological surface of multiethnicity, self-management and equality. As Bakić and Sinanović argue, there has always simultaneously existed more than one Yugoslavia, a more or less lived out ideal to the point where the ideal of brotherhood and equality was in direct contrast to the living conditions.

But perhaps we needn't search for a flawless utopia, either by acting it out through some kind of moral superiority in the present or archeologically digging it up from a past where it supposedly acted as an island amidst the dystopian reality. As An Fazekaš points out in her experimental writing, 'it would be more appropriate to refocus our futurist thinking towards an affirmation of the negatives: failure, ignorance, powerlessness, misunderstanding, and misrecognition; resignation, defeat, and oblivion' (Fazekaš, 2022: 141), in a part of the world that has given the name to the shattering of a region to small hostile parts (Todorova, 1997: 34). Instead of regaining hope, which is just 'a perpetually shattering past promise of a future that will never come' (Fazekaš, 2022: 141), we should reach beyond it. For Fazekaš, Yugofuturism is not a desperate try to find hope again but entails acknowledging hope as hopeless and obtaining pleasure exactly from the affirmation of this 'always late to the party' (Fazekaš, 2022: 141) peripheral position.

Can the *negative* and its affirmation present a possible strategy of this locally specific neofuturism? Alexandar Kiossev's metaphor of *self-colonisation* is a productive starting point for answering this question. The reception of the Balkans from the position of the West as well as self-assessment of the living conditions from the people from the region today is mostly negative. The only but significant exception from recent history is the socialist Yugoslavia, when a part of the region enjoyed a certain level of stability, and autonomy. Before that period, and especially after Yugoslavia's dissolution, the Balkans as a region in proximity to the West as the centre of economic and symbolic power – although never truly colonised – were culturally and economically in a lateral position from which they had to 'recognize self-evidently foreign cultural supremacy and voluntarily absorb the basic values and categories of colonial Europe' (Kiossev, 1995). Kiossev claims that even the very ideology of nation building comes from the adaptation of Western values and is therefore, though seemingly an attempt at sovereignty, an act of self-colonisation. Even though he refers to the society of the 18th and 19th centuries, the Western Balkans in the 21st century are, again, viewed as lagging behind in terms of Western democratic values. Moreover, many countries in this region have been in the process of EU accession negotiation for a decade, without a result. But is it at all possible to lag without a feeling of worthlessness? I believe it is necessary to reconsider the orientation of the back and front altogether.

Maybe, to acclaim *loserhood* is to stop competing in a race that had been decided in the beginning by the West as the centre of power, and to recognise that this very situation of being perceived as perpetually 'lagging' gives us a certain knowledge that we can turn in our own favour. It is possible to strategically use these experiences as a vantage point in another 'race', or rather another direction, that does not promote growth and competition and moral supremacy and diligence, where the rules will not anymore be set by an unquestioned authority. In my opinion, and we will explore this later, establishing a Yugofuturism that includes the alienated younger generations, means that we can no longer draw solely on the feeling of our past country's autonomy, credibility and sovereignty towards its outside that may have existed in a period of time (parallel to other temporalities of Yugoslavia

⁴ Sinanović is a second-generation descendant of Bosnian immigrants to Slovenia. Due to these circumstances, his position to Yugofuturism is at the same time situated and distanced.

experienced by many marginal identities, such as Albanian people, queer people, etc.). Even though this potentiality of autonomy and sovereignty that is more a dream than a memory to the post-transitional generation can bring a sense of hope in a hopeless place (Petrović, 2019: 131–134), we can no longer rely on it. Instead, we must embrace the scepticism and pessimism as well as the feeling of loserhood that derive from experiencing the present situation and subvert it in a way that will make for an honest Yugofuturism that the transitional generation can relate to. If it doesn't, the bond with the past will permanently break. Embracing loserhood is also a point that aligns Yugofuturism with other contemporary neofuturisms, as I will demonstrate below.

Yugofuturism Between the Historical *Avant-Gardes* and Contemporary (Neo)Futurisms

Long seen as an episode of the early 20th century, futurist movements have become in vogue again over the past several decades. The origin of futurism is commonly located in early 20th century artistic *avant-gardes*, and a fascination with the speed and dynamism of modernised industrial society embraced by artists in Italy and in Russia a little later. The affirmation of industrial society was seen as a suitable vision of the future against the backward, 'snobbish' bourgeois art and culture of the time (Perloff, 2003: xxi). Various manifestoes were written during that time, Filippo Tommaso Marinetti's futurist manifesto from 1909 being the most well-known among them. The Italian futurists had infamously allied with fascism, which promised the technological and socio-political modernisation of the country, then a relatively backward and suppressed nation (Conversi, 2009: 94). In contrast, the cubofuturists in Russia sympathised with the political project of communism, which was their vision of the prosperous and dynamic future to come.

Simultaneously, *avant-garde* movements also appeared in South-Eastern Europe, speculating about the potentialities held by the future for the people in the region of the Balkan peninsula. For example, Zenithism, conceived by Ljubomir Micić in early 1920s, was a 'synthesis of movements, such as futurism, expressionism and dadaism' (Pranjić, 2020: 142), which was critical of the decadent West, blamed for the First World War. Zenithism's founder Ljubomir Micić coined the term *Barbarogenij* (Barbarogenius) – a radical autostereotypisation believed to have a strong, though pacifist artistic power to overthrow hierarchy that favoured the bourgeois Europe values and marginalised the 'barbarism' of the Balkan region. This was the time after the first world war, when political powers were setting anew and the *avant-garde* figure of '*barbarogenij*' was one such identity figure of a new hero that could retreat from the 'dying Europe' (Vrečko, 2012: 267) with authenticity and strength of the marginalised peoples. Though later with the novel *Barbarogenije decivilizator*, Micić became bound to the nationalist idea that prioritised a single Serbian nation, initially, Zenithism was a pan-Slavic, internationalist *avant-garde* movement, which explicitly stood against Marinetti's 'unhumanly and generally mechanic futurism' (Pranjić, 2020: 146) and acclaimed 'generally human and barbarian' (Pranjić, 2020: 146) values, where barbarity was seen as a trait that could save the decadent Western civilisation by decivilising or balkanising it. Due to its regional focus and interrogation of the centre: periphery distinction, Zenithism can be seen as an avant-gardist proto-Yugofuturism (Pranjić, 2020; Dović, 2021; Bošković, 2022).

The future-oriented paradigms that have emerged on the brink of the 21st century, also known as (neo)futurisms, do not necessarily praise speed and technology, reflecting the fact that modernity has not succeeded in solving all of humanity's problems, and has brought about further crises, such as ecological unsustainability (Latour, 1991). Rather, contemporary futurists tend to use techno-imaginaries and related future scenarios to imagine parallel, often extraterrestrial future worlds. Here, for instance in Octavia E. Butler's science fiction opus, life is made possible for those communities that are presently experiencing biases and antagonisms that they feel should not be perpetuated any longer. Neofuturist scenarios are heavily invested in experiments of building alternative societies or accelerating existing ones to the dystopian extreme.

Neofuturisms mostly derive from minoritarian, non-mainstream contexts, not from the centres of power. These peripheral positions are concerned, as is Afrofuturism for Kodwo Eshun, 'with the possibilities of intervention within the dimension of the predictive, the projected, the proleptic, the envisioned, the anticipatory and the future conditional' (Eshun, 2003: 293). In other words, these specific situated positions do not endorse the projections of doom that are made about their futures by the majority's reign, so they construct their own improbable ones as a way to exercise collective agency, or they subversively exaggerate the implications of a present to the absurd so that these projections become alien.⁵

Neofuturisms mostly claim to be open and inclusive, but still, they seem to derive from specific and situated experience of alienness (racialisation, Orientalism, easternisation, Balkanisation, homo- or trans-phobia, misogyny, xenophobia, etc.) one can or cannot relate to (Kreuger, 2017). They cannot work through all these different experiences simultaneously except by appropriating them. Due to these limitations of the present imagination, I think it is important to articulate a specific kind of alienness for the people living in the successor states of the former SFRY so to better, from a situated position, imagine common, (improbable) futures.

⁵ As in Hungarofuturism, explained below.

Neofuturisms as Peripheral Visions of Possible Futures

Of all neofuturisms – futurist articulations that have succeeded the historical *avant-gardes* – Afrofuturism possibly has the longest history, reaching back to the writings of W. E. B. du Bois already in the beginning of the 20th century, making it contemporary to the historical European futurisms, but with a unique cultural context of re-examining the proclaimed ‘backwardness’ of communities, which has somehow defined all the contemporary neofuturisms. The term Afrofuturism was first coined in 1994 by Mark Dery in a collection of interviews and essays by various authors titled *Flame Wars*. Tasha L. Womack writes that Afrofuturism is ‘an intersection of imagination, technology, the future and liberation’ in which ‘Afrofuturists redefine culture and notions of blackness for today and the future’ by combining ‘elements of science fiction, historical fiction, speculative fiction, fantasy, Afrocentricity, and magic realism with non-Western beliefs’ (Womack, 2013: 9). There is a terminological question about the naming of the movement, as it implies African situatedness (which is often described as Africana Futurism) or African descendancy, but not necessarily the racial aspect, which the term Black Futurism captures better. The latter is however not by definition connected to the specific and ‘actual historic or socioeconomic situations’ (Scott, 2021: 146), connected to Africa. Afrofuturism’s specificities according to Eshun lie in creating ‘temporal complications and anachronistic episodes that disturb the linear time of progress, these futurisms adjust the temporal logics that condemned black subjects to prehistory’ (Eshun, 2003: 297).

In the beginning of the millennium, an upgraded concept of Afrofuturism 2.0. was suggested that expanded the historical debates about social responsibility, radical politics, and black artistic production to an ‘understanding of blackness’s multi-dimensionality, the good and the bad, the respectable and the undesirable’ (Anderson, 216: 232). Or, as Kodwo Eshun articulates it, ‘Afrofuturism is by no means naively celebratory’ (Eshun, 2003: 297). This is what we can see for example in the literature of Octavia E. Butler’s ambivalent multiracial and multispecies dystopias. Afrodiasporic authors have experiential access to estrangement and the feeling of alienness through which they developed a ‘tool-kit’ for either utopian or critical parallel worldbuilding, which has for long been after ‘the imperative to code, adopt, translate, misread, rework, and revision’ (Eshun, 2003: 301). It is either of these strategies that many of the other neofuturist movements of the late 20th and 21st Century have been adapting.

Following Afrofuturism, there has been a recent global surge in artistic projects and experiments engaging with different minoritarian neofuturist formations that have proposed different techno-imaginaries in forms of manifestos or curatorial topics⁶, as spontaneous ideas, movements or curated framings of existing practices, each of these projects is unique in terms of ideas and forms. In this respect, and attentive to the echoes of Afrofuturism, I would like to examine Yugofuturism in comparison to one of its neighbourhood cousin movements, namely Hungarofuturism – a movement that had significantly impacted the formation of Yugofuturism at Maska Institute. Its creators from *Technologie und das Unheimliche*⁷ claim that ‘Hungarofuturism (HUF) is a Laibach-style occupation and manipulation of the nationalist ideological code. The geopolitical mythology of Hungarian national exceptionalism is not enough for HUF, which expands the narrative of Hungarianness into the cosmic reaches of outer space’ (Miklósvölgyi and Nemes, 2021: 155).

Overidentifying⁸ with the absurdities of nationalism, Hungarofuturism enables a cynical distance, establishing ‘an alternative way of being Hungarian through discovering post-Hungarianness’ (Harrison, 2020). Hungarofuturism is thus a movement that creatively and through subversive affirmation searches for a futurist escape from a suffocating present that flattens down Hungarian identity to absurd nationalist state policies. In contrast, Yugofuturism has a double starting point – not only in the suffocating peripheral present of its current national states, but also in an actual, highly potent multinational past, which can additionally fuel a possibility of a future and relativise a present with means that supersede mere cynicism. Neofuturisms are thus like viruses that infect and alter – if not utterly destroy or severely question – who we are. Their recognition means detecting something foreign, alien in us and subversively using it for purposes of future world-building. It is an agency through which a certain generation that has become detached from its past, its situatedness, or its identity, can find means and strength to construct its own desirable futures that otherwise seem to be doomed.

Yugofuturism’s adaptation and reworking of these ideas is manifold. We cannot speak of a racial grounding in relation to Yugofuturism. Though multiethnic, the population of the Balkan peninsula is predominantly white, or at least almost white, as its peripherality has allegedly marked its people as white, but ‘not quite white’ (Baker, 2018:

⁶ See for example: Islamofuturism, Buslim futurism, Bosnian futurism, ethno-futurism, Sinofuturism, etc. An interesting case of Albanofuturism, a term suggested by Mladen Zobec, an explorer of the economic migrations of Albanian people throughout the former Yugoslavia (Zobec, 2021) was presented at the Conference YUFU. The Albanian ethnic community, though rather large in proportion, was never treated equally, it was inferior to those that had its federative sovereignty in the anyhow Belgrade-centric former Yugoslavia and was with its language, culture, religion, and economic models an alien factor in the former State. This could bring a distinctive perspective to the debate on Yugofuturism.

⁷ *Technologie und das Unheimliche* (TU) is the movement and site of the projects, connected to Hungarofuturism.

⁸ Overidentification is a performative artistic tactic of engaging in excessive or inappropriate identification with ‘the enemy’ in order to subvert it. It was for example promoted by the Slovene art collective IRWIN and music group Laibach.

80). As the region is not a final location for recent migrant waves, it has stayed white(ish) (Migrant Mobility Situation Report, 2025). At the same time, the historically and economically peripheral region of the Balkans, has, throughout its pre socialist history, consisted of peasant bits of (the Austro-Hungarian and the Ottoman) Empires. Although it never consisted of slave colonies, its inhabitants were never colonisers themselves. The post-WWII war devastations have created sizeable migrant diasporas from the region across the Western world. This has increased during the Yugoslav wars in the nineties. Migrants to the West and even to other former Yugoslav countries have doubtlessly experienced alienness (being foreign, a minority), especially when the refugee discourse is increasingly becoming infected by its far-right interpretation not as a humanitarian problem but a security threat (Krasteva, 2021: 190–191). Additionally, the manifold cultures of the former Yugoslavia that had coexisted under the same umbrella State can be compared to the many African cultures and ethnicities that are treated as a formless unity of otherness by the western coloniser's gaze, which was thematised by authors such as Franz Fanon (Fanon, 1986).

The past Yugoslav ideology of brotherhood and unity may be inspiring, but it is the brother-slaining war and fragmentation into nation-states that reminds us of the fragility of these ideas that quickly delineate who belongs to a community and who does not. This problem of potential exclusivity also applies to all the mentioned futurist movements that are so strongly rooted in situatedness and identity. It is often understood that only a certain community can access the subculture or movement; that, for example, Afrofuturism belongs only to the members of the African (American) community. Its important aspect surely is that it derives from the 'norms, cultures, and values of the community', but it mostly promotes an invitation and 'involves participants from all races and ethnic identities' (Sinha, 2023: 477) exactly by showing how we can all start speaking and acting in our own names.

But who are we? I believe that boundaries of whom movements belong to must be questioned again and again. The aim of one of the Yugofuturism events (Conference YUFU at the 34th Biennale of Graphic Arts Iskra Delta) was to expand the notion of Yugofuturism as connected solely to the borders of the former country by inviting a participant from the UK and later also one from Bulgaria. The latter is a country that was never part of Yugoslavia, though we could see it as culturally overlapping with it in many aspects. What is more, '*jug*' means 'south' in Slavic languages, so Yugofuturism could be understood as *Southern Futurism* or even *Global South Futurism*⁹. Like Afrofuturism, Yugofuturism tries to gather and reinforce collective agency for an (ecstatic) movement, even though it can have a dark twist as there are few real and visible material grounds for its existence left. Or we could argue that exactly this emptiness, loss and failure are the only real material grounds that can define the Yugofuturism's position in the present. As An Fazekas argues, it is this lagging behind and the overwhelming feeling of hopelessness that we should not necessarily dismiss, as it is what defines us. By accepting it and moving on, we can find an outline of the key to Yugofuturism for a new generation. Maybe it is the ecstasy of the feeling that we finally affirm and embrace that we are *losers* and decline from shamefully hiding it that is the true scope of a subversive affirmation that we could ascribe to a certain generation's contribution to this movement. It can be an important moment in reassessing the direction and the rules of the game that is shaping our futures.

Feminism as a Non-Cynical Cornerstone of Yugofuturism

The former socialist Yugoslavia's socialist ideals aimed at establishing an environment of equality for all, where there would be no discrimination. The working peoples' labour was to bring about economic development that the people would all be able to benefit from according to self-management principles. Socialist self-management was a social and economic model formulated by the Communist party of Yugoslavia in 1950, its goal to move the managing of companies into the hands of workers. In the Slovene partisan and postwar socialist politician Vida Tomšič's words, 'ending any form of discrimination, one's own work and responsibility for one's own and societal issues become the ground stone of the new ethics, the new socialist morality' (Tomšič, 1980: 143). Exclusive organising amongst women was seen as (self)segregation that would give women the false impression that they must find the solutions to the inequality of their position by themselves, so it was not encouraged. But Tomšič explicitly stated that emancipation could only be reached if all people were free, so women's emancipation was seen as crucial to the development of society (Tomšič, 1980: 61). Though the literacy and employment numbers among women rose constantly in Yugoslavia, they varied greatly from republic to republic or autonomous zone (Tomšič, 1980: 89–95). Moreover, due to women's traditional double burden of productive and reproductive labour, they did not reach equality and freedom.

⁹ In this respect, Yugofuturism can be seen as following a legacy of the Non-Aligned Movement (NAM) – an international organisation of countries that sought to remain independent or neutral during the Cold War. Founded in 1961 in Belgrade, Yugoslavia, by nations that did not want to formally align with either of the two major power blocs at the time, NAM's main goal was to preserve the sovereignty, territorial integrity, and independence of member states against the influence of the major world powers. NAM also aimed to advocate for issues like decolonisation, disarmament, and economic development for newly independent nations.

Yugoslav feminism's strong point was especially in society's joint efforts in the direction of equality for all, but even more so in women's self-organisation outside or inside other organised structures, which has enabled a tremendous push in tackling women's emancipation. No one is free until everybody is free. This means that men were expected to recognise women as equal, and women were expected to treat all classes of women as such.

Yugoslavia had its history of won feminist struggles. For one, women won their right to suffrage already in 1945, before many women from the Western European countries Women's equality with men was written into the Yugoslav constitution in 1946. Fighting the high mortality of infants due to clandestine abortions, the legislation on abortion was liberalised already in 1952 and further on in 1977. These and many other efforts made many women's lives significantly better in just a couple of decades, especially when we speak about legal equality, but it has indeed not brought equality on all levels (Republic of Slovenia, 2024). The latter continues to be advocated for in the post-socialist as well as in the western world, ever more so with the rise of contemporary re-patriarchal tendencies since the (far) right parties have strengthened their position in Europe.

I believe that Yugofuturism can only be feminist, as it is what we make of it and if we are constructing a future, we want one that can bring about a plethora of feminist values and tools with which we can conquer inherent feelings of shame that come from peripheral, nonautonomous positions. For it is feminism(s) that have the most knowledge and experience in recognising and articulating structural (gender) inequalities and organising to fight with and against them in different ways.

And yet, in the context of futurism, it is an important historical lesson that the question concerning the oppression of women will not be solved by itself. No miraculous economical system or even technological innovation will by itself help prevent the suppression of people by gender if we do not intentionally programme it to do so. Economic reorganisation and technological innovations can be used against women, or they can work for their empowerment, depending on the agenda, as proclaimed by Shulamith Firestone. Sara Kember argues, that

futurism is inherently problematic, not so much in its tendency to make predictions that may or may not (usually not) prove accurate, but in its adherence to technology-driven visions that play out a limited dualism of utopias and dystopias, of secularised heavens and hells. (Kember, 2012)

But it is still important to pursue a feminist futurism as a need for alternatives today, she argues, when technology is ever more becoming surveillance while being sold as service. For as Katja Čičigoj and I argue in the article 'Sublimo in mondeno atomske bombe' (Sublime and Mundane of the Atomic Bomb), 'to imagine different futures does not mean to make all antagonisms disappear, but to invent feminist strategies to steer between them better' (Brezavšček and Čičigoj, 2023: 27).

Asja Bakić's pessimist remark that Yugofuturism (as an *avant-garde* movement, not the ambivalent neofuturism we are unpacking) was only possible until the dissolution of Women's Antifascist Front (AFŽ) is in complete opposition to the opinion shared by the older generation of socialist scholars. But this also means that the dialogue between the generations was disrupted and that the experience and references of both are very different. Feminist scholars, educated and active in Yugoslavia, such as Lilijana Burcar, are convinced that such an understanding of Yugoslav feminism is one-dimensional and revisionist, influenced by Western liberal feminism which is at most reformist, enabling women's rights and their entrance to the labour market only to the extent that they serve capitalism. According to Burcar, the Women's Antifascist Front as a separate organisation was dissolved due to the belief that such separatism meant 'ignoring the structural nature of the problem of sexual marginalisation, second class citizenship and exploitation of women' (Burcar, 2014: 59).

Indeed, despite systemic efforts conditioned by the ideologies of the time, chauvinism was not *de facto* eliminated in SFRY, as the anthropologist and feminist Svetlana Slapšak remembers, chauvinism was real. As she explains, there was, for example, no space for feminism in the revolutionary 1968 in Belgrade, the site of the first mass social justice protests after WWII in Yugoslavia, following the example of the student uprisings in France. Women were shut silent under arguments such as 'feminism was theoretically not serious enough', 'now was not the moment', and 'the past is solved, women have rights now' (Slapšak, 2011: 170). Nevertheless, there were elaborate and organised socialist feminist endeavours later in the late seventies and eighties that were without a doubt able to prove patronising American feminists who believed feminism was a Western invention, their fair point (Slapšak, 2011: 172). Today, however, the younger post-Yugoslav generation mostly reads the works of western feminists. This is because their own living experience is more easily aligned with these theories better, and due to the wide accessibility of these texts online. But responsibility for the scarcity of intergenerational bridges cannot be put solely on this generation's shoulders.

A kind of grief for the non-existent intergenerational regional comradeship transpires through the writing of contemporary Yugofuturism contributors. They feel they are left alone while they fight the same, still not won battles, as their predecessors. I believe this is also why this new generation's Yugofuturism is not an optimistic but a complex, affectively ambivalent movement.

At the same time, some authors rely on this very intergenerational bond, which often skips a generation and is handed on from grandmothers to granddaughters. The cultural studies scholar Natalija Majsova states in her case study of Marta Popivoda and Ana Vujanović's work that Yugofuturism can be detected in certain contemporary artistic practices that are not nostalgic or projecting a different future as such but are '*a form of action and an attempt to act for the future in the now*' (Majsova, 2022: 86), inspired by ordinary, but nonetheless revolutionary figures from our (intimate) pasts. Yugofuturism for her thus means to maintain a strong antifascist and antipatriarchal stance, paying respect to the values and rights fought out or continuously fought for by our grandmothers. It thus potentially exists in any present if we can keep embodying these timeless values. But as explained above, it is hard to maintain these bridges and keep these values embodied when intergenerational bonds are not self-evident.

Jasmina Šepetavc too believes that futurisms are embodied practices but finds cases of these practices in an unusual place and time, the 1980s *avant-garde* video scene in Ljubljana, Slovenia, especially in the work of the group Borghesia. More precisely, she speaks of Yugoslav queer futurism, which fought against 'bureaucratic Yugoslav society, its ideologies of the future, and its ideas of decency' (Šepetavc, 2022: 127) with the dancing, sweating, pleasurable queer bodies suspended in the now. She is not reading the practice as an apolitical escapism, but an embodied political practice running against the *chrononormativity*¹⁰ that was present in the former Yugoslavia and is still present today. It is a nonfamilial, queer kind of bond or kin that is passed on as an emancipatory strategy.

What is then a feminist vision of Yugofuturism and can it have the power to invent useful strategies? I believe that the connection to the concrete experience of our (not necessarily biological) female ancestors, who have gained certain knowledges connected to the rearticulation of the biases of their own situations also in connection to western feminism and the understanding of their struggles and joys connected to it, can help us understand what we never want to abandon and what we ought to fight against. It can help us learn from their embodied joys and errors. There is no point in further generational separatism, but to avoid it, a certain alienation and pessimism of a post-transitional generation should be considered. Their experience too can prove to have a certain value for future worldbuilding in a futureless place where many still live in the past.

We can compare subaltern experiences to connect the common struggles in an ever more globalised world where problems can no longer be solved regionally. The connection of struggles internationally was already the agenda of the Yugoslav socialist feminists (Tomšič, 1980: 145–155). We can build our common future with the building blocks from different feminist imaginaries that take inspiration from lived experience, suspended potentialities from our different faintly remembered or constructed pasts and rich feminist artistic and literary projections. All this can help us develop strategies that can shift – not necessarily our entire prospects – but our way of dealing with these prospects, bending the directions towards which they tend to develop and shifting the speeds of these developments.

Though fiercely fought for, the socialist feminist battle was not won; therefore, it remains our common battle. In my opinion, Yugofuturism's feminist drive consists in striving for building bridges between generations, for sharing tools, for declining from patronising attitudes and separatist behaviour. But it also means also claiming loserhood for feminism, a non-equal starting position, which can question the race for power itself and to establish new strategies to survive and conquer the surely ambivalent futures.

The Ambivalent Cyber-Utopia of Yufu.kompot.si

In this section, my aim is to show the outlines of the Yugofuturist techno-imaginary through a technological perspective. The nineties and the beginning of the widespread use of the Internet 2.0 brought about a strong wave of cyber-utopianism that believed in the internet's ability to establish a community that is decentralised, democratic, and libertarian or even held ideals connected to digital socialism (Flichy, 2008; Marlow, 1996). Thirty years later, the internet has profoundly changed our society, but not in the direction of open-source access and democratic participation. As Evgeny Morozov has argued in his book *The Net Delusion: The Dark Side of Internet Freedom*, 'the idea that the Internet favours the oppressed rather than the oppressor is marred by what I call cyber-utopianism: a naïve belief in the emancipatory nature of online communication that rests on a stubborn refusal to acknowledge its downside' (Morozov, 2011: 13). Big Tech private internet platforms and media have, due to their commercial interests, developed access to content based on people's habits, needs and desires – the filter bubbles – which have further eradicated the public sphere (Kaluža, 2021: 267–283) and have thus not supported democratic ideals. What is more, the internet has proven useful for authoritarians and their propaganda, for surveillance and sophisticated censorship and has thus done the opposite than allegedly giving agency to the people (Morozov, 2011).

Cyber-utopia has crushed in on itself, the market of web services is highly monopolised and in such economic hierarchies it is hard to do things differently and have any reach at all. But there are guerilla developer groups that though knowing 'they will never reach the goal' (Kompot) are trying to build small communities and raise

¹⁰ Chrononormativity is a term coined by Elizabeth Freeman in her book *Time Binds: Queer Temporalities, Queer Histories* (2010). Freeman uses the concept to explore how societal expectations around time – such as when people are 'supposed' to get married, have children, or retire – create pressures to conform to heteronormative and capitalist timelines.

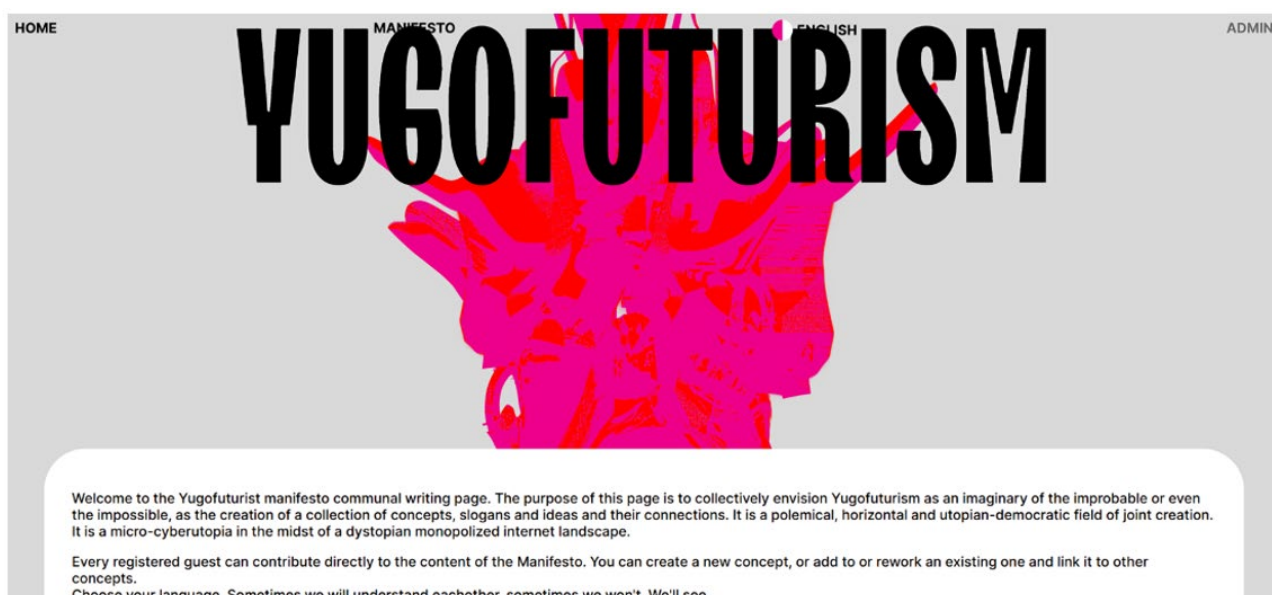


Figure 1. yufu.kompot.si – an interactive site for communal writing of the Yugofuturist Manifesto (created by Maska and Kompot, 2024)

awareness. One such group is Ljubljana's Kompot: a network of hosting service providers that operate under the principles of freedom privacy and decentralisation (librehosters), or in their own words, 'a network of cooperation and solidarity that uses free software to encourage decentralisation through federation and distributed platforms' (Kompot). They are a growing community that exchanges and shares knowledge while mutually providing a stable, upgradable, and interconnected code.

Having launched and developing the website Yufu.kompot.si together with Maska Institute in 2024, they have offered an open code librehosted platform for the communal writing of the Yugofuturist manifesto. Its open code is written in a way that supports a democratic process of negotiation, of adding, erasing, rewriting, reformulating a proposed headword or entry which can be done in real time simultaneously from anywhere in the world. The website is a possibility for everybody to directly intervene in a growing conglomerate of text and thus to gradually build a common vision of a future, grounded in certain lost values that belonged to the times passed. This is one of the evolving techno-imaginaries of how to strive for openness and inclusivity internationally by code and technology while proposing a new concept or a new movement that is Yugofuturism (Figure 1).

It is a tiny cyber-utopia amidst the dystopian internet landscape that has not hope of changing the grand scale. Failing to be loud and ambitious as it could be if hosted and promoted on the monopolised platforms but embracing its laterality so to conquer the narrative from the periphery, it is destined to remain a loser. From the position of loserhood, it will hopefully prove that ideas can meet in a democratic, horizontal dialogue, intersecting with one another and lively proposing a consensus or ever dispersing into different possible articulations. Meanwhile, which may be its purpose, it will create a community of people and regions through a common problem and creation, where there is currently little or no communication (Figure 2).

CONCLUSION

There is not a universal Yugoslav or post-Yugoslav or Yugofuturist position – to claim this would be to propose a (self)orientalising position that for example the writer Eurovicious strongly argues against while analysing the diverse queer moments of even such a seemingly nationalist, homophobic, sexist and machoist culture as is the Turbofolk (Eurovicious, 2014). But for me, the answer also does not lie in producing further fractions of balkanised futurisms from the former federative state positions that would perpetuate the nationalistic (moral, economic, historical) superiority of an ethnicity. For Yugofuturism is possible as a mobilising movement of the present for a common future only if agency can be returned even to its most marginalised constituency link.

In the article, I've analysed Maska Institute's emerging Yugofuturist corpus, identifying and reflecting on what appear to be its the key dimensions – its historical, cultural and geopolitical starting points as discussed through a post-Yugoslav generational perspective; its futurist positionality in relation to historical *avant-gardes* on the one hand and neofuturisms on the other hand, not neglecting its contemporary challenges. Perhaps, a transgenerational movement is needed, but to find a relation with the common past again, I argued that the younger generation must find its own key and its own affective ground towards it to reconnect with its locality's forgotten potential.

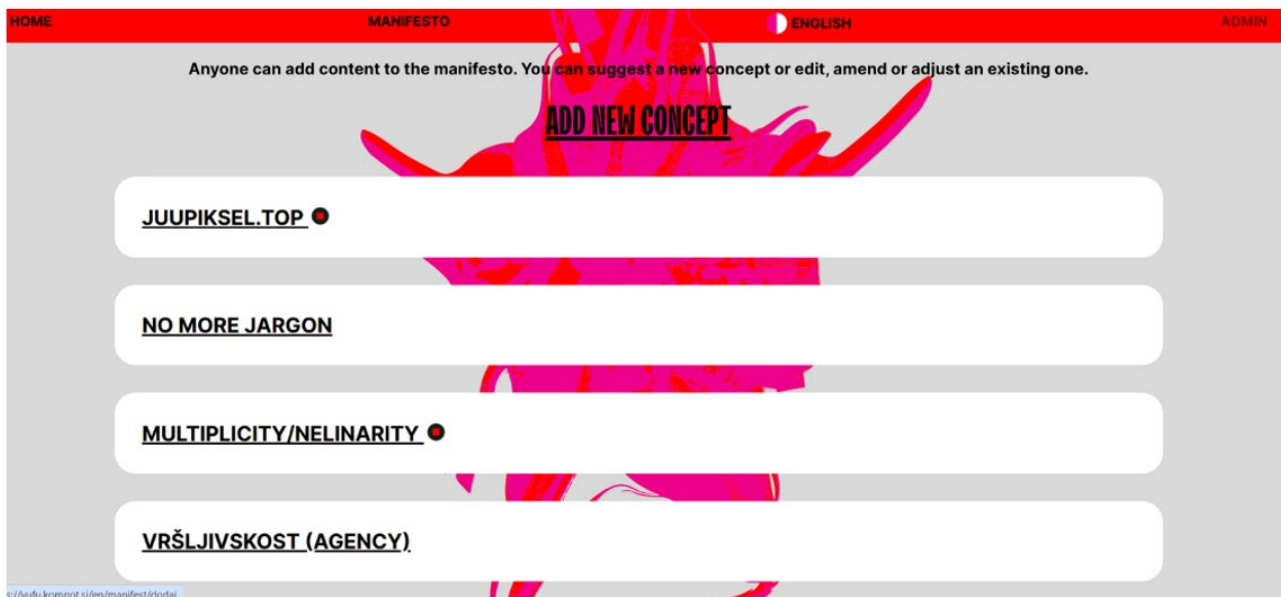


Figure 2. yufu.kompot.si – anyone can add content to the manifesto (created by Maska and Kompot, 2024)

Furthermore, I have discussed its feminist implications which are intergenerationally entangled or disentangled by different feminisms. Finally, I have laid out its technological aspects by employing a case study of the Yugofuturist manifesto's internet site, developed by the Kompot collective.

I have thus summed up the insights suggested by artists and writers invited by the Maska institute to consider what Yugofuturism as a newly suggested contemporary Balkan region-based futurist movement in the making might present. Yugofuturism is still a rather ambiguous term, but as I argue, it is strongly connected to the ambivalent connotation of the former state SFR Yugoslavia. The latter has brought modernisation, human rights, and welfare to a sizeable part of the Balkan region. The socialist Yugoslav period was a rare sovereign era for part of the Balkan peninsula, but its multiethnic unity nationalistically crumbled down. This failure cannot be undone and has a significant impact on the affective dimension of the transitional generation's attitude, which is often cynical and sceptical. This is a generational specificity that shows up in the arguments of the contributors to Maska's Yugofuturist publications and projects. I believe it is a trait we can use productively – to keep the bond with the past alive to be able to build techno-imaginaries or future scenarios in a futureless world.

The post-socialist situation left people in a vacuum, without a future, emigrated and marginalised, very much disconnected from one another and their common past, with a strong inferiority complex and inclination to be somewhere/one else and better. As other neofuturist movements, especially Afrofuturism, Yugofuturism thus aspires to affirm its own voice that would speak through ambivalences and thus create a possible future where there is allegedly none. It is a creative strategy that employs past potentialities as well as fictions to construct a future world, which is not necessarily a utopia, a perfect flawless world, but one where we have developed and learned to use failure strategically to resolve the upcoming adversities better. It is a feminist vision for it considers and employs regionally specific women's liberation struggles and learns from their flaws and won battles. But it does not rely on them. It searches for its own path to keep fighting the battles that are still open, but also the ones that only they can see from their own futureless generational perspective. Yugofuturism believes that no system or technology alone can overcome gender biases if it is not programmed to do so, which is why it is important that we are involved in future worldbuilding and technological innovation strategies. While understanding the internet today as a cyber-utopia kidnapped and monopolised by multinational tech giants, Yugofuturism is about developing a parallel micro community online to practice a democratic vision of joyfully creating a movement (for the possibly hopeless future) together.

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Breathable Futures: Breath as Feminist and Decolonial Imagination in Heating and Polluted Worlds

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ABSTRACT

In feminist, decolonial, and ecological work, many pathways towards what are claimed to be ‘sustainable’ futures are criticised for their status quo-reiterating, ecologically devastating, effects (Kolbert, 2021). To struggle free from these rather claustrophobic climate futures, this article conceptualises *breathable futures* as a way out of current and pressing atmospheric troubles (e.g., climate change, air(borne) pollution, ‘silent’ skies (Carson, 1962)) and their intersecting ‘suffocating structures’ that squeeze the breath out of many beings ontologically, physically-ecologically and atmospherically. This article mobilises Irigaray’s (1999) account of the ‘forgetting of air’ to explore why it is so difficult to imagine futures otherwise. It continues by critically situating this account in polluted, heating, and otherwise un/breathable worlds, informed by work of Kristen Simmons (2017) and Achille Mbembe (2022, 2017, 2020), thereby staying with the trouble of techno-intimacies (Weston, 2017) and more-than-human (co-)respiration. Ultimately, it proposes to rethink subjectivity alongside three (techno-)imaginaries: intoxication, allyship, and (be)coming alive. In these imaginaries, breathable futures come to the fore as multiple and asynchronous worlds generated by living beings in their (be)coming alive. They break with dreams of maximisation, solution, and (fair) distribution, and instead figure open-ended struggles for breathability in changing more-than-human coalitions.

Keywords: climate change, sustainability, breath, Irigaray, imagining feminist decolonial futures

INTRODUCTION

Feminist, decolonial, and ecological work has demonstrated that many pathways towards what are claimed to be ‘sustainable’ futures are in effect reiterating the – ecologically devastating – *status quo* (e.g. Kolbert, 2021). A common type of such *status quo* facilitating pathways puts faith in technological ‘solutions’ to mitigate ecological damage (Mbembe, 2022: 16), such as carbon capture technologies that allow for sustained fossil fuel combustion (e.g., BBC, 2023), air conditioners that could keep uninhabitable places habitable indoors (e.g., Latta, 2022), or ‘green’ hydrogen to facilitate the sharp increase in energy demand due to electrification (e.g., Reuters, 2023). However, by suggesting that climate change is techno-scientifically *measurable* and *manageable*, these mastery narratives (Singh, 2018; Plumwood, 1993) keep intact and project into the future existing injustices, among which I focus on the marginalisation and exploitation of more-than-human others for the continuation of affluent, modern lifestyles. This is in part because they rely on a hegemonic, exclusionary, imaginary of subjectivity: in facing climate change as a technical puzzle, these futures comfortably posit ‘humans’ – generally white and male – as exterior and superior to nature, and as the species that may (and does) control it (Mbembe, 2022; Haraway, 2016b).

To struggle free from these hegemonic imaginaries and their depictions of climate futures, as feminist and decolonial scholars we may ask how to imagine futures differently. In this article, I specifically conceive of *breathable* futures as a way out of current and pressing atmospheric troubles (e.g., climate change, air pollution, ‘silent skies’¹ (cf. Carson, 1962)) and their intersecting ‘suffocating structures’ that squeeze the breath out of many ontologically, physically-ecologically, and atmospherically. To do this, I turn to *breath* as site of feminist and decolonial

¹ In *Silent Spring*, Carson describes the silence that makes tangible the immense biodiversity loss that results from the widespread use of pesticides. Whereas Carson focuses on bird song, we may easily pick up on her notion to include the diminishing of most flying insects – to do so, I use the term ‘silent skies’.

imagination and embodiment. Within the broad range of possible other(wise) futures, I focus on imaginaries of *difference* in a continuation and critical repositioning of Irigaray's (1999) analysis that the 'forgetting of air' that makes presents so unbreathable to many is symptomatic of a uniform, western ontology and conceptualisation of subjectivity. Proposing imaginaries of difference for breathable futures, I rethink Irigaray's imaginaries of proximity, co-existence, and becoming in terms of intoxication, allyship, and (be)coming alive.

For, as toxic, nuclear, and other unrelenting waste accumulates, and earth is covered with buildings, roads, apparatuses, industrial excavations, and (the material infrastructures of) digital worlds, scenarios in which modern-day technology is absent or in which breathing is presumed to exist apart from human-made toxicants, microplastics, and nuclear debris have become an impossibility (Mbembe, 2022: 12, 32). The question thus becomes how to defuse the techno-rationality of dominant climate depictions without 'naively' disregarding technological, polluted and heating worlds.² In this article, I re-imagine such more-than-human relations and their futures through the lens of atmospheric techno-intimacies (Weston, 2017) and coalitions (Ahmann, 2020) that deconstruct the hegemonic imaginary featuring Man as techno-scientifically mastering nature and/or others. To that end, I mobilise the works of an interdisciplinary range of decolonial and feminist thinkers that bring together breathing, 'troubled' more-than-human worlds, and alternative imaginaries.³ In section I, I explore why it is so difficult to imagine futures otherwise by tending to Irigaray's analysis of imaginaries of *sameness*, which conceal as well as perpetuate historical and political suffocations. I theorise these 'suffocating structures' from a decolonial perspective by building upon the theoretisations of Kristen Simmons and Achille Mbembe. In section II, I tend to breathing as it relates to imaginaries of *difference* and situate Irigaray's original theoretisation in polluted, heating, and otherwise un/breathable airs in technological worlds.⁴ In section III, I newly formulate three imaginaries of difference, departing from Irigaray's imaginaries to account for the structures of suffocation in the polluted and heating technological worlds explored in the previous sections. These are imaginaries of intoxication, allyship, and (be)coming alive. With these imaginaries, I explicitly locate the generation of alternative climate futures beyond the work of those who are consciously working in this direction and invite others to think along, contest, change and work with them.

I: THE DIFFICULTY IN IMAGINING CLIMATE FUTURES OTHERWISE

Critiques of dominant depictions of climate futures as being sexist (Terry, 2009), techno-salvationist (Kolbert, 2021), racist (Pulido, 2018), and/or 'just' inadequate for keeping with 1.5 degrees scenarios (Climate Action Tracker, 2023) have multiplied over the past years. Despite their crucial importance in refusing to give in to existing injustices, these critiques do not necessarily offer alternative imaginations of climate futures (Bina et al., 2020; Jasanoff and Kim, 2015), nor do they always tend to the question why it is so hard to imagine futures otherwise. In this section, I tend to the latter question.

The Subject of Dominant Climate Depictions

What makes it so difficult to imagine climate futures differently? A compelling but not complete explanation can be found in regarding dominant depictions of climate futures as indebted to what Luce Irigaray in *The Forgetting of Air in Martin Heidegger* calls imaginaries of sameness. Sameness is the term Irigaray uses to characterise and critique the 'forgetting of air' in western thought and culture – which she takes to be dominant well beyond 'the West' and which I mobilise here as constitutive of ongoing colonialism, imperialism, patriarchy, and techno-rationalism. Irigaray traces the forgetting of air in ontology and points out the onto-political assimilation of other (marginalised, non-hegemonic) types of *subjectivity*, for her notably female subjectivity, that goes alongside it.⁵ For, in *forgetting* air as that which we breathe constantly and by which we are always surrounded and permeated, the Subject imagines himself to be bounded (Irigaray, 1999: 55), self-originating (30) and superior to things and others that divert from his way of being, which he sees as not form but matter, as objects to his Subjectivity (23–24).

² Cultural theorist Peter Sloterdijk (2016: 166) criticises Irigaray for her naivety where it comes to technology. I agree with him on this point and add to that a more pronounced focus on polluted and heating worlds, because I think we can only conceive of breathable worlds if we take the specifics of the unbreathability of the world we live in as our starting point. With this, I do not mean to suggest that Irigaray is unaware of or uninterested in the environmental trouble we are in (e.g., Irigaray, 2015; Irigaray and Marder, 2016).

³ In alphabetical order: Achille Mbembe, Alexis Pauline Gumbs, Chloe Ahmann, Christina Sharpe, Kath Weston, Kristen Simmons, Luce Irigaray, and Stacey Alaimo.

⁴ I use the term un/breathable to signal that unbreathability and breathability structurally coincide.

⁵ Ontologically, the forgetting of air results in the existence of 'things' and 'beings' which exist separately from one another with 'nothing' in between, 'wandering the propositional landscape' (Irigaray, 1999: 86). The Subject, having forgotten his dependency on air, posits this 'nothing' in its place, thereby erasing, on the one hand, the 'from which' of his own existence, and simultaneously, on the other hand, founding his own presence on the forgetting of air (164).

Wiping out this first bodily need of breathing, the Subject identifies himself with the mind, and as such identifies existence with thinking (123). Irigaray analyses this imaginary of subjectivity, wondering whether the traditional male philosopher breathes physical air at all.⁶ Hegemonic imaginaries of sameness thus are forgetful of air ontologically and thereby prefigure the forgetting of physical-ecological air and breathing (6–7). This wipes out the process of being born (and taking a first breath), the mother and maternal (and with them dependence, connection, and permeability), and notions of change (growing, learning, metabolising, and withering) (32–35). The Subject has become a being that exists in the air of thought and language instead of nature, and that shapes the world accordingly, in sameness. All that fits or can be made to fit is appropriated, all that does not is cast out as nothing (98).

