A Journal of Arts, Environment, and Culture in Canada
The Goose

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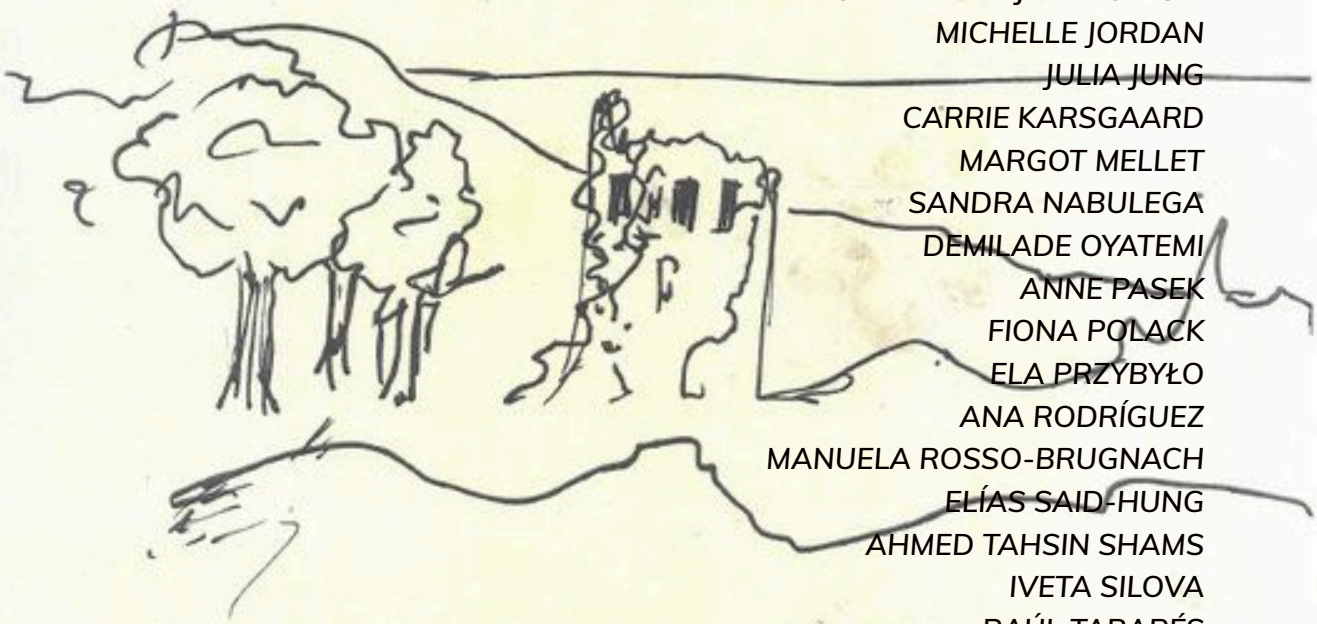

IMAGINATIONS
REVUE D'ÉTUDES INTERCULTURELLES DE L'IMAGE ▪ JOURNAL OF CROSS-CULTURAL IMAGE STUDIES

SUSTAINABLE PUBLISHING

Guest Editors: Brent Ryan Bellamy, Abigail Fields, Rachel Webb Jekanowski, Margot Mellet

Issue 16-1, 2025

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THE GOOSE EDITORIAL TEAM

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INTRODUCING SUSTAINABLE PUBLISHING

BRENT BELLAMY
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MARGOT MELLET

This issue began with the question of what constitutes sustainability within scholarly publishing. Looking back over the gestation of this special issue, we had to grapple with increasingly existential variants of this question.

What does sustainability look like when forest fires are approaching your home? When your university is facing cutbacks and programs are at risk of being closed down? When government agents are arresting people in their homes and on college campuses? When political extremism is rising? When so-called generative artificial intelligence is intensifying water and energy usage, while pumping out fever-dream irrealities, endless affirmations, and race-to-the-average information? When…? When…? When…?

How many crucial issues hang on this one concept, *sustainability*? What might it mean to reconsider this term in contemporary editing and publishing practice?

In an effort to rethink our work as academics, editors, and readers of published material, we came together to collaborate on this experimental issue hosted by *The Goose* and *Imaginations*. *The Goose* is the official, open-access publication of the Association for Literature, Environment and Culture in Canada (ALECC). Straddling academic and creative genres, *The Goose* publishes long-form academic articles alongside creative nonfiction, poetry, multimedia, and visual arts. *Imaginations* is an online, open-access journal of cross-cultural image studies. The journal publishes work that thinks about, with, and through images broadly construed. Together, members of our editorial teams have been thinking collaboratively about what

we call sustainable publishing. In this context, sustainability names the terrain of both its resonance as a social and ecological concept and its capture by corporate and institutional branding campaigns that paint a green façade over otherwise categorically damaging operations—including the defunding of education in the service of fiscal "sustainability" and fantasies of "green" AI. This special co-published issue represents a snapshot of some of those conversations as well as a place for others to join the discussion about publishing practices for the 21st century.

ORIGINS AND DEVELOPMENTS

As with all literature and academic publications, this issue has been the result of a long editorial process involving various forms of sharing, discussion, and knowledge co-production (a process that takes time—and to take time is in itself a move towards sustainability). The moment of inception for this project was a conversation between Brent and Rachel during the height of the COVID-19 pandemic where they discussed the idea of sustainability standards for academic publishing. Rachel secured an incubator grant from Memorial University's now-shuttered Office of Public Engagement[1] to explore this idea with colleagues serving on the editorial boards of three Canadian digital journals: *The Goose*, *Engaged Scholar Journal*, and *Imaginations*.

The project's first iteration culminated in a 2023 roundtable discussion at a joint panel of the Canadian Communications Association (CCA) and the Canadian Comparative Literature Association (CCLA) at York University. Brent and Markus from *Imaginations* joined Rachel, then co-editor at *The Goose*, and Lori Bradford from *Engaged Scholar Journal* to host a roundtable on "Sustainable Publishing and the Climate Crisis," exploring the modalities and possibilities of sustainable publishing in Canada. Demilade Oyatemi produced a visual aid as the roundtable took place, mapping each speaker's interpretation of sustainability as a concept and methodological practice (see figure 1).

Figure 1. Demilade Oyatemi. "Sustainable Publishing & Climate Crisis," Joint CCA/CCLA panel on Sustainable Publishing, 31 May 2023: York University.

Our conversations during the roundtable formed the basis of what would become a refereed chapter in the edited collection *Low-Carbon Research Methods: Making Equity and Epistemological Gains through Decarbonising Academic Work*, forthcoming in 2026 from Goldsmiths Press. In it, we proposed our first articulation of sustainability as "a framework for staging practical and conceptual interventions into dominant practices of [...] the editing, publishing, and circulation of research findings" (Bellamy, Bradford, Jekanowski, and Reisenleitner 176). Sustainable publishing therefore overlaps with scholarly interventions to decarbonize the academy, and to embed slowness and degrowth within increasingly fast-paced and precarious temporalities of academic work (Sterne 2011; Mountz et al. 2015; Martin and Nevins 2024). Put otherwise, sustainable publishing encompasses both labour justice *and* climate justice, and works in collaboration with other equity-informed movements towards imagining the university otherwise.

Following the roundtable and book chapter, the sustainable publishing team held an online, bilingual atelier in summer 2024. The atelier acted as an incubator for ideas, bringing together people from the

scholarly publishing world and providing a space for collective feedback and experimentation. Prompting our participants to reflect on the concept of sustainable publishing and how their publications approach sustainability, we mapped out the present and speculative futures of publishing, and named our navigational poles: anti-growth, labour equity, nourishing, communauté/community, "paid for work," recognition (see figure 2).

Meanwhile, *Imaginations* and *The Goose* planned for this special joint issue, inviting contributions in the form of articles, research creation pieces, and practitioners' forum entries. As members of several journals, the sustainability practices we sought to create through these exchanges have taken shape in this multi-faceted dossier, published by both journals. The issue's unique form—translated and interdisciplinary, compiled by representatives of two editorial teams—is intended to address the multiple challenges of our original question and imagine a pathway for implementing slower, engaged, and more reflective practices of publishing in tomorrow's world.

This co-editorial experience was not without its difficulties in a climate of austerity, where academic timelines do not always coin-

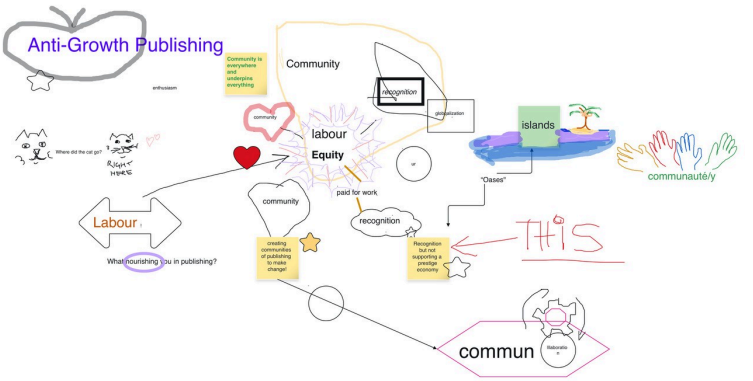

Figure 2. Workshops notes compiled on a digital whiteboard during the Sustainable Publishing Atelier, July 23, 2024. See Acknowledgements, below, for the list of workshop participants.

cide with the reality of writing practices. The slow rumination of these ideas reflected the multiple temporalities and challenges in which the issue's authors and editors were working, including labour strikes, casualized teaching contracts, commitments to family and personal wellbeing, climate grief… the list continues.

We address such difficulties by working from where we are to extend a feminist, decolonial approach, much in the way Carrie Karsgaard's "The Pedagogy of Manifesto Making: Countering the Oily Entanglements of Academic Publishing" reflects on *Manifesto for Decarbonizing Scholarship and Research* to emphasize decarbonization as a path to sustainability. Karsgaard calls on readers to sign on to the manifesto and distribute it widely. Along similar lines, Ela Przybyło poses a clarifying question in "Publishing Thoughts from the Bed Sorbonne": how might publishing remold itself to fit crip writers, editors, and readers, rather than having people conform to normative expectations of publishing? Taking this question seriously promises radical change for everyone working in academic publishing.

In this introduction, we review the conversation on sustainability in publishing as it has been happening on our end. We discuss the theory and practice of sustainability as a multifaceted and oft misunderstood concept. Here, we also discuss some of the most recent technological developmentsin publishing, including Large Language Models (LLMs), and conclude by introducing the articles included as well as the practitioners' forum.

ON THE THEME OF SUSTAINABILITY

Foundationally, we approach sustainability in terms of maintaining practices and processes though established routines without exhausting necessary inputs (resources, labour, etc.). At both journals we ask ourselves: what can we set in place to publish meaningful academic and creative work to diverse audiences? While it is certainly possible to sustain a project by using maximum effort, we are more interested in how we might undertake this work without depleting authors, editors, and readers, budgets and workflows, or air, earth, energy, and water.