This Subject figures centrally in dominant climate depictions. That is, his characteristics of being exterior to nature (boundedness, creating a nature-culture divide), superior to nature (self-originating, mind over body), and the one to control (manage, master) nature are necessary for well-known depictions of climate futures to make sense. Take the already existing practice to keep extremely hot places habitable by air-conditioning all inside spaces: the nature-culture divide is made explicit through intense technological management. Inside is the world of human beings, outside is the rest. By air conditioning, the conditions outside are disregarded or at the very least devalued (see also Sloterdijk, 2016). So are the lives spent there. Blowing the heat outside warms up surroundings even faster and doing so 24/7 sets a massive energy demand. Even if this energy were to be produced sustainably, the materials needed for its production put great pressure on limited resources and mining them causes considerable pollution and ecological damage. Or take the strategy of electrification that the Netherlands for example chooses (Sijm, 2024: 7): here, too, the main objective is keeping intact ‘our’ current way of living. Part of that is how we conceive of subjectivity in a changing climate. To choose electrification signals that the Subject is understood to not be (truly) affected by climate change – beyond his choice of car. Rather, the limitation given (in terms of CO₂) is taken as an invitation for technological innovation without acknowledging the need for fundamentally revisiting what got us into this mess. New technological ‘solutions’ are thought up that (still) rely on the ecologically destructive and often neo-colonial mining of rare earth metals, the creation of immense amounts of (future) tech-waste, cheap labour under unhealthy or even outright dangerous conditions, and so on. And yet, ecology keeps refusing to be controlled totally (Irigaray, 1999: 12; Mbembe, 2022: 121–122). The techno-imaginary of the human mind/expert operating technology to control nature (or in this case climate change) thus comes with the control of many ‘others’, human and otherwise, that are likewise to be shaped into certain roles and places for the perpetuation of the Subject and his way of living.

This shows that dominant depictions of climate futures are meant for a certain group of people – a certain way of being – that consider themselves indeed in control, (relatively) unaffected or safe from harm, and not in need of changing. These are the people that can, to name just a few examples, buy an electric vehicle, trust that they will be helped/compensated in case of ecological disasters, and do not work next to airplane engines or on open waste pits. But in the same instance, other ways of being do not have a place in these futures as their lives do not reflect the subject of sameness. To refugees relying on non-seaworthy vessels for their flight, the divide between nature and culture must seem much less stable. To parents bringing up kids near open e-waste dumps, existence cannot be understood as disembodied or unaffected by polluted and heating worlds. And to people living amid ecological degradation and the accompanying death of many animals and other living beings, or on island states and other low-lying regions, the control of human beings over nature turns out limited at least. As Mbembe writes, this is no accident but the result of centuries of establishing white (and male) subjectivity as distinct and separate from others (2017: 36), and of violently forging living beings (in *Critique of Black Reason* Mbembe’s focus is on African people) into bodies fit for exploitation/extraction, defined by their race (40) or object-status (79).⁷

Suffocating Structures Keep the Subject in Place

Specific historical and political structures thus play a significant role in the un/breathable presents of those living in marginalised and less privileged positions. These structures shape the specific conditions produced by (and reproductive of) sameness, including the assimilation/reduction of others. That is, apart from imaginaries of sameness, also the historical embeddedness and materiality of these structures stabilises and conceals the structural physical-ecological and atmospheric un/breathability situating others. Kristen Simmons and Achille Mbembe both theorise these types of un/breathability as forms of ‘suffocation’, arguing that ingrained structures of (settler) colonialism, imperialism and techno-rationality keep the Subject in place by threatening breathability for indigenous

⁶ Irigaray continues bleakly, showing her engagement with ecological thinking: does the ontological forgetting of air, turning everything into bounded, measurable things that can be capitalised, not also lead to pollution (1999: 6), to unbreathable futures (10), to death (13)?

⁷ It is out of scope for this article to lay out the exact overlap in their arguments, but Mbembe’s critique of ‘difference’ (2017: 46, 183) may be read as exactly a critique of sameness: a distant separation between the white Subject and Others, wherein the white subject is dependent on this irreconcilable gap for his status.

peoples, people in the Global South, as well as women, marginalised groups, plant life, and most of the living world. By using the term suffocation and by extension referring to responsible historical and political structures as ‘suffocating structures’, not only the position of those in need of breathable air, but also that of those enjoying it at their expense comes into view.

Kristen Simmons (2017) points out the multiple toxic, polluted, violent, and otherwise unbreathable airs that are breathed by marginalised communities in settler colonial presents. She distinguishes various forms of suffocation in what she conceptualises as ‘settler atmospheres,’ (§2) thereby extending breath beyond the physical-ecological. Simmons argues that social as well as chemical ‘toxic strangulations’ (§6) are endured by marginalised communities and indigenous nations, as exemplified by the use of tear gas and pepper spray by riot police, the heavy and incessant pollution of indigenous lands, the withholding of indigenous autonomy, and the deaths by police suffocation suffered disproportionately by black men. Settler atmospherics thus include both material threats to the physical-ecological breathing of living beings and other – atmospheric – forms of asphyxiation and strangulation aimed at ways of thinking, knowing, being, and organising/relating.

Pointing out the role played by technology in these suffocations, Achille Mbembe (2020) signals how ‘modern’ fantasies of leaving the body or averting death and ‘capitalist’ (S61) rationalities of digitalisation and technological development rage a ‘war on life’ (S60). That is, driving many forms of suffocation is a *technological rationality* that facilitates modern human control (of nature/living/others) and comes with the unlimited expansion of digital and otherwise technological spaces and their material networks (Mbembe, 2022: 12). Apart from the atmospherically suffocating effects of ever-intensifying control, these spaces and networks can only exist because of neo-colonial land grabs and resource depletion – usually in the Global South – and its incessant pollution and ecological degradation (22–24, 103–105; Povinelli, 2021).⁸ As such, the lives and breath of the marginalised, not in the least those made into ‘Blacks’ (Mbembe, 2017), have been and are being exploited to keep up the system (of private ownership [Mbembe, 2022: 41]) that allows the western subject to erect himself above others and disregard their existence as living, breathing beings.

As I work and write from the Netherlands, ongoing histories of slave trade, colonialism and (climate) migration are never far away. Neither are imaginaries revolving around the mastery of nature scarce in the country that according to itself ‘won over the water’ by building dykes, dams, and delta structures.⁹ The colonial *present* in the Netherlands recently lead to a climate change related lawsuit regarding the Dutch government’s neglect to care for people living in the ‘special municipalities’ in the Caribbean (de Zeeuw, 2023). Especially for Bonaire, with vital infrastructure in low-lying coastal areas, the trope of having beaten the water makes no sense at all. In the European Netherlands badly insulated houses, the (funded) use of pesticides and chemicals, urban neighbourhoods lacking any and all greenery, largescale nitrogen emissions and respiratory diseases for instance present very real, lived threats to the breathability of many. Imagining futures otherwise necessarily starts from these (multiple) realities. To account for them, I will continue by thinking about breath ‘non-innocently’: in polluted, heating and otherwise un/breathable worlds.

II: BREATHING MAKES ROOM FOR DIFFERENCE

So, can we get out of sameness? Yes. If the aim is to bring about change on feminist and decolonial terms, there is need for the creative work of tending to, articulating, and fostering ‘new ontological foundations (...) that enable new imaginaries, new symbolics, new politics’ (Roberts, 2019: 48). This necessarily includes rethinking more-than-human relations and, with those, figuring new techno-imaginaries. For as Mbembe (2022: 10) writes, we have already entered the world of almost all-encompassing technology, such that it has become our biotope.¹⁰ And as Simmons explicates, this work must start from lived realities in un/breathable atmospheres, even if those atmospheres are not our own. ‘[A]ttuning to how others (cannot) breathe’ (Simmons, 2017: 5) may give way to imagining new ways of living. Our task, in short, is to ‘make room for’ (Mbembe, 2022: 37) ‘difference’ (Irigaray, 2015, 1999).

⁸ I thank one of the reviewers for pointing out that, indeed, ‘grey’ economic growth in especially China (Carbon Majors, 2024) and chemical/industrial pollution in the Global North may trouble an all too easy North-South distinction in terms of polluter and pollutee.

⁹ Over a quarter of the European Netherlands are below sea level and significant parts of the country used to be unfit for living because they were under water, regularly flooding, or swamp-like.

¹⁰ Sloterdijk (2016) makes a similar point but from a western perspective, conceptualising the technological mediation of the atmospheres in which ‘human beings’ spend their lives. His work however ultimately keeps intact imaginaries of sameness, mainly because he focuses on the breathability of *spaces* instead of rethinking subjectivity through breath (van Balen, 2021). Whereas breathing, as I argue in this section, brings into view more-than-human ‘bodies’ (plural) relying on metabolisations with air, and the structures of suffocation that specifically and differently situate them.

Ways of Being Differently

Following Irigaray, breathing introduces difference (as opposed to sameness) because it foregrounds embodiment and therefore different ways of being (Irigaray, 2015). Over and against the forgetting of air thus does not stand the remembering of air, but the remembering of breathing as that which makes life possible, nourishes, connects and relates all, and brings about constant movement and change, while the breathing body is likewise constantly being moved and changed. In Irigaray's writing, recalling air shows that the metaphysics of bounded individuality is illusory, because air reveals what is forgotten in ontologies focused on separated 'things' and 'beings', and simultaneously brings into view our (human) dependence on air for anything we might be, want, or do (1999: 5–6). Before one can speak, think, or even cry, one needs air. And therefore, one breathes. By thinking through breath ontologically, Irigaray thus foregrounds materiality, or rather *ecology* (Stone, 2015: 123).

Critiquing Heidegger's notion of Being which she argues to be synonymous with being Man, Irigaray traces a second way of being, a female subjectivity, that first gives air 'and does so irrecoverably' (1999: 28) and then supports his being by providing an outside (31). 'Nature' (or air, depending on the section) and woman are in this way by Irigaray brought together in their dual role of giving life (natality) and providing the glue to the lives as lived and conceptualised by men in sameness (Irigaray, 1999: 31). In remembering breath, the being in her own right of this 'she' undoes imaginaries of self-origination and boundedness by remembering growth in utero, birthing, being fed milk produced by a mother's body (32–33). Also the imaginary of human exceptionalism is undone (55), because human beings are clearly part of nature as breathing beings, and control is shown to be a misconception now that many other (power) relations with one another and environments come to the fore through breath. As an alternative, Irigaray links breathing to imaginaries of *co-existence*, *becoming*, and *proximity* (cf. Roberts, 2019: 13), which I come back to in section III.

Working with these imaginaries, I follow Laura Roberts (2019) and Emily Zakin (2011) in their understanding of Irigaray's notion of difference as indebted to psychoanalytic theory. Rather than claiming there to be 'masculine' and 'feminine' natures or essences, Irigaray's critique of masculine subjectivity regards the role it plays as an *imaginary* that is supposedly neutral (Roberts, 2019: 25). Imaginaries are depictions of the self, self-images that anticipate the subject's 'future organization' (Zakin, 2011: §3). The masculine imaginary of boundedness, self-origination and control is connected to a reliance on eyesight (Irigaray, 1999: 43–44): when one *looks* in the mirror, they see themselves as ending at the skin, independently existing from others, and the actor (the one looking) amid inactive objects (those looked at). Unsurprisingly, air is in most instances invisible. Since this imaginary is, however, experienced (by some) as neutral and universal, and is embedded symbolically (in language and thought) as such, it debilitates other ways of being that might well rely on other senses and sensations.

The conceptualisation of sameness versus difference as located in the imaginary and facilitated by the symbolic leads me, possibly contra Irigaray, to think difference in terms of (more-than-human) plurality instead of her own insistence on two subjectivities.¹¹ Even though I would concur that Irigaray's texts have quite explicit heterosexual underpinnings, I think that her work on breath is better suited with a notion of *plural* possible imaginaries of difference (Parker, 2015: 91–92; Górska, 2016: 107).¹² In this vein, Roberts speaks of 'women (...) and feminized others' (2019: 25) to signal that even though difference is plural, masculine subjectivity may be said to assimilate through feminising those that do not fit. Difference, then, comes to the fore 'not in an overview that reveals a spectrum of multifarious group[s] as seen from above' but rather 'begins in the specificity of one's own body/matter which resists conceptualization and categorization' (Parker, 2015: 92). Difference starts in the body in the viscerally intimate experiences of breathing. As a site of feminist and decolonial embodiment, breathing – including an attunement to the breathing of others – thus may be the starting point for imagining other ways of being, relating, and organising by enabling the creative work of generating and tracing imaginaries of difference.

Breathing in Polluted and Heating Technological Worlds

But even though Irigaray moves into sight the materiality of air, she does not trace it in its own right as it makes up polluted, heating, and otherwise un/breathable technological worlds. This is reflective of her stance on materialist theory (Irigaray, 2002) but may also be due to Irigaray's positionality. To most white, able-bodied women (me included), the air – especially in forests or other green places – may be unproblematically more breathable than the atmosphere of patriarchy, and breath may be experienced as a physical need and aspect of

¹¹ Although Irigaray (1999) is primarily concerned with human beings, in other texts (e.g., 2015; 2016) she includes other living beings in her thinking about difference. I use the term 'more-than-human' to refer not only to other living beings, but also to non-living things such as viruses, particles or plastic ducks.

¹² Górska (2016: 107) similarly conceptualises breathing as 'articulation and materialisation of *intersectional* social justice politics' (*italics mine*).

'being alive', but not so much as a threat as well (Neimanis, 2019). But as traced in section I, the suffocating structures threatening breathability for marginalised groups often only become visible when considering their materiality. The pollution of indigenous lands suffocating local plant life registers only if pipelines, leakages, particles, and accumulations are traced and thus if difference not only regards imaginaries of sameness but also structures of suffocation.

This means that breathing should not be narrowed down to breathing in, but includes breathing out. The pollution of indigenous lands links to living standards in other regions and in that sense to what is exhaled (directly and indirectly) by the human beings in them. Likewise, intensive livestock farming causes trouble in Europe because of the nitrogen these animals exhale and emit, which changes local ecosystems. An account of breathing as site of embodiment *and* imagination thus needs to take into account the un/breathable airs breathed in and out by many, and the effects this has on relations with others and environments, including technological ones.

So, what about technologies and those things or beings that are not human, animal, plant, fungi, rock etc. but rather chair, phone, oil platform, PFAS particle, disintegrated plastic cup, or otherwise? Irigaray theorises breath as an ecological and existential need for human and other living beings, but in the polluted, heating, technological worlds in which we find ourselves today, it makes not much sense to define breathing along the natural-cultural or natural-artificial divide. The ecological proximities and metabolisms breathing brings into view demonstrate that breathing is not unique to, nor uniquely located in, 'living' beings and environments. Following breath beyond the 'living' moreover brings into sight that the ideal of forever smooth and always available technology is troubled by the power outages, extreme weathers, and political struggles over habitable land in polluted and heating worlds. And the imagined control human beings have through technology falls apart when attempting to trace (atmospheric) pollution, or when living beings defy predictive or statistical patterns. As technology has become our biotope, the question of breaking with the techno-rationalism of dominant climate depictions necessitates re-imagining human-technology relations and envisioning techno-imaginaries of difference.

When taking breath as a feminist and decolonial site of embodiment and imagination in un/breathable technological worlds, breathing thus should be understood as a more-than-human, non-innocent, existential dependency on air, in which dependency is not only understood in relation to inhaling, but also to exhaling as individual-transcending movements. Rethinking more-than-human relations in this way critically repositions Irigaray's undoing of human exceptionalism and control in polluted and heating technological worlds.

III: IMAGINING CLIMATE FUTURES DIFFERENTLY

Irigaray develops her imaginary of difference in terms of proximity, co-existence, and becoming. Picking up on these elements, but placing them in polluted and heating technological worlds, I propose three connected imaginaries for making sense of breathable futures. These imaginaries are proposals in the sense that they would need engagement, contestation, and adjustments to come alive as shared imaginaries. They are invitations for collaboration. The imaginaries proposed furthermore aim (through other formats and formulations) at speaking to many, or at least not only to those already engaged in climate politics broadly conceived. This is part of the reason why I do not take the path of theorising 'vulnerability' as imaginary like for instance Singh (2018) and Górska (2016) do. Vulnerability may be part of reconceiving ourselves and our relations through breath, but I find it lacking as inspiration and politics for alternative futures. Why should I aspire to be vulnerable *per se*? And who am I to ask others to be vulnerable? Last, the proposed imaginaries are meant to be read in congruence with one another.

Imaginaries of Intoxication

What does *proximity* entail in polluted and heating technological worlds? In contrast to an imaginary of distance, to see living as taking place in air as that which is breathed brings to the fore the impossibility of distancing ourselves from our surroundings, and likewise from ecological destructions and other structures of suffocation. As such, proximity translates into exposure: as breathing beings, we are physically, affectively, and atmospherically exposed to the airs and atmospheres in which we move around (Alaimo, 2016: 5). USA writer, scholar and activist Alexis Gumbs' (2020) notion of the 'undrowned' as an imaginary for black people who survived and still survive the constant exposure to waves of violence is a forceful imaginary of exposure. Gumbs sets out to learn from marine mammals about strategies for undrowning, staging her exploration in the ocean whose waves drowned so many slave-made people being shipped to the Americas. As Gumbs shows, an imaginary of exposure not only addresses vulnerability, but may also allude to resistance and survival.

But being exposed does not yet account for the intricacy of breathing that brings together breathing in (in which we are exposed) and breathing out. As breathing beings, we human and animal beings add CO₂ to earth's atmosphere simply by being alive. As product owners/users in the Global North, we rely on industrial emissions, resource extractions, and waste management located primarily in the Global South, thereby breathing out as in co-

producing the unbreathability of air 'there'. As human inhabitants of Europe, we cannot escape breathing in and out western traditions of thought and culture, such as the European Dutch techno-imaginary of having beaten the water. Since a non-innocent understanding of breath includes accounting for that which we breathe out, I suggest rethinking Irigaray's imaginary beyond exposure in terms of *intoxication*. Intoxication signals the exposure and transformative effect of breathing in as well as accounting for the (active) role played by those living and breathing in bringing about the air's un/breathability. This reveals the (ethical) ambiguity as well as the political potential of this imaginary.

Kath Weston's (2017) notion of 'intimacies' are helpful to think this through. One of the relations Weston attends to is the techno-intimacy we (in the USA, although it extends at least to other car-loving countries) have with cars and their smell (182). Consider the widespread gesture of taking a deep breath in a new car to relish in its newness, doubled in the option to buy this experience through fragrant pouches. This gesture is indicative of the intimate respiratory relations between human beings and technologies as well as the mismatch between affective, cultural attachments and the material, visceral proximity – in this case literally intoxicating – to the ecological and physical demise they embody. But aside from being a place to breathe in, driving and producing cars of course bring about un/breathable air 'elsewhere'. Elsewhere, here, regards the car's immediate surroundings as well as those places, beings and things engaged in the production and continuation of it. To reimagine mobility through these intoxicating intimacies, both distancing tactics – inside from outside, and local from dispersed over distant locations – should thus be deconstructed.¹³

Imaginaries of intoxication thus shed a rather different light on breathability, revealing it to be under pressure in many respects today. But they do not and should not play a critical role alone. In reimagining respiratory intimacies in heating and polluted technological worlds, they may be generative of ways of living differently as well as of depictions of alternative futures as breathable futures. In this regard, it is important to see that intoxication by no means is negative *per se*. For instance, the pet whale robot that helps children inhale their asthma medicine on time and at the right speed by showing them to be in a state of hypoxia (Lv et al., 2023), clearly indicates a positive side to respiratory techno-intimacies. In co-producing air, breathers furthermore bring about both breathability and unbreathability. They contribute to both the perpetuation of suffocating structures and to undoing or altering them. Fanon's 'combat breathing' (1965: 65) may be the most explicit example and one that shows the importance of breathing for decolonial practice. To stop breathing (or to stop having children) is therefore not the way to bring about breathable futures. Rather, the point is figuring out breathing in and out in non-destructive or even constructive ways.¹⁴

One obvious starting point for conceiving of breathable futures through the lens of imaginaries of intoxication is to radically break with the use of toxicants (Liboiron et al., 2018: 334). That is, calls for the diminishing of pesticide use are all around, but by thinking through breath the question of using less of a substance that does not break down is senseless: a slower death is still a death and not one that is particularly preferable either. Rather, it becomes clear that breathable futures are those in which these substances are banned and existing pollution is being acknowledged and addressed. In contrast to bans or things to give up, an organised walk through Tata Steel's 'backyard' dunes or projects such as Bloei & Groei ([n.d.] 'flower and grow', a project initiated by Ama Koranteng-Kumi to bring together women to garden/grow foods together and work on their relations to themselves and nature) are demonstrative of how imaginaries of intoxication can be thought in terms of constructive contributions.

Imaginaries of intoxication thus reconfigure subjects as breathing beings exposed to all that is part of the polluted, heating, and otherwise un/breathable worlds in which they live together with more-than-human others, albeit in varying ways. Such exposure can denote being affected and opening up or resisting, but in any case, it transforms the subject who cannot distance themselves from it. Simultaneously, imaginaries of intoxication tend to breathing out, to the co-production of un/breathable air by those (human and otherwise) who breathe it. As such, they make visible the local and trans-local repercussions and structures of living, among which are structures of suffocation, but they also point towards possible ways of breathing out in non-destructive or even constructive ways. Intoxication may then become a political strategy, a tactic perhaps, of seeping and spreading change.

¹³ The 'eerlijke scooter' (fair/honest scooter) gets halfway there. This imagined scooter on stickers in European Dutch cities has an extended exhaust that ends up emitting right in front of the driver's face. By breaking through at least one of the imagined 'elsewheres', the fair scooter reimagines the self in terms of its proximity to and co-production of polluted and heating technological worlds. It may however further obfuscate the second, more persistent distancing move.

¹⁴ Here, I briefly pause to note the trouble with the terms constructive and destructive as destruction is at times vital to making room for something new, for construction, and as these terms are easily read ethically as being 'good' (construction) and 'bad' (destruction) strategies (see also Eltahawy (2023) and Malm (2021)). I nevertheless use these terms here to differentiate between processes and practices of ending/banning/withdrawing and those of re-imagining/giving shape/experimenting.

Imaginaries of Allyship

Tightly related to this first imaginary is Irigaray's second element of difference: *co-existence*. With whom are we intoxicated and intoxicating? Or, phrased in classic feminist terms, who are 'we'? Thinking through co-existence in polluted and heating technological worlds brings to the fore that the 'who' of who breathes these un/breathable airs stretches far beyond human beings. As Irigaray concurs, breathing is an ecological movement that connects animals, plants, fungi, oceans, and all those other 'living beings' in between. But as I argued, breathing is a more-than-human affair, as illustrated by face masks during the COVID-19 pandemic or by the material arrangements (houses and their air conditioning, linen hanging out to dry above street traffic, blackouts due to extreme weather) that are exposed to and metabolise air 'with us'. Nor does breathing end with those who are doing the breathing. Viruses or pollen do not breathe, but they are intimately entangled in breathing (Irigaray and Marder, 2016: 129–134). Furthermore, all these different beings or things do not necessarily exist outside of one another, as elaborately figured in biologist and STS scholar Donna Haraway's theorisation of the cyborg and the holobiont (2016a, 2016b; see also Gabrys, 2022: 211–212), and as exemplified by respiratory devices or organic air washers.

Of course, drawing a larger and larger circle until most things and beings on earth are included in breathing is not very informative nor compelling when the question is with whom we carry responsibility, or with whom we are dependent on breathable environments or futures. Co-existence in more-than-human un/breathable worlds involves more than just existing together. It is about problematising and rethinking we-formations, and as such about *allyship*. One way to think about respiratory we-formations is the one conceptualised by USA environmental anthropologist Chloe Ahmann as 'atmospheric coalition'-building (2020: 465). Ahmann describes how activists invoke air as that which is breathed by many – including you! – to build solidarity. Pollution produced by a waste incinerator does not suddenly stop spreading, even though neighbours living close by may be much more (directly) exposed to it than others further away. But even others who can be quite sure they are not themselves exposed can become part of the atmospheric coalition through invoking solidarity around clean, breathable air. Atmospheric coalition-building is thus not defined nor confined by physical perimeters of pollution. Rather, it entails bringing together collectives through a shared concern for breathable air.

These collectives are more-than-human, as is clear when we consider the European Dutch collective 'Frisse wind' (Fresh wind/new reign). Frisse wind fights for breathable air in the surroundings of Tata Steel's blast furnace in IJmuiden, which has been polluting their surroundings with carcinogenic/toxic substances and has up until recently found local and national governments on their side (van Balen, 2023). In 2023, Frisse wind increased their coalition building work by setting up a camera that constantly records the smoke emitted by the factory's chimneys. With this camera, a newly launched website called 'spot the toxic cloud', and a collaboration with Greenpeace, Frisse wind started drawing in many people to participate in the fight for breathable air in the region. Even for people living all the way across the country, the sight of the constantly emitting chimneys now entered their homes and the excitement of participating in a 21st century Goliath's takedown became tangible.

The imaginary of allyship thus draws attention not only to common exposures and interdependencies, but also to the we-formations that are problematised by thinking through breath and those that form through many different possible ways of atmospheric coalition-building. Reimagining living in heating and polluted technological worlds makes visible the more-than-human relations and struggles over breathable air and the differentiated exposures faced by some in contrast to others. It signals that we are in this together, but also not really, not equally, not all. Attuning to the breathing and breathing troubles of others may in terms of the imaginary of allyship thus entail practices of knowledge creation or mobilisation as well as figuring out ways to be allies to those in different positions than you. Sometimes, un/breathable air goes unnoticed and is in need of being made visible, or tangible. Sometimes, structures of suffocation are perpetuated or further obfuscated in otherwise seemingly 'good' situations or proposals. Sometimes, breathability requires you to take less space, to let others take over, to unlearn the habit of saving the world (Singh, 2018).

Breathable futures become visible in imaginaries of allyship not in terms of a maximisation of breathability as if it were countable and (fairly) distributable. Rather, breathable futures are futures for which 'we' must struggle together in changing coalitions, and which will constantly be formed and reformed in ongoing political explorations of what breathability entails and who is part of the breathing community. I do not see this as a bleak depiction of building walls between communities and guarding communal interests, but rather as an open-ended and ongoing politics of relating in non-naïve, political terms. Allyship in breathable futures in this way is porous and subjected to change itself. In breathable worlds, not only 'individuals' and 'environments' are constantly becoming, so are relations, coalitions, and dependencies.

Imaginaries of (Be)Coming Alive

Becoming is the third and last imaginary proposed by Irigaray. But what does becoming entail in polluted and heating technological worlds, and what does it lead to? With becoming, Irigaray rethinks the broadly Western, but also more specifically Heideggerian, depiction of Being. She calls into remembrance growth and decay, feeding and

being fed, transforming and beings transformed, reproducing, and being brought into the world (1999: 54–55, 83–84). With becoming, Irigaray sets time in motion: beings, things, and relations are in constant becoming with one another, making up and remaking worlds, figuring and refiguring histories. USA literature and black studies scholar Christina Sharpe's (2016) proposal of 'being in the wake' mobilises such becoming. Being in the wake entails both coming after those who came before, shaping us and the worlds we live in, mourning them and keeping their memory alive, and from that position giving shape to the worlds we live in and those to come.

Becoming in heating and polluted worlds also signals the ways in which we are affected and changed by those worlds and their un/breathability. It brings into view that we ourselves are becoming polluted as demonstrated by research on microplastics found in human bodies (e.g., Roslan et al., 2024) and the so-called indirect health effects of being exposed to 'safe' levels of PFAS for decades (e.g., van Beijsterveldt, 2022). But again, this becoming does not only pertain the individual. Heating worlds move people(s), animals and other species, change cultures, and wipe away entire states.

Simultaneously, becoming may also indicate a certain agency and future-orientedness. What do you want to become when you grow up? In the un/breathable worlds in which we live I therefore propose to rethink Irigaray's becoming as an imaginary of (be)coming alive. This is not so much to foreground narratives of survival or biological definitions of living, but to pick up on the appeal that notions of living, liveliness, living the life, etc. have and repurposing them here. Contra the Subject of sameness, cultivating a *living* subjectivity (cf. Irigaray, 2015) may mean to reconnect thinking with embodiment, feeling with both emotions and sensations, and being human with breathing, with being ecological. It suggests sidestepping the rat race that leaves you exhausted and out of breath, and instead refigures 'living the life' in associative connection with flourishing, natality, and waking up. This is in no way meant as a conservative imaginary of a return to simple family life or 'pre'-technological living. Be(coming) alive in polluted and heating technological worlds may just as much invoke dancing at a rave to blow off steam, blowing up a pipeline to make a difference, or experimenting with vertical farming in ecologically challenging environments. Bringing forth living and becoming in technologies, it alludes to the becoming more and more lively of AI, but also and more importantly signals the becoming of technologies and the networks they rely on, such as made explicit in the magazine *Lowntech* (n.d.), which runs only when there's solar power.

Becoming alive may as such speak to people not engaged in climate politics broadly conceived but who do feel the effects of suffocating structures every day. It aligns with climate justice movements but foregrounds the differentiated viscosity and everydayness of breathing by beings worldwide. It invites a plurality of notions of what it means to (be)come alive, as well as how this relates to differently lived presents and futures. In so doing, it does not deny or hide those that have for long been alive and who have suffered or enjoyed or both throughout time. I therefore hope it can as an imaginary draw relations between ways of past, present and future living instead of placing a single form of living above/upon others. By keeping intact the 'becoming' but also alluding to 'coming', both historical inheritances and figurations of futures are called forth. This means that YOLO – living as if the end is near and you might just get everything out of it regardless of the mess – does not align with what I mean by (be)coming alive. The double terminology signals that there is no terminal station to (be)coming alive, such as we might conclude from (post-)apocalyptic fantasies about cataclysmic endings, survival or having survived.

Apart from questions about the what of becoming, we may however still wonder about the how. How do we (be)come alive? On the one hand, as becoming polluted indicates, it is already, irrevocably and continuously ongoing. (Be)coming alive is not a path we may just leave untaken. On the other hand, it is one we can more or less align with, more or less take up and actively give shape to. This taking up and giving shape necessarily starts from where you're at: every becoming is embedded in others, and (be)coming alive is as such not a switch to flick. With respect to individual climate politics, this for example shows why it is impossible to suddenly stop contributing to the destructive structures you are part of. There is no way to say 'I'm out', but there are many starting points in everybody's life to pick up on what it means to (be)come alive more and more, over time and with others.

Breathable futures thus become visible through the imaginary of (be)coming alive not as terminal stations or end goals, and neither as suddenly coming into existence through some major event (whether life choice, apocalypse or revolution). Rather, as feminist and decolonial scholars 'know' and marginalised beings 'experience' daily, breathable futures are in the making in many places at different paces and in various respects and directions all at once. Breathable futures are not periods we will arrive at either collectively or simultaneously. They also will not come about 'automatically' because history takes us there or because 'we' as scholars advocate them. Rather, they are the breathable worlds generated and cultivated by living beings in their distinct processes of (be)coming alive.

CONCLUSION

Living in un/breathable worlds invokes questions about how things might be differently imagined; it calls for imagining futures otherwise. But this is not easily done. In this article, I mobilised Luce Irigaray's work on the forgetting of air to argue that imaginaries of sameness direct dominant depictions of climate futures and curb the possibilities for imagining them otherwise. This is because imaginaries of sameness, explored in terms of the imagined exteriority, superiority, and technoscientific control of human beings over nature, 'forget' or assimilate other ways of being and relating.

Irigaray's imaginary of difference, grounded in the remembering of breath, however needed to be (1) situated in relation to various (material) structures of suffocation and a plurality of different subjectivities and (2) thought through in heating, polluted, and otherwise un/breathable technological worlds. Regarding the first, I tended to convergences of colonial, imperialist, capitalist, patriarchal, and ecological structures of suffocation informed by the work of Kristen Simmons and Achille Mbembe in section I and conceptualised difference in a plural sense and with regards to imaginaries of sameness as well as structures of suffocation in section II. In section II, I continued by thinking through breath in un/breathable, technological worlds, which I described as a non-innocent conceptualisation of breath that could figure in decolonial and feminist imaginations.

With the aim of facilitating such imaginations of 'breathable futures', I proposed three imaginaries of difference and connected these to ways of thinking about climate futures differently. Imaginaries of *intoxication* point to how the breathing subject is exposed to polluted and heating worlds while also contributing to them. This depiction of subjectivity counters notions of human exteriority and boundedness by making explicit the proximities and intimacies that are inherent to breathing in and breathing out. Imaginaries of *allyship* pick up on commonalities in such exposures as well as we-formations questioned by a rethinking of subjectivity through breath and through those formed in un/breathable worlds and the struggles it holds. This way of thinking subjectivity unravels notions of human independence and superiority by visualising more-than-human interdependencies and common vulnerabilities, and the different kinds of relations or coalitions they bring, as well as bringing to the fore the struggle that is irrevocably part of thinking through breath. And imaginaries of *(be)coming alive* mobilise the continuous change as well as the subject's relatedness to histories, presents, and futures through breath. It challenges narratives of superiority and technoscientific control with an appeal to more-than-human liveliness, embodiment, and breathability.

So, whereas dominant techno-imaginaries look to 'solve' climate change with technological fixes, 'control' ecological degradation through intensified codification and domination, or 'overcome' it by emancipating from nature, breathing shows that living beings and technologies can be(come) intimate allies for breathable futures, intoxicating and being intoxicated together in difference, co-respiring perhaps. In a time where technologies are already resembling the living more and more, as intimate allies, technologies may also become living parts of living worlds/networks, leaving behind the smoothness and availability that places them outside of visceral encounters and instead becoming with their energy sources or environments, being moved by frictions and suffocations, moving/changing towards breathable air for all.

In and through these three imaginaries, breathable futures come to the fore as multiple and asynchronous worlds generated by living beings in their (be)coming alive. Breathable futures are therefore not end points, nor can they be complete or finished, as breathability is not something that could be maximised or (fairly) distributed. Rather, breathable futures figure open-ended struggles for breathability in changing more-than-human coalitions. This is not to say that nothing can be said about breathable futures. By thinking through breath, dominant strategies of relative improvement (say, less pesticides) are shown to be senseless. When we rethink subjectivity through breath, suffocating structures are explicated and show themselves to be in need of radical upheaval without thereby invoking purity. Such radical change however is not to be expected from sudden events or grand endings. Rather, it is brought about in figuring and refiguring breathing in and out, on individual and collective levels, in non-destructive and constructive ways.

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The Need for Diffraction in STEM¹-Fields: An Ethical Feminist Consideration of the Concept of Gender Scripting

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ABSTRACT

Gender scripting describes the process and all the associated factors of the development, manufacturing and marketing that ensure that technologies are given a targeted gender-specific imprint including all positive and negative consequences. Gender scripting leads, even if not always intended, to exclusions in user behaviour, so that certain groups of one gender, but also of other intersectional spheres, are not taken into account. The problem is very complex and particularly concerns the norms, rights and technical infrastructure in the areas of development, production and marketing, which disadvantage or exclude certain users who do not conform to prevailing patriarchal or societal norms of the use of technology by different genders. To prevent such misuses of societal ideas, norms and values Karen Barad introduced the concept of diffraction. Diffraction, originally a phenomenon from the field of physics, can point the way towards recognising and thus replacing the outdated and patriarchal structures in science and research and can contribute a model of inclusion of feminist imaginations and intersectional practice in research, development, manufacturing, and commercialisation. Diffraction is one way of implementing feminist techno imaginaries in STEM-fields and engineering. This article looks at these aspects and shows how diffraction can become reality.

Keywords: diffraction, discrimination, gender script, women's visions for STEM fields, sharing technology

INTRODUCTION

Science and research are structured and hierarchised by ontologies. Here 'ontology' refers to a collective term for the values and norms used in science and technology, which are applied as a systematics and guideline for subjective actions in science and research² (Richter, 2008: 430). This affects not only the humanities, but also the fields of science, technology, mathematics, engineering, and computer science (known as STEM). A concise example of the influences of ontologies in STEM fields is the gender script. The script is a developer's or engineer's interpretation of who uses a technology and how a technology³ should be used. The gender script represents an extended specification and is aimed at scripting technologies for people of a particular gender. The gender script

¹ Science, Technology, Engineering and Mathematics. I use the term STEM to unite the mixture of scientific and technical fields discussed in the texts by van Oost, Bath, Ernst, etc. The term STEM seems to be the easiest to understand and therefore the most practicable solution, but it is nevertheless a very complex field that interferes with many other areas and is therefore not always clearly definable. van Oost, Ernst and Bath's works concentrate mostly on engineering, but are not limited to that field.

² I am referring here to an interpretation of the term ontology in the German standard dictionary used in Philosophy, Metzler's *Lexikon Philosophie* (Richter, 2008: 430).

³ The term technology is used frequently in this article. Technology is a term that is used in many different ways and can cover several spectrums at the same time, e.g., a hygiene product, a related craft, computer programming, or as a collective term for things created by humans. Because the word technology is often used in a generalised way for a design process of a man-made artefact or technique, the term seems very vague. For the purposes of this article, I will use also the term technology to refer to designed objects that we humans interact with haptically on a daily basis, such as shavers, cars, electric stoves, etc. Technologies such as artificial intelligence or software, which are not haptically tangible, are not addressed here, but may also contain problematic influences from designers and engineers. Because the variance of terms, objects, practices, and artefacts that fit this description is very large, it is difficult to find an appropriate sub-concept for such a broad topic. Therefore, despite the concerns mentioned above, the very generalising term of technology has been used here.

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inherits the ideas of the designer, developer or engineer but can also contain elements of everyday socialisation that is oriented around the structural category of gender and that are implemented consciously or unconsciously. Through the concept of gender script, but also through various studies, it has been demonstrated that the STEM fields are primarily patriarchal in orientation and socialised accordingly (Horwath et al., 2012). That this is more than problematic for the development of technology can be seen in products of our daily use that have been developed with a gender script, as will be explained later. A major problem for feminist technology studies focusing on such patriarchal frameworks in technology is the use of ontologies, but also the lived and applied practice of science – both can have huge impacts and restrictions on our view on technology and how it should be used. In her article *Emancipatory Interferences with Machines* (2017), Waltraud Ernst referred to the efficacy of ontologies and to the principle of diffraction, first introduced by the US researcher and quantum physicist Karen Barad in her book *Meeting the Universe Halfway* (2007). Ernst's idea was to enable a more inclusive view of how we develop and design technology or artefacts and how we can open the field and infrastructure within engineering and technology development to all genders. To explain such a reformation of the interrelated fields of science, technology, industry and engineering, she used the concept of diffraction.

In my article, I want to explore the field of diffraction as an opening tool for technology itself, the process of engineering and industrial design, but also as a feminist techno imaginary. For me, the feminist techno imaginary is a way to show how feminist ideas and theories are connected to technology. I propose it also explains what is missing in the technical artefacts themselves, the used and submitted knowledge, the design techniques and procedures we use that directly affects women⁴ but also other areas of intersectionality. And finally, how diffraction can be adapted so that women's ideas and theories are implemented to improve the technologies themselves, but also the framework within and behind the development. I want to do this in my article using the example of diffraction as an asset for the feminist techno-imaginary.

To do so, I will first explain what diffraction is, including its origins in physics, its transformation in the humanities, the various phenomena, problems, and benefits. This will be followed by the example of the gender script as a current problematic practice in science. After that I will combine both aspects – the diffraction and the gender script – to demonstrate how diffraction acts as a reformer in technical science and to introduce the conclusion, which explains how diffraction can benefit feminist techno imaginaries. In the following, I will explain what diffraction is, where the concept comes from, and how it can be applied to technology design.

THE NEED FOR A MORE FEMINIST VISION AND IMAGINATION: THE CONCEPT OF DIFFRACTION

Diffraction is essentially an optical phenomenon studied in physics. Diffraction patterns show the entanglement of waves. That is, a diffraction pattern shows the diffraction of waves and the resulting entangled and superimposed waves. Karen Barad describes it as follows:

Simply stated, diffraction has to do with the way waves combine when they overlap and the apparent bending and spreading of waves that occurs when waves encounter an obstruction. Diffraction can occur with any kind of wave: for example, water waves, sound waves, and light waves all exhibit diffraction under the right conditions. (Barad, 2007: 74)

Examples of such phenomena can be found in nature, for example, in the ocean when waves break on rocks or crevices and the waves colliding there interfere with each other. Or when drops fall into a puddle and the resulting wave motions of several drops collide and overlap. There are also diffraction patterns that are invisible to the naked eye, such as those of light waves. In her theories, Barad draws on her theoretical understanding as a quantum physicist and extends this natural phenomenon to theoretical considerations. Quantum physics deals with the motion and effects of particles and waves in time and space.

Diffraction in Quantum Physics – The Nils Bohr Double Slit Experiment

For a better understanding of the concept of diffraction as discussed by Barad, in what follows I relate it to quantum diffraction. However, in order not to exceed the scope of this article, this will only be sketched in the most necessary way. According to Barad, a distinction must first be made between particles and waves (Barad, 2007: 76). Particles are small entities that occupy a fixed place in space at a given time. This time of appearance cannot be changed or influenced by any event. Waves, on the other hand, are not fixed entities. They change and

⁴ The selected references and research literature focus primarily on females, female users, or women, which is why this article presents women as the largely excluded users of technology. However, this does not mean that the areas of science, development in general and companies addressed in this article have not also excluded other groups of gender (e.g., transgender, non-binary, etc.). Therefore, in this article, I primarily refer to people who are female, female users, or women.

can take a different course when they meet fixed entities. As in examples of observable in everyday life, these waves can also overlap and form diffraction patterns (Barad, 2007: 76). This was demonstrated in the 1920s with a modified version of Niels Bohr's double-slit experiment. According to Barad, Niels Bohr continued the double-slit experiment developed by Thomas Young in 1802 for the refraction of light waves and developed a thought experiment for the division of quantum physical particles and waves (Barad, 2007: 80ff.). According to Barad, Bohr used this thought experiment to prove that particles occupy a fixed place at a given time, but waves can rearrange themselves and interfere with each other when they are refracted by an object. According to Barad, the entanglement of waves and the resulting effects are called superposition (Barad, 2007: 76). This brief outline of diffraction should be sufficient to allow us now to refer to the reshaping or reorganisation of a social ontology. First, however, it is necessary to explain how quantum physical experiments and theories are to be applied to theories of society in the social and political sciences and humanities. In physics according to Barad.

It has now become routine to use diffraction experiments to determine different features of matter. Generally this works in one of two complementary ways: sometimes the goal of a diffraction experiment is to learn about the nature of the substance that is being passed through a diffraction grating, and sometimes it's to learn about the diffraction grating itself. (Barad, 2007: 83)

These two ways of looking at matter can also be related to theories and practices in the humanities. Either the object of research itself (i.e., matter itself) or the means or tool of research (here the diffraction grating) can be analysed. Barad contrasts two tools of observation and analysis that are elementary to science: reflexivity and diffraction (Barad, 2007: 87ff.). I will explain both phenomena in the following two subsections.

Reflexivity = The Current Method in Science

In the humanities and sciences, but also in the STEM fields, different methods are used to critically question existing theories and concepts. In her work on diffraction, Karen Barad refers to two possible methods: reflexivity and diffraction (Barad, 2007: 87ff.). Reflexivity is one of the most common methods of scientific analysis. Reflexivity serves to critically question theories, concepts, ideas, themselves. The knowledge produced is mentally reflected upon to allow for possible errors, approaches for improvement, or additions. Reflexivity is usually done by the researcher, but it can also be done by others. Here, a person can reflect on the knowledge produced on the basis of a body of knowledge and see to what extent this produced knowledge agrees with his or her findings or, if necessary, extends them (Barad, 2007: 88). According to Barad, reflexivity as a methodological tool has been criticised and its usefulness questioned by feminist researchers on several occasions, because the use of reflexivity raises two fundamental problems at the same time. On the one hand, the reflexivity of theories and assumptions, both in the humanities and in the Science and Technology Studies, takes place on the basis of an already established ambivalent dichotomy. As Barad writes:

The irony is that while these scholars insist on the importance of tracking 'science-in-the-making' by attending to specific laboratory practices, for the most part they continue to treat social variables such as gender as preformed categories of the social. That is, they fail to attend to 'gender-in-the-making'—the production of gender and other social variables as constituted through technoscientific practices. (Barad, 2007: 87)

This means that science judges mostly by two different standards: In the natural sciences and in technoscientific research, results are obtained through observation and evaluation of observations in order to actually adhere to scientific objectivity and freedom. Of course, these standards can be critically influenced as Ellen van Oost and Corinna Bath outlined in their research on toxic technology development and infrastructure (Bath, 2017; van Oost, 2003). We will have a closer look on this later when analyse the gender script. On the other hand, social science aspects are judged according to a prefabricated standard, that follows dichotomous understandings of gender, and the results of the objective natural and technical sciences are analysed through a prefabricated methodological construct. Barad criticises this method because it reproduces a clear 'nature-culture dichotomy' that does not correspond to real conditions and does not allow for other concepts and methods, because these are two distinct issues, one does not follow from the other (Barad, 2007: 87). According to Barad, this dichotomy needs to be reconsidered and it also needs to be analysed for whom this dichotomy is valid and to which results it can be applied. Another problem of reflexivity is its representationalism (Barad, 2007: 87ff.).

A second significant difficulty is the fact that reflexivity is founded on representationalism. Reflexivity takes for granted the idea that representations reflect (social or natural) reality. That is, reflexivity is based on the belief that practices of representing have no effect on the objects of investigation and that we have a kind of access to representations that we don't have to the objects themselves. Reflexivity, like reflection, still holds the world at a distance. (Barad, 2007: 87)

Barad's remarks show that reflexivity may not represent the true and real world but is only a representation of certain values and ideas that are lived and practiced in the research setting. This is critical for objective scientific research and analysis, for this is the case, it can only ever reflect a distorted picture of the findings. For technical science and feminist analysis, therefore, reflexivity is an inappropriate tool; and since, as Barad argues, technical science is embedded in patriarchal structures, the results are also a reflection of a patriarchal gender order. Therefore, this practice is not practicable for the emancipatory opening of technical science and industry to implement feminist and intersectional ideas and allow everybody to develop and use every technology, product or artefact. As an alternative Barad proposes the method of diffraction.

Diffraction – A New Tool for Science, Industry and Methodology?

For Barad, diffraction is an antithesis or a model that does not use the negative properties of reflexivity. Another important aspect, which should be mentioned in advance, is that diffraction does not rely on common homologous knowledge, as mostly reflexivity does, but deals with the entanglements of the objects under investigation (Barad, 2007: 88). By homologous knowledge, I mean knowledge that has been acquired, shaped, and constantly reflected upon by one person or like-minded group without taking into account other perspectives or elements of knowledge, either because they were deliberately ignored, were not known, or the relationship to them was not or could not be drawn. Thus, diffraction as a methodological practice can be clearly distinguished from reflexivity. The core idea of diffraction can be seen in the following quotation from Donna J. Haraway:

(...) diffraction can be a metaphor for another kind of critical consciousness at the end of this rather painful Christian millennium, one committed to making a difference and not to repeating the Sacred Image of Same. ... Diffraction is a narrative, graphic, psychological, spiritual, and political technology for making consequential meanings. (Haraway, 2018: 273)

I am using Haraway's quote to clarify the core meaning of diffraction in Barad's concept, to show that diffraction can function as a feminist critique of technology. It is about distinguishing one type of knowledge from another one, showing differences, and examining how knowledge can be intertwined⁵. According to Barad, diffractive methodology serves to bring about 'a critical practice of engagement' (Barad, 2007: 91). It aims to recapitulate and represent scientific positions that have not yet been confirmed. Diffraction is based on the following core aspects, which clearly distinguish it from reflexivity:

Diffraction, as mentioned, forms what are called diffraction patterns. They show when there are differences or gaps in a knowledge construct and how these are distinguished from other constructs (Barad, 2007: 88). The search for distinctions or diffraction does not serve the repetitive representation of existing knowledge constructs, but rather the creation of 'performativities' that emerge through 'intra-actions' and thus become established (Barad, 2007: 89). For Barad, knowledge consists of an ontology with interrelated and interdependent terms. This ontology is a constantly evolving and changeable framework of knowledge that is affirmed, negated, and changed accordingly through constant confrontation and situational re-evaluation (Barad, 2007: 89ff.). Barad's theory also includes the issue of accountability. For her, it is important that developments arise from the scientific and social practices that are carried out in an accountable manner. Therefore, whoever uses these practices must also be willing to take responsibility for the consequences and to change them if necessary (Barad, 2007: 89). For this reason, Barad argues that the elementary philosophical fields of ethics, ontology, and epistemology should no longer be seen as separate fields of research and action, but rather as an inseparable unity that supports and conditions each other and should also be applied in fields that have not been directly included in the past, such as the STEM fields or the industry (Barad, 2007: 89ff.).