This standpoint helps us frame sustainability in terms of current crises—environmental, political, societal—and the varied meanings of this concept. For instance, sustainability may refer to concerns of labour equity in academics' day-to-day work, the carbon impact of content production (print and digital), and the development of publishing chains that are stable yet adaptable. Compellingly, in this issue, Ahmed Tahsin Shams points out that for most, sustainable publishing suggests "durability, optimization, or resilience." Put differently, it signals a lastingness. His article, "Publishing with Tree-Media: Arbo-real Aesthetics, Pedagogical Ruptures," proposes we start to incorporate a different temporality to the concept: "compostability," or, "the capacity to decompose, co-adapt, and co-author with nonhuman rhythms." The core of sustainable publishing for us is ecologically responsible, labour-wise, and socially-just editorial and publishing practices.

This response is how we have come to answer the above question: we can only publish meaningful academic, creative work when we attend to the health, energies, and equity of our teams, including authors, boards, distributors, editors, readers, and reviewers, and our systems, including environmental, political, and social health. To address this theme, our issue presents a multifaceted perspective, encompassing experimentation, research, creative writing, and methodology, and inviting collaboration across scholarly fields, workplaces, and languages. If sustainability is to be the framework for the future of publishing, in that it brings together multiple contemporary issues, it must be implemented collectively by experimenting with new models of knowledge production.

ARTICULATING THEORY AND PRACTICE: A SUSTAINABLE PERSPECTIVE

To ensure that sustainability would not be addressed solely through the prism of theory, we sought to gather contributions that explore alternative publishing practices, experiment with collective writing, and develop novel models of scholarship, including zines, manifestos, and design thinking. Amy Brookes

and Megen de Bruin-Molé's research creation[2] piece, "Notes on a Research Proposal," exemplifies this vein. Their layered, annotated pages of a scanned epistolary exchange documents their revisions and critical reflections on a funding proposal to support their ongoing project, "Speculative Space," which uses SF as an exploratory practice within galleries, libraries, archives, and museums. This piece serves as their response to the question of how "we sustain creative work in the face of burnout, institutional crisis, the end of funding, the mess of life?" while facing "institutional demands to validate [our work] using the metrics of academic research and funding frameworks."

Articulating theory and practice in academic models of knowledge production in the humanities does not have a long tradition, which makes it all the more valuable and exploratory. Established through anthropological research (such as the work of Tim Ingold [1989, 2013] and Latour [2014]), digital humanities [Hayles 2005, Kirschenbaum 2016, Vitali-Rosati 2025], and new materialisms [Alaimo 2021, Barad 2007]), the reunification of practice and theory remains eternally complex, establishing a direct correspondence between discourses, notions, and concepts on one hand and practices, actions, and materialities on the other. Although they are not two separate worlds, institutional traditions reveal a division in which theorists do not *make* and are pressured by the imperative of ever-increasing scientific productivity (*publish or perish*), while practitioners are not in a position to formulate their experiential knowledge in the form of written research. This distance between occupations entails the risk of producing ever more disembodied knowledge, disconnected from the realities of its topics, or reinforcing ways of doing this for the sake of always having done them this way. Removing the time for critical reflection on scholarly practices and mechanisms (peer review, measurements of scholarly impact) discourages the search for creative solutions to real-world issues identified in academic outputs or new ways to undertake these tasks. Yet it is necessary to ensure the sustainability of our research, as it allows us to address questions such as durability and ecological impact in direct relation to physical, technical, and editorial conditions of production.

It is this history, these dialogues and practices of collaborative writing, connections and delays that this issue bears witness to, thus giving voice to multiple publishers of sustainable solutions for our knowledge and identities.

LLMS AND SUSTAINABLE PUBLISHING

How could we pass over generative artificial intelligence (GenAI) and large language models (LLMs) in silence? Certainly, this technology and its acceleration have implications for editorial work of all stripes. For our discussion here, in the introduction, we prefer the use of LLM to GenAI as a catch-all term because it is far less misleading and more precise. GenAI is a more general term, covering not just linguistic but also image-based generative software. More critically, it creates a need to define not only intelligence as a core concept, but also to augment that definition with a concept of the artificial (Agüera y Arcas). The idea of a LLM does not have the same conceptual risks. Instead of imagined bootstrapped thinking, these models process massive amounts of data from textual sources (e.g. articles, books, the internet, etc.) to leverage machine learning for a designated purpose.

It is no wonder then that LLMs present opportunities to transform the workload and workflow of editorial teams. For instance, with the capacity to template for email, arrange large datasets, review work in light of style guides, and take on other such tasks, LLMs might change the work of managing editors, directors, and copyeditors. Barring the risks of hallucinations when LLMs produce unreal information (Orgad), cheerleader behaviour when LLMs respond with pure encouragement to all ideas proposed (Suwito), the ouroboros-like self-referentiality these models threaten, other technological pitfalls, and their overall trash-like operations (Pasek) such tools promise increased productivity.

Our editorial mandate for this issue is to consider how to navigate the environmental, ethical, and legal impacts of LLMs for sustainable publishing practices. We want to look beyond first impressions of LLMs and consider the work that goes into developing, producing,

and sustaining such tools. Remember that developing these tools took labour time (some paid, some unpaid) as these systems are trained by trial and error through many thousands of inputs. All so-called "labour saving technology" necessarily has more labour congealed within it. The same is true here: to develop these systems to where they are today, LLMs required enormous human and energy inputs—both of which required other sustaining systems in place to function (Dawson). There is already a significant amount of time and energy invested in these models before we even start to work with them. Moreover, those using LLMs need training as well. If LLMs are to be taken up as a tool in publishing, at any scale, they should be thoughtfully and ethically integrated, using step-by-step practices and sandboxing. As contributors to this issue note, "[c]elebrated gains in speed often mask declines in quality and accountability" (see Gordo et al., "Un/Sustainable Peer Review and Generative AI").

Pivoting from the work internal to the journal, editorial teams also have to consider the work that comes across our desks. We have and will continue to be confronted by writing that could be LLM produced. The intensity and degree of this production may vary, as well. What amount of work with LLMs is acceptable in peer-reviewed work, especially when LLMs, by design, draw on the work of all of our peers without the protocols in place for citation? Moreover, it's not just the volume of the work that's in question. As editors, we might also ask how contributors use LLMs to produce their work. Developing best practices and ethical approaches to reviewing work in light of LLMs needs thought and care over time. This is exactly what Chelsea Humphries calls for in "Critical AI Literacy for Sustainable Scholarly Publishing" in the practitioners' forum. These conversations are already starting to happen, which is a good first step. How can we make sure they continue to happen in an ethical, open, and sustainable manner?

ON TRANSPARENCY, EDITORIAL WORKFLOW, AND PEER REVIEW

As part of our commitment to reimagining sustainable editorial practices, this issue sought to experiment with the model of a "holistic" peer review. We wanted to find a means to nurture conversation and reinstate community within the editorial process and the final publication. Practically, this means that we shared the entire issue anonymously with at least two reviewers and we had several more pinch hitters as well (see Acknowledgements below). We encouraged our peer reviewers to approach the manuscript dossier as a sort of edited collection; to review the pieces individually as well as in relation to each other. What emerged was a thoughtful and engaged conversation about the strengths and weaknesses of the issue as a whole, areas of publishing that required more coverage (such as the perspectives of librarians), and the purposes of peer review itself. As Lisa Han observed in her review, the issue's strengths include the "both practical and conceptual engagements with sustainable publishing, offering multiple pathways for thinking about the future of academic publishing" in relation to accessibility, AI, environmental impacts, academic accountability, and ethical relationships with communities, while providing "plenty of examples for scholars who aim to make their own publishing practices more sustainable." Crystal Chokshi, another reviewer, reflected on the themes of fluidity and hope that she saw emerge throughout the assembled contributions. She noted in her response that amidst cascading social, political, and climate harms, "I rarely feel anymore what many of us might call "hope" [...] Many days, it is hard to know how to move forward." Nevertheless, the authors in this issue "[offer] ways to move forward in academia amidst the climate crisis and the many crises with which climate crisis is entangled" by proposing practices of "fluidity." Citing Margot Mellet's "Switch-off" as an example of this modality, Chokshi writes:

> "This piece is about resisting an 'always-on' mode—whether 'always on' in a language or a hierarchy. If we make things flu-

> id, what kind of sights/seeings and sustainabilities emerge? I think most pieces take up this very question."

At the same time, both Han and Chokshi asked for greater engagement between individual pieces; in Han's words, "it would be helpful for the individual pieces to reference each other when it makes sense to create a greater sense of cohesion across the issue as a whole."

In light of this feedback, we shared the entire issue with our contributors following the holistic peer review–including the contributors' manuscripts and reviewers' reports. We consider this a version of open peer-review that still maintains anonymity for contributors and reviewers during the initial review and revision stages. This process provides more opportunity to know the issue as a whole, to cross-cite, and to incubate thinking on the subject matter. In addition to long-form academic articles, the issue also features a practitioners' forum that discloses practical ideas for sustainable publishing from editors, librarians, researchers, and publishers. This, too, was included for contributors and reviewers to peruse. As part of realigning scholarly norms of peer review with our specific ethical and methodological goals, we also invited our peer reviewers to revise their reports for publication within the final issue. Aymeric Mansoux opted to go this route in his piece "Review," which will be included in the translated version of this volume. While it may seem as though we asked a lot of our contributors and readers in terms of the amount of writing we shared, we also gave them the chance to engage at their discretion. Transparency means one may look, not that one is obligated to do so.

As an editorial team, we balanced and shared editorial work through our frequent check-in meetings. There was a more-or-less organic flow in responsibilities. As some team members became focused elsewhere, others kept the work moving forward for the issue. This has been true since the inception of the larger sustainable publishing project. Editors at *The Goose* managed the workflow of peer review and readers' reports, while editors at *Imaginations* took on the copy editing and translating work. You can expect a second issue to follow with a full translation into French. We opted to embrace the spirit

of slow academia, rather than rushing Gwladys Bertin and David Duhamel or delaying publication.

While our initial vision for this joint issue included a shared table of contents, articulated across our two journals like vertebrae in a spine, we struggled with the technological limitations of the journals' respective software systems. Our solution sprang from practicality or, perhaps, exhaustion: we opted to host the issue at *Imaginations* due to the in-kind support from the University of Alberta Libraries, especially for such technical issues as DOIs and aggregator harvesting by Érudit. Such constraints of digital publishing were limiting, but also generative, compelling us as editors to critically engage with the software and digital infrastructures that platform knowledge-sharing today.

OVERVIEW OF THE ISSUE

This issue comprises two sections: scholarly articles and the practitioners' forum. Contributors to the former adopt varying scholarly styles of writing and approaches to sustainability. Karsgaard et al. and Przybyło explore the manifesto as a call to action and academic form, while Pasek and Biørn-Hansen discuss the importance of zines as a practice of scholarly publishing in the form of an interview. Brookes and de Bruin-Molé's research creation piece contributes to this examination of zines and related ephemera. Shams thinks, and publishes with, trees, exploring an elemental model of publishing grounded in the arboreal. Antoine Fauchié's "Permapublishing : pour des modes d'édition pérennes" and "Un/Sustainable Peer Review and Generative AI: Ethical Gaps, Editorial Acceleration and the Whitewashing of Technological Solutionism" by Angel Gordo, Chris H. Gray, Ana Rodríguez, and Raúl Tabarés theorize the technologies and infrastructures of digital publishing, including the communities and practices they foster and the limits of GenAI.

The practitioners' forum consists of shorter-form articles, authored by publishers, librarians, editors, and others who regularly work in the trenches of scholarly knowledge production and circulation. Our approach, here, is purposefully fragmented, overlapping, incomplete.

This unevenness is a sign of cracking open, rather than a shortcoming; we challenge the impetus to cover everything (McKittrick 2021). Jessica M. DeWitt writes about her work as an editor of the Network in Canadian History and Environment (NiCHE)'s online blog. Likewise, Julia Jung, Manuela Rosso-Brugnach, and Christian Wiewelhove reflect on their use of research blogs at the FEELed Lab at UBC Okanagan. Beth Bouloukos and Fiona Polack both explore relationality within their experiences working at university presses; Bouloukos, in relational modes of publishing in Native and Indigenous Studies at Amherst College Press, and Polack, in relation to place-based scholarly publishing at Memorial University Press. Three of the issue's editors—Margot Mellet, Brent Ryan Bellamy, and Rachel Webb Jekanowski—also contributed propositions to this forum, including proposals to "switch-off," that "we are doing enough" and that editorial work is "a labour of love." Finally, Amanda Wakaruk, Sonya Betz, and Chelsea Humphries offer necessary perspectives from academic librarians. Wakaruk and Betz (University of Alberta Library) structure their piece as a Q&A, exploring sustainability within library-based open publishing. Humphries (Memorial University - Grenfell Campus) articulates the need for critical AI literacy within universities as researchers, administrators, and students alike facing increasing pressure to take up these technologies.

As a whole, this issue sits with the daily pressures of undertaking scholarly work in environmental studies amidst the escalating disasters of climate collapse, anti-intellectualism, environmental racism, genocide, and the hollowing out of social infrastructures such as public healthcare and education. Pasek states in her interview with Biørn-Hansen that she's "professionally freaked out by climate change." We feel this in our bones. Nevertheless, life continues. We offer this assembly in the hopes that it might serve as a guide, perhaps even a balm, towards alternative ways of being in relation to the world as scholars, readers, and publishers. Towards building new scholarly communities and speculative roads towards sustainable knowledge systems for real-world change.

ACKNOWLEDGEMENTS

This issue has emerged from conversations with so many. Deep thanks to everyone who has thought with us and provided input along the way.

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Finally, thank you to our superb peer reviewers. Crystal Chokshi and Lisa Han read through the majority of the issue providing thoughtful general feedback and inspired direction for our contributors. Amanda Paxton and Emily Roehl came in at a later stage to review the final additions to the issue. Aymeric Mansoux has provided a rare

level of precision and benevolence in bilingual supervision, showing new meanings to the sustainability of scholarly practices. The work of peer review so often goes unrecognized in the service of academic integrity. We want to be part of a movement to transform what integrity means in publishing. Rather than using anonymity to protect against the risk of bad actors in academic reviewing, we champion transparency and trust: from the start, the reviewers were informed that we could reveal their identity along with the authors when the issue went to press. Reviewers, readers, and authors all benefit from entering into conversation with each other, and we hope to continue to expand and experiment with peer review at *Imaginations* and *The Goose*.

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IMAGE NOTES

Figure 1. Demilade Oyatemi. "Sustainable Publishing & Climate Crisis," Joint CCA/CCLA panel on Sustainable Publishing, 31 May 2023, York University.

Figure 2. Workshops notes compiled on a digital whiteboard during the Sustainable Publishing Atelier, 23 July, 2024.

NOTES

1. Memorial's Office of Public Engagement (OPE) was abruptly closed in July 2025, a casualty of institutional cost-cutting. This loss is strongly felt across the province of Newfoundland and Labrador, as well as by the editors of this issue. As austerity-focused cuts continue to whittle away arts and service-oriented components of Canadian academia, we are left with the question raised by the OPE's first and last symposium in May 2025: what do universities owe the public? For a mediation on the impacts of austerity (so often invoked in the name of fiscal "sustainability"), see Callanan 2025.↩

2. For further discussion of creative practices in knowledge communities, particularly in Canada, see Loveless 2019 and vol. 15, no. 3 of *Imaginations* (2024), edited by Agata Mergler and Joshua Synenko.↩

UN/SUSTAINABLE PEER REVIEW AND GENERATIVE AI: ETHICAL GAPS, EDITORIAL ACCELERATION, AND THE WHITEWASHING OF TECHNOLOGICAL SOLUTIONISM

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Generative AI in peer review raises ethical and environmental concerns and risks deepening existing inequities in scholarly publishing. Celebrated gains in speed often mask declines in quality and accountability. Training and deploying large models impose environmental costs. In editorial workflows, AI can privilege technical fixes over structural reform, and evidence shows it reproduces human biases while being cast as neutral. We call for a renewed commitment to open-science principles anchored in human oversight, deep sustainability, and broader justice. The paper concludes by interrogating sustainability's absence from green-economy debates and mapping the values likely to shape the future of peer review.

Les IA génératives en évaluation par les pairs posent des enjeux éthiques et écologiques et risquent d'accentuer les inégalités de l'édition académique. Les gains de vitesse masquent des reculs de qualité et de responsabilité. L'entraînement et le déploiement des modèles ont des coûts environnementaux. Dans les flux éditoriaux, l'IA privilégie des palliatifs techniques plutôt que des réformes et reproduit des biais tout en se disant neutre. Nous plaidons pour une science ouverte ancrée dans la supervision humaine, la durabilité et la justice, et interrogeons leur absence des discours sur l'« économie verte », avant d'esquisser les valeurs qui guideront l'avenir de l'évaluation.

INTRODUCTION

Academia is undergoing a profound transformation driven by rapid technological advances, intensified global collaboration, the spread of for-profit scholarship, and the rise of AI, which we define as Algorithmic Intelligence (Gordo and Gray). Maintaining research integrity has become more important than ever in the face of new challenges and opportunities. The peer review processes, central to ensuring such integrity, is under growing pressure due to the exponential increase in submissions. This has resulted in reviewer overload and significant delays in disseminating scholarly work. As a response, Generative AI (GenAI) technologies are being explored as tools to support and partially automate several dimensions of the peer review processes (PRP).

In an effort to enhance the peer review processes, publishers have introduced automated screening tools that allow editors to accelerate manuscript evaluation, verify compliance with journal policies, and identify suitable reviewers based on their expertise and previous performance. At the other end of the publishing chain, academic authors are increasingly employing what we label AI-assisted technologies, particularly generative conversational models such as ChatGPT and large language models (LLMs) more broadly, during the manuscript preparation phase (Dergaa et al. 616). Although these tools offer the potential to enhance and accelerate academic writing, their use also raises pressing ethical concerns around quality, authorship, authenticity, credibility, and accountability, with additional legal implications regarding copyright (Giray et al. 41).

There is also the paradox of speed. Accelerationism is popular across the political spectrum, but speeding up processes does not offer a solution to unsustainable dynamics. Yet, accelerating knowledge acquisition drives scholarly publishing as do proliferating crises. Sustainability, having an acceptable homeostasis, assumes relentless expansionism on material levels cannot continue. And yet a balance must be reached between the dangers of a new tool such as AI, and what it can offer. The only way to really find it is to act.

At our journal *Teknokultura* we are exploring how to use AI as part of our human-controlled peer review processes, working with the new wave of AI based on a generative process instead of just rejecting it or submitting to it. PRP are widely regarded as crucial for establishing research quality and scholarly legitimacy, while also playing a significant role in distributing academic prestige and recognition (Tennant and Ross-Hellauer 1, 12).

In this paper, we address emerging issues, challenges, and ethical considerations surrounding the integration of AI into PRP. After surveying the main ethical and related concerns raised in the literature, we focus on a notable blind spot: the absence, or at best marginal presence, of discussions on sustainability and the environmental impact of GenAI within the broader peer review ecosystem.

Our definition of sustainable publishing resonates with Antoine Fauchié's notion of permapublishing, also featured in this special issue on sustainable publishing. Drawing from permacomputing, Fauchié emphasizes durability, sobriety, and long-term viability in editorial infrastructures. His call to decouple publishing workflows from extractive infrastructures, to empower editors and researchers through minimalist, self-hosted tools, and to depreciate resource-intensive systems, aligns closely with our argument for a slower, more environmentally grounded editorial culture. As we will show, addressing sustainability in PRP and publishing is not just a technical problem, it is political and epistemological as well.

GENERATIVE AI IN PEER REVIEW PROCESSES: FUNCTIONS, RISKS AND EMERGING CONCERNS

The integration of GenAI systems into scholarly workflows is reshaping both academic communication and PRP. Louie Giray's analysis of the views of members of the 170,000-person strong Facebook group *Reviewer 2 Must Be Stopped!* is an excellent overview of both the promises and perils of automating more of academic PRP, while also proving beyond doubt that the system now is not fit for purpose (146). Since 2023 there have been more and more cases of peer reviews clumsily using AI. It is the same for paper writ-

ing. A study of peer-reviewed submissions to AI conferences in 2023 and 2024 estimates that up to 16.9% of them were "substantially modified by LLMs" (Liang et al.1). No doubt the number is growing higher, and in almost every discipline, not just AI research.

Although PRP have been historically adapted to technological change in its 300-year history (Drozdz and Ladomery 1; Tennant et al. 5), the rise of GenAI introduces a new set of opportunities and challenges, as numerous opinion articles point out (Salah et al.; Schintler et al.; Sabet et al.). These include new ethical dilemmas (Schintler et al.; Seghier), especially around citation accuracy (Mehregan) and the need for new policies that implement transparency (Mollaki).

One of AI's main benefits in PRP is improving their efficiency. A qualitative analysis of reviews of one paper, comparing human reviewers to AI peer review, found excellent quality with less time committed (Biswas et al.). Another study trained an AI peer review system on 3,300 papers and then compared its reviewing to humans on a new paper. Despite high correlations between machine and human evaluations, the research team had reservations about the quality of machine reviews (Checco et al.). From initial manuscript screening to review report drafting, AI tools are already streamlining various stages, according to a team of researchers in the Philippines who used a strategic planning tool called SWOT (Strengths, Weaknesses, Opportunities, and Threats) (Giray et al.).