According to Barad, scientific papers and theories need to be read 'transdisciplinarily' in order to recognise the differences and boundaries that become apparent through the pattern of diffraction. Furthermore, she calls for 'respectful engagement that attends to each other's detailed patterns of thought' (Barad, 2007: 90). For Barad, diffraction is a practice that, at its core, is about 'accounting for how practices matter' (Barad, 2007: 90). Diffraction, or diffractive methodology, makes it possible to create a new perspective on science and make it more diverse. Knowledge is no longer examined in terms of a single discipline, but in terms of connections to all possible categories of knowledge and disciplines. Diffraction makes it possible to redefine natural and technical science and to free them from outdated patterns of thought, norms and values. This also applies to the gender dichotomy in engineering, design, industry and marketing which we will demonstrate and concretise in the next section of the

⁵ In her research, Donna Haraway links the concept of diffraction with other innovative perspectives, such as the concept of situated knowledge (Haraway, 1988) or the concept of *sympoiesis* (Haraway, 2016), which advocates a general responsible coexistence in all aspects of life. Both concepts are not elaborated here, but can be read about in the respective works, see reference list.

article. We now turn to one area in which the problem of ontology and scientific practice is very clearly illustrated, and that is the gender script.

THE CONCEPT OF GENDER SCRIPTING – AN INTRODUCTION

Technology is an object created, developed and designed by human beings. Due to various historical circumstances, such as the segregation of the sexes, the long historical exclusion of women from the natural and technical sciences, sexist traditions and laws, technology became a field dominated by male figures and their ideas, visions, practices, techniques and infrastructures (Schatzberg, 2018; Ihlen, 2017). Since the second half of the 20th century, there have been developments to change this drastic imbalance of 33% women to 77% men in the system of technological development and design (Bello et al., 2021). Although women in most parts of the world now have the right and opportunity to create, develop and design technology or to become engineers or designers, the stereotypical tradition of this segregation is often still alive and in daily practice in science, industry and marketing. This lack of female knowledge, ideas and visions is very problematic and therefore an open vision of diverse technology engineering and design is more than necessary. To fulfil this change the use of technology by different users should be taken into account in the development and design of technical artefacts.

Technology is a very broad term and defines numerous analogue, digital, primitive or specialised technologies or artefacts in our society (see Footnote 3). Technology as discussed in this article is a combination of theoretical objectives/ideas and physical technologies that are developed based on these theories and ideas. As Gilbert Simondon states, technology is a unity made of different technological parts that are created, produced and combined to function in a way that is thought by its engineers (Simondon, 2011: 421). We as users are reminded of this every day, and this duty of and the diligence to keep the different users and their different needs in mind, is expected of research, technology and industry. However, the development of these technologies, which accompany us in our daily lives, often shows certain shortcomings, which in turn can be traced back to the product development itself and the scientists and technicians responsible for it. When using these technological products and concepts and engaging in technologically prompted behaviour, it quickly becomes clear that the products, concepts and behaviours as designed are not functional or suitable for everyone. The cause of this lies in many different areas and functions, one of which, the gender script, will be examined in more detail below.

Gender scripting represents one of the most complex and human causes of the misdevelopment, misdesign and misproduction of technologies. Gender scripting is not a new practice; it was first addressed only in 2003 by the Dutch gender researcher Ellen van Oost. Her results were published in her article *Materialised Gender: How Shavers Configure the User's Femininity and Masculinity* (2003)⁶ that focuses on technologies and products that are designed, developed and manufactured for our daily use in housework, hygiene, lifestyle or work by mostly economic orientated companies and industries. Her article provides an example that comprehensively explains the significance of gender scripting for industrial technology development and for female stereotyping, and shows why we need to rethink development and scientific practice themselves in order to make more room for women and imaginaries of femininity in the fields of research, design, development and industry, and in the STEM sector more broadly. This need for reformation has been discussed by various feminist thinkers like Judy Wajcman, Waltraud Ernst and Ruth E. Hagengruber who all demand an implementation of feminist values and visions for the patriarchally influenced and dominated fields of science, development, industry and marketing (Wajcman, 2004; Ernst, 2013, 2017; Hagengruber, 2016). This also opens the possibility of implementing diffraction as regular tool for engineering and how it can be used to deconstruct the gender script.

The Initial Problem: Product Development/Design and Matching to the End User = The Gender Script

In her article, Ellen van Oost explores gendered technology and its origins through the example of electric shavers and their product development over the years by the Dutch brand Philips. van Oost argues that technology reproduces an everyday relationship between gender, material design and development (van Oost, 2003: 193). Technologies are generally adapted to the end user and are in many cases gendered. This trend continues today and is reinforced by the growing concept of gender mainstreaming and the resulting market opportunities (gender marketing) (Hosny, 2018; Wagner, 2018). Gendered design may seem like a minor issue, but it has a significant impact on the end user's purchasing behaviour, handling of the product, usability and confidence in the technology itself. This is important for the design and development of technology because, for example, men perceive and develop technology specifically on the basis of their own needs and requirements and do not necessarily recognise

⁶ In this article I have chosen van Oost's example because it is a very simple example to explain the complexity of gender scripts. Of course, this example is a more historical one for today's understanding, but the effects of gender scripts and the methods and situations described by van Oost and Bath are also current realities in science, industry and marketing.

differences in or to women's requirements so that these could be taken into account in the design. van Oost calls this process 'gender script' (van Oost, 2003: 195).

The gender script is the template by which technology is gendered. Today it is an important and also profit-oriented tool in the design and development of new products. Gendered operation and application are at the heart of design especially in technologies of our daily use (van Oost, 2003: 195). van Oost writes that in the development of technology, the I-perspective is at the centre of technological development. This means that the designer, developer or engineer⁷ starts from personal conditions and prerequisites and therefore constructs and optimises the product according to her/his/their personal characteristics. However, this subjective approach to the development of technologies harbours risks and problems, especially when these technologies or products are ultimately introduced to the global market and thus to a large number of users with different requirements. In addition to the product design, the materials used and the technical construction, and specifically targeted marketing strategies using certain role models are also part of the gender script. The latter is therefore a formative technology for science, development and industry that has gained enormous relevance with the rise of gender marketing. In her article, van Oost uses the example of electronic shavers to illustrate the problematic nature of the gender script. This complex and discriminatory process is illustrated by the development of a series of electric shavers by the Dutch brand Philips. This example is also special because it is a well-documented case from research and industry that spanned several decades of the 20th century and illustrates what can happen when research, knowledge and industry are viewed in an overly one-dimensional way.

The Example of the Shaver as a Gender Scripted Technology

In the following segment, I present her study in an abbreviated form. The electric shaver is a good example of a gendered technology, as there are specific shaver models for both men and women. It is worth noting that the first electric shaver of the Philips brand⁸, developed in the 1930s and launched worldwide in 1939, was a universal product, i.e., it was designed without specific gender connotations (van Oost, 2003: 197ff.). The shaver had a relatively neutral design – a black synthetic resin design with a leather case – and the focus was on shaving itself. The advertising strategy was based on print advertising or public presentation. The first Philips electronic shaver (nicknamed *The Cigar*) was aimed and advertised primarily at men, although women were not excluded *per se* (van Oost, 2003: 198). Like many products, the electronic shaver is a technological product that has been undergoing technical development for decades. The second Philips model, *The Egg*, was launched in 1948 and differed from its predecessor mainly in its more ergonomic design. It was not until the third model in 1951 that significant innovations were made with the addition of a double-headed shaving element (van Oost, 2003: 198ff.). The design was adapted to the new production material, which changed from resin to the then new and similar plastic. This design was in keeping with the spirit of the times and the market economy of the 1950s. Through targeted advertising strategies, the electronic shaver was specifically built and promoted as a product for men. This was achieved through masculine and cosmopolitan advertisements and slogans:

Another marketing technique that proved effective was to provide airline company's logo. In this way Philips not only linked its shavers with the modern symbol of speed (the airplane) but also saw to it that well-to-do male travellers became acquainted with them. (van Oost, 2003: 199)

Through such advertising strategies, the electronic shaver was linked to the ideals and images of masculinity that prevailed at the time, making this the first obvious gender script. From this model onwards, the electronic shaver can be read as a gendered technology. Philips shavers continued to adapt to role models. In 1957, the *Philishave* model, as the male-oriented product line was called, received additional elements, such as the ability to remove the shaving head at the push of a button. This was to enable the 'handyman' to take the shaver apart for maintenance or cleaning (van Oost, 2003: 199). In 1966, the double-headed shaver was replaced by the triple-headed shaver as the product standard for the men's range. The first electric shaver for women was developed in the 1950s. Women had been identified as potential shaver users as early as the 1920s, but until then they had only been a small part of the target audience and were not seen as a group with independent purchasing power. As cosmetic and hygiene standards increased, as did the number of potential marketable target groups, women also became a source of profit for manufacturers of electronic shavers. The *Beautiphil* was the first women's shaver

⁷ The technology design process involves several players, including engineers and developers of the functionality of a product or technology. Aesthetics, haptic functionality, or sensor technology are considered by industrial designers. At a later stage, there are also designers or marketing specialists who also have a strong influence on the intended end users. However, it is very difficult to delineate this precisely in a peripheral analysis such as this one, because these transitions and responsibilities of these different experts in the process are different depending on the product (Paloian, 2019).

⁸ In her study, van Oost gives details of the shavers based on the monograph by Sergio Derkes *Scheren: Van Klapmes tot Philishave* (1996). The details of several shavers mentioned in this article are taken from van Oost's study and refer to it accordingly. For further reading, also have a look at Derkes' monograph, see reference list.

developed, designed and sold by Philips in the mid-1950s and it established the *Ladyshave* range. This shaver was simply given a feminine casing and design to appeal specifically to women (van Oost, 2003: 199). In order to attract women as potential customers, Philips first used colours, fashion and fashion trends in its advertising campaigns in the 1950s and 1960s. These show the first primitive image of a gender script aimed at women as customers:

The main design strategy used in the 1950s and the 1960s to tailor a shaver for female users was to give it recognisable female-coded features, such as pink housing or a round red storage case. Philips' competitor Braun followed a similar strategy, decorating its women's shavers with little imitation diamonds. (van Oost, 2003: 201)

Philips' marketing strategies seem ambivalent in this regard. For men's shavers, for example, the focus seems to be primarily on the shaving technology, while for women's shavers it is primarily on feminine appearance, design and appealing advertising concepts. The underlying gender scripts here are that technology should be obvious to men and hidden from women. van Oost also describes this process as the 'masking of technology and shaving' (van Oost, 2003: 201). Women are supposed to associate the shaver with cosmetics, beauty, well-being, and femininity, and not develop an image of technology. This goes so far that even seemingly banal elements such as smells, e.g., the smell of motor oil that may leak from the device, are to be masked by perfumed pillows in order to avoid any possible association with technology (van Oost, 2003: 201ff.). The masking of embedded technology has also been applied to brand names. For example, one *Ladyshave* model bears the name 'Milady Decolletée' and thus evokes no association with technology, but with femininity, beauty, cleanliness, attractiveness, and well-being (van Oost, 2003: 202).

However, the separation of the products did not only apply to the development and marketing of the product itself, but also to the development and production of the shaver series. van Oosts showed that Philips separated the development and production of the shaver. Thus, the development and production of men's shaver remained at the main site in the Netherlands, while the development and production of women's shavers was outsourced to Switzerland. For van Oost, this circumstance means two things: on the one hand, this relocation and separation of development and production could be seen as an emancipation of the women's shaver, since development and marketing were also relocated. On the other hand, it is also possible that gender distinctions were cemented in this way. The men's shaver was seen as a technical electronic object and remained at the main site, while the women's shaver was downgraded to a cosmetic product and thus lost the symbolic value of technology and was deliberately 'outsourced' (van Oost, 2003: 202). This last assumption is particularly evident in the comparison of the two product lines and reinforces the image of the degradation of the women's product, as can be seen from the development history. While the *Philishave* series was further developed and redesigned with a metallic look, a plastic case, and a focus on office and management clientele, the *Ladyshave* series remained largely the same. The last remaining technical components, such as screws, were either completely covered or removed by a new connector housing (van Oost, 2003: 203ff.). The *Ladyshave* series thus became a cosmetic but untechnical product, equipped with outdated technology for a long time and not consistently improved like the *Philishave* series. It was not until 1980 that a new *Ladyshave* model was launched. This was the first wet-dry shaver that was waterproof. At the same time, the *Philishave* men's range underwent three further developments: First, the shaving head was improved to provide a better shave. Second, the wet-dry shaving technology was added to the *Philishave* and the first rechargeable battery version was incorporated to facilitate shaving in the shower. Third, the first microelectronics, such as small displays for information transfer, e.g., for a countdown function, were installed (van Oost, 2003: 205). These developments demonstrate and support earlier theories that the men's product line has a more thorough and advanced mechanisation and specified innovation performance than the women's line. Technology, according to van Oost, should be kept away from the female audience. This is also reflected in the fact that new technologies, such as the rechargeable battery function, were sometimes incorporated into women's shavers with a considerable delay. For example, the battery function was not integrated into the *Ladyshave* until 1990, 10 years later than in the men's models. The image of the woman as a cosmetics-loving but technology-phobic person produced here is almost elevated to an art form by the masking strategies. Women are virtually denied technical competence, and this is manifested in design decisions. How these decisions were made, whether simple ignorance or deliberate exclusion based on outdated or supposed economic, scientific or social values were decisive, cannot be clearly proven. But the example of Philips shavers clearly shows how technology can be targeted at or kept away from gender imaginaries, and which social expectations and images can be projected and manifested through technical products.

EFFECTS OF GENDER SCRIPTING = PROMOTING WOMEN INSTEAD OF EXCLUDING THEM

Ellen van Oost's study has shown that even pure design decisions can structure technologies in a gendered way and at the same time significantly influence and determine the market behaviour of women and men. At the heart of these effects is the gender script⁹ described above as a driving element. It determines the basic structures of the technological production and products and, ultimately, by whom and how the product is to be used. The gender script does not necessarily have to be intentional, but it may well have been consciously initiated. Therefore, the practice of gender scripting is also problematic. All in all, gender scripting is a complex process with many aspects that need to be considered to improve technology development and production. Corinna Bath¹⁰, a gender researcher and engineer, described the concept of (gender) scripting in 2012 as follows: The gender script concept is based on the concept of 'script' introduced by Madeleine Akrich (1992, 1995) and grounded in actor-network theory (cf. Latour, 2005). The approach aims to describe how technical objects 'participate in the construction of heterogeneous networks that bring together actors of all kinds and sizes, whether human or non-human'. (Akrich, 1992: 206)

The basic assumption here is that technology designers, in the course of the technology design process, always develop a multiplicity of visions of a product, which ultimately manifest themselves materially – discursively – in the artefacts (Akrich, 1995: 168; Bath et al., 2013: 89). The gender script, which is a significant cause of gendered technology, can be influenced by many factors. In her article 'De-Gendering Information Technological Artefacts' (2017)¹¹, Bath describes the process of gender scripting. Bath calls for the STEM field to go through a process of 'de-gendering' (Bath, 2017: 39). Technology development, according to Bath, has been created through decades of one-sided gendering processes. These development departments have been shaped primarily by men and now have inherent structures that prescribe a representation of gender and roles that is no longer in line with the consensus and with the political and legal zeitgeist. In order to give women and men equal participation in the gendering process, the field needs to be fundamentally reinvented. According to Bath, there are three steps to identifying these processes of gendering:

1. Conceptualise a 'systematic synopsis [...] of how informatics artefacts can be problematically gendered (racialized, etc.)' (Bath, 2017: 39).
2. Initiate and establish a culture of debate about the 'commonly identifiable problematics of the gendering of technology' (Bath, 2017: 39). This includes assessing which gendering processes are useful for the project and which should be avoided.
3. The first two steps mentioned here form the basis for a detailed analysis of design processes in technology development. The third step is to have these analyses accompanied by a team of gender researchers who will evaluate, assess and publish the results. This is to avoid possible misinterpretations and misunderstandings. Bath argues that these three steps must accompany the previous development and design process of technology in order to prevent previous problematic elements of gendering.

Moreover, these processes are compromised by other circumstances that urgently need to be rethought and reformed for neutral technology development: the I-methodology, our norms, stereotypical assumptions, and gendered infrastructure.¹² I discuss these below.

The I-Methodology

One of the best-known analysis and development methods in the design process is the so-called I-methodology. Here, technology is developed on the basis of personal self-understanding and personal preconditions, needs and habits (Bath, 2017: 40). In addition, the personal visions and ideas of the developers manifest themselves in terms of how the subsequent object or technology should look like, be structured, used and defined (Bath, 2012: 89). The I-methodology is one of the biggest problems, because technologies are developed only on the basis of the developer's own imagination and applicability. Consideration of other users is very difficult or even impossible. Other third-party innovations may not be considered at all. People with more specific needs, such as people with physical disabilities, are also not considered and thus excluded from use *per se* (Bath, 2017: 40). Technologies

⁹ Every artefact conceived and produced by an engineer, developer, or designer follows a script. Thus, an artefact *per se* has influences and thought patterns of the creator behind it. The gender script is often another attribute assigned to the artefact. For further reading, see the attached reference list to the reference on script theory by Madeleine Akrich.

¹⁰ The texts used here by Corinna Bath and Fleur Weibel are unfortunately only available in German. The quoted passages have been translated by the author.

¹¹ Original title in German: *De-Gendering informatischer Artefakte*, see reference list

¹² The information presented here still relates only to the issue of physical technologies for everyday use like shavers, as previously mentioned. Digital technologies are not included at first, but may also be affected in principle and in theory. This is not, however, examined in this article.

developed and produced using the I-Methodology must be extensively retrofitted and made widely available, which can be costly and resource-intensive for the producing manufacturers. The personal vision of the technology behind the I-Methodology can also be strongly influenced by dominant norms.

Norms

The design process of technology, like the whole of society and everyday life, is determined by norms. Since norms do not always produce and determine positive characteristics and behaviours, they can also entail massive restrictions and disadvantages for certain parts of society. According to Corinna Bath, it is therefore imperative to (re)examine established and emerging norms (Bath, 2017: 40). In everyday life, but also in the design process, norms can already be entrenched with negative gender ascriptions. Bath cites the long-neglected safety concepts in automobiles as an example:

This is particularly evident in the example of standards that relate to people. In automotive engineering, for example, cars are designed to standard human bodies that serve an average person, but do not take into account very tall and very short people. In the early development of airbags, the assumption that such supposedly marginal groups were negligible led to small people and children being dangerously injured rather than protected. The history of crash-test dummies, which are also part of the field of automotive safety concepts, impressively demonstrates that the initial assumption was of a medium-size male standard body (US GI 1949: 170 cm, 70 kg), with women and children dummies being added later. (...) It took 40 years for the first manufacturers to come up with the idea of simulating a pregnant body. (Bath, 2017: 40ff.)

The example presented here drastically illustrates how dominant norms can influence a specific field and how long it takes for those very norms to be questioned and rethought. It is also a recurring pattern that shows how women are deliberately overlooked and disadvantaged in the gendering process. Reforming these norms is therefore of paramount importance, as we also quickly add to norms or allow them to become norms through stereotyping and prejudice. The correct use of norms, which means taking into account all peoples, not just men, is fundamental, especially with regard to possible legal opinions and the formation of laws. In addition, the application of norms in terms of economic or other purposeful intentions must be taken into account and universal norm formation must be established, including possible misuse or ignorance and reacting to them preventively.

Stereotypical Assumptions

In addition to norms and I-methodology, another serious problem is the assumption of stereotypical male and female behaviours. Stereotypical assumptions are reinforced by given norms and performative behaviours, leading to false assumptions that can be reflected in rights and laws. Bath therefore proposes the use of an alternative design concept. 'Human-centered design'¹³ becomes the new standard through 'user-centered design' (Bath, 2017: 41). Here, newly developed technologies are re-evaluated by multiple users of different backgrounds, genders, and physical and psychological conditions. According to Bath, this results in a more universal picture of the user. This design strategy can help break down existing stereotypes and prevent new ones from breaking out (Bath, 2017: 41). Stereotypes and norms are formed through increasing reproduction and repetition, which in turn are manifested as part of a gendered infrastructure.

Gendered Infrastructure

The development and exploration of technology has been based on an infrastructure designed for this purpose, which has all the elements necessary to shape technology. When this infrastructure is preloaded with gendered content, such as norms or stereotypes, it is referred to as gendered infrastructure (Bath, 2017: 42). According to Bath:

Gendering processes already begin at this level with abstraction, classification, and formalization that suggest objectivity, presuppose a neutral research object, and conceal prior decisions in the research and development process, while in practice, among other things, gendered classifications and dichotomies or hierarchies of knowledge are produced that reproduce the existing symbolic gender order. (Bath, 2017: 42)

The infrastructure of research and development can thus appear neutral and objective, even though it is already contaminated by assumptions, stereotypes, or norms and thus no longer value-neutral. Bath believes that this can

¹³ Human Centred Design definition: 'Human-centered design is a problem-solving technique that puts real people at the center of the development process, enabling you to create products and services that resonate and are tailored to your audience's needs.' (Landry, 2020)

be prevented through close collaboration between STEM research fields and the humanities and sciences. In this way, gendering processes could be identified and eliminated earlier, before the developed technology reaches the end user. This applies not only to the development of physical technology, but also to areas such as software engineering, as algorithms can also be programmed to serve certain norms or stereotypes and ultimately become a disadvantage for the user (Bath, 2017: 43).

Reuniting van Oost and Bath

Corinna Bath's remarks can be applied and thus extended to the example of Ellen van Oost's shaver study. The genesis of the shaver presented here has clearly shown that this technological development was carried out through gendered processes. This can be seen, for example, in the colour design of the devices, which assumes that every woman will find a shaver in pastel or pink shades attractive. It is also assumed that any reference to technical artefacts, however small, such as a screw, will lead to rejection of the product by the female user.

Similarly, it is assumed that women reject technology in general as can be viewed in the example of van Oost: The sometimes-late addition of modern technological elements to women's shaver lines suggests that developers applied double standards to the quality of the shave. Thus, men were generally presented with more modern shaving technology, while women were sometimes offered certain elements, such as a double-headed shaver or a battery mode, with a considerable delay of several years. This suggests that, on the one hand, men's shaving was given a higher priority by the designers and, on the other hand, a gendered evaluation was made, in which men were clearly given a more important position than women. In this way, the developers not only exploited certain stereotypes, but also made the predominance of men as the primary users of shavers the dominant norm. The resulting infrastructure of shaver development was thus able to develop product stereotypes over decades that are difficult to dispel today. After all, it is possible that not all consumers will be satisfied with the designer's product design. If it can be assumed that the developers were able to design the devices on the basis of their own preferences and experiences, the I-Methodology makes it more likely that users who differ from the designers in significant ways will be dissatisfied with the product design. Another consideration is whether the male or female consumer is satisfied with the design of the men's series at all. After all, it is possible that not every man is attracted by the design of the men's shaver as a technically modern object in black and screaming for power, masculinity and love for technology. The same goes for the design of women's shavers, but like already demonstrated, the connotations linked to female shavers are opposite to those linked to male shavers. Bath and van Oost's remarks show that it is important to link the development of technologies with the humanities, especially gender studies. This is the only way to prevent products and technologies that reproduce gender stereotypes, hierarchies and exclusions. At the same time, it can ensure that technological development benefits women and men equally. Women would thus be able to co-develop and design gendered technologies, such as an electric shaver, and act as technophile agitators. Bath and van Oost's theories can also be read as a call to give women equal access to the development, creation and marketing of design, and to dismantle outdated hierarchical structures that have so far denied women their right to actively co-design technology. To achieve this, it would also be a good approach, like van Oost argued to transfer features from men's shavers, such as the ability to unscrew and deconstruct, to women's shavers ranges (van Oost, 2003: 206). This would give women the opportunity to engage with technology. This research highlights the need to reform the structures in science, engineering, development, design, industry and marketing themselves. It is particularly important to embed women's imaginations in the process of designing technologies, but this also requires a redesign of the research and development process. Karen Barad's concept of diffraction can be used as a starting point.

DIFFRACTION AS A REFORMER OF (GENDERED) TECHNICAL SCIENCE

For Barad, it is clear that academic learning is not the only contribution to knowledge, because social structures and everyday experiences are equally important for the genesis of knowledge (Barad, 2007: 92). Her theory of diffraction can provide a solution to gender inequality in the engineering sciences, design and marketing and mitigate or eliminate the problems created by the gender script. By re-evaluating ontologies, and the ontology of gender in particular, there is an opportunity to re-evaluate gender altogether. It would be possible to redefine the gender hierarchy and place all genders on an equal footing, offering women, men and all other genders the same possibilities and rights with respect to the use, development, and research of technology. It would also be possible, however, to eliminate the component or category of gender from technological research altogether, and to seek and research only the benefits for human beings as universal beings. The practice of reflexivity is not helpful here, as it would only help to repeat outdated standards of knowledge, which in turn would mean repeating patriarchal patterns and thus halting progress in technoscience. Therefore, diffraction is a suitable tool to provide science in general but also specific fields like engineering, design or marketing with a new definition and orientation of knowledge. In addition, the diffractive methodology offers the possibility of critically confronting and eliminating

existing hierarchies and value communities that are historically based and considered outdated by today's standards and ideas of society. Therefore, through diffraction, a process of opening up technical science can certainly take place. Here, too, it is important to find people who are willing to take responsibility and rebuild the system from the ground up, subjecting it to ethical-ontological-epistemological scrutiny. These conclusions are also made clear by the analysis of Fleur Weibel, a Swiss researcher in the field of gender studies. In her article *Diffraction: A Phenomenon, a Practice, and a Potential of Feminist Critique* (2013),¹⁴ Weibel argues for Karen Barad's concept of diffraction as an alternative scientific methodology. Diffractive methodology is a way of analysing and changing existing power structures based on gender and the performativity of gendered discourses (Weibel, 2013: 108). The analysis of effective connections of 'bodies, affects and technologies should be developed in order to find new possibilities for feminist critique' (Weibel, 2013: 109). Weibel believes that Barad's diffraction, and the theories and concepts presented there, is connected to Judith Butler's theory of recurrent speech acts and performativity. This, she argues, is still highly relevant in gender studies and therefore a good basis for all disciplines associated with gender studies to discover and reform recurring dichotomous patterns (Weibel, 2013: 109ff.). Weibel elaborates:

In this optical phenomenon [of diffraction, author's note], which as an ambivalent diffraction pattern does not allow clear demarcations, 'the extraordinary liveliness of the world' is manifested, according to Barad, which not least goes beyond human thinking in dichotomous and binary categories. Barad specifies this independent liveliness with the example of the double-slit experiment, in which the quantum-theoretical 'wave-particle duality paradox' is revealed. (Weibel, 2013: 110; Barad, 2007: 83/91)

Her work demonstrates once again the possibility of a feminist analysis in the field of science and technology. In addition to Weibel, Corinna Bath has also studied diffraction. She sees a connection between diffraction and feminist scientific practice. According to her, interacting and interfering with each other is a fundamental part of human inter- and intra-acting. In this way, gender relations and entanglements to other fields of social cultural research are brought to light, and the patterns of action and performativities that emerge there in turn generate boundaries. According to Bath, these can be made visible through a diffractive methodology (Bath et al., 2013: 9ff.). Through diffraction, the system of gender can be questioned. 'Gender as a space of truth' is then consciously problematised and, according to Bath, no longer represents the only truth and norm in the fabric of technical science' (Bath et al., 2013: 17). When gender is seen as an interference, it is no longer a permanent entity, but a 'dynamic of 'referring to' (Bath et al., 2013: 21). Assume Bath and Weibel's remarks show that diffraction, as a new method of analysis and thinking, can redefine engineering.

This assumption is consistent with Bath's previous discussed ideas. Her four problematic spheres of I-methodology, norms, stereotypical assumptions and gendered infrastructure show a diffractive analysis of a critical scientific and industrial practice. By taking them into account and reforming the development process, this implementation can be seen as a diffractive view to improve the act of engineering and designing. Gender as a structuring category can be replaced by other, more universal categories that affect and challenge all people equally on an egalitarian level and from an egalitarian starting point. By implementing this multivisional rethinking, other spheres of daily socio-cultural action (e.g., aspects of care, health and physical needs, etc.) could also be mentioned. Barad's concept of diffraction can thus be seen as a still relevant alternative way of reading and analysing science, with the potential to address grievances and redress inequalities. Individual fields of research do not stand on their own; they also draw on and influence other fields of science, society, and everyday life. In a society and science as multidisciplinary as it is today, we need to take into account different types of action, needs and realities of life. Recurrent patterns of action and performativities that once created and manifested patriarchal structures can now by using diffraction be eliminated and replaced by new patterns of action and performativities that are intertwined and interdependent. In my opinion, the diffractive methodology offers a good alternative to counteract old structures (e.g., patriarchy), but also new structures that may arise in the long run and embody patterns of discrimination, and to make them more controllable and comprehensible for all people, especially in today's fast-moving time, which daily brings about various innovations and changes in society, science, but also in technology. The example of Karen Barad's diffraction has also shown how close the natural sciences and the humanities can be and how they can interact with each other.

CONCLUSION: DIFFRACTION AS AN ADVANTAGE FOR THE FEMINIST TECHNO-IMAGINARY

"The most dangerous phrase in the language is "We've always done it this way." Dr Grace Brewster Murray Hopper, an American computer scientist, was quoted in a newspaper article in the weekly magazine *Computer World*

¹⁴ Original title in German: *Diffraction: Ein Phänomen, eine Praktik und ein Potential feministischer Kritik*, see reference list.

(Surden, 1976). Her quote points out what is wrong in science, business, industry, and society under patriarchal leadership. Recurring and unquestioned patterns and the missing of alternative views such as the feminist techno imaginaries often lead to recurring errors. An innovative, responsive and forward-looking rethinking is urgently needed. The reception, acceptance and *raison d'être* of feminist techno imaginaries in academia, society and everyday life is long overdue. This gives diffraction an advantage as a feminist perspective on the practice of science. The possibility of implementing feminist imaginaries and ideas can be strengthened and evoked both in the humanities and in the STEM fields, as well as in business and industry. Karen Barad's vision of a freer and more open science allows for the consideration of previously suppressed, unheard and unrecognised positions of women, but also of marginalised groups (people of colour, LGBTQIA+ people, disabled people, etc.), and thus for their influence and interpretive authority in science. The implementation of feminist techno-imaginaries, as illustrated here by diffraction, can further emphasise the need for such action. It also serves to democratise science by bringing in the positions, voices and ideas of marginalised, unheard or ignored people, theorists, activists and members of academic departments, industry and society who have not been heard or recognised. Concepts such as diffraction could thus be used as a tool that enables the applicability of technologies to everyone, regardless of origin, gender, physicality and other characteristics, thus making technologies universally applicable objects.

In the context of this article, the gender script was presented as a rather avoidable action that harbours great dangers for equal participation in technologies. Nevertheless, there are certain situations, such as medicine or technologies with a direct physiological connection, which make a gender script conditionally necessary. This could include technologies that require explicit situations that allow for a gender script, e.g., medical products or fashion for pregnant women and pregnant people, e.g., trans or non-binary people, but do not rely on stereotypical design choices. It must also allow for the design of a universally, perhaps even personalised, adaptable product that either appeals to everyone, can be applied or modified by them, or can be applied to them individually. In the case of the shaver, this could be a shaver version that is equally usable and physiologically adapted for all genders. It might also be designed in a fashion-neutral way, with colours and shapes that have no gender connotations and, last but not least, offer the possibility of dismantling the device itself in order to repair it, expand it with new developments or simply deconstruct it. This would not only counteract possible patterns of discrimination, but also make the product more sustainable and attractive to more customers. It would also take into account technologies that do not require a gender script and also allow the application of human-centred design through the diffractive perspective for every technology. Using this approach, feminist techno-imaginaries could also increasingly find their way into product design and development. Consideration should also be given to reviewing existing technologies and products that have an explicitly discriminatory gender script or similar discriminatory script or attribute, removing discriminatory attributes and reinterpreting the technology in a comprehensive way using a diffractive approach so that it can be used by all people.

Technologies could thus also become a space of realisation for all genders where this was not possible before. This is the case not only with the research and production spaces themselves, which could be made more heterogeneous through diffraction. It would also open up scientific and development practice itself to become a space of innovation for women, as Barad, Haraway, and Ernst have demanded (Barad, 2007; Ernst, 2013; Ernst and Cojocar, 2014; Haraway, 2018).

Feminist techno-imaginaries, as has been shown, are no longer constructs that remain hidden in the minds of brilliant women scientists. They are already present and only need to be firmly implemented for performative application in research institutions, colleges, universities, and business and industry. Through political agitation and demands by women, this has already been initiated and is in full swing. It is only a question of time until feminist techno imaginaries become an instrument of everyday life and thus a lived practice in all areas of science, research and development. Only in this way will the desired form of equality, as demanded by progressive women and men, be reflected in the real world of life.

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Coalition Science: Bridging Imaginaries Between Collocated Communities in the Polar Oceans

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ABSTRACT

Analysing ethnographic data from observations and interviews with polar scientists, this article builds on feminist techno-science, queer ecologies, and indigenous Science and Technology Studies (STS) to offer urgent critiques and useable techniques for creating more resilient and less harmful knowledge infrastructures. This article proposes 'coalition science' as a framework for multiple invested parties to share locations and produce knowledge together, complementing decolonial and feminist endeavours. The commitments of coalitions that we detail here reimagine communication pathways between scientists and other stakeholders who imagine and interact with the ocean in different ways. As this article demonstrates, when ocean scientists do attend to community engagement and co-design, they tend to invest in innovation rather than maintenance (what we call techno-scientific imaginaries). Feminist and indigenous theories of co-location and co-design push back against this asymmetrical attention to the new and help us see the urgent need to develop lasting coalitions as infrastructures continuously need repair. Coalition draws attention to new imaginaries based on justice, communication, and relationships. This article shows four critical moments that can put a coalition-centred imaginary into immediate practice.

Keywords: communication, science and technology studies, oceanography, imaginary, scientific practice

INTRODUCTION

The conversations and connections that led to this paper began in 2019, when Dr Stephanie Jordan planned to collaborate with polar scientists working in the Irminger Sea outside of Greenland and Iceland, as well as in the Northern Atlantic around Sitka, Alaska. The arrangement was designed to be symbiotic. Jordan would conduct ethnographic research to inform suggestions about feminist techno-scientific practices. The participants with whom Jordan conducted interviews were intrinsically motivated to learn more about feminist science studies because their laboratories were women-led and diverse, while their discipline, ocean science, has historically struggled to support practitioners and practices that challenged patriarchal norms (Jordan [Steinhardt], 2018; Lehman, 2018; Orcutt and Cetinić, 2015). Like many well-intended plans hatched during that fateful year, this collaboration was fundamentally changed by the COVID-19 pandemic. Jordan, now unable to visit sites herself, conducted Zoom interviews and remote observations using GoPro camera technology. The data set their scientist-participants shared with them brought into focus the difficulties of striving towards partnership with stakeholders who have different imaginaries. Cue another partnership: Jordan invited Jennifer L. Lieberman to collaborate on data interpretation using a feminist techno-imaginary lens. In this article, Jordan and Lieberman identify the tense and vulnerable moments when the desire to apply feminist principles and build community clashes with existing scientific practice. To understand these sites of friction – and to develop protocols that might ameliorate them in the future – we begin with a study of imaginaries and build an argument for protocols of *coalition* that might provide pathways forward.

Let us begin with the concept of the imaginary as it pertains to ocean science. Legal scholars have defined the imaginary of ocean science as the 'epistemological and ontological constellations that suggest a particular way of visualising, knowing and relating to ocean spaces' (Ntona and Schröder, 2020: 245). But, as feminist theory suggests, those constellations are defined differently based on standpoint epistemologies (Harding, 1991; Tallbear, 2014; Todd, 2016). Depending on who you ask, the *imaginary*, or shared understanding, of the ocean might include

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the history of Black death during the slave trade (Hartman, 2006); it might include art and literature (Gillis, 2013); or it might include technologically mediated data. Practitioners in ocean science, unsurprisingly, fall generally into this latter category.

Oceanographers typically understand mapping the ocean as a problem of instrumentation. Meanwhile, scholars from other traditions have demonstrated that an overemphasis on instrument-innovation has created several lacunae: (1) a tendency to overlook the necessary role maintenance plays in oceanographic knowledge-making (Jordan [Steinhardt], 2018) and (2) a lack of attention to the inequitable power dynamics among stakeholders who make different kinds of meaning with and about the ocean (Lehman, 2018; Liboiron, 2021), particularly salient in the extreme polar conditions of the Arctic (Itchuaqiyag et al., 2023).

Feminist Encounters has already published an entire special issue that demonstrated how feminism can reshape understandings of innovation (Griffin, 2021; Berglund and Petterson, 2021). We take this work a step further by arguing that ocean science could benefit from shifting its focus from a techno-scientific imaginary driven by innovation, to a feminist techno-imaginary driven by maintenance, inclusion, relationality, and community building. The imaginary we introduce in the following pages offers a new way of seeing what scientists already do – as well as a restorative set of practices that could counter-balance historical patterns of exclusion. Typically, oceanographic practices have emphasised technology, science, and innovation while downplaying ongoing maintenance, as well as human and non-human participation; these practices are informed by what we call *techno-scientific imaginaries*. The words *emphasise* and *downplay* are the most accurate we can find to describe this, though they threaten to minimise how influential this paradigm is: credentials, funding, and status are conferred to scientists who exclusively adopt a techno-scientific approach. The lack of attention to human stakes has created challenges for women and other marginalised scientists who navigate hiring and promotion processes based on these norms (Bonatti and Crane, 2012; Orcutt and Cetinić, 2015). This article builds on feminist, decolonial, and science and technology studies (STS) scholarship that has sought to not only redress but also prevent harm that *technological imaginaries* can exacerbate among scientists, as well as co-located community members.

Previous scholars have taken important steps forward by demonstrating that maintenance is a crucial part of scientific practice (Houston et al., 2019; Jackson, 2014); we agree. We build on this work by weaving together feminist theory with observations of scientists to argue that *maintenance* must include maintaining relationships as well as equipment. We name this relational kind of maintenance, and the imaginary it espouses, as *coalition practice*. We observe nascent elements of *coalition* in our actors' recordings, when they are forced into communication with other university experts and non-academics who are located on or near their field sites. But our participant scientists also reveal frustrations that they do not have any training or institutional support to tend to work relationships with the ongoing care that they think they deserve. As researchers trained in feminist theory and science studies, we recognised these moments of friction as opportunities for change.

The recordings that comprise our current data set allow us to hear how scientists understand their own practices. One trend that became clear in our analysis was that our scientist-participants commonly named communication as a consistent cause of frustration. Despite working in the same waters, at times even physically side-by-side, stakeholders who have different – or even competing – imaginaries, struggle with basic interactions, even while acknowledging that their livelihoods could be much improved by coordination. Failures in communication regularly cause cascading problems. For instance, scientists might leave instruments in the ocean that affect fishing patterns; when they fail to communicate with local fishers during the project-design phase, animosity can grow between these groups. This animosity is further complicated by the fact that researchers rely on those very groups that they ignore in these scenarios. They request to borrow fishing vessels to calibrate equipment, or rely on local knowledge to interpret data. In short, practitioners who understand the ocean as an object of study may need to improve their work with local fishers, who understand the ocean in terms of extractive resources, as well as other coastal and indigenous peoples who all understand the ocean in entirely different ways.

Among the many things we learn from this data, we also notice trends in our participants' thinking about who or what might be a relevant accomplice in knowledge production about the ocean. The participants themselves acknowledge elsewhere that there are absences in their skills and training when it comes to coalition-building with non-academics, and that those absences can be a site of potential harm and erasure. The hegemony of innovation-driven technological imaginaries has encouraged and rewarded a focus on technological and scientific objects rather than human relationships, which takes time. For this reason, data collected after 2022 does not start from the perspective of university-led science; it focuses on amplifying voices from indigenous and coastal communities, small and commercial fishers, local historical institutions and recreational groups. Still, scientists are privileged actors in this space, commanding large grants and bringing cultural capital. When we start from the perspective of scientists, as our present data set does, we can identify moments of possible intervention. And it was here – in participant discussions about uncomfortable communication – that the concept of *coalition* emerged as an inclusive practice.

Coalition, at the moment of writing this paper, is an alternative techno-imaginary, salubriously informed by feminist science studies. Much has been written about what university scientists owe to the communities they study or rely upon; *coalition* rejects the paternalistic framework implied by that debt. Instead, it proposes some ongoing practices for maintaining both equipment and relationships, in ways that reduce harm whilst supporting inquiry. We make a distinction between *coalition* and its close kin, collaboration. Whereas collaboration describes a neutral meeting between equally interested parties, *coalition* is informed by social justice; it is not confined to one project; it begins long before deployment; and it can support the collision of different imaginaries, where conflict can be generative.

The case studies we discuss below demonstrate anxious and reluctant communication among groups. By illuminating just how interdependent these stakeholders are, we hope the concept of *coalition* will advocate for re-framing communication as an integral part of ocean knowledge production that can be built into techno-imaginaries that might be adopted by scientists in the future (and funded by future grant-makers).

This study begins by exploring the bias of techno-scientific imaginaries within ocean science. Next, it offers *coalition* as a potential framework for supporting scientific practitioners who are actively thinking about the need to work with people who understand the ocean in different ways than they do. It is our hope that shifting attention from over-funded innovation to *coalition* can demonstrate how ocean knowledge-making might persist while neither multiplying harms nor contributing to existing animosity among collocated groups.

METHODOLOGY

Theory and Literature Review

The explosion of environmental sensing (using robotics, sensors, modelling, and big data) has created a new social order in the scientific practice of studying oceans (Gabrys, 2016). Ocean scientists have recently used the concepts of 'Blue Growth' and the 'Burgeoning Blue Economy' to focus on technological futures that foreground innovation.¹ These initiatives are funded by such powerful institutes as the World Bank, and USA National Science Foundation, with good reason: improved ecosystem health and labour markets that use the water as a resource (be it energy, food, or transport) benefit from this framing. We attend to ocean science specifically because water infrastructures are historically tightly coupled with technological progress, such as cell phone towers built atop water towers in Zambia or the 'Telephone Cable Channel' that runs through a coral reef in a Hawaii nature preserve, as was explored by Lisa Parks (2015).

There are little to no institutionalised or financial incentives to challenge dominant techno-scientific imaginaries. Melanie Smallman has investigated why the techno-scientific viewpoint has become dogma, and argued that, at least in the context of the UK, an imaginary of 'science to the rescue' has influenced policymaking systems to the point that nuanced and critical approaches become inconceivable (Smallman, 2019). Some scholars and practitioners have attempted to address these issues within the techno-scientific model by advocating for approaches such as 'inclusive innovation' and 'pro-poor innovation.'² However, as Santiago Garrido and Ana Josefina Moreira (2017) have argued, attachment to large, private institutions has proven less effective at promoting inclusive development than advocates have hoped.

For this reason, we find that approaches that come from science and technology studies (STS) and feminism are better adapted to creating actual transformation. STS often works against the hegemony of a somewhat depersonalised techno-science. Scholars in these traditions have shown that infrastructures are prone to failure (Vaughn, 2016; Star, 1999); often contribute to ocean waste (Liboiron, 2021); harm or exploit local communities (Tsing, 2005); and/or represent a loss of financial investments when maintenance is undervalued (Jordan [Steinhardt], 2018; Jackson, 2014). The need for a maintenance-oriented solution to these varied problems becomes even more evident during times of societal stress, from political turmoil, the pandemic, or other factors (Finn, 2018). Some of the most exciting interventions have considered anti-colonial power dynamics. For instance, Max Liboiron has suggested that scientists should recalibrate not only sensors but also their commitments, which can be embedded into the ontologies and standard practices of oceanographic inquiry. Their laboratory, for example, has 'stopped using toxic chemicals to process samples, which means there is a whole realm of analysis [they] can't do' (Liboiron, 2021: 6). By demonstrating that prevailing scientific practices are tangled up in issues of inequity, these scholars call for a re-evaluation of what kinds of knowledge we could ethically create with, and about, the ocean.

The techno-scientific approach has contributed to what scholars have called the 'informational[sation]' of the ocean, a process which has all of the allure and embedded neoliberalism of pressing the messy world into 'Big

¹ See, for example, <https://openoceanrobotics.com/portfolio/the-burgeoning-blue-economy-with-ceo-of-open-ocean-robotics-julie-angus/> and <https://oceanservice.noaa.gov/economy/blue-economy-strategy/>.

² See, for example, <https://projects.worldbank.org/en/projects-operations/project-detail/P072182>.

Data' (Boucquey et al., 2019; Lehman, 2018). Ntona and Schröder (2020) have argued that this framework of creating knowledge about the ocean has led to a technocratic approach to distributing resources. In other words, the cultural cache of scientific and technological research leads to the idea that the ocean fundamentally *is* a site for resource acquisition. Christopher Lawrence (2020) introduced the concept of 'the imaginative exercise' to describe how an imaginary becomes 'modular' or transportable to different groups of stakeholders. We might say that the understanding of the ocean as both a resource and as information have been two such influential exercises, which have shaped the way academic researchers – and the institutions that fund their research – understand the ocean as an entity. Daniela Rosner (2020) has built on this approach by making the case that design in itself must be reimagined – through practice and storytelling or 'fabulation' – to work against silences and tacit knowledge that continually recapitulate technocratic power dynamics.