Some aspects of quality assessment—such as readability checks or formatting—can reasonably be assisted or automated. AI might reduce desk rejections by flagging superficial issues (e.g., layout, graphic quality) and providing early feedback to authors without engaging reviewers unnecessarily. This could help mitigate "first impression" bias and allow reviewers to focus on scientific content (Checco et al.). AI also supports routine editorial tasks like plagiarism detection, according to a 2022 survey of 685 peer reviewers (Calamur and Ghosh). Two qualitative analyses of tools and reports agreed (Kousha and Thelwall; Jiffriya et al.).

Generative AI can assist with paper screening, integrity checks, and issue flagging, thus facilitating more focused and constructive feedback from human reviewers (Miao et al.). Mike Thelwall trained an AI model on 51 of his previously published articles and found its evaluations surprisingly aligned with his own, expressing a generally positive impression of its judgment (9). AI may also shorten review timelines (Mrowinski et al.; Farber), improve tone and clarity in reviewer comments (Verharen) and reduce workload by matching reviewers based on expertise (Kousha and Thelwall). GenAI and other algorithmic decision making, in this sense, promise to alleviate bottlenecks in editorial workflows (Björk and Solomon).

More recent developments push even further. Advances in LLMs suggest AI could support—or even replace—some complex human writing tasks. A team led by Lu Sun introduced MetaWriter, trained on five years of open peer review data, capable of highlighting "common topics in the original peer reviews, extracts key points by each reviewer, and on request, provides a preliminary draft of a meta-review that can be further edited" (1) . Similarly, as Lu Sun et alia note somewhere else, other tools like ReviewFlow, "scaffolds novices using contextual reflection cues, in-situ knowledge support, and notes-to-outline synthesis" (16). These tools can also enhance clarity and coherence in review reports (Mehta et al.; Mollaki).

However, despite these advantages, integrating GenAI into peer review raises significant concerns. Issues around bias and transparency persist (Calamur and Ghosh; Nath et al.; García). Such bias may stem from initial impressions, theoretical or ideological orientations, language choices, social identity markers, or institutional prestige (Checco et al.). Laurie A. Schintler et al. warn that while AI may "alleviate some of the problems that confront peer review today, such as long decision and publication delays", it can also compromise the ethics of AI use in peer review mainly "to matters related to plagiarism and authorship in academic journal publishing" (2). Additional risks include breaches of authorship integrity, threats to confidentiality, and a general lowering of editorial standards (Chauhan and Currie; Mensah). The speed enabled by AI tools might shortcut rigorous peer scrutiny, resulting in weaker publications (Carobene et al.).

Furthermore, GenAI systems are prone to fabricating content or references, which undermines trust in the review process (Giray et al.; Khalifa and Ibrahim). There is growing evidence that more advanced models tend to produce more errors—such as hallucinations—than earlier ones, and developers still cannot fully explain why (Metz and Weise). In scholarship, accuracy remains a fundamental ethical issue.

Additional ethical risks arise when reviewers rely too heavily on AI, potentially diminishing critical judgment. There is growing concern that human reviewers might be replaced, not just assisted. Overreliance could blur the boundaries between human and machine authorship, threatening academic originality and credibility. As Tiffany I. Leung and collaborators note in their editorial text "Authors must also be cautious of the potential for *unintentional plagiarism* [...] or overt *AI plagiarism* (the authors passing off or taking credit for the production of statements that were generated by AI). Either form of plagiarism is deemed not acceptable" (par. 8—emphases in original). Because algorithms mirror the biases of their training data, they can perpetuate historical or sociocultural distortions (Limongi). This could lead to automation bias, loss of reviewer skill, and an unintended narrowing of what gets published, reducing epistemic diversity (Giray et al.). Other major concerns include the potential homogenization of academic perspectives through excessive reliance on AI and the lack of robust tools to detect AI-generated or modified content in manuscripts and peer reviews. These issues remain central in the current debates surrounding the integration of AI into the editorial process.

PUTTING MACHINES IN A HUMAN LOOP: OVERSIGHT, INTEGRITY AND RESPONSIBILITY IN GENERATIVE AI PEER REVIEW

PRP constitute the backbone of academic research, ensuring that scholarly work is evaluated by experts before it is published (Houghton). Traditionally, peer reviewers engage deeply with manuscripts to identify flaws and provide meaningful feedback. Now, however, with AI increasingly taking over some of these tasks, reservations have emerged about the possibility that reviewers may over-

ly depend on AI outputs without adequately verifying them (Giray et al.). There are already multiple cases of individuals, some with considerable expertise, relying on flawed AI-generated content without appropriate scrutiny. It isn't just important newspapers recommending for your summer reading books that don't exist (Blair), it is also a major government report on children's health from the U.S. Department of Health full of nonexistent science (Mitchell) and a lawyer from Stanford University being paid $600 an hour as an expert, filing official court documents with hallucinated cases for the State of Minnesota in a trial about the constitutionality of legislation on deepfakes and elections (Gray, *Deepfakes*, par. 18)! This is just the beginning.

While AI holds promise, it is clear that human reviewers remain essential for preserving authenticity and intellectual integrity. For instance, Carobene et al. contend that "we must approach the integration of AI in study design with discernment, ensuring that it serves as an adjunct to, rather than a replacement for, the nuanced and innovative contributions of human intellect" (842). From this perspective, academic publishing must center human flourishing, prioritizing equitable and meaningful knowledge creation and dissemination over purely technical optimization. While AI might streamline certain editorial logistics, it cannot replicate the critical judgment and interpretive depth that reviewers bring to research assessment (Mehta et al.). This is why it is not enough just to have a human in the loop (or, as the military says, "man in the loop"). The "loop," which really means the system, has to be fundamentally human, and machines should be integrated at places where they can be helpful, but always be checked and controlled by people. If we had a scholarship system that mainly consisted of machines and humans were just looking for errors and editing what is fundamentally a machine product, we would have lost.

Except for a few proposals advocating fully automated or symmetrical hybrid models (Irfanullah; Weber; Bauchner and Rivara), most of the specialized literature supports the use of GenAI as a supplement to, not a substitute for, human oversight in peer review. Accordingly, AI should be used to support, but not replace, the expert judgment

that ensures contextual depth and epistemic responsibility in evaluation (Mollaki; Perry). In short, while GenAI can offer meaningful assistance, human reviewers remain indispensable for maintaining academic rigour. The prevailing consensus calls for human-centered oversight of AI-enhanced peer review, treating AI as a tool or assistant, not a substitute, for human evaluators (Giray et al.; Sabet et al.; Carobene et al.; Seghier).

From this perspective, AI tools should be limited to narrowly defined tasks in which they offer clear benefits: automating manuscript triage, flagging technical or ethical issues (e.g., plagiarism, data anomalies), suggesting reviewer matches, summarizing manuscript content, or assisting in drafting and refining reviewer feedback (Schintler et al.; Seghier; Giray; Carobene et al.; Checco et al.; Thelwall; Miao et al.). Furthermore, these tools must be subject to rigorous testing for accuracy and reliability (Kankanhalli). Regular audits and performance assessments are necessary to ensure compliance with ethical standards and to detect potential biases or harm (Mensah; Addy et al.). Crucially, this approach also emphasizes the need to develop ethical frameworks and regulatory policies that are transparent, detailed, and responsive to the rapidly evolving nature of AI technologies in peer review (Mollaki; García; Ling and Yan).

FROM AUTHORSHIP TO ACCOUNTABILITY: ETHICAL FRONTIERS IN AI PEER REVIEW

As AI continues to advance and permeate various domains of society, addressing its ethical implications becomes increasingly urgent. In the context of GenAI-assisted peer review, issues of accountability and transparency lie at the heart of current debates (Kousha and Thelwall; Chen et al.; Limongi). It is essential to critically examine the legitimacy of AI-assisted peer review, assessing its potential benefits and pitfalls in light of broader epistemic, social, and ethical concerns (Schintler et al.). Accountability is fundamental to ensuring that individuals and institutions are responsible for the ethical use of AI. This involves creating clear guidelines for AI in academic publishing, as well as mechanisms for monitoring and

enforcement, which is not only a question of punishment, but also restitution and remediation, if possible. AI agents provide new tools for monitoring and quality control, they also introduce novel uncertainties around responsibility and governance. As Ricardo Limongi notes "the role of artificial intelligence agents offers new tools for monitoring and quality assurance but raises additional questions about accountability and control (3) (see also Stahl and Eke).

As concerns around legitimacy intensify, an increasing number of publication guidelines now treat holding the relevant humans accountable as a core criterion for authorship (Schintler et al.). The notion of AI authorship does not cause the responsibility of actual people to disappear. If an AI tool produces flawed or inaccurate content, how can it be held responsible? And if human authors do not fully understand how the system generated the result, can they? Yes, they can. You don't need to know how a tool or weapon works to misuse it. To hold otherwise threatens foundational scientific values like transparency and epistemic responsibility (Texeira da Silva). Nath et al. assert "[Y]et LLMs cannot take responsibility for their errors and transgressions, nor are they ever accountable for the integrity of a given work" (11). It is a question of agency.

Initially, most scientific journals and editors firmly opposed the integration of AI into the scholarship production (Stokel-Walker; Balat and Bahsi). For instance, the International Conference on Machine Learning (ICML) banned submissions with AI-generated scientific content (Vincent). However, this resistance was short-lived. Within two years, major academic publishers shifted toward permitting the inclusion of AI-generated text and visuals, provided that such usage is clearly disclosed and explained (Grove). Current guidelines now recommend that authors and reviewers disclose chatbot contributions and their extent (Miao et al.; Zielinski et al.).

As Vasiliki Mollaki notes, publishers must urgently develop and enforce policies on the ethical use of GenAI (248). These should be transparent, detailed, and actionable, especially for cases where a reviewer uses AI tools without proper disclosure. When such tools are introduced into reviewing processes, it becomes critical to enable

transparency and accountability about automated decision processes, offering explanations and guidelines for their appropriate use. Furthermore, given the fast-evolving nature of this technology, existing standards require constant reevaluation and adaptation. Journals and academic institutions must therefore define clear criteria for when and how AI should be disclosed by both authors and reviewers (Limongi; Raman). For instance, authors should report AI contributions to text, visuals, or analysis, and reviewers should indicate if they used AI to edit, phrase, or draft their evaluations. Disclosing technical limitations is also crucial for building trust (Giray et al.; Seghier; Miao et al.). Absent consistent regulation, GenAI will become yet another source of criticism in an already contested peer review system, known for delays, inefficiency, and perceived bias, as well as its limited capacity to prevent fraud and misconduct (Castelo-Branco; Manchikanti et al.; Tennant et al.).

AI's role in PRP also prompts higher-order philosophical questions: can a machine truly reason, evaluate, or exercise judgment like a human researcher? Laurie A. Schintler et al. argue that listing AI as authors or reviewers threatens accountability and responsibility in publishing, an issue aligned with the dominant human-centred perspective on ethical PRP (11).

Nevertheless, there are alternative viewpoints that call for collaboration, integration, and even partial delegation of reviewer tasks to AI. These ideas have historical roots in the exploration of future avenues for peer review presented nearly a decade ago in the foundational paper "A multi-disciplinary perspective on emergent and future innovations in peer review" by Tennant and a large team of co-authors (35). Although it does not explicitly address artificial intelligence or automation, Susan Haack's work on peer review provides a valuable framework for reflecting on how emerging technologies might help mitigate some of the problems she identifies—for instance, by reducing biases or broadening the diversity of voices in the editorial process (800). More recent contributions, such as those by Howard Bauchner and Frederick P. Rivara, frame AI as an unavoidable horizon for scholarly publishing, arguing that "rather than avoiding AI, editors should embrace it" (2). Likewise, Ron Weber introduces the

term "'RoboReviewer'" to propose that an AI system could be developed and be able to "undertake high-quality reviews of papers" (87). Today, some experts predict that human-led PRP may soon be replaced altogether. Driven by time pressures and productivity/profitability demands, the academic publishing system is starting to entertain models of fully automated, AI-driven peer review exemplifies a wider faith in technological solutionism, the notion that technology can "solve" complex societal problems by collapsing them into mere engineering challenges.

Critics argue, however, that the current peer review system is already inequitable and unsustainable (Irfanullah; Wynne and Kolachalama; Parrish). Haseeb Irfanullah highlights the structural exploitation of unpaid, invisible academic labor by profit-driven publishers (par. 6). PRP, he points out, rely heavily on professional goodwill, "'good karma', and disproportionately burden scholars in under-resourced regions, exacerbating burnout in the process (par. 4). The problem has been further intensified by the promotion of open access by many public administrations, which have been co-opted by the profit-driven logics of major publishers. In turn, those publishers have leveraged the interactions between digitalization and open access to anchor "platformization business models" within the global movement to provide society with access to scientific publications—and therefore, to knowledge. Transformative agreements often perpetuate this model, masking the political economy underlying behind PRP (Tabarés, 154). These critiques point toward the need to imagine radically different infrastructures.

Megan DeWitt, in this special issue, explores how *The Otter*, a publication of the Network in Canadian History and Environment, challenges dominant academic publishing norms. With an ethos centered on care, accessibility, and community, the platform embraces contributions from academics, students, independent researchers, and activists alike. Its editorial practices intentionally move away from hierarchical gatekeeping, encouraging relational writing, reflexivity, and interdisciplinary collaboration. In this way, *The Otter* models what an environmentally and socially sustainable approach to knowledge circulation might look like, one that redistributes author-

ity and redefines academic legitimacy. In a complementary register, the FEELed Lab's contribution, "Using Research Blogs," makes the case for blog-based publication as a site of ethical resistance. Emphasizing process over product and relationality over prestige, the authors frame blogging as a way to reorient research around accessibility, care, and collective meaning-making, particularly within student and community-engaged contexts.

This imbalance between contribution and reward undermines both the fairness and functionality of the review process. As a response, Irfanullah proposes a fully AI-automated peer review system, not just as a technical solution, but as an ethical corrective to a broken publishing model that extracts value from the many while rewarding only a few. But that is wildly optimistic about how well such systems can perform. As many have shown, especially in critiques of military AI (Gray, *AI*, 126), GenAI or any other AI is just not up to doing any important tasks on its own. There must be a better way.

BEYOND TECHNOLOGICAL SOLUTIONISM AND LIBERAL GENERATIVE AI FRAMEWORKS: REVISITING THE OPEN SCIENCE MOVEMENT

Scholarship depends on openness, but pursuing profits and power leads to secrecy. The creation of scientific journals and professional associations with enforced standards of transparency shaped the science, and other scholarship, of today. Still, military and proprietary (for profit) research dominates many emerging technologies, such as AI. Today's Open Science Movement (OSM) has articulated a set of interrelated principles including open scientific knowledge, open dialogue with other knowledge systems, open engagement of societal actors, and an open science infrastructure (Wakiaik and Betz; Gong).

Although existing norms in scientific research aim to preserve its ethics, integrity and quality, these may fall short in addressing the unique challenges posed by GenAI. For example, traditional data governance protocols do not adequately handle the scale of big data processed by AI, especially when dealing with personal or sensitive

data (Chen et al.). A machine's capacity to learn, infer, and generate knowledge challenges long-standing ideas of authorship and credibility. As such, research integrity, traditionally rooted in accuracy, honesty, and transparency, faces a new test. Ethics is no longer a complement to AI research but an academic necessity (Limongi).

The integration of AI into content generation introduces complex dilemmas around authorship and contribution (Koo). Differentiating human intellectual labor from AI-generated material raises questions of intellectual property, especially when multiple users reuse AI outputs for publication or commercial ends. Moreover, AI-generated content may closely resemble existing works, leading to potential copyright disputes. As GenAI expands into domains such as the PRP, it becomes imperative to establish clear and coherent guidelines that address the multifaceted legal and ethical aspects of intellectual property, fair use, and attribution (Chen et al.). Here OSM becomes a counterpoint: with its emphasis on collective stewardship of knowledge, open data governance, and equitable attribution, OSM provides a framework to rethink how intellectual property and reuse should function in the age of AI. At the same time, OSM faces its own tensions when openness collides with privacy, consent, and the risks of extractive big data practices.

Pathways toward the ethical integration of AI in research will require enhanced collaboration, transparency and accountability. According to Giray, effective use of AI in PRP should promote transparency, uphold ethical standards, protect privacy, ensure quality assurance, and support ongoing reviewer development (150). Many of these goals resonate with the foundational principles of the OSM, including the adoption of open-source GenAI models as an ethical avenue for scientific progress (González-Esteban and Patrici).

In this context, the OSM has, over time, established a foundational framework—both in terms of infrastructure and terminology—that supports the responsible development and application of GenAI in research. The adoption of GenAI models that align with open science values, such as the transparent disclosure of training data sources, would represent a meaningful step toward encouraging model cre-

ators to engage more substantively with open science principles (Hosseini et al.). Nonetheless, the prevalence of commercial models—often closed-source and resource-intensive developments—poses significant challenges to the incorporation of these tools into open science workflows. However, the phenomenon of "openwashing" complicates the genuine implementation of openness, as many AI models are marketed as open but remain functionally closed, withholding critical components such as datasets, model weights, or documentation.

The OSM originated in the 17th century alongside the emergence of scientific journals, when public demand for access to knowledge compelled scientific communities to share resources (Machado). At its core, the movement emerged from a conflict between researchers seeking collaborative access to knowledge and institutions seeking profit through control of access (David). In terms of research assessment, OSM promotes open identities, open reports and open participation as key alternatives to traditional peer review. Journals that align with open science often adopt customized combinations of these practices based on their editorial aims. This flexibility allows for a more nuanced peer review processes—one that balances openness with scholarly rigour, bias mitigation, and accountability. Aligned with this ethos, Andreas Finke and Thomas Hensel propose a decentralized, community-based peer review model governed by smart contracts and blockchains, aiming to improve transparency, speed and quality (2). Limongi also suggests that participatory models and open-source AI systems can ensure a fairer and more responsible integration of AI into scientific work (8-9). More broadly, open science and its core practices—open data, open access, and open peer review—could offer one of the most robust antidotes to the ethical and editorial risks of GenAI in PRP.

Under current conditions, the OSM can offer not only an ethical corrective but also a sustainability-oriented framework for hybrid AI publishing models. Reconsidering OSM's relevance is not incompatible with developing regulatory frameworks for AI in academic publishing. In fact, it may provide an opportunity to reshape ethical stan-

dards and rethink regulation for a transformed scholarly communication landscape.

From the standpoint of "intelligent governance," scholars like Pompeu Casanovas propose an AI that helps design an ethically responsible version of itself, capable of responding to the profound social implications of GenAI (15). Yet there are different challenges that neither the technological push nor humanistic or ethical approaches can solve by themselves. In particular, significant problems are still not being addressed in the extractive and exploitative nature of the peer review processes under platform logics and the "AI imperative." We need to reconsider the use and adoption of AI into the peer review processes and to reflect on the sustainability of current platform business models anchored by the small number of giant for-profit academic publishers who dominate and gatekeep so much human knowledge.

EDITORIAL ACCELERATION AND ITS DISCONTENTS: THE UN/SUSTAINABLE LEGACY OF AI SOLUTIONISM

In an increasingly accelerated world, where urgency defines productivity and velocity eclipses reflection, the publishing industry and the economic logic underpinning scholarly production and impact markets have long embraced the consequences of such pace. This is especially evident in the well-established business of paying to publish in high-impact journals through mechanisms such as publication fees and article processing charges (APCs), which finance open-access publication models. The peak expression of this commodification is found in the proliferation of hijacked and explicitly predatory journals.

Despite the flurry of recent discussions around GenAI-assisted peer review, most conversations remain anchored in technical logistics, questions of oversight and transparency, or proposals for regulatory frameworks aimed at restoring confidence in the system. Engaging with this literature has allowed us to critically reflect on the material conditions that make GenAI publishing possible and the broader discourse surrounding the future of peer review. It has also helped

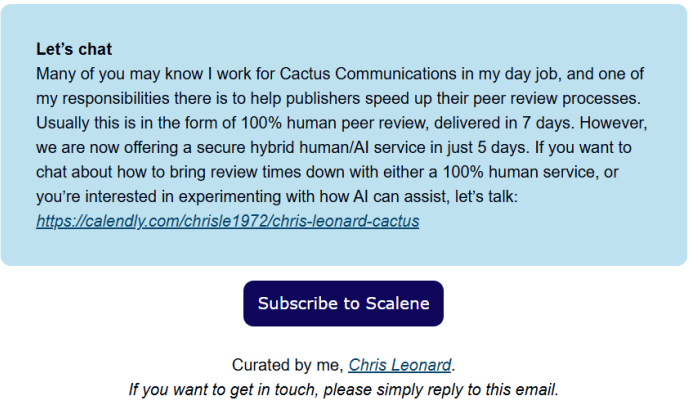

Figure 1: "Let's chat … we are now offering a secure hybrid human/AI service in just 5 days." Chris Leonard, Scalene 36: We are 1! / REMOR / SIFT, 2025.

frame the editorial ecosystem's obsession with speed, efficiency, and shorter decision making cycles. Figure 1 illustrates the growing push for accelerated review models—often marketed as hybrid human/AI services completed in as little as five days.

This drive for ever-faster publishing aligns with the logics of accelerationism, a techno-political stance that sees technological and economic intensification as a catalyst for systemic transformation (Mardones). Two main currents can be distinguished: left accelerationism, which advocates using technology to transcend capitalism through automation and redistribution (Avanessian and Reis); and right accelerationism, which promotes unchecked capitalist expansion, believing acceleration will bring inevitable change (Land, *Noumena*; *Teleoplexia*). Critics argue that all forms of accelerationism worsen inequality and hasten planetary ecological collapse (Noys; Arias Gil).