Richmond Wong et al. (2020) build on this Rosnerian approach in a way that resonates with our own work. They discuss how 'past imaginaries touch present-day infrastructures and technologies.' More important, they attend to the different orientations stakeholders may have to an imaginary or an infrastructure. The case studies we describe below demonstrate points of friction among imaginaries – most notably between university scientists who have a techno-scientific imaginary, and commercial fishers who have an extractive one. Silvia Lindtner's (2020) work has demonstrated how technologies can buoy up specific imaginaries. Academic scientists who recognise technology as constructive of imaginaries and identities have designed new labs that are founded upon anti-colonial, social justice-oriented approaches to knowledge creation which are built in. In addition to Liboiron (2021), mentioned above, these initiatives include the Environmental Data Justice Lab (located in Canada), which is co-lead by Vanessa Gray (Aamjiwnaang First Nation), Michelle Murphy (Métis, Winnipeg), and Kristen Bos (urban Métis) as well as the Institute for Freshwater Fish Futures (also located in Canada),³ which is led by Zoe Todd (Red River Métis). These examples do not oppose techno-scientific imaginaries; rather they demonstrate that innovation, maintenance, and scientific production can be practiced in ways that centre social justice priorities. For example, Giordano (2017) has demonstrated how feminist approaches to improve scientific understanding also help to attain social justice goals, they integrate alternative science paradigms from HIV/AIDS activists and the Black Panther Party, and the 'feminist science shop' tradition from the Netherlands. Notably, the Métis scholars cited above in varying ways emphasise water as a shared territory often seen secondary to land and yet the co-constitution of human life (and political history) is deeply connected to water and watersheds. These examples describe laboratories that were built from the ground up with STS, feminist, and social justice practices in mind; we see ourselves as a useful accomplice to this work by inviting existing laboratories to consider how *coalition* might improve or rewrite scientific practices and re-shape their imaginaries in salubrious ways.

Why Coalition?

One of the approaches that problematises the techno-scientific ocean imaginary focuses on maintenance and repair (Jordan [Steinhardt], 2018). Whilst the concept of this technomimaginary is oriented towards futurism, a Repair Worlds (Jackson, 2014) sensibility more accurately reflects scientific practice, as we will see in our case studies below. More importantly, an emphasis on repair inflects epistemologies with how experts create knowledge about the ocean. This perspective draws attention away from innovation, which can be over-emphasised. It serves as a foundation for reconceiving the technomimaginary altogether, as informed by feminist STS approaches.

While many of the texts we discuss in our literature review have adapted this maintenance-oriented approach, few if any have combined maintenance with the study of technomimaginaries. By attending to this nexus between fields, the interdependencies that are necessary to scientific production become more visible. For example, in practices of maintenance, we often find marginalised identities of people who are less powerful involved in the knowledge-building work of science. These people are often lower paid but nonetheless are essential positions which help maintain and interpret ocean data, whose names might never appear in a publication, on a plaque, or on a paycheck.

Recognising that the erasure of these participants is shaped by how we understand concepts like *scientist* or *phenomenon* or *object of study*. In this article we interpret the qualitative data below through a lens inspired by Karen Barad's (2006) work. Barad has argued convincingly that 'experimenting and theorising are dynamic practices that play a constitutive role in the production of objects and subjects and matter and meaning' (55–56). They use the concept 'agential realism' to describe how practices constitute different experiences of reality. While they use this philosophical framework to understand quantum physics (or more precisely particle/wave duality), we employ it to suggest that different analysts' practices construct different technomimaginaries and realities. Commercial fishers who understand the ocean in extractive terms construct it as a resource. The oceanographers who imagine that their sensors retrieve objective data construct a reality in which they 'discover' facts about an external object of

³ <https://www.landandrefinery.org/about>.

study – the ocean. These parties cannot be said to collaborate, but much university- and institution-funded ocean science would not be possible without some degree of coordination across groups.

By proposing the concept of *coalition science*, we highlight the interactions and collisions that fall between the cracks of other disciplinary frameworks. We also demonstrate the stakes of invisibilising these relationships. Finally, we draw these marginalised interactions to the forefront to demonstrate the mutual benefits – and reduced harms – that can follow from attending to *coalition*. One of the essential insights of *coalition* is the self-awareness that scientists are just one constituency in a group of many. The first step to harm-reduction then, is in understanding how practices affect collocated people. Thus, the first step to *coalition* involves considering who will be affected by experiment design and inviting those voices into the design at the planning stage. While funders like the NSF promote interdisciplinarity with programmes like the ‘convergence accelerator’ grant, these institutions narrowly view knowledge producers in terms of university disciplines. *Coalition* would recognise – and offer institutional support for – the fact that engineers and scientists could benefit by working with ‘lay experts’ (Epstein, 1995), people whose expertise is not credentialed by university qualifications, but rather rooted in local knowledge or in standpoint epistemology. The transition to *coalition* will not be easy. Practitioners will need training about integrating voices from outside of the university into their experiments before deployment. People within and outside of the university will require fora or other kinds of infrastructure that can support the kind of shared hearing and listening that is required. As our cases will show, without this support structure, scientists are already struggling.

Data Collection

As we hinted at in our introduction, the data we discuss below was fundamentally shaped by the conditions of the COVID-19 pandemic. In collaboration with Arctic and Antarctic Specialist & Historian, Madison Hall, Jordan sent a weather-proof toolkit with a GoPro camera to the consenting laboratories to record observations where an ethnographer previously might stand. Jordan additionally performed interviews via Zoom with laboratory members and expanded the participant pool to other individuals who hold roles in deploying and maintaining sensors or observatories in polar regions throughout pandemic. The current manuscript is built on a data set of 20 hours of recorded remote observations, and over 20 hours of interviews with 15 participants working in and around the Arctic. *Participants in the below study are anonymised. All quotations, unless otherwise cited, come from anonymous interviews with polar ocean scientists.*

Lieberman became a collaborator after the data collection, and together both authors analysed the data. The transcribed interviews were analysed via grounded theory methods in the NVivo qualitative coding software. The concept of *coalition science* arose from an intersection of problems identified within codes: communication, collocation, peripheral actors, and ecological thinking. Due to the nature of our interviews, this paper focuses on scientific perspectives, though the *coalition* concept is more capacious. We see this as a first step towards creating a body of research that will consider how coalition affects the understanding of the ocean from a multitude of perspectives.

THE PATH FROM COTTAGE SCIENCE TO COALITION SCIENCE IS COMMUNICATION

Give a scientist a GoPro camera and they might surprise you. Several of our participants turned the lens on themselves in an echo of the reality TV ‘confession cam.’ These spontaneous reflections demonstrated how scientists narrated themselves in relation to their changing field. Participants described ocean science as a ‘cottage industry’ of ‘little operations in many locations.’ By ‘cottage industry’ and ‘cottage science,’ our participants mean that each institution consists of subgroups, each committed to understanding some part of the ocean. Historically, oceanographers have not been interested in ‘the whole thing’ as an object of study. Instead, physical, geological, biological, and ocean engineers specialise in particular geographies. Participants describe how ‘soft money’ organises the work of climate and ocean science, tying income to grant funding. This practice, which is common across academic STEM fields, places pressure on scientists to quickly build new endeavours that will continue to support their families, mortgages, and life plans. However, a transition is underway, in which longer term, more interdisciplinary, and more distributed efforts are being funded under research initiatives with titles such as ‘eScience’ or ‘cyberinfrastructure.’ As one participant noted, ‘A shift is taking place now toward understanding entire marine ecosystems – and that ... is really complicated!’ With the rise of the ‘observatory model,’ scientists could place satellites in the sky, sensors in the water column, robotics on the seafloor and gliders across the waves of multiple oceans to collect data in an ongoing and integrated form. This research model exceeds the capabilities of individual research efforts. And it imagines nobody but scientists will need to access these spaces. As these excerpted quotations already indicate, this expansion of the ocean scientist’s purview relies heavily upon the techno-scientific imaginary. Grant funding demands newer, larger innovations now. In other words, funding and

credentialing institutions continually displace the ongoing labour that makes on-the-ground science possible and interpretable.⁴

Since the techno-scientific imaginary was not changed by the development of this new trend, participants interpreted these trends not as a paradigm shift but, rather, as a change in common research practice. Our participants, like many ocean scientists, were forced to change from working alone towards reluctantly working with stakeholders they did not choose. One participant explained that the cottage industry of oceanography classically purported ‘a very much individualistic and individual research’ model, adding that now ‘people are now coerced to work as a community.’ The word *coerced* here indicates how this participant viewed the pressure (generally applied from external funding sources) to work in tandem with others. By *community*, this participant means working with other academic experts. As another scientist scoffed, ‘It’s partly in the way that people approach the natural world and the way they approach other people. A lot of ocean scientists have not had to work with other people ... Scientists are like all mouth and no ears.’ This stunning quotation alludes to failures in communication that we will explore below. But coalition – between academics and non-academics – requires listening as well as speaking. In other words, ocean scientists in this new cultural economy must construct a more useful imaginary that values ears as well as mouths.

Another participant, a fellow scientist and lead principal investigator (P. I.), describes a similar clash caused by the friction between disciplinary imaginaries:

Scientists are very egotistical, very self-centered people and sometimes they just don’t realise that other people have good ideas! They need to listen more! And engineers just don’t have an off switch! They just look at the world in a completely different way. Sometimes [engineers] are driven more by efficiency or cost-savings or getting things done more quickly, and it is hard for them to appreciate the science objectives. They’re very different communities... It’s almost like gender-sensitivity training or ethnic-sensitivity training.

The comparison to gender and ethnicity here draws attention to power dynamics. ‘Gender-sensitivity training’ and ‘ethnic-sensitivity training’ are the hallmarks of educational institutions which have enjoyed the ease of communication in a monoculture that appears disrupted by new voices. As this expression of frustration from a P. I. demonstrates, scientists can fail to work productively with engineers (and vice versa) because they can fail to value the perspectives, practices, and imaginaries held by one another. Participants recognise that they have to work with stakeholders with different kinds of expertise, but this frustration arises from the fact that they don’t have sufficient resources to do so productively. The reference here to sensitivity training playfully alludes to the fact that institutions can provide support in cultivating respect across power differentials, and that this baseline work has not been completed in order to facilitate communication in interdisciplinary groups.

Interdisciplinarity, here, is not just a buzzword or trend. In some cases, scientists have elected to work in teams with practitioners from different disciplines to better understand complex problems from integrative perspectives. In other situations, including those described here, interdisciplinarity was foisted upon participants: scientists facing continued budget and staff cuts are pushed to work in larger teams for practical rather than theoretical reasons. Austerity initiatives in administrative practices have incentivised greater resource sharing, and pushed different kinds of specialists into uneasy communication. As one participant asserted,

People have to collaborate at all levels from the technicians up to the university president ... and they don’t like it because it’s money! If they had to do it and there wasn’t any money involved they would say ‘yeah yeah yeah’ and probably not do it.

In some cases, interdisciplinary collaboration is intentionally and mutually enriching, but, as this participant indicates, forced partnerships can be less productive.

Scientists in our data set fear that without community-building practices, they will continue to see harm and preventable breakdowns. One participant detailed a significant miscommunication between ocean scientists and NASA space scientists sharing satellite data. They explained that oceanographers developed major algorithms for satellite data-collection but had some different ideas about what to do with the data after it was gathered. One USA based participant said,

NASA’s [the USA National Aeronautics and Space Administration’s] satellite mission is to do research.
NOAA’s [the USA National Oceanic and Atmospheric Administration’s] satellite mission ... is long term

⁴ Our emphasis on *ongoing*-ness calls up the temporality implied by innovation. For more on feminist temporality, see Juelskjær, M. and Rogowska-Stangret, M. (2017). A pace of our own? Becoming through speeds and slows – Investigating living through temporal ontologies of the university. *Feminist Encounters: A Journal of Critical Studies in Culture and Politics*, 1(1), 06. <https://doi.org/10.20897/femenc.201706>.

operationals. ... The government mandated a convergence of DOD [the USA Department of Defense] and NOAA satellite acquisition and I think it was like throwing the NOAA bait into the wolves. Terrible cost overruns.

This quotation draws attention to the conflicts that arise over cost. The participant goes on to say, 'There isn't cross-funding between NASA and NOAA, though!' This participant had to navigate the nexus between two agencies that have different objectives, different imaginaries, different tools, and, perhaps the cause of greatest conflict, different pots of money.

The same participant went on to describe how oceanographers felt about these uneasy institutional affiliations:

Everybody in the ocean community freaks out at the idea that NOAA would take over. One is please don't give me your dumb ass data delivery system when this one is awesome! And the other thing is that there are other nations that have colour systems.

The charged language here (*dumb ass* versus *awesome*) demonstrates the perceived attraction of the newest and best tech. Here is the allure of the techno-scientific imaginary: cooler, more colourful visualisation tools. Crucially, the draw of the presumably better data delivery system is not better data. The participant points out that, 'Anybody can send a sensor up and calculate radiants coming up green and blue but the sensors don't remain calibrated! The same number of photons and watts per meter squared don't generate the same photon counts!' The data set stays the same, but the bells and whistles of a recent innovation still lend to cross-agency conflict.

While battles wage about who collects and controls data, miscommunication becomes a part of scientific practice. This P. I. said, 'You might pose the question of our culture, though, with the way the agencies survive and exist funded by the federal government: does our federal government encourage a reward for cooperation? I don't know. It's not clear.' Relatedly, another P. I. on the same project noted that 'breakdown[s in communication involved] a lot of people not knowing what they don't know!' *Not knowing what they don't know* has led to significant growing animosity between not only scientific groups but also groups outside of a formal scientific research institute. As we will touch on below, non-scientists hold expertise that is not only valuable in its own right but also essential to the production of scientific knowledge about the ocean.

In the examples above, scientists grappled with the extra- (or non-)scientific pressure to work in teams for institution or academic reasons. Scientists can also feel pressure from ocean-stakeholders without such affiliations. As one co-P. I. and project manager grumbles,

In our offshore site [] at the head of a canyon, that is a great fishing spot. And it is right at the border of a reserve. So the way people fish that area is that they go right up to the boundary and they fish along the edge, which includes trawlers and recreational people [who] use our buoy. They kind of go out to our buoy and then start fishing. They are asking us to move it out of the area and then into the area that they aren't explicitly allowed to fish.

This participant demonstrated the reluctance of performing work for fishers outside of the efficiencies of the scientific project. Hesitancies and feelings of incompetency to communicate with fishers in particular are well vocalised by scientists. Our participants consistently frame fishers as recipients of their expertise via university research but are traditionally not a part of the process of defining where instruments will be dropped, what kinds of data will be collected, for how long, and so on. In fact, in this era of scientific research, primary investigators often assert, without corroboration, that non-academic communities will benefit from project data. For instance, one P. I. explained the value of their work by asserting, 'Colleagues in even the fishing industry [could use our data] because that kind of observatory could track fish migration patterns! Or earthquakes and how tsunamis evolve! OR how storms effect the circulation of the ocean in real time!' In this example, there was no evidence that fishers asked for this kind of knowledge; the speaker was informed by their own imaginary of condescension of what commercial fishers *might* need. Indeed, a keynote speaker Jordan observed during a prior field research trip stated that their research 'could be useful for resource managers like fisheries or those interested in harmful algal bloom elements.' The conditional tense (*could*) suggests the importance of rhetorically gesturing towards impact without verifying, in coalition, what fishers actually want or need.

One participant even noted how little oceanographic research is actually used by non-academics, claiming that citizen scientists that look at hydrophone data and 'digital fishers' could use their data but 'You have to be really dedicated to want to store and download the data from these sound experiments because the files are so big.' In other words, the potential beneficiaries of data might have difficulty accessing the data. And the scientists know it.

Yet, while funders like the USA National Science Foundation might look favourably on projects that demonstrate interdisciplinarity by including experts from different disciplinary fields on the grant, they do not require non-academic names to be listed among the investigators on any given project, even when the project claims to have non-academic impacts or applications. The assertion that scientific research benefits non-scientists,

like fishers, is a speculative techno-imaginary that uses an *empty vessel* understanding of science communication that has been shown to often engender both animosity and lost effort (Baker, 2019).

In the above examples, participants were forced to consider other perspectives. They did not intrinsically value the input of their forced collaborators, even within a single-university setting. And they definitely did not have the training to communicate in mutually respectful ways. In other words, the above examples talked about talking, and the frustrations that arose from having to do so, when talking did not seem like scientific labour. In the examples below, communication was required by the very nature of scientific practice. In order to calibrate and retain equipment, talking and listening, mouths and ears, would both be essential.

Calibration Requires Community

Particular sites of maintenance are especially ripe with opportunity for developing sustained community engagement. Here, we focus on calibration as one such site. Scientists often work with distributed instruments – instruments that are at sea which communicate with computers at home institutions, for example. The precise calibration of instruments is essential to the creation of scientific knowledge about the ocean. In an above example, the participants involved in USA based organisations such as NASA/NOAA data collection pointed out how unruly sensors are by noting that they ‘don’t remain calibrated!’ While this participant preferred a higher-tech data delivery system, this problem of calibration remains. Innovation cannot erase the need for maintenance. But the techno-scientific imaginary encourages practitioners to identify progress in the form of new tools even as these heritage problems remain.

Calibration is nontrivial. As one P. I. and laboratory lead explained, ‘if your sensor is not well-calibrated you can miss or misinterpret the signal.’ They continued with a specific example, noting that, ‘oxygen sensors have a known issue where they decrease in their sensitivity over time and drift downward, so you can confuse that drift downward with a net respiration signal.’ To determine whether a signal was missed, misinterpreted, or naturally decreasing, scientists need to consult every available data point – ranging from existing models to conversations with charters and local fishers about migration patterns. In this way, calibration becomes a force that pushes scientists to communicate with collocated communities. This pressure can engender similar frustrations to those we saw above. According to one participant, ‘NSF [National Science Foundation USA] is facing this crisis that they’re now paying more money to support operations and maintenance than they are paying for science!’ Three things become explicit here: (1) the techno-scientific imaginary of this participant, who cannot visualise the maintenance of necessary machinery as science; (2) the fact that a ‘maintainers’ or ‘repair worlds’ mindset has started to influence funding; and (3) that funding bodies *can* be influenced. There are utilitarian reasons maintenance might be funded more now than it once was. Austerity and long-lived systems that represent huge financial investments that would be lost without calibration and maintenance are certainly good incentives. These grant programmes might also have been influenced by research about maintenance as a scientific practice. In either case, it is precisely in this moment of change where we believe a reframing towards coalition might be useful to practitioners. We will discuss that possibility in our conclusion.

Although participants might be hesitant to classify maintenance and communication work as *science* in itself, they still recognise that their work would be impossible without these practices. As a project manager for a USA national observatory said: ‘This winter has been very rough ocean [sic].’ Other participants corroborated this impression. The project manager continued to explain what those hazardous conditions meant to their scientific research:

I guess ... last year there were a couple of big storms, but the previous two years we had nothing. Those first two years were the first years we put stuff out for [institution redacted] and so ... it was fine! But both this winter and last winter we lost the buoy for our water profiler in the Washington offshore site, and both times we got into the coastal current and it went straight up to Vancouver Island. The first time, December of 2015, there was a University of Washington student cruise on the Thompson, which is a big ship, and so they just happened to be halfway up Vancouver Island, and they just picked it up. And then this last time the same thing happened. Similar storm. And so we had the people from the Bamfield Marine Station because the previous year it passed them before the seas were safe enough for them to go out and get it. And they’re used to dealing with tough seas. I mean it was 40 foot seas for days. It was tough. I don’t see how the Thompson was out there with students ... I can’t imagine.

In this example, atypical ocean conditions led to the potential loss of expensive and vital equipment. These instruments were recovered because of the happy coincidence that an unrelated expedition from Bamfield Marine Station in Vancouver, Canada, and student-led research cruise were near enough to retrieve the device. Years of grant funding might have been lost without an awareness of other stakeholders who made use of the ocean – even in circumstances that this researcher ‘can’t imagine.’

This participant was able to seek assistance from other research vessels rather than having to liaise with non-scientists. In the quotation above, they registered no hesitancy or difficulty communicating. But, much to the chagrin of some scientists, communicating with non-scientists can also become a necessary part of the job in these extreme circumstances. In the above quote, research vessels happened to be available because of nothing more than kismet. In the examples below, researchers had to work with non-scientists and found that experience much more difficult. One participant explicitly discussed how difficult this work was because of her introverted personality. Another engineer corroborated this issue, saying:

We have this continuing problem of shipping things up and down the coast so that we can get to the moorings or more likely when something goes adrift. And so we need to go get it. So we have these relationships with people that we ... We haven't found any tribal boats that have the ability to pick up what we need to pick up. So we have one boat in West Port that we use a lot that is a recreational fishing boat that he's rigged it up so he can do some of our work. We tried to get this other fishing boat but, man, it was slow and not ... It hadn't had scientists aboard. It would have been hard socially to do what we needed to do. It was just unlike anything we had done before. And they make you know, they do better by going to do their work. Whereas the recreational guys we pay them to go out to sea for a few days we are paying equal or more than they would make taking a group of guys who are coming in to fish for a day. Whereas if it's a commercial boat, the kind of boat that can lift up our stuff, they can do better going to fish for a day.

This comment mentions in passing some of the physical limitations of partnering with indigenous communities (the size of 'tribal boats'). Boat size is not the only documented impediment to collaborations between indigenous and scientific communities, though that fact has been well-explored elsewhere (Lauter, 2013; Little Bear, 2017). The above comment does not reflect on a willingness or unwillingness to work with indigenous people. In this case, the engineer maintained a relationship with a recreational fishing boat in order to retrieve equipment. Both the relationship and the instrument require maintenance that are essential to the creation of scientific knowledge about the ocean. The engineer describes social difficulties in coercing local fishing people ('It would have been hard socially to do what we needed to do.') Again we see the theme of a technical expert feeling unprepared for the social and communicative labour required of them.

This passage also points out a tension occurring between an extractive imaginary of the ocean and a techno-scientific imaginary. The interviewee points out that commercial fishers 'can do better going to fish for a day', which is a point mentioned twice in the above passage. While relationships with fishing people could benefit scientists, in some cases scientific funding has proven unable to make this relationship mutually beneficial. Where imaginaries clash, tensions arise.

Unlike in the first example, where lost equipment was retrieved by scientists, this example demonstrates the difficulty scientific practitioners may have even in communicating with non-scientists. Consider, for example, the stuttering way this interviewee mentioned the difficulty of working with a boat that 'hadn't had scientists aboard.' In these moments where communication fails, the real value of (and need for) coalition becomes all the more apparent. These relationships, as this engineer notes, are absolutely essential. Yet, scientists and technologists are not prepared to cultivate mutual relationships with collocated people. Because they are immersed within a techno-scientific imaginary, they expect that non-scientists will share their aims and will therefore offer help. However, as this example shows, the help scientists require is not readily given by all collocated groups.

These examples are typical. They demonstrate that people who operate from a techno-scientific imaginary *expect* that they will need to cultivate ongoing relationships with other collocated groups. Even as they privilege the moment of innovation, deployment, or discovery, they recognise that ongoing relationships underpin all of their work. Yet while ocean scientists might acknowledge that community resources are a reality of scientific maintenance, they resist relationship-maintenance work for a host of reasons. Some may disregard opinions that do not align with their techno-scientific imaginaries. Others may simply find the need to communicate with non-experts stressful or unscientific.

Toward a Framework for Coalition Science

We might describe ocean scientists as working in a distributed ecology of knowledge. They leave instruments behind during field work and return to institutions (that generally share and advocate a techno-scientific imaginary) to make sense of their data. Their sensors and sense-making occur on different sites. Once they have left an instrument in the water, communication with local community groups becomes essential to scientific knowledge production. When researchers are not present, local fishers or other community members might need to recover instruments that have gone adrift or even help make sense of data that might seem anomalous. Without local knowledge, it might be difficult to determine when unexpected data from ocean instruments suggests poor calibration, or when it registers a local phenomenon. In other words, ocean scientists must work with others,

including non-scientists or ‘lay people’, not only to maintain equipment (which is essential in itself) but also to interpret data. The necessity for coalition can be amplified by extreme conditions which are common in the polar regions we discuss, but which may also include unanticipated events such as lockdown during COVID-19 or more regular occurrences, like rough weather.

The construction of university-based research relies upon a speculative imaginary of the recipients of value. For example, rather than cultivating a community partnership with people who fish for a living, practitioners imagine a hypothetical fisher and expect that their research will benefit them. Despite the barriers that a techno-scientific imaginary erects between scientists and non-scientists, these collocated groups could help construct experiments or shape the knowledge those experiments yield. By ‘construct’ we mean help scientists determine where to place sensors and how often to retrieve data. As long as scientists control the physical and temporal parameters and success metrics of an experiment, they will yield knowledge that primarily makes sense and brings value to stakeholders only in the university space, rather than creating transformation and enduring coalitions or knowledge for application beyond the university.

The field of science and technology studies has a long history of looking at tensions like the ones our participants describe. Science, in operational practice, rarely looks like the idealised scientific practices the public (or people who aspire to be scientists) imagine (think of the scientific norms Robert Merton identified in 1973 versus the practices Bruno Latour and Steve Woolgar observed in 1979). But when communication and coalition are categorised as non-science, scientific practitioners can feel frustrated and even expensive research endeavours can fall into jeopardy.

We invoked Barad’s notion of agential realism here, because it illuminates an important lesson about how experiments are crafted. According to their own summary of Bohr, ‘we are a part of that nature that we seek to understand.’ In other words, attempts to understand ‘the ocean’ create a separation between the scientific object (ocean) and the researchers. This dichotomy has a very long history,⁵ but that fact does not mean it is the only way of understanding ocean science as a methodological practice. As our examples have shown, scientists and engineers yearn to be better prepared for the realities of their work – including preparation for communication and the working-together-ness we call *coalition*.

We believe that a set of practices for mutual community engagement based on feminist and post-colonial theory could offer such preparation. Gloria Anzaldúa (1987) tells us that being in coalition is akin to family, and adrienne maree brown (2017) discusses strategies for building such kinship-like connections. Groups in coalition might still be in competition some of the time. There might be collision or collusion in coalition: favourites and outcasts. Coalition science is built on a foundation of these beautiful connotations. It resists the binarism that haunts our own language when we label scientists and set them against non-scientists or lay-people; coalition pushes back against this tendency to create and police borders and invites stakeholders to work together on growth. Necessity and circumstance create the conditions where communication is unavoidable, but feminist STS give us the framework to recognise this fact as an opportunity. By nurturing a shared investment, we might begin to make visible connections between communities around a shared point of concern. Coalition is not empathy: it is not purporting to understand the struggles of another. Instead, it is a process of active listening for another to explain how they can thrive and support scientific work, and, reciprocally, how this coalition-minded kind of science can produce welcome and community-identified interventions. Coalition involves building alliances, even when they are uncomfortable, in an attempt to improve the conditions in which we all live and, in this case study, the oceans we all share.

Defining the Commitments of Coalition

As it is coming to be defined, *coalition science* holds commitments to the following four tenets. First, coalition is a **new imaginary that emphasises the relational**. **Second**, coalition requires **both mouth and ears**. Third, coalition looks to **breakdown, maintenance and repair as an opportunity for re(infra)structuring**. Finally, coalition **takes harm seriously** and is proactive about harm reduction.

Our first tenet, that coalition emphasises the relational, illuminates the fact that not all partnerships are, well, partnered. Everyone approaches their work and their world from different subjectivities, and from different imaginaries. Understanding that collocated groups might not share the same values, power, or imaginaries is an important first step to creating less harmful and more productive scientific practices towards understanding the ocean. To emphasise the relational is to illuminate the contexts in which science-in-practice takes place. *The relational* refers to dynamic inter- and intra-actions that change over time. This framework demands that we move from the chronotype of understanding science in a snapshot (as the innovation mindset does) to understanding science as ongoing practice that involves cultivating relationships that change over time.

⁵ See, for example, Daston, L. and Galison, P. (2010). *Objectivity*. Princeton, NJ: Princeton University Press.

Our second tenet involves the mouth and ears – by which we mean developing practices at all stages of the scientific project with awareness that communication is bi-directional. Active listening is just as important as speaking. Communication might never create a commensurate cohesive community between these many ideologically opposed groups.⁶ Taken together, participant interviews and observations suggest that opening new, ongoing communication channels might defend against larger-scale harm and blowout that only exacerbates chasms between these interested parties. For example, university scientists operate in an imaginary which is at odds with the indigenous and the local fishers' perspectives. When these groups respectfully work together, they can do more than react to problems (for example, from the above examples, calibration, miscommunication, or lost equipment) and can begin to create generative knowledge together. Indigenous peoples' expertise is often bought off in an ad hoc way and then abandoned; these exploitative and transactional practices need not, and should not, be typical. Focusing on bi-directional communication can help reduce harm and support both groups even when they have different objectives.

Our third tenet reframes failure and breakdown as opportunity. Our examples above detailed such moments of frustration; *coalition* contends that such moments of friction do not indicate failure. And, further, that failure does not have to represent an end-point. Rather, moments where tension arise can point towards areas for growth. If we learn from the above examples, we might increase efficiencies and better prepare scientists for the day-to-day work of studying the ocean. Barad's framework is useful here. They introduce the notion of an 'agential cut,' a process of imagining, and therefore creating or re-capitulating boundaries. The agential cut creates a framework that determines accountability and practice. It allows scientists to remove themselves and their practices from the 'phenomena' itself.

Barad contends that drawing these boundaries according to different lines makes scientists accountable in potentially illuminating ways. In the case studies we discussed above, a participant created a boundary between science and maintenance. To re-frame their words in Barad-esque terms, they enacted a 'cut,' seeking to separate techno-science as all that is new. Other configurations that emphasise maintenance and coalition are not only possible, but full of potential. Understanding science as including communication and maintenance practices can infect the types of experiments scientists construct, and, concomitantly, the types of answers their inquiries yield.

Finally, a coalition-centred imaginary must be proactive about harm reduction. When stakeholders adopt these coalition practices, they can help identify and ameliorate or avoid harm. Open lines of communication can allow scientists to get ahead of the catastrophic harms that are currently receiving attention in popular culture (c.f. *Picture a Scientist* [Cheney and Shattuck, 2020]; 30 Meter Telescope [Oishi, 2022]). The above examples focus on scientists who were concerned about (1) the need to calibrate equipment and the potential for losing it, (2) who they would have to call upon to assist with equipment, and (3) how they would be forced into communication with other specialists within and beyond the university. Of course, these are not the only sites for harm or vulnerability in polar ocean science. Identifying coalition with other stakeholders as scientific practice, and training and funding for it appropriately, could reduce harm to scientists and to the communities they touch. In coalition, scientists would think better of placing instruments that affect fishing routes, because open lines of communication with fishers would be considered a valued part of their practices. They would maintain communication with indigenous and other local people – not only when it served an urgent need – but also as a part of the knowledge-making process.

Ultimately, coalition is about taking **pragmatic action**: taking these findings in order to build approachable and accessible protocols. Scientific groups could benefit from being equipped to develop and maintain relationships with local communities. This maintenance practice would include sustained liaisons, ongoing feedback, and adaptive strategies to alleviate the struggles of collocated communities who are invested in the same place. One participant quoted above mentioned and dismissed indigenous coalition because tribal boats were not large enough to serve their ends of retrieving equipment; a coalition approach raises the question: what insights could spark if participants like this one did not simply seek a transactional relationship (retrieve X equipment for Y dollars)? What if scientific practice, and funding, incentivised communicating to understand complementary perspectives and imaginaries, as well?

CONCLUSION

This research illuminates four critical moments in which social science could guide inclusive and community-engaged scientific practice: identifying who is collocated, establishing community liaisons, integrating community

⁶ On making people in power listen to stakeholders during the decision-making process, see Ramírez, D. M., Gutenkunts, S., Honan, J., Ingram, M., Quijada, C., Chaires, M., Sneed, S. J., Sandoval, F., Spitz, R., Carvajal, S., Billheimer, D., Wolf, A. M. and Beamer, P. I. (2022). Thinking on your feet: Beauty and auto small businesses maneuver the risks of the COVID-19 pandemic. *Frontiers in Public Health*, 10, 921704. <https://doi.org/10.3389/fpubh.2022.921704>.

in design, and calibration and quality control communication. Mirroring these four moments in the scientific process, Jordan has developed protocols for coalition that scientific laboratories have already begun deploying at sea: (1) Identifying Stakeholders & Building Meaningful Collocated Community, (2) Ongoing Liaison Communication and Setting Shared Agendas, (3) Participatory Design Workshops and (4) Adaptive Co-Repair and Iterative Design. These protocols are built from traditions of participatory design, community engagement, and interdisciplinary collaboration to devise pathways toward coalition within collocated communities.

While our concept of *coalition science* was developed in conversation with polar ocean scientists, we believe it could offer salubrious insights to practitioners in other fields. One benefit of coalition is that it values under-represented voices. Barad and other feminist science studies scholars have shown us that marginalised voices can help scientists understand phenomena in productive ways. Donna Haraway (1989) has demonstrated that feminist questioning of primatology has reshaped that field; Evelyn Fox Keller (1996) has shown that feminist questioning has greatly impacted embryology. In environmental studies, Giordano, Liboiron, Murphy, and others have modelled how anti-colonial and feminist laboratories can be built from the ground-up. Our work on coalition science complements this strategy by maintaining that existing laboratories can benefit from listening to under-represented voices and taking their insights seriously. Indeed, understanding different imaginaries of the ocean could have similarly illuminating effects on ocean science. As we have seen, coalition could iron out the miscommunications that hinder scientific knowledge-making. This technoimaginary could also create more equitable and just relationships that could lead to more ethical, more useful, and more sustainable imaginaries.

Coalition could build on current momentum to acknowledge and fund maintenance by recognising its centrality to scientific knowledge production. *Coalition science* affirms that relationships demand maintenance as much as any sensor does, and it emphasises the ongoing-ness of this work. Zoe Todd (2016) describes how past, present, and future ‘stories in the bone’ become embodied, literally inscribed on bones. Todd’s work demonstrates the urgency of taking responsibility for scientists’ impact on the environment and acknowledging how environmental variables impact scientific practices. This framework further emphasises the dynamic feedback loops that the above points also underscore. Science is in an ongoing and changing relationship with non-science, with objects of scientific inquiry and with people who hold non-scientific imaginaries. Scientific productivity, then, becomes less a matter of number of grants awarded or publications in press and more a matter of relationships, survival, and change.

If the techno-scientific imaginary privileges the new *as* science, our emphasis on coalition does similar work: it draws some elements into sharper focus (communication, relationships) and allows some to fade into the background (innovation). Wong et. al.’s (2020) words apply to our own imaginary well: ‘While most speculative design artifacts foreground how users might interact with an artifact, speculative lifeworlds implicitly suggest that there are relationships and stakeholders beyond end use.’ According to the frame we propose, leaving an instrument in the ocean is not the beginning. Experiment design can benefit from coalition well before the deployment of equipment. And the sense-making that happens after doesn’t have to be – and, as we have seen, cannot pragmatically be – done in the silo of a university laboratory. By attending to *coalition*, the relationships that scientists build with collocated groups can create more durable infrastructures. This process serves scientific ends in that it can help prepare scientists for the extreme conditions that threaten their ability to complete grant-funded projects (and thus apply for new grants); it serves non-scientists in promoting the mutual exchange of information. *Coalition*, at bottom, entails the recognition that, while imaginaries might clash, people who hold those imaginaries can still operate with mutual care.

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Engendering Education and Organisation: The Women's Reform Movement in India

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ABSTRACT

The 'woman question' of the late nineteenth century India developed regarding the contestation of two primary actors. The British government advocated for their aim to 'save' the native women from their own barbaric society, as an extension of their ideal of their 'civilising mission.' The consequent emergence of the Indian middle class, comprised of both reform minded men and conservationists, who concerned themselves with differential aspects of the status of women in the colonial custom. Unsurprisingly, both these outlooks were voiced by, and reflected the indigenous and foreign men's views of the Indian woman. The trajectory of the women's reform movement in witnessing the active participation of women, is one that then holds immense significance to understand the cause of change, from the real recipients of the movement. This article elaborates upon the 'educational experiment' of the late nineteenth century in India, that paved way for a generation of women to subsequently organise themselves into becoming the leading voices of the movement. The attempt to place the baton of change in the hands of women, is one that deviates from nationalist and oriental historiography that excluded them of rightful claims based on conservatism of different, but overlapping kinds.

Keywords: education, history, women, reform movement, Indian women

INTRODUCTION

Therefore, I charge you, restore to your women their ancient rights, for...it is we, and not you, who are the real nation-builders, and without our active co-operation at all points of progress all your Congresses and Conferences are in vain. Educate your women and the nation will take care of itself, for it is as true today as it was yesterday.....that the hand that rocks the cradle rules the world. (Sarojini Naidu, speaking to the Indian Social Conference, Calcutta, 1906)

The role of education in impacting the trajectory of the women's reform movement of the nineteenth century was immense. This notion does not only refer to the education of women in being an essential goal of the movement but also extends to the impact that western education had on the emergent middle class that led the call for reforms. The construction of this middle class and its subsequent interaction with colonial structures, reflected what K. N. Panikkar refers to as a 'cultural defence', which impacted their outlook, including their advocacy for reform (Panikkar, 1987).

The objective of this community was to facilitate the process of social reform or transformation, foregrounded in ideals of rationality and modernity, inspired by the West. The construction of this middle class, through a Eurocentric model and a feeling of 'historical denial' by the West, guided its outlook. Their sense of deprivation, stemming from their status as an oppressed people, heightened their desire to hark upon their past glories. While Hindus looked back to the glories of an ancient Hindu past, Muslims nostalgically recalled the worthiness of pre-British Muslim India. However, the historicisation of women in colonial India presents complexities that lie beyond the binary of the colonised and the coloniser. The rationale of their 'civilising mission' was guided by the British outlook of 'saving women' in India, from their own culture. An important aspect of the convergence of the indigenous and colonial, in that regard can be viewed in the emergent systems of land settlements and in impacting local patriarchal norms. Kumkum Sangari notes that there were multiple transformations brought about at the societal level due to land settlements, that included an increased extent of ownership of land, to previously land holding classes (Sangari and Vaid, 1990). Importantly, land ownership rights were vested in the hands of men, and

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women only had ancillary rights. Additionally, the codification of dominant land holding patterns by the state gave a juridical sanction to customary patriarchal practices, naturally becoming more binding and impactful for women.

In Haryana for instance, Prem Chowdhry points out that customs, emerging from the demands of patriarchy and interacting with the geo-economic needs of the colonial state, became largely restrictive for women (Chowdhry, 1986). The *barani* (dependent on rainfall) nature of the area, along with chronic crop failures implied a crucial need to optimise available resources, that included the use of family labour.

Such an economical system reinforced the necessity for male progeny. A male child came to be as essential as the life-giving rain. A local proverb maintained:

meehn aur bettya te koon dhappya sai

(Who can be satisfied without rain and sons; for cultivation both are necessary)

This saying reflected the dominant social ethos, that manifested itself in a favourable male sex ratio (Chowdhry, 1986). The cultural defence that Panikkar refers to here, is aimed at advocating for a modern, reformed society rooted in tradition. Social aberrations like *Sati*, child marriage and polygamy were amongst the foremost to be taken in account at the public level and critically appraised. Reformers, including Pandit Vidyasagar, Swami Dayanand Saraswati and Roy, invoked similar ideas of a glorious past to legitimise their arguments. This manifested in the depiction of the Vedic age as a 'golden age' for women, and the invocation of *Shastric* injunctions to disprove the validity of certain practices.

The aim of this article is to analyse the impact of women's education on the reform movement in transforming their agency and social position from distant passive recipients of the change to active participants and leaders. Subsequently, with the aspiration of the nationalist movement as a diverse but united endeavour by the beginning of the twentieth century, the position and participation of the women in contributing to, and being subjected to, the goals of the larger national framework become questions central to this study.

HISTORICAL CONTEXT

Kumkum Sangari and Sudesh Vaid, in their work, *Recasting Women: Essays in Colonial History*, make a case for the importance of feminist historiography in the larger realm of cultural history. Such accounts of history, they argue view aspects and materialities of reality through the lens of gender, implying a rethinking of the practice of conventional historiography itself. Rather, feminist historiographies attempt to view gender difference as both a result of, and force of impact upon, wider sets of social relations. Such accounts are prioritised as critical references in the construction of this study. In that regard, the works of Geraldine Forbes, Radha Kumar, Lata Mani, Gail Minault, Tanika Sarkar, and Sumit Sarkar have been instrumental in the characterisation of gender reform in the nineteenth century. Moreover, the primary accounts of speeches, tracts, arguments and works authored by reformers such as Rammohan Roy, Pandita Ramabai, Saraladevi Chaudharani, Annie Besant, Sarojini Naidu, amongst others become another essential point of reference (In reviewing works of Forbes (1996), Kumar (1993), Kosambi (1991) and Minault (1998), references of primary literature including newspapers articles, interviews from archives including the Nehru Memorial Museum and Library, magazines, research papers and (translated) autobiographical works including *The Many Worlds of Saraladevi Chaudharani*).

The extension of western education to Indians during the nineteenth century was a move prompted by the expanding clerical requirements of the British administration. The involvement of the British government in the sector of education initially dates to 1813, when the British Parliament revised the Company's charter, setting aside revenues for the promotion of learning. The section of society that became the primary recipient of this education was the traditionally aristocratic, upper-class gentry that had served previous dynasties in their clerical capacities of military personnel, religious officials, and ministers (Minault, 1998). Subsequent changes in administration such as pertaining to land settlements, remunerated them with the rights to collect revenue from villages and *qasbahs*, subsequently leading them to consolidate their dominant positions. These processes, while influencing indigenous balances of power, paved the way for their transition into an emergent middle class, structured on British ideas and institutions. Such was the case with the rise of the *Bhadralok* in Bengal, and also the Muslim middle class in Aligarh. The impact of this cultural emergence also manifested in the arguments made in support of reform. Rammohan Roy, for instance primarily based his case on the sanction and legitimacy derived from scriptures. Quoting works like the Manusmriti, *Yajnavalkya*, and the *Vedas*, he claimed that a woman's right to live post their husband's death was granted by the shastras, and he argued that the act of *Sati* was an act of inferior virtue (Roy, 1830).

Moreover, the European ideals of this era that upheld the progress of a society in tandem with the improving status of its women, as was echoed in the words of John Stuart Mill, William Adam, and others, such writing further guided the defence of reformers in upholding the glory of their women in their distant past. Those who

comprised of this class of reform minded men, approached and argued for the movement in a way that proved that Indian women (and society) did not in fact subscribe to the backwardness that their colonial masters claimed. This contestation was further complicated by the conservationist outlooks of the subsequently emerging nationalist faction, who deemed the interference of British ideas in the sphere of the woman question, as an infringement upon their traditional and private realm.

The institutionalisation of education for men and women in India followed different interests and aims. In contrast to the support lent for institutionalising the education for men, there was little colonial interest in the education of girls. This stemmed from multiple reasons, the primary being an absence of any perceived tangible prospects for women, such as employment. In contrast, education for girls often became a liability for their families, because the pursuit of education did not directly aid the domestic role of women and rather, was suspected of diverting their focus from their household duties. Such social norms, as well as a general lack of concern disincentivised the colonial state to actively advocate for girls' education, it upheld the traditional fold of women being the domestic sphere.

Missionary societies were less reluctant to counter Indian resistance to gender reform (Minault, 1998). Missionary organisations such as the Church Missionary Society, the Church of England Zenana Mission Society, along with the Zenana Bible and Medical Mission Society, had powerful allies amongst the British Indian officialdom, and hosted active fundraising networks in Britain to support their works. Missionary women, with their aims to preach the gospel, also took up challenging careers in teaching and medicine, with degrees of independence that they otherwise could not have achieved at home. It can be concurred that their enthusiasm was based upon and aimed at proselytisation, but carried an undertone of social change (Minault, 1998). One of the missionaries' major contributions was *zenana* teaching. In this initiative, missionaries and their local 'Bible women' would enter *zenanas* and teach multiple generations of women at a time.

Until Sir Charles Wood's General Education Dispatch of 1854, there was not any official pronouncement about women's education. This dispatch was significant in noting the increased demand of many Indians to educate their daughters, urging support for female education, as well as mandating aspects like adequate management, periodic inspections, and a decent standard of education for the schools (Minault, 1998). Subsequently, the government paid increased attention to concerns of educational policy during the 1880s, owing to the Indian Education (Hunter) Commission of 1882. Known as the Hunter Commission, this body compiled statistics, gathered extensive testimony, and issued a detailed report in 1884, which included a chapter devoted to female education and it made several recommendations. It supported the recognition and encouragement of *zenana* education, and the establishment of additional schools or classes for the training of women teachers, to ensure the replacement of men teachers in all girls' schools. In the contemporary girls' schools, it recommended for a somewhat different curriculum as from the one for boys, along with the preparation of specific textbooks. Additionally, it favoured the recognition of native associations for the promotion of women's education. Another noteworthy government effort, in 1904 was through its direct approach to the question of women's education in North India, in the United Provinces. Sir Harcourt Butler, the then Education Secretary of the UP government, constituted a committee to discuss methods of improving women's education. The Committee was appointed in 1904, and submitted its report in 1905 (Minault, 1998).

To analyse the nature of the first formalised education provided to women, this study aims to locate the emergence of women's agency in the latter half of the nineteenth century through the coming up of the first women-led organisations. Most women who became the subjects of this educational experiments were consequentially the ones who pioneered the documentation of their lives, struggles, and ideas. These limited biographical accounts such as Saraladevi Chaudharani's *Jeevaner Jharapata* for instance, elaborates in comprehensive detail about her experiences in the Tagore household, relates stories of her mother's Sakhi Samiti, and her time at the Bethune School (Ray et al., 2017). Her organisation, the Bharat Stree Mahamandal, paved the way for organisations such as the Women's India Association and All India Women's Conference. Such documents privileged the experiences of women in their authentic narration, that expanded the impact of their 'voices' beyond regional or geographical limitations. In that regard, the coming together of women to discuss, converse and organise themselves on issues where they were deprived of their agency became a subsequent significant phase of the reform.

The classification of the question of reform in this article will focus on the dominant Hindu and Muslim communities, with the regions of Maharashtra, Bengal, and Aligarh being the focal points respectively. The rationale to this approach is based on the understanding of the concurrence of an emergent, reformist middle class from these regions, and their contestation (and often conflict with), with their conservationist counterparts. This concurrence also extended to the women themselves who became the subjects of the reform movement, claiming positions of leadership and organisation within it.

PURDAH, BHADRAMHILA AND THE HIGH CASTE HINDU WOMAN: EDUCATION AS REFORM

Traditionally, education within the Hindu fold was religious in content and thus monopolised by Brahmin men, who assumably came to be known as the ritually sanctioned 'literati' (Kosambi, 2016). Colonial rule inspired the reformist discourse through its introduction of gender and caste-neutral education in various ways. The reform movement in its nascent stage was constructed as an all-male project. This meant that its patriarchal parameters were inherently incapable of accommodating any radical, gender-based initiatives. Reforms came to be strictly mandated by existing normative boundaries and were fashioned towards making better wives for the newly educated class of men, and enlightened mothers of the future generations. 'Emancipation' of women was hence essentially an investment in social that is perceived as male-centred progress, rather than being a step towards establishing gender equality.