The peer review ecosystem, where GenAI-powered processes are perhaps its most visible accelerationist artifact, exists within this broader ideological terrain. In tandem, many ethical discussions surrounding AI in peer review rely on technological solutionism and disciplinary frameworks that often eclipse deeper issues of sustain-

ability. This fixation on protecting the "human factor" or enhancing transparency risks obscuring the deeper flaws of the peer review system itself—flaws that long predate AI. While AI indeed poses ethical and social risks, including undermining integrity and trust, human-led peer review also suffers from longstanding problems such as bias, exploitation, opacity, and inequity (Resnick and Elmore; Schintler et al.; Tennant and Ross-Hellauer).

Moreover, the ethics discourse surrounding GenAI may be complicit in whitewashing other urgent problems, particularly the environmental costs of deploying AI at scale in peer review. Although the carbon footprint of AI models is occasionally mentioned, most literature on GenAI and PRP does not meaningfully engage with the environmental consequences of using LLMs in editorial workflows. As reiterated throughout this paper, dominant concerns remain limited to efficiency, bias, and workflow optimization, with little attention paid to sustainability. Thus, we argue that the current AI boom in academic publishing—driven by accelerationist logics, technological solutionism and ethical minimalism—obscures both the flaws of the peer review system and the ecological footprint of AI integration.

These tendencies converge in a form of greenwashing aligned with the extractivist logic of green capitalism, in which environmental goals are superficially reconciled with capital accumulation. Green capitalism posits that growth can continue without ecological degradation, provided that sufficient technological and market-based solutions are implemented. The broader "green economy" similarly claims to balance economic development with sustainability and social justice.

Developing and operating even beneficial AI models, extensive deep learning systems, requires substantial computing power and energy. Training advanced models can consume hundreds or even thousands of graphics processing unit hours, resulting in significant electricity usage and considerable carbon dioxide emissions contributing to climate change.

Moreover, many commercial AI models are proprietary and lack transparency, making it difficult to fully evaluate their environmen-

tal impact and creating challenges for sustainability efforts. For instance, Patterson and his coauthors estimated that training GPT-3, a language model with 175 billion parameters, generated approximately 552 tons of carbon dioxide equivalent (CO_2eq) (7). They compared this to the emissions of a round-trip flight between San Francisco and New York, noting that GPT-3's training emissions were roughly three times higher (13).

In response to these challenges, various tools have been developed to help quantify and address the environmental impact of AI systems. Resources such as the *Machine Learning Emissions Calculator* (Lacoste et al.) and *CodeCarbon* (CodeCarbon) aim to raise awareness of AI's ecological footprint. Alongside newer AI-based benchmarking systems, these tools assist researchers and institutions in tracking and mitigating carbon emissions—despite the paradox that AI is being used to monitor the damage it helps generate.

Beyond technical solutions, a collective intervention proposed by Carrie Karsgaard and colleagues—also included in this special issue—offers a more systemic response. Their piece, "The Pedagogy of Manifesto Making" puts forward a *Decarbonizing Manifesto* that invites us to rethink the carbon-intensive infrastructure of scholarly publishing. Written as a form of situated and relational pedagogy, the manifesto challenges extractivist production models, prestige-driven evaluation, and hypermobility. Instead, it promotes care, slowness, and institutional responsibility as cornerstones of sustainable academic practice. Their proposal resonates strongly with the ethical and ecological imperatives addressed throughout this issue.

And if care is not taken, these responses risk reproducing a Green AI narrative—a subdomain that promises sustainable AI by promoting measurement, tuning, and optimization, without challenging underlying extractivist assumptions (Tomlinson et al.; Verdecchia et al.). Recent research calls for standardized protocols to quantify the climate impact of AI models and to prioritize sustainability in AI ethics frameworks (Iqbal et al.). Ultimately, unless sustainability becomes a central axis in both peer review reform and AI integration, we risk

replacing one flawed system with another, which is more opaque, extractive, and unsustainable than before.

As scholars in the precariat, working for free to make knowledge more democratic and more helpful to humanity's quest for a just and sustainable world, we understand that sustainability is about more than publishing protocols or even the crucial issue of energy use and climate change. It is about us. We must learn to sustain our work, to have sustainable activism, as Laurence Cox explains in his powerful overview and defense of this concept. He points out that as we burn out, so burns the world (530). There are some good theories (Suzuki; Ede; Boggs and Kurashige) and wonderful practices that have helped us survive and even thrive. Our participation outside of scholarship in mass social movements, for example, has not just taught us a great deal, it has sustained us just as working on *Teknokultura* sustains us, making our choice to be scholars something we can live with.

Grace Lee Boggs was a Chinese American activist who worked for peace until her death at 95. Famous for supporting the Detroit Black Power movement, pioneering sustainable agriculture, and always working to end war, she kept a positive spirit by always remembering that we work for a better world, not just against the evil in this one. Every crisis is an opportunity, and scholarly publishing is certainly in crisis. As Grace Lee Boggs and Scott Kurashige discuss revolution and sustainable activism:

> "Every crisis, actual or impending, needs to be viewed as an opportunity to bring about profound changes in our society. Going beyond protest organizing, visionary organizing begins by creating images and stories of the future that help us imagine and create alternatives to the existing system" (xxi).

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IMAGE NOTES

Figure 1: Leonard, Chris. "Let's chat", Scalene 36: We are 1! / REMOR / SIFT, 2025, scalene-peer-review.beehiiv.com/p/scalene-36-we-are-1-remor-sift.

PUBLISHING THOUGHTS FROM THE BED SORBONNE: TOWARD A CRIP PUBLISHING MANIFESTX

ELA PRZYBYŁO

In this piece I draw on my experiences as a neuroqueer editor of the peer-reviewed, intersectional, and intermedia independent journal *Feral Feminisms* and on disability justice to hone a short manifestx on crip publishing. While peer-reviewed journals often demand free, invisible, and feminized labor along with high-speed efficiency, I imagine crip approaches to publishing as necessitating such principles as slowness, anti-fascism, recognition, care, failure, multiple mediums for knowledge-making, and community building. The piece begins with a reflection from the "Bed Sorbonne" or academic's bed office, and moves into a consideration of how thinking sustainable publishing with lichen can enliven our publishing praxes. Finally, I outline the nine part manifestx as a starting point for imagining crip informed publication models. The hybrid and art-based piece engages with the theme of *sustainable publishing* by thinking about how to make publishing sustainable—as in doable, feasible, possible, limitless— both for crip authors/creators and crip journal editors.

I. FLOOFY BED THINKING

Close your eyes and imagine you are cozy on or in your bed, surrounded by plush pillows in the texture you find most soothing, and covered by your favourite blanket, exactly the perfect fabric and weight. The bed is warm and comforting, it supports your back in the best ways possible. You feel held and might fall asleep, or you might listen to music, or pet the cat. But the bed is not always the perfect place, and for people with disabilities it can be a place of conflicting feelings, not always associated with rest, or play, but also with pain, trauma, immobility, and missing out (*Bed Zine* 2021; Clarke and Przybyło 2026; Khanmalek and Restrepo Rhodes 2020). Over the years I have spent more and more time in bed, often working from my bed in what Leah Lakshmi Piepzna-

Samarsinha refers to as the "bed cave" (2018), and what my mother has called my "Bed Sorbonne" (see fig. 1). In 2012 I, along with two friends, founded an independent feminist journal called *Feral Feminisms,* which I still edit and manage, and over the years I must say that most of the work on the issues, and especially the production work which falls into my hands due to my background in graphic design, has been done from my bed. I am not suggesting the bed is the ideal place for work, and in some ways it might be the worst in the sense that it turns a sacred site of rest into one of productivity. And yet the fact remains that for better or worse *Feral Feminisms* is a bed-based production. This bed-based nature of the journal's creation has gotten me thinking lately, what would a bed-based theory of publishing look like?

Academic publishing is renowned for its brutal and toxic nature, especially but certainly not solely towards authors. In this sense it is the opposite of the cozy bed. Let's follow the metaphor. Oh, you'd like to lay in a cozy bed with pillows behind your back? Well, reviewer #2 would like you to hop around the bed instead. No, hop high-

Figure 1: Ela Przybyło, "The Bed Sorbonne," digital photograph, 2023.

er please. No, actually, hop over the bed. What's that you say, you are proud of the texture of the piece? Well, through the peer review process we have ascertained that the texture is not the right one for the type of scholarship you purport to do. I see that you are proposing to collaborate on this with someone else on the bed or in another bed? Well, that's possible, of course, but you must rank each of your importance for the piece and, by the way, all except the first person are unlikely to be cited at all. I could go on, and this, of course, is all from the author's perspective. We could extend the bed metaphor to think about the politics of publishing teams, the feminized unpaid labour of most editors, the ranking of publications, the free labour of peer reviewers, and even—conversely—the disrespect that can be shown by authors to those seen as service workers in the publishing profession (copyeditors, production people, etc.). Feminists writing about publishing have drawn attention to these and other concerns about the publishing process—a process that can tend to be pretty unfeminist. About 13 years of working on an independent journal have given me first-hand experience of a lot of these mechanics as well as of the need to study publishing as a site of knowledge-making in the first place.

In this short piece, I want to cozy up to a bed-informed, that is to say disability justice informed, approach to feminist publishing. What would a plush, lush, and floofy approach to the publishing process look and feel like for *all involved*? How could we make publishing feel more like a favourite blanket, which is not to say that it needs to lose its rigor or integrity. How could we imagine what softer approaches to publishing might bring forth, how they might yield not only a different way of doing publishing but also different published outcomes—that is, different research altogether? Audre Lorde, in "Uses of the Erotic," wrote that "the celebration of the erotic" is "a longed for bed which [one] enter[s] gratefully and from which [one] rise[s] up empowered" (55). How, then, could feminist publishing act as more of that celebration of the erotic that Lorde is known for—indeed, more like a bed?

II. LICHEN BED THINKING

While peer-reviewed journals often demand free, invisible, and feminized labour as well as high-speed efficiency, I imagine crip approaches to publishing as necessitating slowness, multiple mediums for knowledge-making, and community building. Although this might not seem to be immediately about sustainability, in many ways it is. As both research and public knowledge projects in the Environmental Humanities, such as the "For the Wild" podcast have shown, nature has much to teach us about process, and we would do well to model the *how* of how we do both publishing and sustainability on more nature-bound rhythms. Take for example photographer Laurie Palmer's recent work on lichens. In *The Lichen Museum* (2023) and shorter corresponding pieces, Palmer invites us to think with lichen through developing an alternate set of modalities that compel us to bow down, wait, open, refuse, and collectivize. For example, in "5 Tips On How To Live Like a Lichen" (2023), she writes: "Bring your face, your heart, your hands, your belly, down, down, close to the ground—to the rock of the world, the dirt, duff, sand. […] Draw close. *From this horizontal perspective,* everything is more" (n.p., italics mine). Her filtration of lichen's lessons are multitudinous but include remaining attentive to details, reorienting ourselves to mattering, lingering, listening, being alert to the space we take up, reassessing understandings of productive time, being vulnerable, resisting cultivation, and building symbioses. A wonderful set of manifestations both for our time and for publishing specifically, wouldn't you say?

Lichen can function as a bed for publishing thinking in other ways as well. In "Sensing Lichens," Jennifer Gabrys discusses how lichens function as "bioindicators," signaling environmental events and reading pollution levels, and have been harnessed to monitor air and soil quality. In this sense, a licheny bed might function as a metaphor for the state of publishing too, assessing the extent to which a publishing environment or academic structure is corrupt, or warning of incoming interpersonal toxicity. Taking the metaphor further yet, lichen are composite organisms, fungal and cyanobacterial, living in sym-

biosis and in relation to plants and animals. In this sense, lichen can also function as a model for the ideal journal bedding, the aspired-to feminist project of knowledge crafting, where many bodyminds come together as a greater whole. Thinking crip publishing with lichen requires, in Donna Haraway's words, "making oddkin […] unexpected collaborations and combinations" (4), challenging "bounded individualism," and developing "sympoiesis" (a making-with) (5). Yet, lichen, as pointed out, resist cultivation, requiring certain conditions to flourish rather than simple implantation. In other words, publishing-making like the worldmaking of lichens is sensitive to environments, relationalities, and conditions of creation. In this sense, lichens remind us that, as Anna Lowenhaupt Tsing puts it, "staying alive […] requires livable collaborations" and that the same is true for sustainable publishing (28).

In this piece, I draw on my experiences as a neuroqueer editor of the peer-reviewed, intersectional, and intermedia independent journal *Feral Feminisms* and on disability justice to hone a short manifestx on crip publishing ethics. The art of attention and slowness that Palmer draws forth and that lichens evoke, alongside a disability justice approach to publishing is, I stipulate, one that refuses individual understandings of authorship, builds with others (across and with tensions), embraces slowness at all costs (including amidst pressure from authors to speed up!), and opens up to what Natalie Loveless (2019) has termed "polydisciplinamory" (59), or a robust interdisciplinarity rooted in the erotic and in a refusal to be disciplined by disciplines. This hybrid and art-based piece thus engages with the theme of *sustainable publishing* by thinking about how to make publishing sustainable—as in doable, feasible, possible—for crip authors/creators *and* crip journal editors, *as well as* for everyone else involved in the process as "journal makers" and "journal workers"—terms I see as mutually substitutional.

To craft the manifestx that will follow, I draw especially on my support-role work (dare I say care work?) with a recent double special issue of *Feral Feminisms*, titled *Excess,* guest edited by Andi Schwartz and Shayda Kafai on Mad, queer, and femme abundance (2024). The journal issue curated the work of many Mad and disabled artists and

authors. While it might be unfair of me to say, one of my favourite pieces was authored by Cynthia Ling Lee, a dancer and choreographer (2024). Lee explores the medium of cards with watercolor artwork and self-care messages sent to friends during the pandemic (which she crafted in dialogue with each friend, specific to their needs) as its own form of knowledge-making. This "ongoing social practice mail art project that centers art as (feminized) care work, informed by [her] perspective as a chronically ill queer artist of color" (96), in many ways draws on some of the lichen principles Palmer depicts, namely slowness and attentiveness. Importantly, Lee's artwork is committed to "an alternate network of community care" that is critical of "capitalism's excesses, especially its harmful ableist demands to overwork and overproduce at the cost of our bodyminds" (96).

While working on the invisible production end of things for the issue, Lee's piece stayed with me, subtly in the background of my mind, as I undertook the intense work of producing a journal issue, which includes copyediting (our lead copyeditor had left the journal and I took over to "save" on time), the design, the coordinating of contracts, generating proofs, corresponding with authors, uploading content online, creating accessibility text, and so forth. Not long after reading Lee's piece (or maybe it was long after—time sometimes becomes tangled in the blankets of the Bed Sorbonne), I read two other thinkers who centre cards as forms of knowledge-making—Tricia Hersey (2023) and Mimi Khúc (2023). Hersey's work on her Nap Ministry project advocates for rest as a form of resistance for Black people and other communities historically denied the right to rest (2022). Khúc's *dear elia: Letters from the Asian American Abyss* (2023) considers how unwellness is manufactured at the university with specific attention to how it harms Asian American students and university workers. While Hersey develops nap cards in one of her pieces, Khúc features in her book a collaboratively developed set of tarot cards. Lee, Hersey, and Khúc's work, all to various extents disability and justice informed, and drawing on a unique medium of publishing—a set of cards—soon became a sort of trinity for me for thinking about

slowness, rest, and crip forms of knowledge creation, and it is one that infuses this piece in both evident and implicit ways.

In what follows, I undertake initial thoughts on a crip publishing manifestx, inspired and propelled by the work I mention above, and in particular by disability studies, Lee (2024), Hersey (2022, 2023), and Khúc (2023), and Palmer's lichen meditations (2023). My goal is to continue the conversation already developed by feminist publishing studies scholarship (i.e., Eichhorn and Milne 2016 ; Gilley 2017; Jordan and Meagher 2018; McLaughlin 2014; Murray 2004; Przybylo 2019; Verhaeghe, Przybylo, Patel 2018) about the limits of academic publishing for how it can serve creators, authors, and journal makers, and an attention to the processes and "mundane realities" of knowledge-making and feminist publishing (Tanselle, quoted in Gilley 142). Drawing on the medium of a manifestx (in its gender expansive formulation, or manifesto or manifesta) is strategic because it allows for emotions, big claims, and commitments other forms of writing do not easily afford (Fahs 2020). Crip manifestos, understood in the broadest sense possible, have their own lineage, and include such beautiful pieces of scholarship as Mia Mingus's statement on "Access Intimacy: The Missing Link" (2011), Aimi Hamraie and Kelly Fritsch's "Crip Technoscience Manifesto" (2019), Johanna Hedva's "Sick Woman Theory" (2020), Mel Chen, Mimi Khúc, and Jina B. Kim's "Work Will Not Save Us: An Asian American Crip Manifesto" (2023), and many others. I think that shorter, punchier mediums such as manifestas, can facilitate writing for those of us who are chronically ill, disabled, and/or burned out while drawing on a revolutionary energy often propelled by rage. It is in line with these affordances of the medium that I pursue this piece in manifestx form. Rather than a complete statement, my manifestx thoughts are intended as an opening up, something that can be built on and developed, both by myself and others. Likewise, there is no one crip publishing manifestx and the manifestx need not always take the same form; it is rather shifting, context-dependent, and need and care driven. Toward those goals, I invite other journals, cultural producers, and authors to design their own publishing manifestos.

III. A CRIP PUBLISHING MANIFESTX

1. **The wall is not going to protect you.** Whatever wall you have in mind, it is the wall I am referring to. A wall, whether a physical wall of border imperialism or a pay wall of academic imperialism, will not protect you, or me, or anyone except for those making money off of it. Walls run as gashes along the earth's skin, dividing connected lands and entwined lives. Academic paywalls sever knowledge-producers from those who want to learn from them, from the people. A crip approach to publishing is necessarily suspicious of walls, developing independent publishing models, feminist approaches to open access, and other modes of critique, and wields a hammer of one form or another to take walls down.

2. **Stay feral.** It's a scary time for feminist publishing. At *Feral Feminisms* we have had to anonymize some of our contributors for fear that their pro-Palestinian content would attract government attention and lead to deportation, as is currently underway in the United States. Feminist publishing must remain feral because, in the words of Mona Eltahawy (2025), "Fascism is not polite. Fascism is not civil. Fascism cares little for decorum […] Fuck fascism" (n.p.). A crip approach to publishing must fuck fascism, must remain—as U.S. Congresswoman Jasmine Crockett's t-shirt indicated, drawing on a slogan by Shirley Chisholm, the first Black woman in U.S. Congress and a key feminist of the women's liberation movement in the U.S. — "unbought and unbossed" (Eltahawy 2025). For publishing to be crip—to model crip ways of being and be for crip people—it must likewise be unbought and unbossed. This beautifully dialogues with one of Cynthia Ling Lee's (2024) crip cards that reads, "no one is the BOSS of princess" with "princess" being the nickname Lee's correspondent assigns to her crip body. Similarly, no one is the boss of feminist and crip publishing.

3. **Do not trust your university.** Academic journal publishing is about a lot of things. It can build community, share bold and important ideas, and teach us to think in anti-authoritarian ways.

And yet so much of academic publishing is a toppling tower of free, unpaid, or underpaid labour. Authors labour *for free* to publish their pieces (despite the insistence that their work is compensated by the university, everyone knows that most of our time at universities is spent in teaching and service). Peer reviewers labour *for free* while bringing in money for journals, owned by conglomerates, that then sell their published goods at high cost to libraries. And very often, editors and support staff at journals labour *for free*. Why do we all do it? We do it all in service of the author who does it all in service of yes, their research, but also their university and career—having a chance at dwindling tenure track jobs, having a shot at often corrupt tenure review processes, fighting for meagre merit raises, pursuing rewards in an environment of utmost fiscal and emotional scarcity. A central principle of a crip feminist publishing ethics is thus that we must stop trusting our universities, we must become anti-work in ways that acknowledge gendered, racialized, classed, and abled abilities and inabilities to opt out, as Mel Chen, Mimi Khúc, and Jina B. Kim explore in "Work Will Not Save Us: An Asian American Crip Manifesto" (2023).

4. **Protect your spoonage, no one else will.** In 2003 Christine Miserandino put forward the metaphor of spoons as an effective means for chronically ill folks to explain to able-bodied people how it is that they might be tired, burnt out, or out of energy. The metaphor of having limited spoons to go around for each of life's daily activities demonstrates that a chronically ill person might have enough spoons to go to work, but then not enough to also be social after work, or enough spoons to undertake three tasks, but not four, and certainly not five. Once one's personal supply of spoons runs out for the day, that is it. Spoonage protection is a core principle of crip publishing. Editors, journal staff, as well as reviewers, need to protect their spoonage. Despite pressure (often artificial!) to move quickly and be *highly productive!*, the pressure to do more and be more are not worth the toll this takes on chronically ill bodyminds. Journal makers especially must protect their spoonage as artificial pressure is created to get them to pub-

lish other people's work. Unfortunately, limited spoon holders also bear the additional burden of having to manage our limited spoons and to protect them at all costs in the face of institutions that might be only too willing to give us more and more commitments without creating conditions for the spoons to match them.