The major themes that characterized Hindu social reforms of the nineteenth century did not constitute to be problems within Muslim personal laws (Kosambi, 2016). The Faraizi reformers of the mid-nineteenth century went as far as attributing the prevalence of norms such as widow immolation amongst Muslims to Hindu influence and encouraged Muslims to popularise widow remarriage.

With the decline of the Mughal dynasty in 1857, the Muslim gentry that had served the crown in the capacity of military personnel, administrators and religious officials were remunerated with the rights to collect revenue from villages and towns (Minault, 1998). These processes paved the way for their transition into a bureaucratic middle class, primarily structured on British ideals and institutions. The position of the reformers on the woman question belonging to this class, developed in this regard to encourage and enhance middle class Indian women. Muslim reformers of the late nineteenth century held considerably lesser resources than their ancestors who served the Mughal royalty but viewed themselves as part of the continuum of maintaining high status. This implied an innate retention of literary and cultural values. The position of the women, as 'transmitters of culture' became a matter of discourse (Minault, 1998). Education for instance, was valued as a marker of respectable status and became a recurrent theme in reformers' writings.

The reform movement within Islam during this period is closely associated with Sir Sayyid. Sayyid Ahmed Khan belonged to a family that was a distinguished example of the Muslim gentry that navigated the changing political dynamics with the British. His maternal grandfather, Khwaja Fariduddin Ahmed, with whom he lived, served as the *vazir* to the Mughal ruler Akbar Shah II (Minault, 1998: 15). Sayyid Ahmad's mother, Azizunnissa Begam had an imperative role to play in his moral upbringing and ambitions in advocating for reform. She was customarily educated in religious tenets, and was well versed in Arabic, Persian and read the *Quran*. As a woman in *purdah*, her activities in the public realm were limited. However, she held considerable private charities. Her impact on her son is well documented. Sir Sayyid recounted that, 'there is no doubt that a good mother is better than a thousand teachers' (Minault, 1998). It was perhaps because of her influence that Sir Sayyid opposed the cause of expanding women's education beyond home learning and rather, emphasised on the expansion of education for boys in Aligarh. In his testimony before the Indian Education Commission in 1882, he asserted:

Those who hold that women should be educated and civilized prior to the men are greatly mistaken. The fact is that no satisfactory education can be provided for Muhammadan females until a large number of Muhammadan males receive sound education.

Sir Sayyid's views can be deemed consistent with his own cultural socialisation, in implying that his mother's example stood testament to the fact that a woman in *purdah* could be educated. However, it is important to note that his mother's was an exceptional case that was majorly based on their class position. Gail Minault (1998) notes that women possessing the ability to write was considered especially dangerous. It was argued that a girl knowing how to write might write letters to 'forbidden' persons (i.e., men or others), putting her chastity and the status of the family honour at risk. The *Akblaq-i-Nasiri*, one of the most prominent works of *adab* literature of this era and the *Qabus Nama* warned against the same. Consequently, the ability to write was an extremely rare trait amongst Sharif women of the 19th century.

The views of Sir Sayyid as being opposed to women's education beyond the household fell in line with the normative position of his fellow Ashraf men. However, he vocalised his discontent about the extremes that the custom of *purdah* had been taken to. Invoking the idea of a rather glorious past, he claimed that women had been educated and knew how to read and write in the early days of Islam. This argument of supporting the *purdah* along with women's education, in its contradictory undertone echoed amongst the reformers of this generation. Education for girls was portrayed as a contribution to cultural continuity. Gail Minault (1998) notes that, 'the curtains of *purdah* were not torn down, but rather institutionalised with detailed rules for *purdah* observation' (Minault, 1998: 248). Sharif's values were emphasised upon and his family ties were glorified. These policies were deemed necessary to attain social acceptance, without which the schools and institutions would have failed. The

emphasis on the continuities of tradition meant that an increasing number of educated women did not necessarily lead to an increase in the number of women professionally employed, implying the lack of any mobility in their agency. The beginning of the twentieth century saw the emergence of women-led *Anjuman*s, in the formation of the Hyderabad Ladies Association, and through that, the *Anjuman-i-Khavatin-i-Islam* in 1913.

The granting of education to women in Hindu society followed different trajectories, and can be elucidated through the analyses of Maharashtra and Bengal, as important centers of reform.

By the latter half of the eighteenth century, the British has acquired nearly monopoly control over the foreign trade in Bengal, and subsequently aimed to extend their control to the system of land tenure (Borthwick, 2016). These socioeconomic changes extended to impact indigenous balances of power. The old aristocratic elite continued to perform significant functions for the new British class, but their size was not large enough to fulfil all the needs of the rapidly expanding colonial administration. An emergent social group began to serve the needs of the rulers. This 'middle class' owed its rise and status to opportunities provided by the British. This new social group was known as the *bhadralok*, literally meaning 'gentlemen' or 'respectable men,' and was essential to the maintenance of the British rule. This group stood testament to a significant social phenomenon, by employing the authority conferred by their recently acquired wealth to further strengthen their status. Various terms have been used to describe the womenfolk of this group. Some of them were *bhadrakulabala* (girls of good family) and *bhadrabangsajabala* (girls of good lineage) (Borthwick, 2016: 54). The term *bhadramahila*, while originally emerging as a description for the female members of this class, gradually crystallised into the reference to an ideal type of woman, denoting a certain lifestyle and character.

The *bhadralok* intelligentsia were seemingly united in their support for female education, with even the 'conservatives' favouring it (Borthwick, 2016: 68). Borthwick in her seminal work, 'The Changing Role of Women in Bengal, 1849–1905' underlines the significance of the *Strisiksa Bidhayak* in affirming this argument. The conservative understanding led the view that education would direct women to imbibe greater virtues in their life, without necessarily interfering with the traditional fabric of Hindu society. In that regard, the progressive and conservative faction was nearly in agreement in the understanding of the role that educated mothers and women would play in transforming the health and mental vigour of the future of Bengali *bhadralok*. The difference lied in their expectation of the outcomes of this education, with the conservatives arguing for the upholding of traditional values and traditions, and the progressives advocating for an initiation of social change.

One of the most central aspects of debates amongst those favouring female education centred on the method to be employed. The three essential types under consideration were informal (home) education, *zenana* education, and institutional education in schools. Of all these, home education was probably the most frequently adopted. Progressive husbands and fathers might take the initiative of educating the women of their house. Despite the frequency of its commitment, this was not advocated in practice because the domestic duties of a *bhadramahila* meant that she had long working days. The second method was that of *zenana* education, or private tuition. In the beginning, this initiative was proposed by missionaries, and all teachers were European women. Many favoured the scheme in principle because it did not upset *purdah* arrangements or domestic organisation too greatly, its evangelical character did tend to create obstacles that overwhelmed its evident advantages. The content and material of this form of education had placed great emphasis on Biblical instruction. Despite perhaps being of limited educational value, these lessons seemed to bridge the gap between the *zenana* and the world beyond. They became a point of cultural contact with British women, giving the *bhadramahila* the opportunity of learning the habits, language, and ways of Europe. The distinction of the first school catering to the *bhadramahila* in Bengal went to the Barasat Girls' School, established in 1847 by Peary Charan Sircar and others (Borthwick, 2016). Even though the school was not very well known, it did set a precedent for the public education of girls.

The central impetus for social reform in nineteenth-century Bengal emerged as a complex response of this group to the expansion of British colonial rule. Oriental administrators in the process of rediscovering the 'glory of India's ancient civilisation' initially adopted a policy of non-interference, eventually entering the realm of public discourse through debates and discussions. This contact based itself on a footing of mutual respect. General principles that were derived from topics debated in western philosophical discussions, such as in the liberal western worldview of the rights of the individual, were often put forth and applied to issues more relevant to Indian society. One such issue came to be taken up in the condition and status of women. Forced into a submissive position by the cultural intolerance and theoretical rhetoric of British colonialism, many of the *bhadralok* seemed to have been genuinely troubled by the failure of their women to conform to perceived British imposed standards of ideal womanly conduct. For some, it exaggerated a crisis of identity, for others, it caused a revaluation of their own society. Consequently, Peary Chand Mitra, a prominent figure of the Young Bengal coterie, invoked examples from ancient India to refute James Mill's assertion that Indian civilisation had always degraded women (Borthwick, 2016: 36). The reformist class structured their own critique of the condition of women in Bengal, based on this defence and advocated for the need for reform. It would be a grave oversimplification, however, to establish a direct, causal connection between ideological progress and changes in social behaviour. Ideological change does

not immediately produce political, economic, or behavioural change. Traditional values continued to persist in 'modern' environments. Geraldine Forbes (1996) asserts that this theme is considerably manifested in the conservative nature of the first organisations led by women, as compared to those led by men.

Consequently, the 1880s witnessed three phases of social reform operating in Maharashtra (Forbes, 1996: 26). The movement was pioneered four decades earlier by Gopal Hari Deshmukh and Jotirao Phule. Deshmukh operated primarily within the Brahmin circles, whereas Phule championed the rights and issues of lower castes against Brahmin hegemony. Both however, adopted a generally pro-British stance while demanding political and social rights. Phule was an advocate of gender justice and his anti-Brahmin rhetoric, along with the influence of the Christian ideals made him welcome Ramabai's later conversion to Christianity. Towards the end of the 1870s, the liberals, led by Justice M. G. Ranade and Professor R. G. Bhandarkar appeared on the scenario. Their agenda was to engage with the region's social reform discourse and navigate it in such a way that it came to be equated with gender-related issues. Bhandarkar propagated this cause through his teaching career, public speeches, and writings in support of issues like the late consummation of marriage and allowing widow remarriage. Pandita Ramabai in that regard, emerged remarkably as a pioneer of women's education, rights and organisation. Her father – deviating majorly from cultural and caste-based norms – supervised and encouraged her education. When Ramabai was sixteen years old, she and her brother travelled throughout India lecturing, and advocating for female education and social reform. Some amongst the Calcutta elite, appeased by her knowledge, bestowed upon her the names 'Saraswati' (Goddess of Learning) and 'Pandita'. Returning to Poona, Ramabai began work with reformers to educate women through the Arya Mahila Samaj, which as an institution will be discussed in greater length in the next chapter. While in Poona, she gave testimony before the Hunter Commission, stressing upon the urgent need for women doctors and teachers.

The time that Ramabai spent in Maharashtra in 1882 (and the years following her later return in 1889) coincided with the cusp of the second and third generations of social reformers. With support from the liberals, Ramabai moved into the male led, upper-caste social reform milieu and aimed to inscribe women as subjects rather than objects. Her activities in this year started with public lectures. Devadatta Tilak in citing D. G. Vaidya's description of such a lecture notes the importance of educating women to improve their lot. Ramabai also vehemently protested the objectification of women. She soon incorporated these ideas in her acclaimed book, *Stri Dharma Niti*.

In India, Pandita Ramabai established the Sharada Sadan, a school for widows in Bombay. This was supposed to be a non-sectarian school where the caste rules of brahmins were scrupulously observed. By 1900, the Sadan had trained eighty women in teaching or nursing, helping them earn a living for themselves (Forbes, 1996: 67). Her second school, Mukti, was established at Kedgaon, thirty miles outside of Poona, following the famine that began in 1897. She took women and children who were victims of famine into Sharada Sadan and enrolled them in her school. By 1900, this venture grew into a major institution housing nearly 2,000 women and children. Geraldine Forbes (1996) notes that Ramabai at times urged the inmates of her home to become Christians and developed a specific educational program to suit their needs. Her version of Christianity was doctrinally eclectic, combining her ideas from the sisters at Wantage, and Roman Catholic, Jewish, and Indian Christian friends (Forbes, 1996: 68).

The widening ambit of the Arya Mahila Samaj, along with the generous official patronage extended by Dr Hunter's familiarity brought Ramabai into close contact with British officialdom (Kosambi, 2016: 32). She was invited to testify before the Education Commission (headed by Dr Hunter) whose mandate was to evaluate the functioning of all branches of the Indian educational system. In September 1882, Ramabai presented evidence before the commission. In her testimony, Ramabai traced her reformist underpinnings to her idealistic father, who had advocated for women's education in the face of tremendous opposition, spelling out her agenda for women's education which embraced the shastras, as well as a secular curriculum. Ramabai subsequently made herself the discursive focus of women's education in Maharashtra. Meera Kosambhi argues that this measure, despite being less difficult to implement than the other reform issues which necessitated structural changes in patriarchal normative system, the obstacles were immense. Ideologically, education was guarded as the monopoly of Brahmin men, which was especially gatekept from Brahmin women. Women of certain families who had imbibed knowledge of Marathi were at times compelled by their families to mispronounce certain words, to underline their inferiority (Kosambi, 2016: 34).

As a medium of reform, literacy was aimed to enable women to bypass stringent family controls and exercise their own agency. The primary way of averting this from happening was to deter women from desiring literacy in the first place. The reality of those few women who deviated from such norms to avail themselves of education is described by Anandibai Joshee, who lived in Girgaum, Mumbai, in the 1870s. The sight of her walking to school made people gape at her from their windows and the street (Kosambi, 2016). Some passed lewd remarks, made gestures, and laughed in her face. Kosambhi asserts that given the state of such hostility towards girl students embedded within Mumbai's progressive milieu, it was natural to expect the idea arousing anxiety amongst parents in smaller Marathi cities and towns.

Following 1905, there was an evident change in the national scenario regarding this subject. The claim to education for women was asserted as a birthright and the strength of Indian mothers was valorised, echoing their position as the 'mothers of the nation.' Hence, the place of Indian women in the 'national life' was first to be accepted as mothers. This theme was echoed by Madame Cama in 1910, at the meeting of the Egyptian National Congress in her saying, 'remember that the hand that rocks the cradle is the hand that builds the character' (Kosambi, 2016). This semi-mystical vision of motherhood also coincided with the further growth of the Darwinian 'objective-scientific' views of social reformers. Ideals and conceptions of ancient India came to be appropriated by the early twentieth century reformers, revivalists, and nationalists alike.

Geraldine Forbes (1996) narrates the trajectory of these processes associated with education in impacting women. The first generation of educated women by writing and documenting about their lives and conditions had found a voice that never existed before. The subsequent generation articulated these needs, critiqued the society and the British, and pioneered the formation of their own institutions. The emergence of these organisations took place in the face of immense ostracism and discrimination, as had been customary. However, the boundaries of the late nineteenth century had been stretched considerably by the advent of the twentieth century, implying the emergence of new struggles, new means of dissent and the 'new women.'

TOWARDS ORGANISATION

The estrangement of the social reform movement from Indian nationalism began towards the end of the nineteenth century, and gradually grew over the years, expressing itself in the form of debates over the comparative importance of social and political issues. On the one side, the loyalist social reformers felt that the endeavours of social reform were divided by political allegiances, and hence needed to be steered clear of, while certain others felt that the social and political were distinct but intertwined spheres. The interaction of those involved in the women's cause with nationalist leaders produced different reactions, each differing on the basis and positions of those involved. Sarala Ray, for instance frequently discussed issues of social and political importance with Gokhale, emphasising which should proceed first. After much discussion, he asserted that the two are like 'the hands and feet of a man ... one cannot get on without either' (Kumar, 1993). However, not all dialogues came to such amiable conclusions.

A major shift occurred with an attempt to prioritise political reform over social concerns towards the end of nineteenth century, in Maharashtra by B. G. Tilak. As ideological accomplices, Tilak and Principal G. G. Agarkar pioneered multiple reformist ventures such as the weekly newspapers *Kesari* and *Mahratta*. The ideological divergence between the two appeared in the late 1880s over Tilak's increasing social conservatism, which clashed with Agarkar's ideas of rationalist liberalism. Consequently, Agarkar left his association with Tilak and in 1888, started his own Anglo-Marathi weekly, the *Sudharak*. Additionally, Tilak's dislike and public animosity toward Ramabai's ideals can be viewed as providing another similar site of conflict. N. C. Kelkar, Tilak's biographer and acquaintance, documented and affirmed the fact the Tilak harboured a degree of personal animosity against her. He claimed that Tilak's dislike stemmed from the actions of educated women who 'flaunted' their achievements and thus regarded Ramabai as a 'social enemy' all his life (Kosambi, 2016). The constitution of the Arya Mahila Samaj by Pandita Ramabai in 1882 was a particular instance that drew his disregard. The objective of the *Samaj* was more ambitious and emancipatory than its earlier counterparts, in being a revolutionary attempt by a woman to mobilise her fellows to discuss social reform issues which impacted their own lives. It was assumably welcomed by liberals like Ranade.

However, the public assertion of female agency supposedly posed a threat to the male hegemony of reform and therefore, drew stringent retaliation from Tilak, who went ahead to warn Ramabai, against the trespassing of the male dominion in asserting:

In real life, it is the task of men to eradicate these and other evils customs ... Women cannot interfere in them for years to come, even if they are panditas and have reached the ultimate stage of reform ... women will have to submit to male control for a long time to come. (Kosambi, 2016)

Moreover, several apprehensions and concerns arose over Ramabai's conversion to Christianity which preceded the establishment of the institution, through newspapers and articles. The *Indu-Prakash* (4 March 1889) issued a note of caution in arguing, that her conversion could lead to the hindrance of the progress of the *Sadan* by creating doubts in the minds of Hindu widows wishing to seek shelter in the *Sadan* (Kosambi, 2016: 176). Generally, however, the leading reformers of the Bombay Presidency supported the *Sadan*. This response was documented by the *Kesari*'s optimistic prophesy (12 February 1889) in asserting that people would likely develop trust her work, if her conduct remained straightforward (Kosambi, 2016: 178).

The trajectory of women's organisations in India dates back to Arya Samajist and Brahmo origins. From the late nineteenth century onwards, these were followed by the formation of regional organizations, such as the Bangal Mahila Samaj in Bengal, the Satara Abalonnati Sabha in Maharashtra, and the Bharat Mahila Parishad in Benares. Some of these worked for reformist endeavours, whereas others were constituted more as discussion platforms for women. The Aghorekamini Nari Samiti, for instance, based itself on the principle of self-help, and trained women to attend to the sick (Kumar, 1993). On the other hand, organisations such as Bharat Mahila Parishad organised discussions on issues such as the customs by which Hindu women should live, and their roles and duties as citizens of modern India. At a meeting held in 1905, the Parishad hosted a meeting during which women read their papers. Subsequently, one of the first attempts of coming together on a larger scale was made in 1908 with the organization of a 'Mahila Parishad' or Ladies' Congress in Madras, which saw the participation of women from across South India, and the presentation of about nineteen papers by women in languages like Tamil, Telugu, Malayalam, Marathi and English. These associations emerged all over India in the late nineteenth and early twentieth centuries. Most were constrained by geographical boundaries but unequivocally shared the goal of coming together to discuss women's issues and debate.

These limited surviving accounts hold testament to the emergent presence of women in the public sphere, in articulating their needs. The educational experiment of the nineteenth century that the previous section elaborates upon, marked a distinction in their worldviews as well as ascribed gender roles, from that of their mothers and grandmothers. Education was seen as essential even if many of them married young. Some of the earliest *mahila samitis* taught basic subjects such as mathematics, geography, and English as well as held lectures on health, childcare, hygiene, and nutrition (Forbes, 1996). Women leaders began to define and argue for women's issues such as equality in access to education, the observance of *purdah*, and status in the family.

Saraladevi Chaudhurani of Jorasanko, was amongst the first to call for a permanent association of Indian women. When her male contemporaries criticised her, she charged them with patronising women. These men, she argued, 'lived in the shade of Manu,' and were unwilling to allow women independent action (Forbes, 1996). Saraladevi's organisation, the Bharat Stree Mahamandal had its first meeting in Allahabad in 1910, with the object of bringing together women of all classes and creeds, to institutionalise their common interest in the material progress of women in India. Owing to the existence of cultural and social constraints, the organisation was unable to achieve an all-India character, which remained limited to its three branches in Lahore, Allahabad, and Calcutta. The Mahamandal regarded the prevalent practice of *purdah* as a major stumbling block in the acceptance of female education. To navigate this issue, they sent teachers into households to teach skills in reading, writing, music, and embroidery. Saraladevi wrote extensively about the importance of women escaping male domination, so only women were allowed to join the Mahamandal. In 1917, a delegation led by Sarojini Naidu approached the committee headed by Mr Montague and Lord Chelmsford to demand a set of reforms to better the condition of Indian women, Sarala Devi presented before the committee on behalf of the Mahamandal. The delegation, organised by a European suffragette, M. E. Cousins, comprised of fourteen women, aimed to ask for better educational facilities, improved health services, and the same franchise rights that 'would be extended to their brothers.'

The constitution of latter-day organisations such as the Women's India Association (1917) and The All-India Muslim Ladies' Conference (1914), amongst their differences comprised of women who possessed some degree of interest in issues of social justice concerned with women and were the products of the first generation of the educational experiment in equal gender access. Their understanding of 'women's issues' differed significantly from their English counterparts who employed the usage of the term 'feminist.' Geraldine Forbes (1996), in her work *Women in Colonial India*, asserts that this happened because of the perceived negative notion that European feminism implied a prioritisation of women's rights over that of nation, villainising men in entirety. Their definition of the enemy was 'custom,' and their concerns were 'women's issues' which had origins in the nineteenth century reform movement and were subsequently interlinked to the linked concerns of liberation from foreign dominance and exploitation. Their ideology of rights substantially gained legitimacy from the notion of a 'golden age', similar to that invoked by their nineteenth century reformist counterparts. Sarojini Naidu, being one of the most prominent leaders of this strand, wrote and spoke extensively on such themes. The 'new woman,' according to her, was one in close contact with her roots and ancestral values, who understood the need to move beyond the home and contribute to the cause of the nation (Forbes, 2005). The idea of the home occupied a central position in Indian civilisation, placing significance on the mother as the keeper of purity, honour, and service. Naidu emphasised on extending this model to the national realm, imagining India as the 'house,' and its citizens as 'members of the joint family' (Forbes, 2005). Her ideas regarding the role of women in this framework granted them an important, distinct position, and called for a denunciation of such customs that inhibited them from playing this role.

CONCLUSION

This article has observed how women's agency pursued social and political activities in the period following the educational experiment in greater gender equality at the end of the nineteenth century. The women who were affiliated with organisations such as the AIWC and WIA, pioneered these attempts in occupying and participating in spaces like conferences, discussions, and events that had traditionally excluded them; they began to enter the public sphere. Moreover, features such as sex-based segregation and the traditional norms of female seclusion offered many of them opportunities to form their own formal and informal associations, relatively free from male involvement and restriction. The reason this question poses considerable significance is due to the existence of and aim to unravel a commonsensical understanding that the women's movement of this period was part and parcel of the larger, nationalist project. Many women who became a part with women's rights movement of this period entered the realm of the 'political' through the 'social.' This refers to their own associations and organisations being crucial links in their participation in the nationalist movement.

Women that were reached during the first generation of educational reform were restricted to largely upper class/upper caste circles. The trajectory of change is nonetheless understood as of a landmark phase for the women's movement. The significance of the educational experiment was that it began to inaugurate immense change in the lives of Indian women, as its impact across different classes began to emerge. Geraldine Forbes' (2005) argued that the transformation of these newly educated young women into socially conscious beings, through the awareness of social systems of inequality, is a factor that deeply impacted the nature of leadership roles they took up (Forbes, 2005). These changes in India were distinct from the women's movement in the west with its ideals of feminism. Western feminists, like Grace Seton (who came to India in 1925), concluded that Indian women were seemingly working towards two contradictory goals: their advocacy of the notion of the 'woman in the home' model was deemed inconsistent with their support for women to also enter the decision-making realm (Forbes, 2005). In observance of this specifically 'Indian type' of feminism, she wrote: 'They need to develop considerable skill as chariot drivers to make a successful race on those two mismatched horses' (Forbes, 2005).

It is important to note that Indian women did not agree with many of the assumptions of Western feminism. The ideas of aiming to go back to the 'golden age,' and live in a world where the concept of *shakti* prevailed did not only become a major driving force for Hindu women, but also morally and philosophically appealed to them. Indian women visualised in such religious and spiritual images, notions of feminine power and they were reluctant to abandon this relation for the western archetype of a feminist. The questions regarding the impact of these ideas remains negative to a certain extent, with prevailing social norms in modern India still denying women access to education, political participation, and legal redressals. However, the contextual changes that women's organisations achieved in the post-independence period largely hinged on the actions of their predecessors. To conclude, it suffices to assert that without the fight to enrol into schools, publish in journals, speak at conferences, organise, and agitate, the tryst with destiny that India made, would have been bereft of the future of its women.

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(En)Queering 'Prakriti': Decolonial Ecofeminism and Lesbian Subjectivity in *Out! Stories from the New Queer India*

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ABSTRACT

The present article aims to explore the decolonial possibilities of queer ecofeminism entailing lesbian subjectivity and solidarity in Indian geography through the textual analysis of select post-colonial stories from *Out! Stories from the New Queer India* (2012) by Minal Hajratwala. Introducing lived experiences of queer people in the lap of nature, this book interpolates lesbian subjectivity and the politics of recognition broadly. Critiquing established narratives in queer feminist perspectives (Vanita, 2001; Roy, 2022) and ecofeminism (Shiva, 2010), this article critiques *Prakriti* (i.e., Nature) as a dissident source of *Shakti* (i.e., Power) for queer lives. In a country like India, the recent decline of the demand for legalising same-sex marriage by the Indian Supreme Court amidst significant political and religious controversy (Rajgopal, 2023) underscores the urgency of this discourse. In such a heated context, this article articulates the lived experiences of lesbian relationships in Indian ecology and examines queer ecofeminism as an instrumental approach to advancing lesbian subjectivity, and solidarity and addressing sexism.

Keywords: prakriti, queer ecology, ecofeminism, lesbian subjectivity, sexuality

INTRODUCTION

Under the hegemonic strand of heterosexuality, any sexual practice attempting its subversion is known as queering (Nayar, 2010). Broadly, queering is a process that can counter the mainstream society's compulsory heterosexuality. The concept leads onto a grimmer complex reality, particularly in the context of South Asia and specifically India. In fact, 'compulsory heterosexuality' has long been the only acceptable factor for the entire discourse of sexuality in Indian society, raising the question if 'compulsory heterosexuality is only about controlling desire, or is about dictating that the world can have only two kinds of people—women and men' (Geetha, 2007: 197). Therefore, the term queer is appearing here more as an umbrella term to include all contestations related to non-heterosexual inclinations (e.g., gay, bisexual, lesbian, transgender, etc.) of desires, identities, and practices without a suitable Indigenous name to be labeled. Within and beyond the prescribed sexual hierarchies and violence, such undefined sexual lives are often publicly targeted in Indian socio-cultural spheres (Bhan, 2006; Mahn and Watt, 2014). It was only in 2009 that homosexuality was decriminalised in the Delhi High Court, India, under many legal debates (Misra, 2009). Therefore, unlike in the West, it is only in recent decades that discussions on queer relations in India are witnessing a spurt (Vanita, 2001). These studies often critique queer identities as unstable in a continuing process within the binary of temporality and identity (Muñoz, 2009; Freeman, 2010). In turn, it opens fresh possibilities for queer standpoints in the Indian context, which has been in global circulation since the 1990s (Butler, 1993; Warner, 1993). Indian activists have also started questioning such queer existence as both a personal and defiantly political issue (Narrain and Bhan, 2005). In India political activism for queer rights are sometimes contested under the casteist, classist and sexiest power structures of the society (Tellis, 2012). Still without any doubt queer movements in India widen scope for the queer visibility, autonomy and representation (McGarry, 2024).

While queer ecology is gaining traction in Western contexts, a decolonial exploration through lesbian experiences is still needed in India. By critiquing lesbian experiences within the framework of queer feminism (Vanita, 2001; Roy, 2022) and ecofeminism (Shiva, 2010), this article will examine how the Sanskrit concept of *Prakriti* (Nature), traditionally associated with femininity, can empower lesbian lives as a source of *Shakti* (Power).

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Therefore, this article aims to explore the decolonial possibilities of queer ecofeminism¹ entailing lesbian subjectivity and solidarity in Indian geography. Even with the growing awareness, lesbian lives are hardly receiving significant attention pertaining to their relative invisibility in the Indian context (Bhadury, 2018). Surprisingly, mainstream Indian feminists also fail to address this gap while questioning gender rights for women in general. It is only very recently that heteronormativity and the sheer compulsion of heterosexuality are critiqued in feminist concerns through the lens of queer epistemology² (Menon, 2007). In the early 1970s, the queer feminists started critiquing the notion of 'compulsory heterosexuality'. Especially Adrienne Rich in her pioneering feminist work, 'Compulsory Heterosexuality and Lesbian Existence' (1980), has mentioned that heterosexuality is more a social expectation. It has often been observed that lesbians are negatively stereotyped or misleadingly identified as 'frumpy shut-ins,' 'ugly,' and sometimes 'old-fashioned' (Keating, 2017). Even in public discourse, they become 'outmoded' (Thomas, 2016); and 'disinteresting' women (Lewis, 2016). As compared to gay sexuality, lesbians are also tagged sometimes as forceful or overly serious with no humour. Therefore, in some cases, lesbian resistance becomes a reaction to their internalised homophobia as uncultured bodies (Cauterucci, 2016). This lesbophobia and its associated particularities are indeed across complex terrains starting from essentialist negative stereotypes to 'sometimes for extremely legitimate ones (a history of transmisogyny)' (Keating, 2017). Undoubtedly, the very idea of inclusivity of lesbians in the political coalition of LGBTQ is a critical as well as enduring efficacy, but to reconstruct the idea of lesbian episteme³, an innate need is to work particularly for the term 'lesbian' itself (Strapagiel, 2019). Here, lesbian feminism has a huge role to play particularly by making feminism a lively and inclusive political strand (Ahmed, 2017). As compared to gay men lesbians are relatively less visible in Indian geography and one of the most probing reasons behind this is the lack of willingness of Indian lesbians to coming out publicly (Vanita in Ruchi and Jha, 2023).

Again, it is hard to perceive as well as decode the contested gendered experiences of Indian lesbians and their relationships without distinct contexts. One such collection of stories is *Out! Stories from the New Queer India* (2012) edited by Minal Hajratwala, portrays diverse queer experiences in Indian ecology, evoking 'an act of self-representation' (Hajratwala, 2012: 16) caught between imagination and reality. The article particularly focuses on stories like 'The Edge of Her World' by Anisha Sridhar, 'A Small-Town Girl' by Milind Wani, and 'Find Me' by Sitara Sachdev, since these stories captivate lesbian subjectivity and experiences in the lap of *Prakriti* (that is to say – Nature), they are concerned with forming an alternative consciousness based on ideas about a lesbian earth, broadly. Queer ecology and its future possibilities are emerging conspicuously in the Western context but mostly focusing on climate change and impending crises (LeBel, 2022; Seymour, 2013; Sandilands and Erickson, 2010). However, a decolonial exploration of queer ecology, particularly through lesbian experiences, is still unformed, within the Indian context. Mitigating this gap, our article critiques lesbian experiences in Indian ecology using qualitative research methodology, particularly through textual analysis. Focusing on the subject line of lesbian subjectivity and '*Prakriti*', this article will employ an interdisciplinary theoretical framework of queer feminism (Vanita, 2001; Roy, 2022) and ecofeminism (Shiva, 2010) for analysis. Since ages, *Prakriti* has been believed in Hindu mythology to be closely associated with femininity in India, and the present article will elaborate on how it energises lesbian experiences as an alternative source of *Shakti* (i.e., power) beyond the heteronormative *Prakriti* and *Purusha* (literal meaning man) dualism. By doing this, the article will further appropriate the broader possibilities of queer ecofeminism in terms of lesbian subjectivity, solidarity, and sustainability.

TOWARDS A DECOLONIAL QUEER ECOFEMINISM: A CONCEPTUAL FRAMEWORK

In contemporary debates and discussions around sexuality in Indian, queer ecology is an emerging theoretical idea. It often orients the sexual struggle as well as oppressions converging towards climate justice and its conservation (Patnaik, 2021). As an area of transdisciplinary threads, it includes aesthetics and politics subverting the heterosexual patriarchy within and beyond the natural and so-called 'normal' debate. Apparently, both these terms queer and ecology might appear distant from each other, but queer ecologists have argued their interconnectedness as 'nature is queer' (Farr, 2022). It actually subverts the conventional sexual binaries through nature which itself includes diversity, fluidity and non-conformity. It resonates closely with India's long recognised

¹ Queer ecofeminism is an intersectional strand that challenges 'compulsory heterosexuality'. It further recognises diverse sexual forms of human life within nature.

² Queer epistemology actually refers to the pathways of conceptualising sexuality and its related knowledge. It often questions the conventional assumptions of sexuality as being fixed and stable. For further details see Kim Q. Hall, 'Queer Epistemology and Epistemic Injustice', 2017.

³ 'Lesbian episteme' specifically refers to the ways of understanding and knowledge about lesbian lived experiences beyond the heterosexual norms of the main stream society.

cultural and ecological non-binary sexual identities from Ardhanarishvara,⁴ to various natural species. It is mostly under colonial heteronormative enforcement; the very inclusivity in Indian sexual perspective has been subdued. For lesbians, it is likely impossible to counter compulsory heterosexuality without going parallel to nature itself. In fact, for Morton, 'fully and properly, ecology is queer theory and queer theory is ecology' (Morton, 2010: 281). Destabilising the anthropocentric entanglement of scientific discourses, queer ecology recreates ecologically sensitive sexual possibilities that can transcend the pre-decided boundaries between species and environment broadly.

Similarly to climate activists, ecofeminists across national borders are also exploring the suppression of nature or ecology in connection with women's gender oppression in specific contexts. Val Plumwood (1993), more than thirty years ago, highlighted the related patterns between misogyny and ecological degradation. Vandana Shiva and Maria Mies (1993) have interrogated the politics of capitalism, colonialism, and patriarchy creating suppression of women's bodies and the environment. Earlier, it was only Cate Sandilands (1994) and Greta Gaard (1997) who initially enquired about the possible dimension of sexuality as another aspect of investigation for both ecologists and ecofeminists. This is primarily because queer ecologies can 'offer a political model that we might extend to the "real world": one in which imagination and empathy allow humans to build political coalitions across divides such as race and sexuality' (Seymour, 2013: 28). Therefore, beyond the singular praxis of popular 'homophobia' in queer theory, it opens the scope to deconstruct the apparent gap between 'human' vs 'nature' and also between the 'self' and 'other.'

It is primarily the shared emphasis on fluidity and interconnectivity among species beyond any binary mechanism, that the decolonial Indian concept *Prakriti* and queer ecofeminism are deeply related. Here *Prakriti* as per Hindu mythology is the feminine force of nature that often resonates divine energy. Such energy is fluid, transformative and creative that is natively known as '*Shakti*' (Khanduja, 2017). '*Shakti*' in the decolonial context of queer eco-feminism can not only offer resistance to fixed heterosexual categories, but also can shape potential pathways of queer subjectivity and sustainability. In this context, Vandana Shiva's provocation of Indian ecofeminism is quite instrumental in defining the advocacies of nature and women broadly for 'third world' ecofeminism (Shoba, 2013). Indeed, Shiva has propounded the emergence of women's environmentalism before the categorical foundation of ecofeminist events in the West organised by the UN. She asserted the irrevocable potential of Indian ecofeminism to 'lay the foundations for the recovery of the feminine principle in nature and society' (Shiva, 2010: 215). This is primarily because the feminine principle of nature is the epitome of *Shakti*, which is considered the 'living force that supports life' (Shiva, 2010: xvii). This *Prakriti* is undergoing several oppressions through developmental projects, as are the growing rates of gender relegations. This necessitates the re-invoking of the feminine principles of nature which can rejuvenate *Shakti* for gender subordinates. Shiva has extended her critique of colonialism and capitalism as agentic for exploiting marginalised women and environment. This propagation is effective for queer ecofeminism since both perspective challenges hierarchical power structures even in terms of gender and sexuality: '[t]he visibility of dramatic breaks and rupture is posited as progress. Marginalized women are either dispensed with or colonised' (Shiva, 2010: 44). It indicates the problematics of capitalism and colonialism on gender as well as environmental progress. Both conceptual articulations demand the need for sustainable living, for the needs of the environment and for marginalised sexual identities. The feminine principles of nature are seen as the basis of ecological conservation, as well as development. Shiva's ecofeminist stance considers feminism as an ecological revival to ensure the empowerment of all life sources through a gendered lens (2010). These standpoints primarily dismantle the colonial, capitalist and heteronormative oppressions that cause ill effects both on nature and marginalised sexualities. It advocates the inclusivity of the native knowledge systems grounded on the principles of interconnectivity and connection, where environmental justice is going in parallel with social justice for lesbian people in shaping their subjectivity.

The term lesbian subjectivity actually refers to the individuality of experience, desires and relationships of the lesbian people in both personal and distinct social contexts (Ryan-Flood and Murphy, 2024). It puts emphasis on the cognitive experience of a lesbian as 'woman' beyond heterosexual structure. This often explores the nuanced complexities that lesbians as individual subjects do experience at the crossroads of their gender, sexuality and social norms. Although same-sex inclinations are not at all new in Indian culture, with references found in ancient Indian

⁴ Ardhanarishvara is basically an androgynous Hindu deity combining both god Shiva and goddess Parvati. The word literally refers to a 'Lord who is half-woman'. It embodies the fluid gender identities beyond binaries. The references of Ardhanarishvara can be found in various ancient Indian texts like the *Mahabharata*, *Shiva Purana*, and *Lingapurana*. Primarily it refers to the divine harmony beyond dualism.

literature like the *Purana*⁵, *Mahabharata*⁶, and *Panchatantra*⁷ (Vanita, 2001), critical ecofeminist inquiry beyond the *Prakriti* and *Purusha* (masculine power) is represented as a completing duo of empowerment, which is still necessary. This hetero-patriarchal belief in India is part of a complex and contested socio-political and gendered power structure. It relegates the positionality of lesbian existence to 'unnatural' and, therefore, as the 'other.' Even this has been a serious problem for Indian feminists for a long time; when they speak for lesbians, it is often for the 'others' either consciously or unconsciously. It is about the oppression and marginalisation of women only, but still for those who are not 'you', lesbians remain objectified. In this sense, even the language rhetoric of the movements was not termed as 'us' (Roy, 2022). For Roy, in lesbian feminism, considering choice is the most crucial aspect of transcending disciplinary binaries, as it can offer diverse possibilities of lesbian existence 'especially as a way of moving beyond the tired debate around power and resistance that has long dominated feminist theorizing' (2022: 11). Other queer feminists in India are also moving beyond the common subjects of oppression narratives (Biswas, 2007; Chatterjee, 2018). In this context, reconstructing lesbian ecofeminism through the decolonial lens of *Prakriti* and its associated spiritual belief of *Shakti* can be effective, as it offers possibilities that can eulogise the existence of every woman and her impending relationships on the earth beyond the traditional method of 'othering.'

ANALYSING LESBIAN SUBJECTIVITY IN/AS PRAKRITI: RE-STOR(Y)ING STRUGGLE, SOLIDARITY AND SUSTAINABILITY

Minal Hajratwala's book, entitled *Out! Stories from the New Queer India* (2012), touches on possible queer experiences in the context of everyday Indian life. Particularly, the three selected stories, namely 'The Edge of Her World' by Anisha Sridhar, 'A Small-Town Girl' by Milind Wani, and 'Find Me' by Sitara Sachdev, reflect upon the lesbian bonding between narrative characters Rosa and Kavya, Shampa and Suparna, Gitanjalee and Farah respectively. These women characters belong to different religious and cultural communities across diverse geographical locations. They are portrayed in either villages like Supurdih from Eastern India or small towns like Alleppey and Nainital from Southern and Northern parts of India respectively, away from the many metropolitan urban privileges that is the representative norm for queer people. One major concern of most of the villages or small-town societies of India is that it considers homosexuality to be a criminal offense against heteronormativity, and thereby often targets lesbians as distinct threats to society and broadly to nations: 'Lesbians may be constructed ... as threats to, not embodiments of, heteronormative national culture; as dishonouring heterosexual male citizen-subjects because not appropriated by them; in xenophobic, lesbophobic terms, as originating outside the nation and as antinational' (Bacchetta, 2003: 951–952). Such perceptions of lesbian identity creates social fear, and also becomes evident when the principal of Gitanjalee's school, sister Rose, scolds her for making close friends with Farah, dictating that 'you should stop mixing with her. We don't want her to become a lesbian' (Sachdev, 2012: 397). The very usage of 'we' against 'lesbian' marks the perceptual otherness of this sexuality in mainstream social consideration. However, the lesbian question is inseparable in conceptualising any society and nation broadly as women's existence is fundamental there. Here comes a serious incommensurability between Indian society and being lesbian (Dave, 2012).

This problem of biased heteronormative acceptability also sometimes gets ingrained within the consciousness of Indian girls from their early teenage years. This even generates sheer fear for the term 'lesbian' itself. This is seen in the story and made exactly visible when Farah, in a playful mood, gives her cousin Malini a dare 'to be a lesbian!' (Sachdev, 2012: 398). The term 'lesbian' itself creates such an abandoning impact that it left Malini awestruck 'with a mixture of surprise and horror... [and] everyone around the now still bottle looked at me [Farah] with eyes full of blame' (Sachdev, 2012: 398). Even though there was no verbal fight or abuse of the term, the shocked expressions of the other girls were enough to reflect the heteronormative assumption of fear for the term lesbian. In fact, it is this fear of general public opinion that lesbians in India remain relatively invisible, and the same is the issue with Farah and Gitanjalee's growing closer and bonding during their adolescence: 'Every night we played the same secret game. Although it was innocent enough, we knew it was something we should hide' (Sachdev, 2012: 400). It is the compulsion of heterosexuality and also the gender subordination that lesbians face the challenge of visibility even for everyday interaction.

⁵ *Purana* refers the collection of ancient Indian texts encompassing stories of the legends, myths, gods, kings and about the universe. Stories of this collection mainly explore the divine cosmic cycles highlighting gods and humans relationships.

⁶ *Mahabharata* is an ancient Indian epic written in Sanskrit and it mostly focuses on the themes of justice, loyalty and especially nature of human relationships.

⁷ *Panchatantra* is basically a collection of fables and stories of animals. Through the words of animals it highlights moral lessons of human virtue and moral wisdom.

One reason for the relative invisibility of lesbian interactions in Indian rural villages and small towns is the maintenance of a conventional patriarchal mark of respectability that is often reliant upon the gridlines of heteronormativity. The issue remains the same when the lesbian relations between Shampa and Suparna come out of the closet door to the public. Their bonding is misleadingly compared with heterosexual relations by the villagers: 'It appears they were inseparable and loved each other like a man and woman do' and 'the villagers didn't want it to happen' (Wani, 2012: 118–119). The story deliberately unveils the heteronormative parameters persistent in society that often set the ideal benchmark by which to measure the idyllic image of womanhood. In such cases, it is often expected that the freedom of individual choice and pre-set social standards have to be forcefully reconciled. This will, in turn, ensure pseudo-familial respectability and the making of heterosexual Indianness under the rising codes of Hindutva (Bharucha, 1995; Juluri, 1999). These dialectical social assumptions categorically put Indian lesbians as 'the new woman within the new patriarchy' (Chatterjee, 1993: 130). This new patriarchy allows women to set their goals and relations only when those come under the purview of fixed cultural and spiritual qualities. In this patriarchal landscape, the visibility of lesbian relationships often emerges as a double-edged sword: on the one hand, it challenges conventional norms; on the other, it faces a severe backlash. Thereby, the text reflects how in India lesbians, for their sexual choices are often targeted and face the 'oppressiveness of small towns' (Sridhar, 2012: 79) under patriarchal heteronormativity. For instance, 'a mob in Ludhiana had lynched two girls for being in love with one another' and another girl was 'gang-raped by her brother's friends after her love letters to a female classmate were discovered' (Sridhar, 2012: 79). These incidents also create a climate of fear and pressure for other lesbians restricting the scope for their open interaction and it is quite evident from Kaavya's words in the story: 'I just want to be with you, Rose. We can't do that here. Alleppey is just so ... oppressive' (Sridhar, 2012: 79).

One major concern that plays a dominant role in such small town and rural societies is the general consideration of heteronormativity as the sole 'natural' sexual expression, and it often receives support from and is reinforced by popular culture. This support manifests in cultural narratives that reinforce the idea of heterosexuality as the only acceptable form of love and desire. Therefore, by default, the entire discourse of homosexuality becomes its 'unnatural' binary, a binary that goes all the way back to colonial India. These natural vs unnatural debates regarding homosexual desires then inform the debate between nature/culture. Here, sexuality becomes more 'about language as it is about the sexual organs,' and the 'paradox of sexual identities is that they are both artificial and essential, arbitrary but forceful, invented categories that nevertheless provide the basic directions' for personal goals, desires, and also social tie-ups (Weeks, 2011: 3–5). In fact, it is those self-employed custodians of sexual morality in a heteronormative society who often tag homosexual desires as 'unnatural'. One such instance is reflected when in the story Debjani Maity, the grandmother of Shampa and Suparna, expresses her disgust for her granddaughters' relationship: 'I have lost count of the number of times we warned them that their relationship was not natural. We summoned Shalishi Sabhas, the village court, thrice and tried to make them see sense' (Wani, 2012: 124). This pseudo-sense is actually the social construction of a sexual paradox for their lesbian identities, that also makes Rosa doubt her sexual inclination for Kaavya and draws upon colonial Christian religiosity: 'This... is wrong. It's...it's a sin' (Sridhar, 2012: 75). Such self-doubts among lesbians are the expression of the struggle that they are undergoing both inside the self and outside society. To be very specific, such perceived notions of sexuality are entangled within deforming codes of heteronormativity, which ostracise and stigmatise lesbians in India.

In this dialectical situation, the entire process of queering *Prakriti* or Nature, as evident from the textual references, is pivotal to implicitly counter the socially constructed association between lesbian desires and unnaturalness. This, in turn, also critiques heterosexuality as the only permissible 'normal'. Though it is quite pertinent that 'normal' and 'natural' cannot be used synonymously, their interplay is very often in the divide between nature and culture. Particularly, the select stories of this collection are reconfigured in the lap of *Prakriti*, where natural spaces can become the soft medium of lesbian romantic interaction. One such is the dark space under the starry sky of Nainital, where 'it was cold at night up in Nainital, and the sky was always clear, filled with a million stars' (Sachdev, 2012: 396), and beneath this Gitanjalee and Farah every night played their secret game of finding each other: 'In the pitch-blackness, I stretched out my arms to feel for where she was. I grabbed her school blouse from the back, but she got away. She moved again, and I found her by pulling on her loosened tie' (Sachdev, 2012: 400).

Suitable to the queer plotting, here, the darkness of nature in the hilly region of Nainital is used purposefully. The first one is to imagine a physical space away from the inquisitive eyes of unwanted interference and margins of conventional codes. In fact, spatiality has always remained influential for lesbian interaction in Indian geography (Singh, 2023). The bonding between Farah and Gitanjalee thrives in the lap of the night, natural darkness which also symbolically disrupts the notions of fertility and sterility along with nature and production. This invariably reconstructs the meanings associated with nature even with that of sexualities and conventions. Bonnie Zimmerman (1981) has meticulously countered this imposed 'unnaturalness' of lesbianism, debating that even the natural world can never be always blooming and productive like when it is in the dark. The darkness of nature at night might appear outwardly sterile here, but it never stops life from bursting, and, thereby, can easily disrupt the

imperative of sex in biology with that of reproduction. Hence, in the story of Farah and Gitanjalee, the dark space under the open sky becomes a relatable metaphor that implicates it both as a place of their choice and free will with distinct affirmation for their relation. Here, the textual references of natural spaces beyond being the mere sites of interaction also embody the feminine power that reject rigid societal norms and reclaims agency for lesbian choices. This makes *Prakriti* a metaphysical space of healing and resistance for Farah and Gitanjalee against social obligations and questions. Here *Prakriti* offers them autonomy from social surveillance by symbolically ensuring their privacy for love beyond the conservative approval. In the lap of *Prakriti* their relationships are not 'unnatural' but very much a part of interconnected love forces of the human world and beyond. Therefore, *Prakriti* both physically and symbolically becomes a liberating space for lesbian love, desire and identity synchronised with natural world that widens scope for lesbian emancipation both on the personal and collective level.

The queerness that prevailed in *Prakriti* is wide open for queer possibilities since *Prakriti* is the pivotal source of all life (Shiva, 2010). The textual references are suggestive of the self-determination of the lesbians and so is their liberation in/as nature. This also becomes evident when Rosa and Kaavya cherish their relationship in water by boating in a solitary river taking them:

Somewhere far, far away where no one can find us, and we can be together forever and ever...the boat spun slowly. Ripples broke up the reflection of the coconut trees, and when Rosa looked in the water it was as if the world shimmered at her in a thousand new ways. (Sridhar, 2012: 73)

Outside the codes of conventional restrictions, lesbian relations are more prone to their choice (Roy, 2022), and thereby, shed off the imposed restrictions. It is a necessity to look beyond the polarised model of 'otherness' for lesbian relationships since it often figures them out as 'narcissistic doubles, self-reflections, bound to each other through mutual identification and self-recognition, or in terms of complementarity' (Grosz, 1995: 181). It is evident in the story of Farah and Gitanjalee also whose intimacy and closeness was questioned and restricted in their school but both of them prioritises their own choice by maintaining privacy of their love in natural darkness: 'During the day...Gitanjalee pretended I (Farah) didn't exist...but at night things were different...exploring the darkest corners of the school, exploring each other' (Sachdev, 2012: 400–401). Disrupting the established binaries here, the lesbian experiences are constantly in the process of becoming outside the strict blueprints of sexism or desire just as the productivity of the *Prakriti*.

The couples depicted in the stories, like Rosa-Kaavya, Shampa-Suparna or Farah-Gitanjalee do not merely conform any fixed category of sexuality but challenge very idea of heteronormative stability. They emphasise a continuous process of self-exploration and related transformation which closely invokes a kind of Deleuzian conceptualisation of 'becoming'. The Deleuzian framework of 'becoming' propounds identity as being fluid, dynamic, and continuous. Here in the context of lesbian relationships this notion of 'becoming' offers a wide scope since in this process Rosa, Kaavya, Farah, Gitanjalee and others can explore each other and redefine their identities. 'Becoming' as a process here reflects on their desires and experiences that open up a transformative resistance to self and desire. It is more for sexual exploration where pleasure is the only limit beyond any traditional intentions of sexual reproduction. For this purpose, Kaavya and Rosa 'sat, rocking gently in the water, pretended they were on an island far, far away... (as) movement rocked the boat gently, and Rosa felt Kaavya's arms around her. She felt soft kisses on her neck, her chin' (Sridhar, 2012: 75). This sensual experience between the two women in *Prakriti* has its own intensification as well as proliferation. The stories have made natural spaces an innate site for naturalising lesbian relations where couples like Rosa and Kaavya, Farah and Gitanjalee, or Shampa and Suparna engage in willing sexual encounters. All these fictional duos were initially doubtful or faced fear in terms of their relationships, but the openness of *Prakriti* enabled them to experience each other. This openness represents a broader metaphor for the acceptance of diverse identities within the cultural landscape. Here both the feminine principles of *Prakriti* and lesbianism are put at a textual juncture between imagination and reality. The provocation of these lesbians' identification in or as *Prakriti*, in turn, empowers them with *Shakti*. It is the *Shakti* of lesbian episteme that can break 'a taboo' resulting in 'rejection of a compulsory way of life' (Rich, 2003: 27). For this, rejecting the compulsory heterosexuality of the entire village, Suparna, and Shampa unite with each other in the paddy field: 'She (Suparna) sneaked out of the house and went with Shampa to a paddy field far away. Their bodies were found the next morning, tied to each other at waist with a towel' (Wani, 2012: 119). Their unification, though in death, in the lap of *Prakriti* marks the heightened *Shakti* of lesbianism to reject every compulsory pressure to conform, so that even death is preferable to convention. This construction does draw upon the tragic motif of the doomed lesbian story seen so commonly in western literature of the mid-twentieth century, however here we are also arguing that for these young women, death is liberation, not just annihilation.

The reconfiguration of a queer *Prakriti*, particularly in the natural spaces in the selected stories, is done very purposely. Beyond the physical paradigm, they also reflect on the psychological sustainability of the lesbian subjects which is rendered through all the female protagonists. Within the distinct contexts of village or small-town social life, these stories put forward the naturalistic depiction of how rural spaces are instrumental in constructing choices

for women and specifically for lesbians as they navigate their ways through such spaces. Undoubtedly their psychological interiority creates ‘an opposition between “inside” and “outside”’ (Campe and Weber, 2014: 2) since it is extensively constructed upon the ‘larger patterns within the culture... forcing an internal space of subjectivity molded by external factors’ (de Munck and Manoharan, 2019: 507). All the lesbian relationships portrayed in these stories face the challenges of imperative heteropatriarchal inputs of family and society. However, from being doubtful about the nature of their inclination towards each other, Rosa and Kaavya and also Gitanjalee and Farah confidently acknowledging their closeness, which signals a shift of their subjectivity towards conscious sustainability and identity. They have reconciled in their mind the distinctions of their internal mind with that of the external world: ‘[A]ll that we (lesbians) are is the result of what we have thought. The mind is everything. What we think, we become’ (Sachdev, 2012: 401–402).

Sometimes identities are fashioned on diverse ways of self-realisation, of individual positioning across and against past narratives (Hall, 1996). Even the mode of narration becomes a key medium for reconstructing subjectivity (Smelik, 1999), and the same happens with lesbian subjectivity here. Ruth Vanita has long addressed that sometimes ‘these young women did not term themselves “lesbian” but the media (both English and Hindi) did use this term to refer to them’ (2013: 368). Quite in a similar fashion initially, Farah was not aware of the term ‘lesbian,’ as she uttered, ‘I certainly didn’t know what “lesbian” meant’ (Sachdev, 2012: 397), but the school authority tagged them as lesbian. With anonymity and self-choice, the female lovers in this collection explore the natural spaces as evident from the stories, constructing an alternative queer *Prakriti* which is very Indian as well as decolonial. This decolonial perspective allows for the reclamation of narratives that have long been marginalised, reinforcing the significance of diverse sexualities within the broader discourse. Indian lesbians mobilise through different units of *Prakriti* and experience their very innate subjectivity through sexual interactions with their partners, they are women claiming their own sexual agency. Therefore, Farah and Gitanjalee can evocatively assert that ‘we no longer played at finding. We became what they were afraid we would become: lesbians’ (Sachdev, 2012: 401). The linguistic rhetoric of the above textual quote destabilises the prevalent ‘us’ and ‘them’ negative positioning of heteronormativity and lesbian episteme. Here, in an inversion, the hetero-patriarchal society becomes ‘they’ and therefore, the ‘other’ to the lesbians, marking a beginning of a ‘New Queer India’ of the title itself. It emancipates the notion of ‘becoming’ for sexual identity, opening the scope for lesbian intimacies that can felicitate the pragmatic relational sustainability of their subjectivity. Here relational sustainability not only denotes the maintenance of personal relations of lesbians but it also fosters broader gendered solidarity. While challenging the fixed gendered expectations, these relationships generate deeper human-nature communication and mutual care that are often vital in oppressive environments. The analysis makes visible how the lesbian interactions with nature emphasise on mutual care, autonomy and respect that invariably creates a framework for relational sustainability.

CONCLUSION

Following a comprehensive analysis, it is quite evident that the collection in *Out! Stories from the New Queer India*, curated by Minal Hajratwala, embark on a fresh perspective by delving into lesbian experiences deeply entrenched within the rich tapestry of Indian ecology. The literary spaces as elaborated in these three stories either implicitly or explicitly raise questions of the real-world queer life in India. It raises the concern if queer intimacies are openly possible at all within Indian family or among communities. Often urban backdrops are considered as sites for such queer explorations in literary texts but these short stories are queering the natural space instead. It enables people to look beyond the structured heterosexual categories as well as urban connotations of queer subjectivity. These stories erect their platform for self-expression, which not only transcends boundaries between reality and fiction but also challenges the profoundly ingrained socio-cultural practices and sexual norms in India. Presently, the same-sex marriage issue has become a much-heated topic for discussion since the Supreme Court of India had taken this petition for hearing under many contestations (Pandey, 2023). Though after several hearings the demand has been declined by the Supreme Court, it also contradicts the often tagging of gender queerness as ‘Un-Indian’ (Rajgopal, 2023). In such a demanding time, this article unveils the gendered and specific experiences of Indian lesbians. It further illuminates the possibilities of a lesbian episteme, seeing the narrative in/as *Prakriti* through a decolonial lens, rejuvenating their experiences as an alternative source of *Shakti* or power.

Within this context, this study has ventured into exploring Indian queer ecology, drawing upon critical insights of queer feminism and ecofeminism. In doing so, it challenges the prevailing dominance of heterosexual romances in Indian English literature. It puts instead a clear focus on the subjective closeness and autonomy of the lesbian relationships and the subsequent female gaze. These stories highlight the shadow of social discrimination endured by lesbians, representing a gendered performance that can transcend and deconstruct established identities. The stories boldly embrace the use of subversive repetition as a strategic act, challenging the strict confines of normative narrative expectations.

The article offers an alternative discourse on lesbian visibility. The natural spaces in these three stories become liminal, tentative, contingent, and intermediary sites where lesbian desire can be realised. Such stories can forge an extraordinary decolonial path that dares to defy Western norms of LGBTQ representation and thus disrupt deeply entrenched modern conventions of sexuality. They can bring forth the identity politics and unconventional representational strategies inherent to queer activism. Taking into account the contested gendered experiences of Indian lesbians within the unique context of Indian ecology, this article attempts to expand our understanding of *Prakriti* by drawing attention to the transformative and enduring power of storytelling. Queer ecology, as exemplified in this context, surpasses the confines of theory; it explicitly transforms and challenges our aesthetic as well as our ethical sensibilities.

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Dating Violence Among University Students in Indonesia: Help-Seeking Communication Strategies and Barriers to Disclosure

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ABSTRACT

Indonesia is experiencing a rise in dating violence (DV) in the last 5 years. The Indonesian Ministry of Education has issued a regulation for violence prevention and handling in higher education institutions to protect the academic community from all forms of sexual violence through the Regulation No. 30 of 2021 concerning Prevention and Handling of Sexual Violence. This was later changed to the Regulation number 55 of 2024 concerning Handling Violence in Higher Education Environments. Research, however, suggests that adolescents and emerging adults often prefer turning to informal sources of support for help rather than formal resources such as health professionals or university officials. This study seeks to identify the prevalence of DV among university students in Indonesia and to document their strategies to communicate their need for help, both formally and informally. A survey of 315 university students in Indonesia was conducted using a modified version of the Conflict in Adolescent Dating Relationships Inventory (CADRI). Findings show that: 1) Emotional and verbal aggressions are more prevalent than other forms of DV; 2) The type of DV experienced influences the perception of DV normalcy; 3) The type of DV experienced does not influence the self-perception of DV victimisation. Rather, high levels of DV and its consequences are the reason for disclosure; 4) There is a statistically significant correlation between formal disclosure and the level of emotional and verbal aggression; 5) The majority of respondents are satisfied with the support they received from their chosen source of support. Both formal and informal channels result in the same level of satisfaction.

Keywords: Dating violence, Indonesia, university students, gender-based violence, violence against women and girls (VAWAG)

BACKGROUND

Dating violence (DV) is a prevalent issue among university students in Indonesia, with significant implications for the academic community. A 2021 study on Indonesian late adolescents found that 61.3% of participants had experienced DV before. Moreover, 42.5% of the participants reported that they were victims, 15.1% were perpetrators, while 42.5% have experienced both being victims and perpetrators (Putri et al., 2021). Despite efforts to prevent and address it, there remains a need to understand communication strategies and barriers to disclosure among students. This study aims to tackle this challenge by exploring the prevalence of DV and students' strategies for seeking help.

Indonesia's National Commission on Violence Against Women – known as Komnas Perempuan – and service institutions have recorded a rise in the number of reports on DV cases in the last 5 years. In fact, there were 3,950 cases reported in 2022, a double increase from the previous year. The majority of these reports were of violence against girlfriends, followed by violence against wives, and then violence against girls (National Commission on Violence Against Women, 2024). According to Komnas Perempuan, psychological violence ranked first at 40 percent, followed by sexual violence at 29 percent, physical violence at 19 percent, and economic violence at 12 percent (Antara, 2023).

The prevalence of DV among adolescents has become a universal problem. In a U.S. study by Wincentak et al. (2017), 20% of adolescents reported being victims of physical DV and 9% of sexual DV. Seeking help is often challenging for these adolescents and young adults as they often want to solve their own problems while at the same time lacking knowledge about formal support providers. Some other barriers to seeking help include stigma

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and shame. On the other hand, positive past experiences, encouragement and support from others are factors that facilitate help-seeking among victims of DV (Gulliver et al., 2010). When they do decide to seek help, research suggests that adolescents and young adults usually opt for informal – rather than formal – sources of support to seek help in times of difficulties. Such informal sources include family and friends (Rickwood et al., 2007). In response to the increasingly frequent reports of cases of sexual violence occurring in higher education, Indonesia's Ministry of Education and Culture issued the Ministerial Regulation No. 30 of 2021 concerning Prevention and Handling of Sexual Violence (*Pencegahan dan Penanganan Kekerasan Seksual* or PPKS), which aims to create a higher education environment free from sexual violence (Mudzakkir et al., 2023). The term 'sexual violence' usually means rape and sexual assault while the term 'gender-based violence' is broader and includes women being controlled by threats and physical violence. However, the Regulation of the Minister of Education and Culture (*Permendikbud*) Number 30 of 2021 uses the term '*kekerasan seksual*' which translates to 'sexual violence', and defines sexual violence as acts carried out verbally, non-physically, physically, and/or through information and communication technology. The 21 acts that fall into the category of sexual violence are (Chaterine and Prabowo, 2021; Saimima et al., 2022):

1. Making remarks that discriminate or insult the physical appearance, body condition, and/or gender identity of the victim;
2. Intentionally showing one's genitals without the victim's consent;
3. Making remarks that contain sexual advances, jokes, and/or whistles at the victim;
4. Staring at the victim with sexual and/or uncomfortable nuances;
5. Sending messages, jokes, pictures, photos, audio, and/or videos with sexual nuances to the victim even though the victim has forbidden it;
6. Taking, recording, and/or distributing photos and/or audio and/or visual recordings of the victim with sexual nuances without the victim's consent.
7. Uploading photos of the victim's body and/or personal information with sexual nuances without the victim's consent;
8. Distributing information related to the victim's body and/or personal information with sexual nuances without the victim's consent;
9. Peeking or intentionally looking at the victim who is doing activities privately and/or in a space that is personal;
10. Persuading, promising, offering something, or threatening the victim to carry out transactions or sexual activities that the victim does not agree to;
11. Giving punishment or sanctions that have sexual nuances;
12. Touching, rubbing, groping, holding, hugging, kissing and/or rubbing parts of his/her body on the victim's body without the victim's consent;
13. Undressing the victim without the victim's consent;
14. Forcing the victim to engage in sexual transactions or activities;
15. Practicing the culture of the student, educator, and education personnel community that has nuances of sexual violence;
16. Committing attempted rape, without penetration;
17. Committing rape including penetration with objects or body parts other than the genitals;
18. Forcing or deceiving the victim to have an abortion;
19. Forcing or deceiving the victim to become pregnant;
20. Intentionally allowing sexual violence to occur; and/or
21. Committing other acts of sexual violence (Chaterine and Prabowo, 2021; Saimima et al., 2022).

However, such effort was not deemed sufficient to eradicate and reduce gender-based violence in various forms that occur within the university environment. Therefore, the Ministry of Education and Culture issued the Regulation of the Minister of Education, Culture, Research and Technology (*Permendikbudristek*) number 55 of 2024 concerning Handling Violence in Higher Education Environments. While the Regulation number 30 of 2021 focused on handling sexual violence in campus environments, Regulation number 55 of 2024 complements the wider points that were not covered in the Regulation number 30 of 2021, namely:

1. Physical violence;
2. Psychological violence;
3. Bullying;
4. Sexual Violence;
5. Discrimination and intolerance; and,
6. Policies that contain violence (Tani, 2024).

Moreover, there has been a rise of interest in the topic of DV in Indonesia as evidenced by the numerous research studies conducted particularly since 2023 – possibly due to the passing of the controversial and highly-

discussed Sexual Violence Crime Law in 2022 (Simorangkir, 2022). However, most of these studies focus on the psychological impacts on the victims. Literature on the particular help-seeking needs of Indonesian university students who are victims of DV and the pedagogical strategies that universities could adopt to counter DV is scarce.

OBJECTIVES

This study aimed to identify the prevalence of DV among university students in Indonesia and to document their strategies to communicate their need for help, both formally and informally. In doing so, this study strives to recommend pedagogical strategies that Indonesian university students should adopt to counter DV within their students.

The following research questions framed this study:

1. What is the most prevalent type of dating violence among university students in Indonesia?
2. Does the type of dating violence experienced influence the perception of dating violence normalcy?
3. Does the type of dating violence experienced influence the self-perception of victimisation of dating violence?
4. What is the most chosen type of disclosure among the victims of the different types of dating violence?
5. How satisfied are the victims of dating violence with their chosen type of disclosure?

METHODS

To answer these research questions, a survey on 315 university students in Indonesia was conducted using the Conflict in Adolescent Dating Relationships Inventory (CADRI; Wolfe et al., 2001), which is a questionnaire that contains 46 items regarding the respondents' experience of DV. These items are arranged in 5 dimensions: Verbal/Emotional Abuse, Physical Abuse, Relational Abuse, Sexual Abuse, and Threatening Behaviours.

The CADRI is a self-report measure designed to assess the frequency of conflict behaviours in adolescent dating relationship, as well as to identify potential risk factors for relationship violence (Wolfe et al., 2001).

Some modifications were made to the instrument to better suit the purpose of this research. Whereas CADRI also measures the types of violence perpetrated by the respondents, the instrument used in this study only measured the types of violence suffered by the respondents. Using 5-Likert-scale statements, additional items were added to the questionnaire to investigate the respondents' perception of the normalcy of DV, chosen type of disclosure, and level of satisfaction with their chosen type of disclosure.

According to the Indonesian Central Statistics Agency (BPS), the number of university students in Indonesia in 2023 is approximately 7.8 million students — consisting of around 3.3 million students at state universities and 4.4 million students at private universities (Putri, 2023). However, the population of this study is not merely all active university students but rather those who have dated within twelve months of this survey. Therefore, the population size is unknown.

Since the total population in this study is unknown, the sample size was calculated using the unknown population formula (Sugiyono, 2016):

$$N = \frac{z^2 \cdot p \cdot q}{d^2}$$

where

N = Population size

z = Value of the normal distribution table for the 95% confidence level (1.96)

p = Estimates on population proportion

$q = 1 - p$

d = Margin of error.

Based on this formula, the minimum sample size of this research was calculated as follows:

$$N = \frac{(1.96)^2 \cdot (0.5) \cdot (0.5)}{(0.1)^2} = 96.04.$$

Thus, the minimum sample size of this study is 96.04 respondents.

Using a purposive sampling technique, the survey was conducted between October and December 2023 on active university students in Indonesia who have dated within twelve months at the time of this survey. This study did not place restrictions on the level of university study the respondents were undergoing or the level of seriousness and duration of their dating relationship.

To answer research question (RQ) 1, classical assumptions analyses were conducted to see which 'type of DV' – Psychological Aggression; Sexual Aggression; Threatening Behaviour; Relational Aggression; or,

Emotional/Verbal Aggression – has the highest score and is thus most prevalent. Several research studies (e.g., Rubio-Garay et al., 2017; Exner-Cortens et al., 2021; Putri et al., 2021) in various countries show that the most common type of aggression in dating is psychological aggression, therefore it is hypothesised that,
H1: The most prevalent type of dating violence among university students in Indonesia is Emotional/Verbal Aggression.

To answer RQ2, a multiple regression analysis between ‘type of dating violence’ and ‘perception of dating violence normalcy’ was conducted, with the following hypothesis:

H2: Yes, the type of experienced dating violence influences the perception of dating violence normalcy.

H0: No, the type of experienced dating violence does not influence the perception of dating violence normalcy.

To answer RQ3, a multiple regression analysis between ‘type of dating violence’ and ‘self-perception of victimisation of dating violence’ was conducted, with the following hypothesis:

H3: Yes, the type of experienced dating violence influences the self-perception of victimisation of dating violence.

H0: No, the type of experienced dating violence does not influence the self-perception of victimisation of dating violence.

To answer RQ4, a crosstabulation analysis was conducted between ‘type of disclosure’ (formal and informal) and ‘type of experienced dating violence’.

To answer RQ5, a crosstabulation analysis was conducted between ‘type of disclosure’ (formal and informal) and ‘level of satisfaction’

LITERATURE REVIEW

Dating Violence Among University Students

DV is defined as ‘physical, sexual, emotional, or verbal aggression from a romantic or sexual partner’ (Office on Women’s Health, 2021). Due to their social environment, university students are vulnerable to DV. However, there is no consensus on the main reasons leading to DV. According to Duval et al. (2020), in general, females are more likely than males to perpetrate and/or experience DV. The most common risk factors are the individual factors, such as perceived risky sexual behaviours and substance abuse. These factors were more commonly found compared to peer and social risk factors, such as membership in athletic teams, student organisations, or sororities, and family risk factors, such as intergenerational violence (Duval et al., 2020). However, another study on U.S. college students by Lasley and Durtshi (2015) found that experience of neglect and prior domestic violence experienced during childhood were significantly related to victimisation and the perpetration of DV, whereas coming from a two-parent household tend to be linked to less violence. These findings show that early life experiences and family upbringing play important roles in the university students’ tendency to experience or perpetrate DV. Dosil et al. (2020) also agree that early childhood experience plays a significant factor. In their study focusing on personal aspects of both victims and perpetrators of DV, factors such as social problems, sexism, and self-esteem were found to play a significant role. These factors are usually formed at a young age, thus showing how crucial early intervention is to prevent eventual DV (Dosil et al., 2020)

Sexual assault – one of the types of DV – on university campuses happen frequently, but disclosure to formal on-campus resources remains low as victims often prefer to disclose their experiences to friends and family members. A study by Mennicke et al. (2021) revealed that students who disclosed to formal on-campus resources are those who have suffered frequent poly-victimisation and experienced more severe physical and emotional consequences (Mennicke et al., 2021). This leads to the question of whether university students tend to perceive some type of dating aggression as normal behaviour and thus delay disclosure to formal resources until they become more serious. However, another possibility is also that university students – due to their young age – consider reporting to their parents as a form of formal disclosure.

Types of Disclosure

There have been numerous studies on the disclosure and non-disclosure of intimate partner violence (Andersson et al., 2010; Ansara and Hindin, 2010; Ashley and Foshee, 2005; Barrett and St. Pierre, 2011; Dunham and Senn, 2000; Fanslow and Robinson, 2010; Sylaska and Edwards, 2014). The types of disclosure are usually categorised into two types of disclosure recipients: Informal (e.g., family and friends), formal (e.g., the police, legal system, and health professionals).

According to Padilla-Medina et al. (2021), adolescents prefer informal sources of support, particularly from family and friends. Their hesitation to seek help from formal sources is caused by lack of trust, shame, embarrassment, and lack of closeness. Additionally, a possible barrier is because they wish to remain in the relationship and they fear that others may try to make them leave the partner (Andersson et al., 2010; Lempert, 1997). Still, there are advantages and disadvantages to informal disclosure. Advantages include emotional support,

having someone willing to listen, and getting practical help (Sylaska and Edwards, 2014). On the other hand, barriers include fear of victim-blaming, avoidance by the disclosure recipient and minimisation of the abuse (Goodkind et al., 2003; Trotter and Allen, 2009).

The time when victims choose to disclose abuse also varies. A study by Dunham and Senn (2000) indicated that after a violent situation, approximately half of the victims choose to disclose immediately, while over one-third wait for more than 2 years before disclosing the abuse to anyone. In fact, disclosure is related to stress due to the abuse, partner blame, and decision to end the relationship. The main reason for nondisclosure is the victim's minimisation of the abuse (Edwards et al., 2012).

Victims who disclose DV claim that the responses they find most helpful are: giving 'good advice', a chance to vent and talk about it, offering comfort and emotional support, rationalising the partners' behaviour, and offering an objective point of view. On the other hand, the least helpful responses are: telling to leave the relationship, lack of understanding, joking about the experiences, and giving bad advice (Edwards et al., 2012).

Dating Violence in Indonesia

According to Komnas Perempuan's 2023 report, of the 9,806 cases handled by service institutions, most cases occurred in the personal realm, amounting to 8,172 cases, including cases of violence in relationships (3,528 cases), violence against wives (3,205 cases), violence against girls (725 cases), other domestic violence (421 cases), violence against ex-boyfriends (163 cases), violence against ex-husbands (47 cases), and other violence in the personal realm (83 cases). The most common form of violence is physical violence (Komnas Perempuan, 2023).

Not surprisingly, violence in dating has become a worrying problem among Indonesia's youth. In a survey on university lecturers conducted by the Indonesian Ministry of Education and Culture in 2020, 77% of the respondents said that sexual violence had occurred on their campuses and 60% of them did not report acts of sexual violence (Pambudi, 2024). There are still campuses that cover up cases of sexual violence to protect the reputation of their campus. Campuses as educational institutions that are supposed to produce superior human resources for a better Indonesia should not cover up cases of sexual violence.

A survey conducted by the Ministry of Education and Culture and the Ministry of Religious Affairs on 1,026 students across 157 universities in Indonesia indicated that 110 students identified as victims of sexual harassment, while 906 reported as being bystanders. Interestingly, the survey results indicated that in recent years, university students have become more willing to report sexual violence – whether as victims or bystanders – and are also more aware of the sexual violence happening within higher education (Fazny et al., 2024).

A report on cases of sexual violence and revenge porn across Indonesian universities between 2019 and 2023 indicates that university lecturers abused their power over female students to commit acts of sexual violence, such as coercive intercourse, attempted rape, sexting, masturbation, unwanted physical contact, and blackmailing (Nurdin, 2023). Indeed, sexual violence has been reported in numerous universities. For instance, at Universitas Gunadarma in 2022, a viral video surfaced showing a student being persecuted by peers after accusations of sexual harassment (Gabriela et al., 2024). At Universitas Pelita Harapan, a piano lecturer was accused of sexually harassing multiple students (Gabriela et al., 2024). At Universitas Islam Riau in 2023, a Dean was fired after being accused of sexual violence against an alumnus (Gabriela et al., 2024). At Universitas Brawijaya, a student reported being sexually harassed by a senior in 2017, but the case was only formally reported in January 2020 (Farahdiba et al., 2024). At Universitas Sriwijaya, a lecturer was accused of sexually harassing a student during a thesis supervision session in 2021 (Farahdiba et al., 2024). At Universitas Indonesia, the 2023 Chairman of the Student Association was accused of committing sexual violence (Farahdiba et al., 2024). At Universitas Hasanuddin, a lecturer was accused of sexually harassing a female student beginning in 2023, while the student was dealing with administrative matters related to her thesis. The perpetrator was in charge of quality assurance and reputation improvement (Farahdiba et al., 2024).

At IAIN Ambon, a special edition of the student magazine *Lintas* published in January 2022 reported sexual harassment involving 32 victims, including 25 women and 7 men. The cases spanned from 2015 to 2021, with the perpetrators being 14 individuals, including 8 faculty members, 3 staff members, 2 students, and 1 alumnus. In response, the university administration shut down the student magazine and threatened the editorial team. The magazine's editorial leader revealed the threats and stated that the university accused the publication of spreading false information (Farahdiba et al., 2024).

The Ministry of Education, Culture, Research and Technology's Regulation Number 30 of 2021 concerning Prevention and Handling of Sexual Violence in Higher Education Environments aims to help victims of sexual violence on campus. Due to the widespread occurrence of sexual violence, universities are now obliged to provide modules regarding the prevention and handling of sexual violence as established by the Indonesian government to the entire academic community. The handling of victims of sexual violence is regulated in Article 10–19 of the Ministry of Education and Culture Regulation Number 30 of 2021, which consists of: 1) Assistance in the form of counselling, health services, legal assistance, advocacy, and social and spiritual guidance based on the victim's

consent; and 2) Protection for victims while undergoing higher education, protection from threats to victims, provision of safe housing, and protection from criminal or civil lawsuits (Pambudi, 2024).

Sexual violence has not been taken seriously by the Indonesian government until recently. This is shown by how controversial the Elimination of Sexual Violence Bill was considered, and how long it took from being proposed in 2016 to finally be passed in 2022. Prior to that, crimes of a sexual nature were treated just as other crimes would be treated. This was immensely disadvantageous to the victims, especially when they decide to report to the law enforcement, as victims would need to provide several types of evidence, have witnesses, and fulfil other requirements that are more difficult in criminal cases of sexual nature. Still, at least the government has now taken steps to solve this growing problem. Finally, there is a legal umbrella that could cover sexual violence cases and the unique nature that distinguishes them from other criminal cases. The much-awaited passing of the Law on Sexual Violence Crimes was viewed as a glimmer of hope and was well-regarded internationally (Simorangkir, 2022).

However, though DV includes sexual abuse, it is not limited to the abuse or the threat of such abuse. The other types of DV – physical abuse, financial abuse, relational abuse, coercive control, and emotional and verbal abuse are not yet receiving proper attention. A research study on the impacts of DV on adolescents in Yogyakarta found that psychological violence in dating relationships impacts the victims' self-esteem, causing them to be insecure, have low self-esteem, like to compare, and feel like a failure. These traumatic effects interfere with their daily activities (Ayu et al., 2023). This makes it even more important for schools and universities to be proactive in preventing and handling DV among their students.

The Role of Universities

Article 57 *Permendikbudristek* number 30 of 2021 concerning Prevention and Handling Sexual Violence regulated that all universities are required to form a Task Force for the Prevention and Handling of Sexual Violence (PPKS) no later than one year after the promulgation of the regulation (LLDikti7, 2024). Minister of Education, Culture, Research and Technology Nadiem Makarim emphasised that there are categories of sanctions that would be imposed on perpetrators of sexual violence in campus environments which vary from mild, moderate to severe. The most severe sanctions can be dismissal as a student or removal from the position of lecturer or teaching staff. For perpetrators who receive light and moderate sanctions, they are required to take part in a counselling programme. The report on the results of this counselling will then be used by the university leadership as a basis for issuing a letter stating that the perpetrator has undergone the sanctions given. In addition, the costs of the counselling programme will be borne by the perpetrator (Puspitalova, 2024).

From a prevention perspective, this regulation requires universities to strengthen their governance in order to prevent sexual violence by forming a PPKS Task Force. Meanwhile, in handling cases of sexual violence, campuses are obliged to handle victims through mechanisms for assistance, protection, application of administrative sanctions, and recovery of victims. Higher education institutions that do not carry out the PPKS process in accordance with the Regulation number 30 of 2021 may be subject to administrative sanctions, including sanctions related to finance and accreditation (Puspitalova, 2024).

The Minister of Education, Culture, Research and Technology Regulation number 55 of 2024 concerning Handling Violence in Higher Education Environments was later issued with the aim of strengthening the prevention and handling of violence in the campus environment. While the Regulation number 30 of 2021 focused more on handling sexual violence in campus environments, the Regulation number 55 of 2024 aims to complement the points that were not covered by the previous Regulation, which are (Tani, 2024):

1. Physical violence, which includes brawls, abuse, fights, economic exploitation to provide profits for the perpetrator, murder and other physical violence regulated by law.
2. Psychological violence, which includes exclusion, rejection, neglect, humiliation, spreading rumours, mocking calls, intimidation, terror, acts of public humiliation, blackmail, and other acts that are declared as psychological violence.
3. Bullying, which include behavioural patterns of physical violence or psychological violence that is carried out repeatedly.
4. Sexual Violence, which is actually explained in more detail in the Regulation number 20 of 2021. This includes acts of humiliating, harassing, attacking a person's body or reproductive function due to unequal power or gender relations.
5. Discrimination and intolerance, which are forms of differentiation, exclusion, restriction or selection based on ethnicity, religion, race, skin colour, age, economic status, nationality, affiliation, socio-economic status or mental, sensory and physical abilities.
6. Policies that contain violence, which include policies that have the potential to cause violence, whether written or unwritten (Tani, 2024).

Seeing how rampant sexual abuse and violence still is in Indonesian universities, and how long it took the Indonesian government to finally pass the Law on Sexual Violence Crimes in 2022, it seems counterproductive – if not anticlimactic – for the Ministry of Education to put sexual violence cases in universities back under the same category as other types of violence. Regulation No. 30 of 2021 was merely part of the short-lived momentum, in which the Indonesian government appeared as though putting effort and paying special attention to the sexual violence problem. One may argue that such momentum – the passing of the Law on Sexual Violence Crimes in 2022 and Regulation No. 30 of 2021 – was merely a political strategy as Indonesia was approaching the presidential and general elections in 2024.

Moreover, it seems rather premature for the Ministry to conclude that the Regulation No. 30 of 2021 concerning Prevention and Handling of Sexual Violence is ineffective within only three years and thus sexual violence must be put back under the same category of other types of violence.

Why should educational institutions address DV? The following are some of the reasons why universities have a responsibility to recognise and prevent DV:

1. Universities are different from most other contexts in that they require interaction between a perpetrator and a victim;
2. Universities have an obligation to offer their students protection, which includes guarding them against physical violence caused by other students;
3. Universities have a greater opportunity than any other environment to address the behaviour of the abuser since they are the target of legal obligations to expand their efforts against sexual harassment to include DV. Students who grew up observing adults in their lives downplaying, ignoring, and overlooking adolescent DV are more likely to develop a violent streak as adults;
4. Educational institutions and districts have responsibility for documented instances of sexual harassment that transpire on campus. Universities have a strong incentive to prevent domestic violence in the future by preventing it in today's youth. DV and domestic violence have the same underlying cause and patterns that can be unlearned (Carlson, 2003).

Administrators have the power to decide how to handle behaviour relating to the school and on campus. They can address behavioural issues with students by following the guidelines provided by state legislation, board policies, and student handbooks. Unfortunately, policies rarely address DV, despite the fact that it is a criminal offense (Surface et al., 2012).

Pedagogical Strategies for Dating Violence

As teenagers begin to experience their first romantic relationships, schools are an important avenue for DV prevention. However, lack of training for school administrators and teachers, as well as lack of appropriate protocols to respond to DV incidents are often barriers to assisting DV victims. Meanwhile, without intervention, the older they get (university age), the more likely they fail to see the problem. This calls for greater emphasis on DV prevention (Khubchandani et al., 2017).

Recent studies have shown that pedagogical strategies play a crucial role in preventing DV among students. Smith and Johnson (2016) emphasise the importance of early intervention through educational programs to address gender stereotypes and promote respectful behaviour among students.

A 2014 review that examined how effective school-based interventions were in reducing or preventing DV showed that these prevention programmes in fact improved young people's knowledge about, and attitudes towards, DV. Moreover, these effects were sustained at follow-up as students demonstrated moderate increases in knowledge about DV, a lower acceptance of rape stereotypes, and moderate improvements in conflict resolution in interpersonal relationship settings (de la Rue et al., 2014).

However, while these programs are effective in preventing DV, they have little impact on already-established DV behaviour. In order to support actual behavioural change, programmes must explicitly aim to incorporate skill-building components. School policy must also address the role of bystanders more explicitly and shift the school culture to be less tolerant of DV (de la Rue et al., 2014; Wong et al., 2023).

FINDINGS

Profile of Respondents

A total of 315 respondents participated in this study, with 144 respondents (45.71%) being male and 171 (54.29%) being female. The majority (71.5% [$n = 226$]) of the respondents reside in the capital area of Jakarta, whereas 28.25% ($n = 89$) reside outside of the capital area.

Table 1. Prevalence of dating violence

Descriptive statistics	Sample size	Minimum	Maximum	Mean	Standard deviation
Physical aggression	315	1.00	4.50	1.4611	.80496
Threatening behaviour	315	1.00	4.75	1.4675	.82309
Relational aggression	315	1.00	5.00	1.4741	.86548
Sexual aggression	315	1.00	5.00	1.5087	.81982
Emotional and verbal aggression	315	1.00	4.33	1.6339	.82763

Table 2. Model summary: 'Type of dating violence' - 'Perception of dating violence normalcy'

Model	R	R square	Adjusted R square	Standard error of the estimate	Change statistics		
					R square change	F change	df1
1	.445 ^a	.198	.131	.84295	.198	2.979	24

Table 3. Analysis of variance: 'Type of dating violence' - 'Perception of dating violence normalcy'

Model		Sum of squares	df	Mean square	F	Significance
1	Regression	50.804	24	2.117	2.979	.000 ^b
	Residual	206.063	290	.711		
	Total	256.867	314			

1. What is the most prevalent type of dating violence among university students in Indonesia?

In order to answer the first research questions, a descriptive statistics analysis was conducted. To determine which dimension of DV is the most prevalent based on the provided descriptive statistics, we look at the means of each variable Index. The higher the mean, the more prevalent that dimension of DV is among the respondents.

Table 1 shows the mean values of each dimension and indicates that Emotional and Verbal Aggression has the highest mean value (1.6339), indicating that it is the most prevalent dimension of DV among the respondents. This suggests that emotional manipulation, verbal aggression, and other forms of psychological aggression may be more common than physical, sexual, or other forms of DV in the studied population.

2. Does the type of experienced dating violence influence the perception of dating violence normalcy?

In order to answer the second research question, a multiple regression analysis between 'type of dating violence' and 'perception of dating violence normalcy' was conducted.

Table 2 indicates an R-squared value of approximately 19.8% of the variance in the dependent variable (Index_Perception_TRUE) explained by the independent variables included in the model. The adjusted R-squared value is 0.131 based on the number of predictors in the model.

Table 3 indicates the F-statistic of 2.979 with a p-value of less than 0.05, indicating that the overall regression model is statistically significant. As **Table 4** shows, the significant predictor variables ($p < 0.05$) are the experience of the following:

- Victimisation_of_DV_PA3 (Physical aggression: 'My dating partner slapped or pulled my hair')
- Victimisation_of_DV_TB2 (Threatening behaviour: 'My dating partner deliberately tried to frighten me')
- Victimisation_of_DV_RA1 (Relational aggression: 'My dating partner tried to turn my friends against me')

These predictor variables ('experienced dating violence') have a significant impact on the dependent variable ('perception of dating violence normalcy'), which means that they significantly predict whether the victim of such aggressions perceive these aggressions as normal in a dating relationship.

Therefore, H2: 'Yes, the type of experienced dating violence influences the perception of dating violence normalcy' is approved. However, the other predictor variables do not have a significant impact on the 'perception of dating violence normalcy'.

Nevertheless, even though only some predictor variables have significant impacts on the 'perception of dating violence normalcy', responses regarding the participants' perception of whether the different types of aggressions are normal in a dating relationship are alarming. **Table 5**, **Table 6**, **Table 7**, **Table 8**, and **Table 9** show that there are many students who perceive threatening behaviour, physical aggression, relational aggression, sexual aggression and emotional aggression as normal in dating relationships, while many are undecided. This indicates an urgent need to raise awareness about proper and improper behaviour in relationships.

Table 4. Coefficients ^a: ‘Type of dating violence’ - ‘Perception of dating violence normalcy’

Model	Unstandardised Coefficients		Standardised Coefficients	T	Sig.
	B	Std. Error	Beta		
1 (Constant)	1.143	.114		10.048	.000
Victimisation_of_DV_PA1 ‘My dating partner threw something at me’	.108	.098	.114	1.099	.272
Victimisation_of_DV_PA2 ‘I was kicked, hit, or punched by my dating partner’	-.073	.110	-.071	-.665	.507
Victimisation_of_DV_PA3 ‘My dating partner slapped or pulled my hair’	-.222	.112	-.218	-1.977	.049
Victimisation_of_DV_PA4 ‘I was pushed, shoved, or shook by my dating partner’	.171	.101	.166	1.696	.091
Victimisation_of_DV_TB1 ‘My dating partner deliberately tried to frighten me’	-.033	.107	-.034	-.306	.759
Victimisation_of_DV_TB2 ‘My dating partner destroyed or threatened to destroy something I valued’	.181	.090	.190	2.012	.045
Victimisation_of_DV_TB3 ‘My dating partner threatened to hurt me’	.135	.104	.131	1.307	.192
Victimisation_of_DV_TB4 ‘My dating partner threatened to hit me or throw something at me’	-.022	.107	-.023	-.208	.836
Victimisation_of_DV_SA1 ‘My dating partner touched me sexually when I didn’t want to’	-.062	.095	-.065	-.659	.510
Victimisation_of_DV_SA2 ‘My dating partner forced me to have sex when I didn’t want to’	-.001	.097	-.001	-.013	.990
Victimisation_of_DV_SA3 ‘My dating partner threatened me in an attempt to have sex with me’	-.010	.103	-.010	-.098	.922
Victimisation_of_DV_SA4 ‘My dating partner kissed me when I didn’t want to’	-.023	.089	-.023	-.258	.797
Victimisation_of_DV_RA1 ‘My dating partner tried to turn my friends against me’	.214	.103	.214	2.084	.038
Victimisation_of_DV_RA2 ‘My dating partner said things to my friends about me to turn them against me’	.061	.109	.064	.556	.579
Victimisation_of_DV_RA3 ‘My dating partner spread rumours about me’	-.096	.100	-.101	-.965	.335
Victimisation_of_DV_EVA1 ‘My dating partner did something to try to make me jealous’	.077	.077	.082	1.003	.317
Victimisation_of_DV_EVA2 ‘My dating partner brought up something bad that I had done in the past’	.150	.079	.183	1.888	.060
Victimisation_of_DV_EVA3 ‘My dating partner said things just to make me angry’	-.064	.075	-.077	-.863	.389
Victimisation_of_DV_EVA4 ‘My dating partner spoke to me in a hostile or mean tone of voice’	-.064	.086	-.068	-.749	.455
Victimisation_of_DV_EVA5 ‘My dating partner insulted me with put-downs’	.109	.093	.114	1.173	.242
Victimisation_of_DV_EVA6 ‘My dating partner ridiculed or made fun of me in front of my friends’	.082	.108	.076	.753	.452
Victimisation_of_DV_EVA7 ‘My dating partner blamed me for the problem’	-.089	.079	-.107	-1.130	.259
Victimisation_of_DV_EVA8 ‘My dating partner accused me of flirting with someone else’	-.093	.072	-.107	-1.298	.195
Victimisation_of_DV_EVA9 ‘My dating partner threatened to end the relationship’	-.032	.075	-.038	-.427	.670

Table 5. ‘Threatening in a dating relationship is normal’

Strongly disagree	Moderately disagree	Undecided	Moderately agree	Strongly agree	Total	Weighted average
67.62%	17.14%	5.71%	6.03%	2.49%	315	1.61
213	54	18	19	11		

Table 6. ‘Physical aggression in a dating relationship is normal’

Strongly disagree	Moderately disagree	Undecided	Moderately agree	Strongly agree	Total	Weighted average
63.81%	18.41%	7.62%	6.67%	3.49%	315	1.68
201	58	24	21	11		

Table 7. ‘Relational aggression (toward other relationships) in a dating relationship is normal’

Strongly disagree	Moderately disagree	Undecided	Moderately agree	Strongly agree	Total	Weighted average
57.46%	24.44%	12.38%	4.44%	1.27%	315	1.68
181	77	39	14	4		

Table 8. ‘Sexual aggression in a dating relationship is normal’

Strongly disagree	Moderately disagree	Undecided	Moderately agree	Strongly agree	Total	Weighted average
57.14%	24.44%	10.48%	5.40%	2.54%	315	1.72
180	77	33	17	8		

Table 9. ‘Emotional/verbal aggression in a dating relationship is normal’

Strongly disagree	Moderately disagree	Undecided	Moderately agree	Strongly agree	Total	Weighted average
52.38%	24.44%	9.84%	9.21%	4.13%	315	1.88
165	77	31	29	13		

Table 10. Model summary: ‘Experienced dating violence’ - ‘Self-perception of victimisation of dating violence’

Model	R	R square	Adjusted R square	Standard error of the estimate	Change statistics		
					R square change	F change	df1
1	.837 ^a	.701	.676	.60484	.701	28.268	24

Table 11. Analysis of variance - ANOVA^a: ‘Experienced dating violence’ - ‘Self-perception of victimisation of dating violence’

Model		Sum of squares	df	Mean square	F	Significance
1	Regression	248.194	24	10.341	28.268	.000 ^b
	Residual	106.092	290	.366		
	Total	354.286	314			

3. Does the type of experienced dating violence influence the self-perception of victimisation of dating violence?

In order to answer the third research question, a multiple regression analysis of the ‘type of dating violence’ and ‘self-perception of victimisation of dating violence’ was conducted. **Table 10** shows that the model shows a good fit as indicated by an R Square of 0.701, meaning 70.1% of the variance in the dependent variable ‘Self-perception’ is explained by the independent variables. The Adjusted R Square of 0.676 suggests that after adjusting for the number of predictors, the model still explains a substantial amount of variance.

Table 11 showcases the ANOVA results, indicating that the regression model is significant (Sig. = 0.000), thus the model as a whole explains a significant amount of variance in the dependent variable. This significance is further supported by the F statistic (28.268), which is much larger than 1.

Table 12 shows the predictor variables and their coefficients. Among the predictor variables, Victimization_of_DV_TB1 (Threatening behaviour: ‘My dating partner destroyed or threatened to destroy something I valued’) has a p-value of 0.000, indicating it is statistically significant. However, none of the other predictors have p-values less than 0.05, suggesting they do not significantly contribute to explaining the variance in the dependent variable. Therefore, H3: ‘Yes, the type of experienced dating violence influences the self-perception of victimisation of dating violence’ is rejected.

Even though all but one predictor variable do not have a significant correlation with ‘self-perception of victimisation of dating violence’, it must be noted that despite the amount of participants who have experienced various types of aggressions based on the survey, only a small percentage perceive themselves as victims of DV, as shown in **Table 13**. Once again, this is likely due to the lack of understanding about proper and improper

Table 12. Coefficients a: ‘Experienced dating violence’ - ‘Self-perception of victimisation of dating violence’

Model	Unstandardised Coefficients		Standardised Coefficients		T	Sig.
	B	Std. Error	Beta			
(Constant)	.095	.082			1.167	.244
Victimisation_of_DV_PA1 ‘My dating partner threw something at me’	.021	.070	.019		.304	.762
Victimisation_of_DV_PA2 ‘I was kicked, hit, or punched by my dating partner’	.010	.079	.008		.124	.901
Victimisation_of_DV_PA3 ‘My dating partner slapped or pulled my hair’	.065	.081	.054		.804	.422
Victimisation_of_DV_PA4 ‘I was pushed, shoved, or shook by my dating partner’	-.053	.073	-.044		-.737	.462
Victimisation_of_DV_TB1 ‘My dating partner deliberately tried to frighten me’	.335	.077	.294		4.353	.000
Victimisation_of_DV_TB2 ‘My dating partner destroyed or threatened to destroy something I valued’	.069	.065	.062		1.074	.284
Victimisation_of_DV_TB3 ‘My dating partner threatened to hurt me’	.118	.074	.098		1.590	.113
Victimisation_of_DV_TB4 ‘My dating partner threatened to hit me or throw something at me’	-.033	.076	-.029		-.430	.668
Victimisation_of_DV_SA1 ‘My dating partner touched me sexually when I didn’t want to’	.075	.068	.066		1.104	.270
Victimisation_of_DV_SA2 ‘My dating partner forced me to have sex when I didn’t want to’	.176	.069	.161		2.540	.012
Victimisation_of_DV_SA3 ‘My dating partner threatened me in an attempt to have sex with me’	.089	.074	.074		1.208	.228
Victimisation_of_DV_SA4 ‘My dating partner kissed me when I didn’t want to’	-.014	.064	-.012		-.212	.832
Victimisation_of_DV_RA1 ‘My dating partner tried to turn my friends against me’	-.092	.074	-.078		-1.243	.215
Victimisation_of_DV_RA2 ‘My dating partner said things to my friends about me to turn them against me’	.129	.078	.117		1.646	.101
Victimisation_of_DV_RA3 ‘My dating partner spread rumours about me’	-.015	.071	-.013		-.206	.837
Victimisation_of_DV_EVA1 ‘My dating partner did something to try to make me jealous’	.040	.055	.036		.725	.469
Victimisation_of_DV_EVA2 ‘My dating partner brought up something bad that I had done in the past’	-.084	.057	-.087		-1.474	.142
Victimisation_of_DV_EVA3 ‘My dating partner said things just to make me angry’	-.069	.054	-.071		-1.296	.196
Victimisation_of_DV_EVA4 ‘My dating partner spoke to me in a hostile or mean tone of voice’	.056	.062	.050		.911	.363
Victimisation_of_DV_EVA5 ‘My dating partner insulted me with put-downs’	.107	.067	.095		1.605	.110
Victimisation_of_DV_EVA6 ‘My dating partner ridiculed or made fun of me in front of my friends’	.077	.078	.061		.987	.325
Victimisation_of_DV_EVA7 ‘My dating partner blamed me for the problem’	.045	.057	.046		.800	.424
Victimisation_of_DV_EVA8 ‘My dating partner accused me of flirting with someone else’	-.013	.052	-.013		-.259	.796
Victimisation_of_DV_EVA9 ‘My dating partner threatened to end the relationship’	.062	.054	.063		1.157	.248

Table 13. ‘I am a victim of dating violence’

Strongly disagree	Moderately disagree	Undecided	Moderately agree	Strongly agree	Total	Weighted average
55.87%	30.16%	6.03%	2.54%	5.40%	315	1.71
176	95	19	8	17		

behaviour in relationships. Another possibility – though arguably less likely – is because of the use of the term ‘victim’, as the respondents may consider themselves survivors instead of victims.

Table 14. Chosen types of disclosure

Formal disclosure		Informal disclosure	
Police	19	Parents/grandparents/aunts/uncles	27
Psych. counsellor	20	Siblings	24
Legal counsellor	18	Friends	33
University officials	21	Anonymous forum	20

Table 15. Crosstab: Formal disclosure - Level of emotional and verbal aggression

Index_Formal disclosure	Level of emotional and verbal aggression			Total
	High	Medium	Low	
1.00	6	3	1	10
1.25	3	0	0	3
1.50	1	0	0	1
1.75	5	0	0	5
2.00	2	0	0	2
2.25	2	0	0	2
2.50	5	0	0	5
2.75	2	0	0	2
3.00	5	0	0	5
3.25	1	0	0	1
3.50	1	0	0	1
3.75	2	0	0	2
5.00	0	1	0	1
Total	35	4	1	40

Table 16. Chi-square test: Formal disclosure - Level of emotional and verbal aggression

	Value	df	Asymptotic significance (2-sided)
Pearson Chi-square	20.257 ^a	24	.682
Likelihood ratio	17.187	24	.841
Number of valid cases	40		

^a 38 cells (97.4%) have expected count less than 5. The minimum expected count is .03.

4. What is the most chosen type of disclosure among the victims of the different types of dating violence?

Table 14 indicates that the most preferred form of disclosure of the respondents who consider themselves as victims of DV is informal disclosure, and friends are the most sought-after source of support. This is in-line with existing literature (e.g., Padilla-Medina et al., 2021) on adolescents and DV. However, university officials are the most sought-after support sources in the formal disclosure category. This indicates that universities have potential to play an important role in the handling and prevention of DV among its students.

In order to answer the fourth research question, cross-tabulation analyses were conducted between 'type of disclosure' (formal and informal) and 'type of experienced dating violence'. However, most associations between the indices and different levels of aggression are not statistically significant, except for a significant association found between 'Index_FD' (formal disclosure) and the level of 'emotional and verbal aggression'.

Table 15 shows the relationship between the 'Index_FD' variable and the 'Level of Emotional and Verbal Aggression' variable, with each row representing a specific value of 'Index_FD' and each column representing a level of emotional and verbal aggression. Unlike in other analyses with the different types of experienced DV, the Chi-Square test illustrated in **Table 16** does indicate a statistically significant association between Index_FD and the level of emotional and verbal aggression.

5. How satisfied are the victims of dating violence with their chosen type of disclosure?

In order to answer the fifth research question, a crosstabulation analysis was conducted between 'type of disclosure' (formal and informal) and 'level of satisfaction'.

a. Formal disclosure: The following are results cross tabulation results between the formal disclosure and level of satisfaction. **Table 17** shows that among those who have opted for formal disclosure, 17 respondents are satisfied, 15 are not satisfied, while 8 respondents are undecided about whether they are satisfied with the support they have received from the formal source of support. **Table 18** shows a Pearson Chi-Square p-value: 0.605, which indicates statistical significance.

Table 17. Crosstab: Formal disclosure - Support satisfaction

Index_Formal disclosure	Support_satisfaction				
	Disagree strongly	Disagree moderately	Undecided	Agree moderately	Agree strongly
1.00	2	0	2	5	1
1.25	0	1	0	1	1
1.50	0	0	1	0	0
1.75	2	1	1	0	1
2.00	0	0	1	0	1
2.25	0	1	0	1	0
2.50	1	1	1	0	2
2.75	2	0	0	0	0
3.00	2	0	0	2	1
3.25	1	0	0	0	0
3.50	0	0	0	1	0
3.75	1	0	1	0	0
5.00	0	0	1	0	0
Total	11	4	8	10	7

Table 18. Chi-Square Test: Formal disclosure - Support satisfaction

	Value	df	Asymptotic significance (2-sided)
Pearson Chi-square	44.784 ^a	48	.605
Likelihood ratio	48.186	48	.465
Linear-by-linear association	1.316	1	.251
Number of valid cases	40		

^a 65 cells (100.0%) have expected count less than 5. The minimum expected count is .10.

Table 19. Crosstab: Informal disclosure - Support satisfaction

Index_Informal disclosure	Support_satisfaction				
	Disagree strongly	Disagree moderately	Undecided	Agree moderately	Agree strongly
1.00	1	0	0	0	0
1.50	0	0	1	2	0
1.75	2	1	1	1	2
2.00	1	2	1	1	0
2.25	2	0	0	0	0
2.50	2	0	2	0	0
2.75	0	0	2	1	0
3.00	1	1	0	1	1
3.25	2	0	0	1	1
3.50	0	0	1	2	1
4.00	0	0	0	1	2
Total	11	4	8	10	7

Table 20. Chi-square test: Informal disclosure - Support satisfaction

	Value	df	Asymptotic significance (2-sided)
Pearson Chi-square	40.664 ^a	40	.441
Likelihood ratio	44.953	40	.272
Linear-by-linear association	3.906	1	.048
Number of valid cases	40		

^a 55 cells (100.0%) have expected count less than 5. The minimum expected count is .10.

b. Informal disclosure: Similar to [Table 17](#), [Table 19](#) indicates a total number of 17 respondents who are satisfied with the support they received from the informal source, while 15 are not satisfied, and 8 are undecided. [Table 20](#) shows a linear-by-linear association p-value of 0.048, which is less than 0.05, indicating a significant association between the variables in that analysis.

In both analyses, the chi-square tests has a p-value that is greater than 0.05, which is the conventional threshold for statistical significance. Findings from the crosstabulation analyses show that the majority of respondents are satisfied with the support that they have received from their chosen source of support. However, the number is

not much greater than those who are not satisfied with the support. Moreover, there is no difference between the level of satisfaction of those who received support from informal and formal sources of support.

DISCUSSION

The findings from this study revealed that emotional and verbal aggression were the most prevalent types of DV among university students in Indonesia. Significant predictors influencing victim perception and self-perception were identified, highlighting the complexity of factors influencing how students perceive and respond to DV. The analysis of the chosen type of disclosure showed that the majority of respondents choose to disclose their DV experience and seek support from informal sources. However, the level of satisfaction obtained by those receiving support from formal and informal sources are identical.

This shows that universities have just as much potential to offer satisfactory support services as the more-frequently chosen informal support from family and friends. According to literature, the responses that DV victims find most helpful are:

- ‘Good advice’
- Giving the opportunity to tell their story without judgment and interruptions
- Helping them understand the partners’ behaviour by offering a neutral perspective, offering comfort and emotional support

However, not all adolescents come from families with such supportive, positive, and non-judgmental environment. In fact, perceived quality of family relationships is a significant predictor of whether victims of DV would disclose to their families. Therefore, it is essential that universities give training to their administrators and faculty members on how to properly handle victims of DV. It is even more advisable for universities to have a special task force or unit dedicated offering support to students who experience DV. Such unit must employ sympathetic staff who can offer a generally supportive atmosphere. Because the majority of respondents disclosed informally to their friends and family, it is important that universities embody familial and friendly traits into the support service the offer to victims of DV.

Another concern based on the literature is that only half of the victims choose to disclose immediately, while the others can wait for over 2 years. In fact, studies indicate that the victim’s decision to disclose was related to their level of stress due to the abuse, whether they blame their partner, and their decision to end the relationship. This was also found among the respondents of this study, which indicates that despite their experience with various types of DV, only 40 out of 315 respondents consider themselves victims of DV. Those who do consider themselves victims and have chosen disclosure usually have experienced high levels of DV.

Findings of this study show that the type of experienced DV does not influence the self-perception of DV victimisation. In fact, the main reason for nondisclosure is the victim’s belief that the incident was not serious. That is why universities must also offer educational and preventive programmes to raise awareness about behaviours that are improper in relationships. Nevertheless, education must start young because the factors leading to DV are usually found during early childhood. Also, school policy must address the role of bystanders more explicitly and shift the school culture to be less tolerant of DV. Teaching students to engage as bystanders is very important because university leaders have influence over students and can make an impact on young lives by equipping them to handle violence between intimate late teen couples. This is especially crucial since young adult couples often fail to recognise the abuse.

Though demographically and geographically the sample of this study is quite similar, however research studies and news reports have indicated that sexual misconduct happens all over Indonesia. Therefore, results may not differ greatly had this study involved more participants from outside of Jakarta.

CONCLUSION

This study’s findings align with previous research on DV among university students, highlighting the importance of understanding the underlying factors that influence help-seeking behaviours and disclosure patterns. The results contribute to a better understanding of how students communicate their needs for help and shed light on the challenges they face in seeking assistance.

Based on the research findings, it is recommended that educational institutions in Indonesia implement targeted pedagogical strategies to prevent DV among university students. These strategies must focus on promoting healthy relationships, communication skills, and gender equality. Universities should also create a supportive and confidential atmosphere for students who seek help when experiencing DV. These prevention programs are especially important because relational and verbal-emotional violence often go unnoticed as they are more subtle than sexual and physical abuses.

Universities should develop training campaigns targeting educational professionals and society itself to eradicate DV. In doing so, collaborations could be fostered with organisations that can offer services such as family counselling, relationship reconstruction, self-enhancement to confront childhood trauma.

In regard to DV in Indonesia, future studies could explore the impact of culture and religion on the development of emotional intelligence as a way of preventing these violent behaviours among adolescents. Such studies could involve a larger sample representing the vast diversity of Indonesia. Interviews with experts could also offer a deeper insight into the DV issue in Indonesia.

One of the limitations of this research study is the small number of participants, which may make the results ungeneralisable. This is made especially difficult because the population size of students experiencing DV in dating relationships in Indonesia is relatively unknown. There have been a few studies on DV in specific universities (e.g., Wahyuni and Sartika, 2020; Wulandari et al., 2021; Apipin et al., 2022) and cities (e.g., Widyasari and Aryastami, 2018; Ariadne, 2023). However, unfortunately, there is no specific and accurate data on the exact number of university students who experience DV in Indonesia available. Still, research shows that DV is a serious problem, and many university students experience it. Future research must put more effort into obtaining responses from all over Indonesia, for instance, by visiting several universities and collaborating with the universities to encourage participation. Qualitative methods could also give a more in-depth view into the experiences of the victims, their perceptions about what constitutes DV, factors influencing their decision to disclose, and more.

Nevertheless, this study has analysed the issue of DV without limiting it to sexual violence, whereas research studies focusing on the lived experiences of DV in Indonesia are scarce. Therefore, this study gives a significant contribution to this research gap. Findings from this research may help formulate the traits that universities should have to provide optimal support services for victims of DV. This study is unique because it also highlights the communication aspect. Based on these findings, it is hoped that a template for a nationwide communication campaign against DV among university students could be developed.

Finally, the change from the Regulation No. 30 of 2021 concerning Prevention and Handling of Sexual Violence to the Regulation number 55 of 2024 concerning Handling Violence in Higher Education Environments must be closely analysed. Future research could investigate how this change affects the way universities handle DV cases and how this affects the willingness and method of disclosure of the victims.

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The Impact of Feminist Self-Advocacy on Ambivalent Sexism in Mothers of Children with Disabilities, a Mixed Study from Peru

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ABSTRACT

This article describes the implementation of a feminist self-advocacy programme in Peru to achieve changes in ambivalent sexism in mothers with children with disabilities, of medium and low socioeconomic level. A mixed methodology was used, a quasi-experimental design with pre- and post-test evaluation and a qualitative content analysis with qualitative interviews to evaluate the experiences of the mothers. The sample consisted of 30 mothers from the city of Arequipa in Peru, aged from 19 to 69 years of age, the programme had 3 phases and 5 sessions, for 5 months, each session with a duration of 40 minutes, obtaining a decrease in the mean of ambivalent sexism: benevolent and hostile ($p < .00$) with effect sizes greater than 0.8. The qualitative research aimed to map the lived experiences regarding the workshop participants who were evaluated in order to promote equal treatment between men and women, resulting in a significant change in their perspective regarding the marked sexism they have experienced throughout their intrapersonal development. This article describes the effectiveness of this programme in search of broader equal opportunities in Peru, and in the reduction of ambivalent sexism in order to promote their better psychological well-being.

Keywords: feminist self-advocacy, ambivalent sexism, mothers of children with disabilities, empowerment, mixed study

INTRODUCTION

The United Nations organisation recognises violence against women as one of the most common aggressions against human rights in the 21st century; the UN draws attention to the beliefs that a person's gender is used to reflect a certain hierarchy. Many empirical studies have affirmed the existence of gender inequalities, generally driven by the non-recognition of social rights. Likewise a sexist perspective can be seen towards the roles people must fulfil within a stereotypical society (for example, Kshirsagar et al., 2019).

During the 2020-21 COVID-19 global pandemic, cases of violence against women in Latin America increased due to confinement, as there was greater isolation within the family sphere. Likewise, several studies estimate that 30% of all women in the world suffer gender mistreatment, with an increase in explicit and implicit behaviours that denigrate women during the pandemic (Terán et al., 2020). Such gender-based violence has been observed for decades. Gender violence is catalogued as a global phenomenon, which crosses cultural, social, ethnic and geographic boundaries, in which there are countless types of aggression towards women around the world, regardless of religion and dominant political ideologies (Knaul et al., 2022). La Comisión Económica para América Latina y el Caribe (2022) reports the highest statistics of femicides worldwide: in 2021 – at least 4,473 women were murdered in Latin America. In relation to our society, we can observe that the psychological damage caused by the circles of violence to which women are exposed, produces consequences in the health and economic status of the victim, silently settling into many families and leaving consequences at the social level (Instituto Nacional de Estadística e Informática, 2023; Francis, 2023; Saldarriaga, 2022).

Prejudice is a negative perspective that explains and shapes the antagonistic relationships between gender differentiation (Barreto and Doyle, 2023) and prejudices against women are many, minimising them or not recognising their attitudes and ways of life, treating them in a hostile way, pigeonholing women in stereotypical behaviours (Roynance et al., 2016). Despite the global and national legislative efforts made in favour of women's

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rights, these continuing prejudicial attitudes have a negative impact on all areas within which women develop, deteriorating their family environment, and both their physical and mental health (Keyser et al., 2022).

Sexism is another factor, for example, which results in fewer women wanting to have children, even in committed and stable relationships, because they realise that motherhood requires them to leave their studies or work. Sexism is defined as a set of beliefs that are based on the polarisation of the sexes (Castañeda, 2019). The theory of ambivalent sexism, states that sexism possesses ideologies based on a hostile component (overtly negative attitudes with a macho undertone) and a benevolent component (attitudes that appear positive but are actually harmful). These elements, although differing in tone, are related in how a person's identity is categorised in today's society (Glick and Fiske, 2001). Likewise, Eagly and Wood's Social Role Theory (2012), states that there are gender differences in the personal characteristics and behavioural development of people; these behaviours are influenced by the beliefs and expectations of each person's gender role, whether seen in their work, emotional or family development, denoting strict roles between men and women that older generations 'knew how to follow' (Eagly et al., 2000).

The concept of social vulnerability has two explanatory components: first, the frequent insecurity and defencelessness experienced by individuals in their living conditions as a consequence of some traumatic economic-social event (for example, the fact of believing that men possess certain desirable characteristics just because they are men generates the dichotomy that characteristics considered feminine should be rejected and therefore be undervalued (Glick et al., 2015); second, the lack of resources and strategies to face the effects of the traumatic event generating discomfort, and which is understood as the inability to cope with the problem and the impossibility of envisioning opportunities (Pizarro, 2001) (for example, the lack of resources makes institutional support, access to health, education and social services more difficult and out of reach, a situation in which many women are and more so if they are mothers and/or have one or more children who suffer from some type of disability). In these cases, gender-based violence affects women significantly (Brey et al., 2023).

Consequently, the female population in Peru may experience these retrograde attitudes that are contrary to gender equality, reflected in 72% of the population with sexist thinking, and corroborated by the continued increase in cases of violence against women: more than 15% of women have suffered physical, psychological, sexual and racial violence; last year there were 207 cases of attempted femicide in adult women and 287 teenagers disappeared, while 16 femicides considered by the National Police of Peru (PNP) were recorded, resulting in 67,000 cases of family violence (Defensoría del Pueblo, 2024).

With respect to the Peruvian economy, 30.3% of women in urban areas and 43.1% in rural areas have no income of their own; 34.5% in the jungle, 34.2% in the highlands and 31.2% on the coast have no income, which would reflect a clear discrimination against women and a form of hostile sexism (Instituto Nacional de Estadística e Informática, 2023; Gutiérrez, 2021). According to information from the AURORA¹ programme to combat violence, so far in 2024, there have been more than 67,6603 cases of family violence, of which 85.1% are victims of violence against women; 17,916 cases in Lima and 6,641 cases in Arequipa (La República, 2024).

Sexism can be represented in various ways, some more subtle and others more hostile, verbally through sexist insults; physically reflected in sexual harassment, which can vary according to the cultural and psychosocial context, women as victims can assume a learned helplessness, resigning themselves to the coexistence of power differences based specifically on gender ideology, developing psychological symptoms such as inferiority complex and post-traumatic stress in their marital environment (Dardenne et al., 2007; Barreto and Doyle, 2023). Sexism is a multidimensional construct and is characterised by gender inequality in all areas in which they develop throughout life and which differentiates them (Agut et al., 2022; Ahmed et al., 2021; Bareket and Fiske, 2023); this concept is understood as 'the less favourable or unequal treatment of women in relation to men, who are in equal conditions or circumstances, which excludes them from adopting certain roles and restricts them from exercising their rights'. This inequality is reflected by positive or negative stereotypes determined by preconceived sexist ideas, inherited or imposed by society itself (Gothreau et al., 2022).

Ambivalent sexism is perceived as the combination of two symbolic elements with antagonistic affective charges, which are seen as a consequence of the complex relations of approximation/avoidance that characterise the sexes, oriented towards female behavioural punishment or reward in a context given by the male perspective. Hostile sexism is based on beliefs related to women's inferiority and benevolent sexism is dominated by the emergence of overprotective thinking, based on prejudices of a macho nature based on women's obedience and submission (Bustamante, 2020; Garrido-Macías et al., 2017; Rodríguez et al., 2013), thus thinking that women should not be respected because they are 'weaker and more passive and therefore easier to assault' (Martin, 2013: 84). This clearly transgenerational sexist behaviour is based on the violence exercised in toxic relationships between men and women (Arnoso-Martínez et al., 2017). Ambivalent sexism has three fundamental pillars: paternalism,

¹ The National Program for the Prevention and Eradication of Violence against Women and Family Members (AURORA) develops interventions to prevent violence and provides care and protection services for people affected, women and family members and sexual violence victims, regardless of their sex, age, or nationality.

which is the set of beliefs by which a woman is subjected, based on male dominance; gender differentiation, in which the roles of men and women are established, devaluing feminine abilities over masculine ones; and finally, human sexuality, which consists of highlighting the sexualised characteristics of women (Cárdenas et al., 2010). This can be reflected in social prejudice, where 68% believe that people are less likely to think that inequality and discrimination between the sexes currently exists and only 24% of the population is likely to remain silent about this type of abuse (Vásquez et al., 2022; González-Rivera and Díaz-Loving, 2020).

Faced with this situation of violence against women, it is known that feminism is defined as a movement that seeks recognition of the same capabilities and rights as men, this was seen in four waves, the first oriented towards feminist ideology that criticised unequal thinking, the second oriented to the fight against patriarchy; the third sought to rescue femininity and currently we are located in the fourth wave, where empowerment is evident in the face of male idealism based on equity between both sexes, starting from environmental and external factors (Cahill and Hunt, 2016; Rodríguez et al., 2017). Throughout different decades, Peruvian women have suffered from machismo in order to be able to fit into society. Because of this, the current feminist movement that advocates for the development of equal employment opportunities began in the 1990s (Barrientos Silva and Muñoz, 2014; Falquet, 2003); it began as a political movement, which sought to change the lives of women and their close environments, such as their partners, families and bodies. Feminism sought a new political practice that would allow women to have a place in the public and private spheres. The search for new opportunities for women began with the search for political goals in an egalitarian way, with equal access to education (Barrientos Silva and Muñoz, 2014; Salvatierra, 2020). However, although feminism appeared in Peru in the 1990s, it has not been developed in throughout the population and it has not addressed sufficiently social roles such as motherhood. For this reason, different methodologies have been proposed in the field of action, from socio-community psychology to achieve better results; such as feminist self-defence which is defined as the generation of behavioural changes and psychological well-being, promoting female empowerment against ambivalent sexism which is an insidious and volatile phenomenon; and in which benevolent and hostile sexism reinforce each other and allow ambivalent sexists to rationalise their behaviour and feelings (Díaz et al., 2020).

In the case of mothers who have children with disabilities, they fulfil the role of providing direct or daily care for their disabled children, as caregivers they do not have time to devote to other work and there is no opportunity to help financially at home. In addition, caregiving is seen more as an obligation than as an activity that generates wear and tear and requires financial remuneration to meet the needs not only of the cared-for persons but also of the caregiver (Alban-Villacres and Cueva-Rubio, 2024).

The feminist self-defence programme is defined in our article as a tool for the empowerment of women, as well as for reorienting sexist behaviours in different contexts. Likewise, it encompasses categories such as mental, emotional, verbal and physical self-defence, and seeks the reduction of ambivalent sexism (Monroy, 2023). Research corroborates a significant change in the application of this methodology, giving conclusive results of a change in women's perspective focused on general wellbeing, and the reduction of the development of ambivalent sexism was sought through the acquisition of strategies that favour self-improvement (Kahraman, 2017; Yalcinoz-Ucan, 2022).

Finally, we can see that these strategies that seek to change social thinking are generating positive results in their search for equal opportunities, post pandemic, and finding an encouraging outlook in the search to empower women to catalyse their own resources, guiding them towards their personal development.

METHODOLOGY

Participants

The population studied were mothers living in the city of Arequipa in Peru who had children with various physical and mental disabilities such as intellectual disability, cerebral palsy, neurodevelopmental disorders or any physical disability. These children were enrolled in Special Basic Education Centers in Peru called CEBE. The sample consisted of 30 mothers between 19 and 61 years of age ($M = 36.87$); and all of them were of medium (50%) and low (40%) socioeconomic level. A Feminist Self-Defence Programme was developed, based on Glick and Fiske's theory of ambivalent sexism, which sought to conceptualise female empowerment. This programme had 3 phases: the first phase had two sessions, where concepts such as gender differentiation was worked on; the second phase had two sessions conceptualising aspects related to human sexuality; and the third phase had a last session related to paternalism that reinforced all the previous concepts. There were 5 sessions in total. Each session was worked on once a month and lasted 5 months from December to April 2023.

This feminist self-advocacy programme aimed to strengthen women's self-perception of themselves, reorient their thinking and provide strategies for recognising the effects of sexism in the intrafamilial environment. In the first phase, the theoretical development of gender roles and how they relate to the intra-family environment was

conceptualised. In the second phase, the conceptualisation of self and self-esteem was reviewed, as well as the identification of the traditionally gendered and symbolic if not actually violent context of the home. In the third phase, integrative dynamics were carried out through the sharing of experiences. Each session of the programme began with a dynamic to motivate participation, followed by the conceptualisation of various theoretical topics, followed by an integrative dynamic aimed at reinforcing women's self-perception, reorienting thoughts related to self-esteem and personal self-worth, as well as providing strategies to recognise the effects of sexism in the intra-family environment, and then closing the module with feedback.

Procedure

The study was approved by the Ethics Committee of the Catholic University of Santa Maria (UCSM) and the management of the Educational Institution for Children with Disabilities (CEBE). Each mother was informed about the objective of the intervention programme, as well as the structure of each module. Each mother signed a consent form to show that their participation was voluntary, and their data was anonymised. At the end of each session where promotional and preventive dynamics were applied for greater integration by the participants, optional tasks were left for them to perform at home to generate a commitment on their part, through discussion forums and opinions. The research had a quantitative phase, which consisted of an evaluation of mothers of children with disabilities on ambivalent sexism, using the ASI of Glick and Fiske, this was done before and after the application of the programme. In addition to this and understanding that perhaps a test was not enough due to the complexity of the topics covered, interviews were conducted to know the participants' views. Interviews were analysed in order to give us information about the process of empowerment of each one of them during the application of the programme.

Measures

The Ambivalent Sexism Inventory (ASI) was constructed by Glick and Fiske in 1996. It consists of 22 items with a Likert-type scale distributed in two dimensions: hostile and benevolent, composed of 11 items each, hostile sexism items (1–11), benevolent sexism items (12–22), giving the sum total score of ambivalent sexism, with response options from 'strongly disagree' to 'strongly agree'. The minimum score was 1 and the maximum score 5, with three sublevels: high (110–high), medium, and low (22–low), showing an acceptable consistency, with a Cronbach's Alpha coefficient of .84, having a reliability index for each of the subscales of .74 and .85 respectively (Cárdenas et al., 2010).

Likewise, the KMO value was 0.90 in terms of Bartlett's sphericity ($p < .00$) and with factor loadings above 0.3 for each item (Fernández et al., 2017). The socioeconomic level of participants was determined with a sociodemographic card, which asked if the participants had basic services such as water, electricity and others in their community, quantifying the results to determine the socioeconomic level of the participants as high, medium or low.

Qualitative Interview

The design used for the qualitative interview part of the research is called qualitative content analysis, which is defined as a research technique for the objective, systematic and quantitative description of the manifest content of communications and whose purpose is to interpret them (Bardin, 1986). In the research, the concept of ambivalent sexism that the mothers of children with disabilities had before, during and after the sessions was analysed and revaluated through interviews, which served to know their opinions, in order to provide information on the process of empowerment of each one of them during the application of the programme.

Data Management and Analysis

The present research is situated within a mixed methodology approach through two stages or phases comprising a quantitative and qualitative analysis. In the quantitative part, a pre-experimental single-group design with a cross-sectional pre- and post-test was used, because it is about studying the impact of the feminist self-advocacy programme on ambivalent sexism in mothers of children with disabilities, the whole procedure was developed in a face-to-face manner (Quintanilla et al., 2020). Simultaneously, an interview was applied to collect the opinions during and after the feminist self-advocacy workshop to the participants, collecting the information through open coding of the data, processed through a thorough analysis of the transcription of the interviews, to identify and establish relationships between the meanings of the data, resulting in a graph that was divided by dimensions through the programme Atlas.ti v 9.1.7 (San Martín, 2014). Once the pre- and post-test inventory data were collected, they were digitised in the software R and R studio v 4.3.1, and the data was stored securely using password protected folders.

Table 1. Analysis of the differences between pre- and post-test in benevolent, hostile sexism and total score

Subscale/group	N	Pre-test		Post-test		t	p	Cohen's d
		M	DE	M	DE			
Benevolent sexism	30	18.63	4.23	7.00	3.48	10.37	< .01	6.145
Hostile sexism	30	21.53	4.12	7.00	3.04	13.63	< .01	5.841
Sexism	30	40.17	3.86	14.00	3.76	25.12	< .01	5.706

RESULTS

Quantitative Results

Student's t-test for related samples was used to analyse group differences before and after the application of the intervention discussion programme in benevolent sexism, hostile sexism and total sexism. The results show that there are significant differences in the pre-test and post-test, significantly decreasing the results obtained at the end of the intervention programme in the two types of sexism and in the final score, in addition to obtaining high values in the effect size above 0.8 (Table 1).

These results showed that participants developed awareness of sexism, achieving empowering attitudes that are the ultimate goal of the intervention programme.

Qualitative Results – Perception Analysis

In the following table, the mothers' experiences were collected for qualitative analysis using the open coding method, showing that before and after the feminist self-defence programme there was a change in perception in relation to sexism, since before the mothers did not identify it, causing intrafamily problems. At the end of the programme, commitments to assertive communication were assumed. Likewise, a collective perception of improvement towards their development as intrapersonally empowered women was obtained, due to the follow-up given to them during the duration of this research, thus demonstrating that, at a qualitative level, the sociocultural representations associated with established and traditional gender roles would be predominant and would influence their life perspective. Phase I was also developed, which included modules I and II oriented to gender differentiation, where the information was grouped based on the dimensions of competitive differentiation, having gendered phrases such as: 'I think I am very sensitive and that men and women are not the same'. Similarly, by the end of the sessions there was a noticeable shift towards more complementary gender differentiation, evidenced in phrases such as: *'This module has helped me understand myself as a woman and as a mother.'* This reflects the necessary motivation on the part of the population to continue with psychological and community support at CEBE.

Consequently, Phase II was developed, which included Modules III and IV oriented towards human sexuality, being able to appreciate the dimension to work with mothers denominated as hostile heterosexuality, demonstrated in phrases of macho context, such as: *'Marriage is obedience only for the woman.'*

After the session entitled Heterosexual Intimacy, a progressive change was observed in the development of the feminine role within the couple relationship in the intrafamily sphere, with phrases such as: *'I'm a woman': 'Doing things together, it brings us closer together as a family.'*

The feminist self-defence programme ended with the development of Phase III, which included Module V, oriented to paternalism: *'If he leaves, I couldn't handle my house.'* was challenged. While after this session, a general feedback session was applied to achieving a progressive change in the thinking of each participant in an effective way, based on Peruvian ideals of a Protective Paternalism, represented in phrases such as: *'This programme has helped me a lot because I now understand that my husband only wants the best for me and my family in all aspects of my life.'*

Finally, when analysing each session that was experienced, it was found that the mothers had a reduced hostile or sexist thinking, represented in their doubts and affirmations, being single-parent families, which added to the social disenfranchisement of their youngest child, could have generated a feeling of procrastination, which changed later into more positive thoughts such as being a free and independent woman, a response that was seen as a feminine overcoming, self-affirming, assuming commitments to herself and her wellbeing, because of the programme.

CONCLUSION

The main objective of this research was to evaluate the impact of a feminist self-advocacy programme on ambivalent sexism in mothers of children with disabilities in a town in Peru. It was corroborated by the research that there are significant differences between pre-test and post-test measures, in addition our research added to

the importance of providing these programmes that seek to renew the perspectives on sexism, in a highly sexist society, historically marked by gender stereotypes established in Latin America, where the capabilities of women are generally underestimated, particularly with mothers who have children with disabilities. Where they often live in a single-parent home, where the father visits the children and the mother often suffers abuse that remains silent, sexism persisted as a multidimensional construct, which is constituted by unfair sexist attitudes between both sexes, a reality that can be changed through the implementation of programmes such as this that promote gender equality (Ahmed et al., 2021).

Ambivalent sexism does not help to empower women to have a quality of life based on gender equality; our society in Latin America is unequal, and levels of sexism are relatively high particularly in early adulthood, lower in middle adulthood, and high in late adulthood. This self-feminist promotion programme for mothers of children with disabilities, which worked on physiological and cognitive aspects to achieve the mother's self-improvement and empowerment, showed positive consistency in its results, generating a decrease in the frequency of aggressive behaviours, sexist attitudes and beliefs in romantic myths based on the gender role after the programme was implemented. We witnessed how each participant had a change of perspective to analyse their rights and duties as a mother or woman (Brey et al., 2023).

Other research confirms the results we found, for example, a study that analysed the effect of a feminist self-defence workshop on benevolent sexism in a university with ages between 18 and 24 years and with 32 students respectively, obtained as a result a reduction of ambivalent sexism (Díaz et al., 2020). The differentiation between rural and urban is also seen, mentioning that promoting these investigations within a rural territory would help contribute to the social and economic development of a region in a cultural way for the increase of human capital resources (Christian Conference of Asia, 1998). That is why our study is oriented to populations with medium-low socioeconomic level, in search of generating agreements and empowerment in women to improve their integration in the vital economic and cultural development of areas of poverty. This is why we must work in the future with the implementation of these empowerment programmes, since they not only generate the increase of cognitive variables such as self-concept and self-esteem, but also empower and generate in the participants strategies in search of quality of life and that of their families, promoting greater participation of both the institution and the state, through a community plan based on equal opportunities for mothers with children with disabilities.

Other research indicates that when women face various physical changes that could affect the perspective of their social thinking within and outside a community, they do so from a perspective tending toward hostile sexism, while in adulthood they face various changes from a perspective tending to benevolent sexism, which was evidenced by what was found in our research. Since the participants were adult women who entered the programme with a perspective toward marked sexism, facing a change of perspective after the programme with a tendency to benevolent sexism, constituting for them the appearance of this new concept as a change in their thinking and in their family life, all this obtained through semi-structured interviews (Yalcinoz-Ucan, 2022).

Several authors mention the importance of feminist research as it orients towards reflection, putting into practice the knowledge acquired, promoting the search for alliances, corroborating the empowerment of mothers seeking not only their psychological well-being but also the search for agreements that allow their economic development, also specifies the challenges encountered at the time of conducting their research such as: the time management of the participants, mentioning that they had almost no time, due to the workload they faced, the attitude presented by the participants, by requiring the permission of their partner to attend the programme. Likewise in our research we found something similar, due to the attitude of the mothers at the beginning of the programme, since they had fixed perspectives regarding sexism. Some mothers did not even identify sexism they rather preferred to see sex and gender differences as fixed, showing a hostile attitude to a change of perspective, and due to this the workload, the programme had to be adapted to the needs of the mothers and we had to adjust our expectations (Royslance et al., 2016). Finally, it is necessary to mention some limitations and difficulties of the study that arose during the research, such as the need to continually adapt the concepts to the mothers of the families considering their social status, level of education, and religious beliefs. Because the institution for children with disabilities, where the research was conducted, is Roman Catholic and some topics are still considered taboo, this required permissions and working with these religious biases from both the institution and the mothers of the families with whom we worked. This because in Peru negative perspectives towards topics such as feminism still continue.

Declaration of Conflict of Interest

The authors declare that there are no potential conflicts of interest related to the research, authorship and/or publication of this article.

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Book Review

Gender, Sexuality and Social Justice: Unpacking Dominant Development and Policy Discourses

Anukriti Dixit ^{1*}

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Through their volume *Gender Sexuality and Social Justice: Unpacking Dominant Development and Policy Discourses*, editors Silke Heumann, a professor of gender and sexuality studies, social movements and discourse analysis, and Camilo Antillón Najlis, a professor of feminist and gender studies, contest the taken-for-granted assumptions about gender, sexuality, race and class among other such intersections. The authors each have substantive expertise on gender and feminist theory and research with Najlis having expertise on sexuality, gender identity and development studies and Heumann's expertise on a variety of topics – including migration, sex work and abortion – within the 'gender and development' field. Both authors have further worked on creating transnational solidarities. This book and its diverse array of contributors is an example of the networks they have fostered.

The book is aimed at problematising 'development' through the questioning of binary logics around the categories developing/developed, West/non-West or even of global North and South. In the introductory chapter, Heumann introduces the aim of the book – which is to ask 'how contemporary development and policy interventions – including those that aim to promote sexual rights and gender equality – reproduce problematic ideas around gender, sexuality, race, and class, and not least, the "nature" and goal of "development"' (Heumann, and Najlis, 2024: 1). The book proceeds to fulfil its aims through a wide variety of analysis, set in vastly different social, economic, geographic contexts, including those of Zimbabwe, Nigeria, Netherlands, Bangladesh, Colombia among many others. One central feature of these contributions is the effect of blurring the 'West/non-West' boundaries, not only through the involvement of scholarships and knowledges from different paradigms but also through the nuanced analysis of each context. Be the context that of migrant communities situated in the global North or of the developmental gaze cast upon the presumably 'backward and disempowered global South', the book's chapters unwaveringly question the assumed supremacy of one set of knowledges (fixed notions of development) over others.

This book's primary arguments include the following: a) How binaries of 'developed vs developing' produce policies that differentiate on the rights and privileges of different subjects (identified as sexed, gendered, racialised, colonial or othered across a variety of social markers) across the global North and South; b) Involving evidence

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from a variety of geographic and post-colonial contexts to illustrate how development studies and policymaking lack intersectional, qualitative and contextualised perspectives.

The book is divided into three sections: a) Gender, sexual rights and non-normative gender expressions and sexualities, b) Unpacking development and policy interventions in the field of sexual and reproductive health and rights, and c) Gender, sexuality and 'race'.

Each section presents chapters with analysis and evidence from rich fieldwork data and evidence generated in a variety of contexts. The contributors to the volume are variously academics, activists, civil society members and associated with development studies and practice -through their expertise. The varied experiences of these academics and practitioners are palpable in the level of depth and comprehensiveness of analysis, offered in the book. Disciplinarily, the contributors are social scientists within the domains of anthropology, development studies, sustainable development and international development.

In section one, three chapters are presented: on incarcerated women in Zimbabwe, on encounters between Colombian women and US servicemen and on conceptualisations of teen pregnancy in Monterrey, Mexico. All three chapters illustrate nuanced aspects of sexual agency, reproductive roles, racial, classed and ageist hierarchies that position women in fixed subject positions. This set of chapters highlights how diverse and intersectional experiences of gender and sexuality and of women's agency therein must be involved to inform development initiatives.

In section two, five further chapters take up the issue of development-related policy concerns, directly addressing policy interventions in various sectors and contexts. The five chapters presented here are on: the issue of sexual and reproductive rights (SRR) frameworks in Nicaragua, power/knowledge in the context of male circumcision in Zimbabwe, the international agendas and outreach done on the issue of child brides, by the Girls not Brides (GNB) network, policymaking for schooling of young mothers from low-income households in Kenya, and a problematisation of LGBTQI languages and labels in the context of Bangladesh. All the chapters of this section contest dominant policy practices – such as the assumptions that male circumcision is to be favoured by policymakers – as the primary recourse to tackling the spread of HIV; that child marriage is universally and unequivocally oppressive and must be 'stopped in all forms'; or the universalisation of the LGBTQI terminologies at the cost of making local sensemaking apparatuses absent from people's exploration of their sexuality. The chapters on young mothers in Kenyan schools and on the SRR policies in Nicaragua specifically highlight the need to understand sexual agency and reproductive choices not (just) as producers of precarity but also as arenas of action and bargaining (Kandiyoti, 1988) for the people in question.

In section three, there are three chapters each analysing gender, sexuality and race and with regards to migrants in various European contexts. The chapters are based on the context of belongingness among young-Muslim migrants in the Netherlands, masculinities in the context of Bangladeshi migrants in The Hague in Netherlands and Nigerian women sex workers in Turin, Italy. These chapters undertake the necessary work of connecting migrant politics to the relations of race and gendered power in development studies. It is often assumed that 'developed' countries are the donors – of financial and knowledge resources (Garín Rodríguez, 2023). Thus, the evidence of migrant experiences of othering and the questioning of gendered power in European settings – completes the book's project of addressing 'the reproduction of other problematic binaries, such as "modern/backward", "west/non-west", and "agency/victimization", which are borne out of (implicit or explicit) processes of racialization' (Heumann and Najlis, 2024: 1). Through these chapters, the reader is introduced to the intricate processes of racial othering, the production of the 'developing vs. developed' binary within Europe and its reverberative effects across global Souths and Norths. The chapter on Nigerian sex workers discusses how the sexual labour of undocumented Nigerian women is invoked to position them into 'innocent victim vs illegal migrant' categories. The chapters from the Dutch context, examine the relational masculinities and gendered power for migrants in the Netherlands including their experiences of negotiating racism and financial precarity while questioning or reinforcing gendered stereotypes.

This book undertakes the task of bringing together theoretical paradigms and empirical contexts from the global Norths and Souths, in order to politicise development. The categorically defined binaries of 'empowered vs disempowered women', 'backward vs progressive', 'superior vs inferior' are not just empty categories of difference. This book illustrates precisely how gendered and racialised power co-constitutes development policies and politics, bringing material vulnerabilities to the lives and bodies of the 'other'.

The analysis undertaken in this book connects to a variety of feminist post-development, poststructuralist, postcolonial, decolonial and qualitative research. For instance, feminist post-development scholars posit that the very idea of agency invoked in development discourses (Rai, 2008), measures and records a small subset of decision-making skills (Kabeer, 1999). Such policymaking essentialises the definition of a 'woman', fixing what or who is 'empowered' and who is a 'woman'. Policy imaginations of agency then treat the 'woman subject' as a rational agent definition of an ideal entrepreneurial subject who often is an atomic, isolated and self-contained agent devoid of social interaction and intersecting vulnerabilities (Grünenfelder and Schurr, 2015). Further, the

chapters in the book confront the politics of knowledge production – introducing examples from issues of gendered power – such as reproductive labour, sex work, masculinities, incarceration, male circumcision, child marriage, etc. Through the empirical data presented, each author produces alternative knowledges, questioning what it means to be ‘correctly developed’ or ‘progressive’. Is child marriage always a ‘social evil’ or is it a way to foster a secure community? Is a teen pregnancy always a woman’s non-agentic underage victimhood or can it also be narratives of resilience and care work? Among other knowledges that are unsettled – about Muslim identities or ‘white vs brown’ masculinities – fixed ways of thinking about the subjects of development are examined. There is a special focus on the subjects ‘in need of’ a specific kind of ‘development’ (for example, Muslim migrants in need of ‘secular reform’ or Zimbabwean men in need of ‘health and safety’ reform (in the form of circumcision)). The production of these knowledges about the ‘ideal subjects of development’ is an important step in questioning the taken-for-grantedness of binaries inherent in the ‘developing vs developed’ imaginations.

A possible critique of the book involves the absence of an ex-post reflection on what alternative imaginaries (Bacchi and Goodwin, 2016) do these forms of inquiry produce. In undertaking an analysis that involves critiques of development, the possible addition of a ‘concluding chapter’ by the editors would have been helpful. A task that feminist, postcolonial, poststructuralist, post-development and critical policy scholars and activists are being increasingly confronted with is the positing of measures that can improve the ethics of how we generate ‘data’, and evidence and produce alternative policy proposals based on ethical and decolonial forms of knowledge. While I understand that this might have been outside the aims of scope of this volume for the editors, a short note of collective reflection on differential articulations and possible alternatives, including alternatives to rights-based frameworks, to financing and monitoring measures and to the top-down hierarchical manner of pushing policy interventions onto the ‘third world’, could be an interesting space for potential collaborations and transnational alliances for the editors and contributors of this volume.

Another critique involves the embedding of postcolonial, critical race and decolonial scholarship in the introduction section. I posit that the introduction lacks an explicit invocation of intersectionality scholarship (Crenshaw, 1994). Intersectional theories offer different modalities of visibilising marginalised communities (Collins, 1990), relating gender and citizenship (Yuval-Davis, 2007) and analysing migration and development (Bastia, 2012). As such this strand of scholarship could help link the varieties of disciplinary, methodological and empirical concerns reflected in the book’s chapters. For a potential revised volume, the editors may consider an inclusion of these literatures in the introduction text, which could expand its readability in terms of ‘what is to be anticipated’ from the different chapters and sections of the book.

Nevertheless, I reiterate that this book is a measured and timely intervention in the fields of feminist and critical studies and critical development studies and could serve as an initiator of discussions into questions of the sexual and gendered politics of development, its international deliberations and intersectional interconnections.

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Book Review

Islamic Feminism: Hermeneutics and Activism

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Terminologically speaking, Islamic feminism is a subset of feminism that emerged in the 1990s and makes the case that women's inequality is socially rather than religiously based and that Islamic scriptures should be reinterpreted in their favour (Ali, 2019). Anyone interested in topics like Islamic feminism, religion, and gender should read this extremely thorough book *Islamic Feminism: Hermeneutics and Activism* (2024) by Mulki Al-Sharmani which compares and contrasts existing research on the topic. Mulki Al-Sharmani is a professor at the University of Helsinki's Faculty of Theology and a research fellow of the Academy of Finland whose research interests include Muslim family law and gender activism in Egypt, Islamic feminism, and transnational Muslim marriages in Europe.

In her book, as a methodology, she conducts a comprehensive analysis of Islamic feminism hermeneutics, concentrating on the writings of particular academics. These academics offer both domestic and international variations of Islamic feminism. They reside and work in both the Global North and South, in Canada, Egypt, Morocco, South Africa, the United Kingdom, and the United States. As a result, the viewpoints of scholars from various linguistic, cultural, and academic backgrounds are investigated and when combined, their writings offer hermeneutical interactions with the *Qur'an* and other schools of Islamic interpretation, including *Hadith*, Islamic legal theory (*uṣūl al-fiqh*), Islamic jurisprudence (*fiqh*), Sufism, and Qur'anic exegesis (*tafsīr*). In the book, two key ideas are highlighted: reconstruction and deconstruction. Tracing and dissecting the establishment and operation of religious patriarchy as expressed in the literary tradition through interpretations, decisions, and discourses is the primary objective of deconstruction. On the other hand, reconstruction's objective is multifaceted. On one level, reconstruction entails applying gender as an analytical lens to offer fresh perspectives on more significant and fundamental theological and ethical issues in Islamic scriptures. It also refers to offering different interpretations of texts that seek to support a gender equality idea with Islamic roots.

Two interconnected literary groups can be distinguished from the expanding body of work on Islamic feminism since the 1990s: the first concerns the creation of Islamic feminist hermeneutical knowledge, and the second is the analysis and assessment of this knowledge as well as the methods employed in its creation. This book belongs to

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the second category. Its two main goals are to critically examine how Islamic feminism as a body of knowledge influences gender activism and to support a strong definition of Islamic feminism as an interdisciplinary area that integrates Islam, gender, and religious studies. In order to achieve these goals, the author first examines the contributions and hermeneutical strategies of a few Islamic feminism experts, evaluating their importance as well as the methodological and epistemological difficulties they present. Second, she looks at Islamic feminism's social relevance as an approach that combines action and scholarship in both local and international settings (Sharmani, 1).

The book is divided into nine chapters. In chapter one, entitled 'Islamic Feminism Revisited', after conducting a literature review on the topic, Sharmani examines the writings of authors and philosophers who have written on Islamic feminism and contrasts their opinions. Islamic feminism emerged in different countries for different reasons. For the Islamic feminist authors Sa'diyya Shaikh and Fatima Seedat in North Africa, for instance, Islamic feminism represented a position against both gender-based and racial discrimination (Shaikh, 2004). Likewise, Islamic feminism in South Africa and Indonesia has its own context-specific motivators and influences. In Indonesia, grassroots efforts to advance reformist religious knowledge, include women as authoritative voices in the religious sphere, reform family law, they also impact the lives of local families and communities giving rise to the scholarship and activism of Nur Rofiah and Faqihuddin Abdul Kodir (Abdul Kodir, 2022; Rofiah, 2022).

In chapter two, 'Trajectories and Perspectives', the intellectual development of the scholars under investigation is presented. The author expounds how they got involved in Islamic feminism as a way to learn and become activists. She looks at how they define 'Islamic feminism' who supports or opposes it, and how and why their viewpoints may have changed over time. She starts with Asma Barlas and Amina Wadud, who wrote the first works in this area of study. Next, she explores the work of Omaima Abou-Bakr and Amany Saleh, both from Egypt who were interested in gender and Islam in the early 2000s. They were first exposed to Wadud's work when it initially came out. A Canadian Egyptian Nevin Reda and South African Sa'diyya Shaikh admit that Wadud is as an obligation. Reda writes on the Qur'an and Shaikh mostly about Sufism, but both authors also publish eclectic works that encompass *Hadith*, *tafsir*, and *fiqh*. Then, she introduces Kecia Ali and Ziba Mir-Hosseini, two prominent Islamic feminist scholars who study Islamic legal tradition. She concludes with the work of a Moroccan doctor named Asma Lamrabet who is an important voice of Islamic feminism.

An insightful analytical lens into the discursive formation of gender hierarchies and religious patriarchy in Islamic interpretive tradition is offered by the hermeneutics of deconstruction of Islamic feminism researchers covered in chapter three, 'Hermeneutics of Deconstruction'. To achieve this, the researchers covered in this chapter use various approaches. Ali and Mir-Hosseini trace the discursive creation of the marriage contract and its underlying premises, while Abou-Bakr and Shaikh concentrate on outlining and challenging the *tafsir*'s history in relation to ideas pertaining to gender roles. While Reda and Ali dissect the approaches taken by jurists and legal theorists, Saleh explains a specific *fiqh* topic.

In chapter four, entitled 'Hermeneutics of Reconstruction', the scholars' interpretations of the Qur'an offer new and complex interpretations of key theological concepts like *tamhīd* (*wadud*); the idea that the Divine is unique and incomparable, hence genderless (Barlas, 2016); the *Qur'an* as *dhikr*, which emphasizes a humanist message, i.e., theology of *insān* (Lamrabet, 2007); the connection between ethics and aesthetics in *Qur'anic* theology (Abou-Bakr, 2001); *al-ḥaqq* as a pillar of *Qur'anic* ethics and theology (Saleh); and the Qur'an as a method of spiritual integration (Reda). Shaikh addresses comparable theological and ethical issues in Sufism, another textual source.

In chapter 5, entitled 'Hermeneutics of Reconstruction: Rereading Gender in Texts', the second level of reconstruction hermeneutics adopted by the researchers under study is the main topic. This entails reinterpreting particular verses that have served as the foundation for exegetes' and jurists' deduction of unequal rights in marriage and divorce, spousal violence as a form of wife-disciplining, polygyny, marital sex as the husband's right, spousal maintenance versus wifely obedience, and men's right to unilateral divorce. In general, academics reinterpret these verses using comprehensive intra-textual hermeneutical methodologies, returning them to a set of fundamental ethical and theological precepts. However, the scholars use various hermeneutical approaches and generate readings that illuminate some of the conflicts in their hermeneutics while also offering fresh perspectives and insights.

In chapter 6 named 'Islamic Feminism and Its Discontents', academics of Islamic feminism also read the *Qur'an* selectively, emphasising some passages to support the idea of gender equality in the *Qur'an* while disregarding those that argue against it. Another version of this criticism holds that Islamic feminism experts actually minimise the text and its authority in their efforts to argue for gender equality based on the *Qur'an*. In this critique, the author distinguishes and examines two threads. One contends that scholars of Islamic feminism interpret the *Qur'an* as a feminist scripture that liberates women and force their own contemporary gender equality ideals upon it. Another contends that these academics minimise the text's normative authority through their hermeneutical approaches and underlying assumptions. The approaches taken by the scholars and their interpretations of the *Qur'anic* text are the main topics of both branches of this critique.

In chapter seven called 'Transnational Islamic Feminism Activism: *Musawah*', the author describes *Musawah*, an organisation founded by Islamic feminists that brings together academics and civil society members from all over the world. *Musawah* keeps establishing favourable environments for the generation of study on Islamic feminism. It aims to support reform measures toward gender equality and justice through its entwined action and knowledge production.

Chapter eight entitled 'Local Islamic Feminism Activism: The Politics of Reform in Egypt' explores a conference organised by Mada Foundation in Egypt, which was mainly based on Egypt Islamic feminism. It can be inferred from this chapter that compared to a few decades ago, Egyptian Islamic feminism – a discourse of gender action based on facts and arguments with an Islamic foundation – has gained more recognition and shows promise. More and more common Egyptian women are drawn to its egalitarian philosophy based on the *Qur'an* because they don't want to compromise their freedom and agency for their faith.

The last chapter entitled 'Where we are and Where we go' is a summary of the book. The author argues that Islamic feminism today consists of two interrelated elements: the creation of scientific knowledge that links gender, theology, and ethics issues, as well as local and international activism aimed at religious and legal reform related to gender rights in both the public and private domains. Numerous significant scholarly works about the interpretations of textual sources by Islamic feminist academics have been created. The approaches taken by researchers to interpret religious texts in an instructive manner are categorised in this literature. This book aims to add to and expand upon this body of literature. The author wants to offer a comprehensive examination of Islamic feminism hermeneutics and how it generally relates to the two primary objectives of this research.

The author offers three recommendations for potential future lines of inquiry into Islamic feminism in her conclusion. The first is a methodical and comprehensive examination of the activism and work of the younger generation of Islamic feminism scholars who are studying the *Qur'an* and other textual sources through hermeneutical analysis, as well as an examination of how they advance the work of the first and second generations. Further investigation of the ideas and practices of Islamic feminism's contributions to other connected disciplines like Qur'anic ethics and comparative feminist theology would be a second avenue for future study. The third and last study avenue is one that she just started in Egypt and Finland, but it may be carried out more methodically and in different contexts by other academics. It entails researching how Muslim women who are lay and come from various backgrounds understand and apply the *Qur'an* and other pertinent religious texts to their everyday lives as they negotiate gender roles, make decisions, and live their lives.

This book is a very comprehensive resource that will guide researchers, academics and writers working in the field of Islamic feminism. As a very important source where prominent studies in this field are compared together, this book clearly explains what Islamic feminism is and what it is not, whilst giving readers the opportunity to compare different views. Sharmani not only provides extensive information about the existing literature in the field of Islamic feminism, but also provides important ideas about the studies that can be implemented on this subject in the future. As a result, it is a significant contribution to the field. On the other hand, despite mentioning significant advancements in Islamic feminism, the discussion is restricted to scholarly research carried out in a particular area. For instance, scholarly research on Islamic feminism has been carried out in Turkey, and a background on the topic has been established. In this context, Turkey could also be mentioned.

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Book Review

The Mysticism of Ordinary Life: Theology, Philosophy, and Feminism

Carlos Piccone-Camere ^{1*}

Published: September 1, 2025

Book Author: Andrew Prevot

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Andrew Prevot, professor in Theology and Religious Studies at Georgetown University, focuses his research on modern developments of Christian theology, with particular emphasis on Roman Catholic thought and the spiritual traditions of Black and African American communities. In *The Mysticism of Ordinary Life*, he reimagines Christian mystical theology by synthesising the insights of seminal theological giants into a systematic, gender-informed framework. While his work is deeply rooted in the rich Christian intellectual tradition, it is Prevot's methodical presentation that renders mysticism accessible as a vibrant, everyday phenomenon. By challenging entrenched norms and reconfiguring inherited ideas, he illuminates the profound spiritual, emotional, and relational dimensions of human existence. His innovative approach not only revitalises our understanding of mysticism but also opens the door to applying gender-aware methodologies to other traditionally restrictive areas of theological inquiry.

At its core, Prevot argues that mystical experience is not a series of isolated, transcendent events reserved for ancient mystics, but a normativity-critical phenomenon emerging from the fabric of everyday life. He contends that such experiences are deeply personal and inherently political, shaped by and shaping the social and cultural contexts in which they occur. Employing a feminist lens, Prevot reveals how traditional theological narratives have often excluded or marginalised alternative perspectives – particularly those concerning gender and embodiment. In reconfiguring these narratives, he enriches our understanding of mysticism by foregrounding its Christological, pneumatological, and apophatic dimensions, all of which are intricately woven into the lived realities of ordinary believers.

Prevot's argument is constructed over three distinct sections, with the first laying a historical foundation by engaging with the mystical theologies of influential Catholic thinkers, such as Karl Rahner and Hans Urs von Balthasar. Rather than simply reiterating familiar assertions about the inevitability of mysticism in Christian life, Prevot examines the profound implications of encountering the divine through grace, contending that, as these thinkers envisioned, mysticism is not about isolated paranormal phenomena but rather a genuine, transformative experience emerging from the depths of human existence. This discussion invites a reconsideration of the nature of religious experience and prompts a re-evaluation of long-held theological assumptions. Moreover, it is important

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to clarify that if the work were intended as a comprehensive manual of mystical theology, such a shortcoming would warrant criticism; however, Prevot does not aim to provide a step-by-step guide to mystical practice but instead seeks to enrich understanding by synthesising classical perspectives with a contemporary, gender-informed lens. Consequently, the limited emphasis on practical methodologies is deliberate, underscoring the book's objective of provoking critical thought and dialogue about the evolving nature of mysticism in today's context.

In the second section, Prevot turns to a philosophical exploration of mysticism, drawing on insights from Michel Henry and Michel de Certeau. His interdisciplinary method bridges phenomenology, psychoanalysis, and French feminist theory, thereby enriching the dialogue between mysticism and postmodern philosophy. He contends that mystical experience is not an abstract concept but a dynamic, lived reality that challenges conventional understandings of selfhood and the sacred. Prevot argues that a feminist interpretation of Christian mysticism benefits from the studies of immanence and otherness offered by these thinkers, grounding mystical theology in the everyday lives and relationships of diverse, often marginalised groups. By allowing these insights to resurface in the daily practices of those traditionally excluded – such as women and individuals deemed non-normative – he promotes a mysticism of ordinary life that discovers the divine in everyday encounters rather than lamenting its absence. Although his robust feminist critique effectively challenges established narratives, some intricate theological dimensions – especially concerning the transcendent nature of grace – remain only briefly touched upon. Importantly, Prevot addresses these gaps later in the book by offering a concise synthesis that not only interrogates intersecting norms of gender and race but also invigorates practices of resistance, prayer, and community. In doing so, he presents mysticism as both a political and existential phenomenon – a dynamic manifestation of divine grace that reanimates life, empowers marginalised voices, and promises an as-yet unrealised liberation.

The final section is where Prevot's unique contribution becomes most compelling. Here, he turns his attention to feminist contributions to mystical theology, drawing on the works of Gloria Anzaldúa, Ada María Isasi-Díaz, and Alice Walker. By introducing an intersectional perspective, he not only interrogates themes in Latinx popular religion but also fosters dialogue between womanism and Black studies while critically examining racial and gender normativity. His profeminist stance – committed to affirming diverse female experiences and addressing the multifaceted struggles for change in both church and society – is particularly noteworthy. Rather than claiming an exclusive feminist subject position, Prevot embraces the complexity of feminist thought while affirming women's lives. This measured approach, informed by bell hooks' vision of feminism as a heterogeneous movement dedicated to ending sexism, exploitation, and oppression, underpins his balanced critique. In her foreword, Maria Clara Bingemer – a distinguished scholar renowned for her contributions to contemporary theology and feminist studies – summarises this dual commitment by describing the book as an invaluable resource that reconciles fidelity to Christian tradition with the exigencies of modern challenges, thereby charting innovative pathways for future research.

The academic landscape in which *The Mysticism of Ordinary Life* is positioned is both timely and significant. Feminist theology has gained substantial traction in recent decades, yet the specific intersection of mysticism and feminist thought remains relatively underexplored. Prevot's work fills this gap by demonstrating that mystical experience, far from being confined to a select group of theologians, can serve as a powerful lens through which to examine issues of identity, power, and social justice. This contribution is relevant not only to scholars of theology but also to a broader academic audience across the social sciences and humanities. By rendering complex theological and philosophical concepts accessible without oversimplification, Prevot ensures that his work resonates with readers from diverse disciplinary backgrounds.

The intended audience for this book includes theologians, philosophers, feminist scholars, students, and researchers interested in topics related to spirituality, gender, and cultural studies. Although the text engages with dense theological ideas – such as those articulated by Rahner – Prevot demonstrates a rare talent for absorbing these complexities without diluting their essence. His clear, lucid prose demystifies intricate concepts for non-specialists, broadening discussions traditionally confined to niche academic circles and inviting a wider audience to engage with critical questions about the nature of religious experience. Moreover, by avoiding excessive jargon and providing concise explanations of complex terms, Prevot ensures that readers from diverse academic backgrounds can fully participate in the dialogue.

In terms of previous scholarship, Prevot builds on a robust intellectual heritage. Although, as noted at the beginning, he acknowledges his debt to the luminaries of theological thought, his work stands out for its innovative adoption of a gender perspective. However, despite an impressive engagement with twentieth-century theologians and philosophers, some readers may note the absence of certain fundamental voices – such as those of Yves Congar and Simone Weil. For instance, Congar's reflections in *True and False Reform in the Church* and his reimagining of Mary Magdalene as a symbol of the Church, alongside Weil's poignant critique of modernity's impact on the soul in *Gravity and Grace*, could have added further layers of depth to Prevot's argument. Moreover, while there are some references to liberation theology – especially its new feminist iteration as seen in works like *La Lucha* – key

figures in Latin American liberation theology, such as Gustavo Gutiérrez (alluded to indirectly in the Introduction) and Leonardo Boff, are noticeably absent. Their omission, while not detracting from the overall quality of the work, suggests an area for further development that might foster a fruitful synergy between liberation and feminist theological approaches in the struggle against oppression.

Constructively, while Prevot's incisive critique of traditional mystical theology is commendable, the book might benefit from a more exhaustive exploration of how feminist perspectives both challenge and have already transformed existing theological paradigms. In this regard, concrete examples drawn from the lived experiences of ordinary believers would illustrate the practical implications of mysticism and reveal its transformative potential in everyday life. Such an analysis would not only reinforce the book's relevance by providing tangible evidence of these paradigm shifts, but also offer a more comprehensive treatment of these specific themes. To fully appreciate Prevot's perspective on these issues, readers are encouraged to complement the volume with his earlier works, *Thinking Prayer: Theology and Spirituality amid the Crises of Modernity* (Notre Dame, 2015) and *Theology and Race: Black and Womanist Traditions in the United States* (Brill, 2018), which provide essential context and a broader exploration of these topics.

A notable strength of *The Mysticism of Ordinary Life* lies in its interdisciplinary methodology. Prevot skilfully navigates a broad intellectual terrain, drawing on diverse sources from theological, philosophical, and feminist traditions. This rich intertextuality not only demonstrates his command of the subject but also establishes the work as a significant contribution to feminist theological studies. By integrating perspectives from thinkers such as Irigaray, Kristeva, Anzaldúa, and Walker, he enriches the dialogue on mysticism and positions his work as an essential reference for future inquiry. Moreover, as he concludes chapter 5, Prevot contends that the dialogue between theology and philosophy on the mysticism of ordinary life requires engagement with a much wider array of textual and experiential sources than is typically considered. He asserts that Christian mystical theology – and its allied non-theological interpretations – deserves the same rigorous scrutiny as classical sources. In this context, feminist studies of mysticism must investigate how women navigate and transform entrenched patriarchal, colonial, and White supremacist structures by identifying where the grace of divine union emerges in everyday practices and relationships, and by discerning the concrete transformations it demands. This broader perspective reinforces the strength of Prevot's interdisciplinary approach and underscores its potential to reshape contemporary understandings of mysticism.

Rooted in a rich Catholic heritage, Prevot intentionally refrains from engaging directly with Catholic magisterial teachings – a decision he explains in a footnote in the Introduction, noting that such commentary would necessitate extensive excursions into ecclesiological debates. This deliberate omission invites theologians and scholars to address these gaps – perhaps by considering, for example, the implications of Pope Francis' call for greater female protagonism – thus enriching discussions of ecclesiastical authority and hermeneutical practices. Prevot challenges conventional understandings by proposing a vision of mysticism that is at once personal, political, and profoundly accessible, thereby sparking significant debate among theologians, philosophers, and feminist scholars. His work invites further exploration of key themes, including feminist critiques of traditional mystical theology, the intersection of mysticism and feminist thought, and the practical relevance of mystical experience in contemporary Christian practice. As Maria Clara Bingemer notes in her foreword, the book not only reaffirms the vitality of the Christian mystical tradition but also lays the groundwork for future research that dares to explore new dimensions of spiritual experience. Ultimately, Prevot's work resonates with both Christians and a broader, more secular audience, offering a timely beacon amid the crises of modernity and the ambiguities of postmodern times, and inviting all readers to reconsider the boundaries of mysticism while returning the sacred to a more inclusive, non-male-monopolised everyday life.

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Book Review

Fire Dreams: Making Black Feminist Liberation in the South

Muneeb Ul Lateef Banday ^{1,2*}

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‘Fire has long been used as a tool of terror in the South,’ Deon explained, ‘but it can also be a powerful force for rebirth’ (p. 130)

What does it take to produce alternative worlds? Where are the alternative visions produced? How are the alternative visions realised? How are fire dreams nurtured with love, solidarity, compassion and grit? *Fire Dreams: Making Black Feminist Liberation in the South* delves deep into such profound questions, offering an embodied account of alternative world-making through the lens of Women With A Vision (WWAV) – an organisation that literally rose from the ashes of a fire after an arsonist attack on its offices in 2012. The book has been jointly written by Laura McTighe and Women With A Vision. Laura McTighe is an expert writing in the fields of race, religion, and the abolition of slavery, focussing on collaborative knowledge production to analyse and resist racial capitalism. *Fire Dreams* is a testament to her long-standing interests in producing alternative knowledges. Women With A Vision is a community-based, nonprofit, black feminist organisation founded in 1989 and situated in the New Orleans, USA. The organisation is devoted to the improvement of the conditions of ‘marginalized women, their families and communities’ through collaborative work.

Fire Dreams chronicles WWAV’s relentless pursuit of justice, detailing what they do, how they do it, and, most importantly, why they do it. Through a deeply personal-political-collective account of WWAV’s resistance, each chapter takes the reader through the embodied accounts of alternative worldmaking. The accounts of fire dreams woven through a tapestry of resistance and hope problematise the white supremacist racial and capitalist structures that have produced unfair worlds and seek to destroy any project of justice. From AIDS safety and prevention programmes, harm reduction programmes, resistance to the dispossession of people/communities by the state-corporate nexus, from the work with people left out of disaster relief and rehabilitation to the struggle against racialised-gendered-sexual sex offender criminalisation, WWAV fought with and for the marginalised people through grassroot mobilisations, provision of services, and legal and policy advocacy. The book provides a brilliant

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exploration of the affective, physical, legal, archival, social, and historically situated community-based solidarity. It illuminates the strategies, the labour and the infrastructures of feeling required to dream, realise, and manifest the possibilities of a world otherwise at the grassroots, legislative, and policy levels.

Fire Dreams is an account of Black feminist ‘theory on the ground’ resisting the racial capitalist playbook: isolate, blame, criminalise, destabilise, erase, and take. The book allows us to witness how this racial capitalist playbook functions in development processes, projects of disaster relief, disease control involving state and corporations and extractive academic knowledge production. Guided by the historically situated black feminist values of ‘solidarity, respect, and care’ (p. 71) and working through the ‘intersections of art, protest, and scholarship’ (p. 106) WWAV engages in varied acts of collective resistance against white-supremacist, settler-colonial and racial capitalist violence, dispossession and disenfranchisement. The book describes how WWAV generated its own counter playbook in their resistance and ‘theory on the ground’, in actions of accomplice, refusal, otherwise, and speech. The book presents an account of lived intersectionality on the ground as WWAV *worked across movements and across scales* to knit together the work of anti-criminalisation, reproductive justice work, anti-violence and harm reduction.

Rooted in the politics of intersectionality and solidarity, the project understands intersectionality as the varied subject positions marked by differences of race, gender, class, and sexuality at the centre of resistance against white settler colonial racial capitalism. It also frames intersectionality through the lens of interlocking systems of oppression – including capitalism, racism, sexism, colonialism, Christianity, bureaucracy, policing, and academic knowledge production – that collectively wreak havoc on Black lives and communities.

The book is divided into five chapters along with an introduction and an epilogue. It follows a nonlinear, embodied writing style that challenges the linear, masculine, colonial knowledge production, which I will proceed to outline.

Chapter one, entitled ‘Front Porch Strategy,’ provides an account of how resistance against white supremacist violence emerged through the community driven action literally on the front porches of Black women’s houses. Front porches were intimate relational spaces where strategies for resistance, care of communities and dreams of alternative worldmaking were nurtured historically by Black women and that WWAV used as a methodological tool for the collective production of knowledges rooted in the lives of people. The embeddedness of the place of world-making in the liminal spaces of ‘front porches’, the in-between spaces existing in the ‘interstices between home and street, between public and private, between collective and intimate’ (p. 43), disturbs the abstract methodological spaces of traditional qualitative inquiries. By locating the front porch as the historical and ongoing crossroads in and through which Black women have fostered and cultivated revolutionary resistance against white supremacist violence and surveillance in the USA, the authors unpack the situatedness of theory on the ground (rather than seeing them as metaphors of liminality and crossroads, which is the prevalent attitude in the qualitative traditions). In doing so, they also break the linear narratives by intertwining the present, future and past into each other. The present interrupts and provokes the oppressions and resistances of the past, while the future dreams and past sacrifices guide the everyday lives of alternative worldmaking in the present.

Chapter two, titled ‘Doing the Work’, details the history of what doing the actual work of radical activism entails and how WWAV roots itself in the community, supports each other and narrates the stories of doing the work. One of the important insights for researchers in this chapter is how WWAV dismantles the spatial and intellectual distances between theory and the field. Unlike colonial, masculine knowledge-making – which confines theory to books and intellectual rumination within university spaces, treating lives and communities as mere fields for testing and verification – WWAV produces knowledge with the community, in the community, and for the community. By dismantling distinctions between researcher and researched, theory and empirics, theoretical development and community betterment, they provide support to marginalised communities and create knowledge aimed at producing alternative, just, and liveable worlds.

Chapter three, entitled ‘We Spoke Our Truths’, provides a detailed insight into WWAV’s organising against the criminalisation of racial sexual minorities through the ‘crime against nature by Solicitation’ statute in the post-Katrina New Orleans. The chapter provides an analysis of the co-constitution of settler colonialism and chattel slavery through predatory policing and through the criminalisation of peoples (particularly Black cisgender and trans women) and it narrates the journey of the fight against this criminalisation and of its success. The chapter details the work done simultaneously on multiple fronts, including providing immediate services to members/communities at risk, strategising and communicating with communities, and organising support for challenging institutional structures enabling intimate, communal, and structural violence against specifically targeted racialised, sexualised, and poor communities.

Chapter four, entitled, ‘Working with Fire’, lays out what and how alternative worldmaking with and through fire stoked by love and honouring differences means. It elaborates on the malleability of love as a destructive or generative force in the backdrop of the white supremacist attempts to exterminate WWAV through fire and on WWAV’s resurrection from its ashes, to continue brewing the fire dreams of producing more liveable futures. This

chapter describes how working with fire is rooted in building relationships, making spaces and on the refusal of linear time. Building relationships is practiced as a way of developing ‘thick solidarity’ (p. 133) that ‘honours difference’ (p. 133) to work together in changing the conditions fostering violence. Making space involves recognition of the situated histories of violence and the artificial division created by racial capital-colonial systems that link the resistance movements across different boundaries of space. Refusing linear time entails working with past, present and future simultaneously to produce alternative futures. Rooted in Black feminist infrastructures of feeling, such non-linear temporality provided WWAV with the strength to blow ‘on these otherwise embers that filled our present, so that they could catch, ignite, and set new and more liveable futures afire.’ (p. 135)

Chapter five, entitled ‘The Grounds’, continues with the work of rebuilding, resistance, and organising community. The chapter outlines how ‘personal is political’ is lived and how alternative futures are fabulated in and through the daily praxis of alternative worldmaking. The chapter brings the story back to the front porch as the revolutionary ground for solidarity, love and community.

This book outlines how WWAV fought and continues to fight this struggle with limited means. It captivates the reader’s affective and imaginative senses and offers invaluable lessons on how to fight collectively and how to generate knowledge for emancipation and mobilise one’s speech for the marginalised. The book intricately details the geographies, histories, psychologies, sociologies, policies and politics of oppression as well as alternative world-making. It reveals how oppression reproduces itself through structural and interconnected devastations that cannot be captured through disciplinary traditions working in silos – and how insurrections are nourished and made possible ‘through everyday forms of sabotage and subterfuge’ (p. 46) in the face of constant surveillance, policing, and violence.

Fire Dreams shows how alternative world-making is accomplished with people, with communities, and through the spaces one inhabits and makes one’s own. It shows how to protect histories that guide us in dismantling racial capitalist playbooks of violence that keep reassembling in different forms in each generation. The book advocates for tethering oneself in communities, relationships, solidarities, visions of possibilities and hope to produce alternative worlds. It is an essential read for activists and scholars in gender studies, social movement studies, critical organisation studies, critical theory and anyone working toward or seeking ways to produce alternative worlds. The work and struggles of WWAV resonate with the Dalit movements against caste oppression in India (Levien, 2013; Prasad, 2022), Palestinian resistance against settler genocidal violence and dispossession (Alqaisiya, 2022; Khalidi, 2020) and the colonial racial capitalist projects of developmentalism and disasterisation across the global Souths (Ndlovu-Gatsheni, 2015; Rivera, 2022). This book particularly reminded me of *The Gypsy Goddess* by Meena Kandasamy in showing how fire is used in organised caste violence in India.

Critiquing such a profound project is challenging precisely because fighting white settler colonial racial capitalism is an immensely difficult endeavour. However, I would like to suggest that the book may have benefited from developing more intimate connections with the struggles of other marginalised communities across the globe. Doing so would have provided better grounds for developing transnational solidarity in resisting oppressions, which are relationally interconnected as well as employ similar tactics. The book points towards struggles at other places; however, it remains fundamentally rooted in the United States. I wish the book had engaged more with the transnational struggles that are working against marginalisation in their situated contexts as well as against USA-based direct and indirect imperial domination. This would have been especially relevant as *expansion* into ‘new territories’ has been and continues to be part of racial capitalist playbook: isolate, blame, criminalise, destabilise, erase, take, and expand. Problematising and theorising *expansion* as part of the racial capitalist playbook is essential for studying the transnational extractivist design of racial capitalism. Doing so would have also enabled producing and strengthening new grounds for transnational solidarities in resistance and alternative worldmaking movements.

Beyond its scholarly contributions, the book ignites a fire within the reader—a call to engage in the collective endeavour of shaping more just and liveable futures. It reminds us that alternative worlds are not just dreamt but actively built through solidarity, resilience, and unwavering commitment to justice. *Fire Dreams* is a testament to the power of community in resisting oppression.

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Book Review

Sexuality and Gender Diversity Rights in Southeast Asia

Charlie Yi Zhang ^{1*}

Published: September 1, 2025

Book Author: Anthony J. Langlois

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As laid bare by critical scholars, Euro-American colonisers have frequently employed gender and sexuality as tools to perpetuate and legitimise their domination over 'barbaric' populations globally. Southeast Asia serves as an illustrative case exemplifying the enduring nature of this gendered and sexualised post/colonial relationship. Due to this legacy, the rights-bearing liberal paradigm has faced scathing criticism from feminist and queer scholars engaged in studying gender and sexuality-related issues within postcolonial contexts. This critique positions the adoption of a rights-based liberal framework as inherently aligned with the agenda of Western entities, perceived as one of their vital strategic efforts to consolidate and advance imperialist and colonialist interests worldwide.

Rather than adhering to the liberal framework that centralises rights as a universal model for non-Western societies, Anthony J. Langlois, in his book *Sexuality and Gender Diversity Rights in Southeast Asia*, adopts a pragmatic stance termed 'rights politics' to investigate the initiatives undertaken by sexual minorities, gender non-conforming groups, and their advocates to broaden the scope of legal entitlements. 'Rights claiming for people of diverse sexual orientation, gender identity expression and sex characteristics (SOGIESC)', he argues, 'has become a potent mechanism for politicisation and participation and has been used to forge connections across the region and internationally' (p. 1). SOGIESC rights claiming serves as a pivotal instrument for activist groups to construct a platform conducive to augmenting visibility, orchestrating contestation, mobilising support, and promoting emancipatory politics centred on sexuality and gender diversity amid the tumultuous social and political transformations prevalent in Southeast Asia. Emphasising rights struggles as the central analytical terrain of his inquiry, Langlois illustrates how these endeavours engage diverse stakeholders at individual, communal, national, regional, and international levels. His objective is to underscore the articulation of claims to rights as a site of power contention directed towards creating spaces for the survival and flourishing of LGBTQ groups. This undertaking is fraught with a spectrum of opportunities and challenges, encompassing instances of violence and discrimination alongside aspirations for transformative change. Expanding upon the framework of rights politics, Langlois examines five members of the Association of Southeast Asian Nations (ASEAN) – namely Singapore, Malaysia, Indonesia, the Philippines, and Thailand – as distinctive cases to elucidate how a diverse array of political activities have been organised and promoted by advocates through rights claiming, evolving as a new mode of political participation with potential applicability in other contexts.

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Langlois's inquiry begins with a concise examination of the intricate interplay between the legacies of European colonial forces and the pre-colonial socio-cultural frameworks pertaining to sexuality and gender diversity in Southeast Asia. In Chapter 2, titled 'Historical Trajectories in Sexuality and Gender Pluralism,' he delineates how this intricate relationship has given rise to a highly nuanced and complex landscape within the Southeast Asian region. He asserts, 'National contexts play a key role in shaping rights claiming, as both its general practice and specific substantive claims – here sexuality and gender – are connected to social contexts and conflicts in diverse and multifaceted ways' (p. 13).

The author further investigates the individual cases within the ASEAN by integrating historical specificities and contemporary information in Chapter 3. Titled 'National Case Studies,' this chapter delineates how recent developments, influenced by rights-centred political participation, have manifested in each of the five countries, resulting in divergent outcomes. As he illustrates, the conditions for LGBTQ groups exhibit a deteriorating trend in Malaysia and Indonesia, whereas more positive developments have been documented in Singapore, the Philippines, and Thailand.

In Chapter 4, 'Civil Society and Rights Advocacy,' the author explores the pivotal role of civil society organisations in adopting SOGIESC rights, claiming to build transnational solidarity. These organisations cultivate interpersonal connections, forge networks, and devise innovative strategies and platforms to facilitate and enhance political involvement for improving the lives of LGBTQ groups throughout Southeast Asia. Charting the developmental path of rights advocacy, Langlois shows how advocacy groups initiate their efforts by fostering communal solidarity and extending their networks to encompass national and transnational spheres. This process lays the foundation for dynamic interactions between formal governmental rights agencies within the ASEAN and globally, achieved through engagements with the United Nations.

In the concluding chapter, titled 'SOGIESC, Rights, and Political Participation,' the author posits that rights claiming can be conceptualised as a distinct mode of political engagement, wherein the assertion of SOGIESC rights emerges as a new manifestation within this overarching framework. Advocates and activists across the ASEAN have systematically incorporated rights claiming into their agendas, establishing alliances with international counterparts. This development serves as an exemplary model for groups in other geographical contexts to emulate and integrate into their own advocacy endeavours.

This book makes a valuable contribution to the corpus of Southeast Asian studies, presenting a systematic analysis of the complex dynamics inherent in gender, sexuality, and rights struggles within the region. The clearly delineated approach, well-organised structure, incorporation of historical perspectives alongside contemporary information, and engagement with a diverse array of stakeholders at multiple levels render it a valuable resource for students, activists, and policymakers interested in comprehending the intersection of human rights, gender, and sexuality within the context of the ASEAN and beyond.

However, the book exhibits two conspicuous gaps. Despite the author's assertion of engaging with diverse stakeholders influencing rights struggles, a notable omission in the analysis pertains to international geopolitical actors. The escalating rivalry between the United States and China in the Asia-Pacific region has precipitated a New Cold War scenario. The brewing Sino-US geopolitical competition compels ASEAN member states to find ways to navigate between the liberal paradigm emphasising individual rights and the authoritarian model prioritising subservience to governing authorities. This geopolitical dynamic is poised to exert a profound influence on the grassroots participants engaged in rights-claiming activities. For instance, Thailand, once supported by the United States as an anti-communist stronghold during the Cold War, now confronts the dilemma of balancing ties with its traditional ally against the lucrative market offered by China. Readers would be interested in learning how these global geopolitical developments will impact the everyday civic engagements of marginalised groups, such as LGBTQ populations.

Furthermore, the author's deliberate focus on five ASEAN member states while omitting the remaining five lacks adequate justification. The unaddressed and under-addressed cases possess distinctive characteristics warranting closer scrutiny. For example, as Vietnam undergoes a state-directed process of marketisation akin to China's, one may inquire into how this structural transformation influences rights struggles for sexual minorities and gender non-conforming groups. Additionally, as both Laos and Cambodia strengthen their economic and geostrategic ties with China, an exploration of the ramifications on rights-claiming activities, particularly adverse impacts akin to those documented in China, becomes imperative. The 2021 *coup d'état* in Myanmar also merits engagement, given its profound repercussions on legal rights and personal liberties within the country.

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Book Review

Inside the Circle: Queer Culture and Activism in Northwest China

Siufung Law ^{1*}

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Book Author: Casey James Miller

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In Casey James Miller's twelve years of ethnographic fieldwork on queer culture and activism in Xi'an, China, a central question persists: What does it mean to be queer in northwest China? Departing from a Western teleological narrative of queerness, which often assumes antinormativity, Miller's book, *Inside the Circle: Queer Culture and Activism in Northwest China*, scrutinises a Chinese queer theory that elucidates the 'productive dialectic' (p. 13) with seemingly binary sets of queer experiences, such as local and global, East and West, sameness and difference. Coined from the colloquial term referencing one's queer identity and an imagined queer community, 'the circle' (*quanzi*) contextualises Chinese queer notions of personhood through active political engagement and a commitment to moral obligations. The concept of the circle explores practices of queer sexualities beyond the Western understanding of the individualistic self, emphasising collectivism and relationality shaped by Confucian ideals of filial piety and the ethical value of self-sacrifice. Miller's rich ethnography offers a thick description of how queer northwest Chinese activists cope with the challenges presented by China's complicated political landscape. Readers will find compelling stories of queer Chinese experiences introducing every chapter of the book; these intimate accounts reinforce the understanding of queerness as a locally grounded and relational phenomenon deeply embedded in specific contexts, while also facilitating a global imagination of transnational queer solidarity.

The first half of the book explores the cultural practices employed by queer people in northwest China to reconcile their queer identity with their moral responsibilities as sons and daughters, revealing the enduring presence of traditional Chinese notions of romance, marriage, and family despite China's significant economic and cultural transformations since the establishment of the PRC in 1949. The second half of the book examines the moral dilemmas and ethical decisions confronted by Chinese queer activists as they strive to pursue their activist objectives while avoiding unwanted state interference. Miller meticulously scrutinises the trajectory of Tong'ai and UNITE from 2007 to 2011, two grassroots NGOs serving gay and lesbian communities in Xi'an. It sheds light on the interpersonal dynamics of queer activists as they navigate changing political landscape in China and engage with global health initiatives, the state, and each other.

One central theme of the book is to reject a universalistic queer theory centred on Western historical values and cultural assumptions. In the introduction, Miller argues for a 'cultural or relativistic' queer theory (p. 4) that

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acknowledges the transcultural and theoretical contributions of Chinese queer scholarship. In other words, he cautions against imposing Western notions of queerness or perpetuating 'Chinese exceptionalism' (p. 13) when evaluating queer activism in northwest China. Instead, Miller advocates for a more nuanced contextualisation of the 'unique queer sex/gender system' in northwest China (p. 21) to decentre Western-centric perspectives, capturing northwest Chinese queer peoples' lived experiences that reflect 'neither a complete continuation nor a total rupture with traditional Chinese attitudes toward gender and sexuality' (p. 44). Throughout the book, Miller theorises the flexibility and relationality of 'the circle' to illustrate queerness as a profoundly local, relational, and transnational phenomenon (p. 12), resonating not only within northwest Chinese queer culture but also among a 'broader "imagined community"' spanning the Chinese diaspora and beyond (p. 6).

The concept of the circle challenges taken-for-granted assumptions about the relationship between queerness and antinormativity (p. 13). The continual need for queer critiques of normativity in Western queer studies overlooks queerness as inherently complex and contradictory. In Chapter 2, Miller demonstrates how the circle functions as one of the fundamental structures of the queer sex/gender system. Loosely defined as 'a group of people who share a common defining characteristic or interest' (p. 26), the circle extends beyond Chinese gays or lesbians. But also exhibits exclusionary tendencies by excluding non-heterosexual people and queers who lack access through other queers' introductions. The contradictory nature of the circle allows for a more intricate examination of its flexible, relational, and transitory characteristics. Apart from the circle, Miller explores local queer linguistic terminologies to demonstrate that while queer northwest Chinese individuals embrace a broad spectrum of gender and sexualities that defy the antinormative nature of queerness, they contradictorily conform to binary notions of gender differences and exhibit misogynistic behaviours towards femininity.

Queer cultures in northwest China embrace complexity and contradiction, defying a binary understanding of queerness and normativity. Chapter 3 provides a vivid example, as Miller conducts a thorough analysis of contract marriage (*xinghun*), an increasingly popular queer kinship practice among gay men. This practice allows individuals to uphold moral duties to their parents while minimising harm to heterosexual women. The contradiction between desiring queer experiences of love and fulfilling their love towards their parents through enduring cultural norms and expectations around marriage and reproduction fosters new queer kinships, while still honouring the moral imperatives of filial piety. It is important to note that the normative priorities informed by filial piety should not be dismissed as examples of homonormativity but rather as strategies to challenge traditional notions and practices of marriage and family. Readers are encouraged to read this chapter alongside Elizabeth Engebresten's *Queer Women in Urban China: An Ethnography* (2014), as her work illuminates the desires of Beijing lesbian women (*lalas*) for sexual normativities to attain societal respectability and be perceived as good citizens. This offers a valuable complement to Miller's predominant focus on queer men, facilitating a regional comparison between northwest and northeast China regarding their queer management of family pressures related to marriage.

Unlike Engebresten's focus on the social dimensions of *lalas* being perceived as good citizens, Miller delves into the political dynamics of Tong'ai, a government-funded gay HIV/AIDS organization in northwest China. He portrays queer activists' adherence to the image of 'good citizens' (p. 93) as continuous navigation of their precarious position at the margins of state and society. This addresses the second theme of the book, challenging the notion that queer activists in postsocialist China are 'inauthentic' because they tend to collaborate rather than confront the state (p. 10). Chapters 4 and 5 complicate the authoritarian control of the Chinese state by analysing the strategies employed by two grassroots queer NGOs in northwest China to advance their social, cultural, and political agendas. Operating in the legal 'gray zone' (p. 74) as unregistered community-based queer organisations allows queer activists to maintain some independence and create space for counter-hegemonic practices. Despite the 'decidedly unequal' (p. 84) relations between activists and the government, Miller argues that the state relies on queer activist groups like Tong'ai to carry out practical policies and programmes due to their proximity to high-risk communities. The intricate power dynamics between queer activism and the government offer an alternative cultural understanding of civil society, one that is formed through the intersection between the state and society. In the fifth chapter, the author further complicates the tensions between the state and queer activism by introducing the influences of global health initiatives that provide international funding for HIV/AIDS prevention and treatment. While such global resources professionalise grassroots NGOs, they also turn organisations like Tong'ai from volunteer-based to service enterprises, further alienating themselves from the queer community they aim to serve.

A third theme of the book argues for transcending the theoretical understanding of non-Western queerness beyond the binary perspective of sameness and difference. Instead, Miller proposes 'simultaneity and coincidence' (p. 133) as crucial frameworks within the concept of the circle to deconstruct the binary opposites of East-West and local-global. Chapter 6 situates Chinese queer activists' creative involvement in transnational queer flows to imagine new forms of transnational queer solidarity. For instance, strategic displays of the rainbow flag, often unfamiliar outside of the queer community, facilitate a 'queer politics of semivisibility' (p. 141), effectively transforming semi-public spaces into queer spaces. This strategy enables queer activists to engage in local and

global queer activism simultaneously while minimising the risk of attracting state interference, enacting a sense of belonging within an imagined global queer community that empowers them rather than isolation.

Inside the Circle explores various facets of queerness in northwest China through the concept of the circle. While Miller offers rich ethnographic insights into queer identity and activism in northwest China, his discussions on complexity and contradiction occasionally remain overly generalised and descriptive, leaving room for further exploration of how complexity and contradictions work strategically and theoretically in navigating binary oppositions related to gender and sexuality. Specifically, how do complexity and contradiction inform theoretical frameworks and practical strategies for conceptualising non-Western queerness? How do contradictions between normativity and queerness mobilise new approaches to queer identity and culture?

Readers can also benefit from Miller's more extensive exploration of regional geopolitics within China. At the beginning of the book, he astutely highlights how the selection of northwest China as his field site was influenced by the perspectives of his queer interlocutors in Xi'an. As a northwest Chinese city, Xi'an is often perceived as 'culturally and socially "backward" and "traditional"' (p. 5) in contrast to eastern China, where most queer Chinese scholarship has taken place. This minor ethnographic detail prompts inquiry into how inter-regional connections and influences across different parts of China, particularly with 'progressive' queer activists in eastern China, may have impacted the knowledge production about queer personhood and activism in northwest China. Studying how queer activists in northwest China may have been influenced by queer activism in other regions of China to adapt and improve their strategies with the state can avoid situating northwest China as completely isolated from the broader national context. Analysing how regional hierarchies within China might have shaped the concept of the circle adds complexity to the dichotomy of Western and non-Western queerness, enhancing our understanding of queer identities and movements across the nuanced cultural and geopolitical contexts in China.

Moreover, Miller's insightful analysis of the unequal yet mutually interdependent relationship between the Chinese state and queer activist groups operating in the legal 'gray zone' warrants further examination beyond queer men organisations centred on HIV/AIDS programmes and agenda. Comparative analysis, such as assessing whether this predominantly unequal yet interdependent relationship is similarly observed between the Chinese government and the queer woman activist group UNITE, can provide a more comprehensive understanding of how gender differences may contribute to the different strategies employed by queer men and women activist groups in navigating state surveillance and pursuing their social or political agendas.

Although the queer stories at the beginning of each chapter introduce valuable contexts and themes the author attempts to address, readers are sometimes left wishing the author would linger and move us through his analysis of the stories. Returning to these stories throughout the chapters would help readers consolidate the author's arguments within the context of vivid details offered. Nevertheless, Miller's strength in storytelling captivates readers, immersing them deeply in the experiences of his interlocutors in love, marriage, family, and activism.

Inside the Circle is a timely and accessible ethnographic study of the emerging queer community and activism in northwest China. In capturing the multifaceted life stories of gay and lesbian activists in postsocialist China, the book makes a valuable contribution, revealing the moral landscape of northwest China that challenges a postsocialist turn toward individualism and privatisation of marriage and family. What is queer in northwest China, after all, is intricately woven with filial obligations to both family and the state.

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