5. **Go slow.** Going slowly is perhaps the key component of crip publishing. Publishing schedules are not necessarily ableist, as they can provide guidance and accountability, but in many ways tight publishing schedules function against the access needs of both journal workers/creators and authors. Slowness and crip temporalities more generally have emerged as a key component of crip theory and praxis, from Alison Kafer's theorization of crip time and crip future (2013), to Ellen Samuels's reflection on crip time (2017), to disability memoirs such as *The Sound of a Wild Snail Eating* by Elisabeth Tova Bailey (2010), which reflect on the temporalities of disability. A crip publishing ethics that goes slowly isn't only about a slow pace, it is also about refusing linearity when it doesn't make sense, allowing for the contraction and expansion of timed schedules as needed by all parties including, importantly, journal workers, and for circularity, looping, and iteration. A slow approach to publishing does not create and adhere to artificial timescapes and it does not place a published product above the needs of creators—including journal makers *as creators*. As Palmer writes of lichen, "Before doing, before speaking, before leaving. Linger. What happens when you listen, or let another lead? […] Crustose lichens grow less than a centimeter a year, and live all sorts of lifetimes, some up to 10,000 years. Find possibility in deceleration. There is no rush." (2023, n.p.).

6. **Express recognition and care.** This one is directed at authors. Authors: So much of journal publishing requires invisible, assumed, and expected labour. On some level you know this because authors are also often journal makers and editors and vice versa. Yet the often traumatizing process of academic publishing makes authors put their guard up so that as authors we assume that the other party will somehow hurt our published product

(which can and does happen!). While errors do of course happen, journal workers are nonetheless providing huge amounts of labour to make an author's piece published and publishable. While it is sometimes common to thank peer reviewers in an article's acknowledgments section, if it very rare for journal maker's work to be recognized, formally or informally, in a published piece. Some might assume that the work of journal production and copyediting is less creative, knowledge-driven, or essential to publishing an article than, say, the work of a guest editor or author; I would dispute this claim. Without a visual presence, whether physical or online, a published piece would not attract audiences. Without a solid round of copyediting, an author's errors, including such things as embarrassing misspellings of other scholars' names, would be visible for all to see. Without journal makers who create proofs, articles would be little less than unpolished Word documents with tracked changes. You see, the work of journal makers is creative and absolutely essential to knowledge-making, and a crip approach to publishing invites it to be recognized, honoured, and celebrated. I am a published academic with a decade-long career of publishing on both ends, as an author and a founding editor of a journal, yet on more occasions than I can count, authors have, while corresponding with me about their in-press piece, "put me in my place" when they assume I exist only as a journal service worker whose sole function it is to help publish *their piece*. And even if I was not publishing my own work, the work of supporting authors is inherently valuable and worthy of respect. Importantly, an author's work is dependent on this labour, and to borrow Anna Lowenhaupt Tsing's formulation regarding mushroom economies, "private assets most always grow out of unacknowledged commons" (271). A crip approach to publishing thus makes this labour visible, makes this commons visible, makes these naturalized hierarchies evident, and challenges them. This is part of a crip vision that makes space for "reciprocity, mutual respect, mutual accountability, mutual commitment to each other's well-being. Mutual recognition of each other's suffering" (Khúc 2023, 79).

7. **Challenge decorum, hone polydisciplinamory.** Returning to the medium of knowledge-making through care cards, I want to suggest that crip publishing is open to many forms of knowledge-making. Feminist publishing since the years of the women's liberation movement and earlier has made space for art, poetry, and other forms of creative expression alongside more formal academic pieces. Similarly, many feminist and disability studies sites of publishing have honed and celebrated hybrid and creative forms of publishing that break with disciplinary confines to imagine alternate ways of making knowledge. Crip publishing invites such "polydisciplinamory" (Loveless 2019, 59), because it recognizes that there are many ways to make knowledge and answer research questions. Here I invite readers to engage with *Feral Feminisms'* back issues for instantiations of knowledge-making across media and forms.

8. **Failure is expected.** Finally (at least for now), crip approaches to publishing recognize that no published product, no publishing relationship, and no publishing undertaking will be without failure. Failure can mean many things, but importantly it recognizes that bodyminds have limits and that it is more important to honour the bodyminds involved in publishing than to publish and perish at all costs. This has been a series of hard learned lessons for me, since, as a person on the autism spectrum, I have not always understood lessons such as that "failure" is okay, that one cannot prove their way out of disability, or even how to respect hierarchies and decorum in publishing and academic relationships. Failure in crip publishing recognizes tension and works toward accountability. It also means recognizing that we can bail, exit, make exceptions, change rules, respond to conflict, address injustice, and sometimes, just take a nap in our bed instead.

9. **You.** What would you add to this crip publishing manifestx? To finish this piece, I invite you to be my "comrades-in-bed," as Tala Khanmalek and Heidi Andrea Restrepo Rhodes (2020) write in their thinking on the "bedlife" of disabled people of colour (36, 37). I invite you to reflect on your own crip feminist publish-

ing principles, either from the perspective of an author, a journal maker, or both and develop your own publishing manifestx.

IMAGE NOTES

Figure 1: Ela Przybyło, "The Bed Sorbonne," digital photograph, 2023.

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PERMAPUBLISHING: TOWARD SUSTAINABLE PUBLISHING PRACTICES

ANTOINE FAUCHIÉ

The sustainability of publishing systems goes far beyond the production of printed books, and there is now an urgent need to examine digital production methods, from software to the technical infrastructures used to disseminate knowledge. Despite a lack of consideration for the durability of these publishing modes, the tools and other technical workings can be rethought to take into account the dimensions of longevity and sobriety. As a concept and a community of practice, *permacomputing* allows us to explore radical initiatives in the use of computing in a limited context. Its extension into the field of publishing, *permapublishing*, is an opportunity to identify and analyze sustainable publishing modes that can be shared, hijacked or extended, through the elaboration of three structuring principles: decoupling, deprecation and empowerment.

Les enjeux liés à la durabilité des dispositifs d'édition dépassent les questions de production des livres imprimés, il y a désormais une urgence à interroger les modes de fabrication avec le numérique, depuis les logiciels jusqu'aux infrastructures techniques de diffusion de la connaissance. Malgré une absence de considération de la pérennité de ces modes d'édition, les outils et autres rouages techniques peuvent être repensés pour prendre en compte les dimensions de durabilité et de sobriété. Le *permacomputing*, en tant que concept et communauté de pratiques, permet d'explorer des initiatives radicales dans l'usage de l'informatique en contexte limité. Son extension dans le champ de l'édition, le *permapublishing*, est une opportunité d'identifier et d'analyser des modes d'édition pérennes qui peuvent être partagés, détournés ou étendus, et ce à travers l'élaboration de trois principes structurants : le découplage, la dépréciation et l'autonomisation.

Les enjeux liés à la pérennité des dispositifs d'édition dépassent les questions de production des artefacts imprimés que sont les livres ou les revues (Ludovico 2016, p. 132-134) et sont désormais adressés de façon globale et dans une perspective d'"huma-

nités écologiques" et non plus d'"écologie médiatique" (Association pour l'écologie du livre 2020, pp. 79-100) ; c'est dans ce contexte qu'il y a une urgence à interroger la durabilité des modes de fabrication avec le numérique, depuis les logiciels et programmes jusqu'aux infrastructures techniques nécessaires aux différents supports de diffusion de la connaissance. Les critiques des technologies numériques d'édition sont encore trop rares, nous faisons le constat d'une absence de considération de la pérennité des logiciels et des infrastructures. Pourtant, les outils et autres rouages techniques peuvent être repensés pour prendre en compte les dimensions de durabilité et de sobriété. À la suite de premières recherches sur la soutenabilité des chaînes d'édition (Blanc 2017), l'objectif ici est d'explorer des mouvements comme le *permacomputing* et son extension le *permapublishing*, et ainsi d'identifier et d'analyser des pratiques et des méthodes qui peuvent être partagées et étendues : d'un point de vue théorique pour l'édition en général ; d'un point de vue pratique pour l'édition scientifique en particulier.

Deux croisements récents entre questionnements écologiques (au sens large) et édition, donnent à voir l'identification du problème de l'impact des activités éditoriales et de nos dépendances technologiques sur le plan de l'objet imprimé. Tout d'abord l'Association pour l'écologie du livre — dont l'ouvrage publié en 2020 a été cité plus haut (Association pour l'écologie du livre 2020) — œuvre depuis plusieurs années à mettre en lumière une situation qui peut être modifiée, et à fédérer des professionnels du livre autour des modes de fabrication des livres imprimés et de leur diffusion. Aussi, dans l'introduction d'*Une anthologie pour comprendre les Low-Tech*, Clément Gaillard détaille le fait que ce livre imprimé n'est pas produit avec les principes du *low-tech* (Gaillard 2023, p. 9). Toutes les machines d'impression dépendent de briques technologiques complexes dont les dépendances techniques sont nombreuses et liées à une industrie.

Il n'aura pas fallu attendre l'arrivée des intelligences artificielles conversationnelles — et leur consommation exponentielle (Maslej 2023) — pour faire le constat que les activités d'édition, comme une grande part des activités humaines désormais majoritairement numériques, ont un impact sur l'environnement : ordinateurs, disposi-

tifs portables, serveurs d'hébergement et de diffusion, matériels de stockage, création et maintenance des logiciels, etc. Cet impact n'est pas une fatalité et il est possible de mettre en place ou d'imaginer des chaînes d'édition compatibles avec une compréhension de notre environnement comme étant limité. Nous précisons cet enjeu en trois dimensions : durabilité, pérennité et sobriété. Des initiatives existent dans le domaine de l'édition, allant des modes d'impression avec des papiers ou des encres à plus faible impact écologique, jusqu'aux dispositifs de distribution locaux pour réduire les distances de transport. Elles ouvrent la voie à des alternatives aux méthodes, logiciels et techniques les plus utilisés et qui posent des questions de consommation d'énergie, de matériel et de relation entre la machine et l'humain. Ces démarches interrogent aussi, en creux, notre rapport à l'exploitation des ressources naturelles et aux logiques de domination de certaines populations et minorités.

Le champ de l'édition scientifique, ou plus largement savante, est d'autant plus concerné par cette situation. La numérisation des outils de production des textes puis la numérisation des contenus ont d'abord été l'objet de cette *transition numérique*, avant de modifier les modes de diffusion. Les revues scientifiques sont toutes référencées via des catalogues numériques, et elles sont également majoritairement accessibles en versions numériques — ainsi qu'une bonne part des monographies. Globalement, les modes de production scientifique ont été fortement remaniés (Brown 2011). Ce domaine est un laboratoire pour expérimenter des façons de faire plus *durables*, les contraintes d'édition étant plus orientées vers des enjeux de diffusion du savoir que d'exploitation financière des œuvres. Plusieurs revues et des projets d'envergure cherchent à repenser ces modes d'édition (Reisenleitner 2024). C'est par exemple le cas en abandonnant le duo composé d'un traitement de texte et d'un logiciel de publication assisté par ordinateur (Maxwell 2022), dans un contexte où le texte est complexe, structuré, multi-diffusé (Fauchié 2023), et dont les sources doivent être accessibles durablement. Il reste à prendre plus fortement en considération les ressources nécessaires pour ces *nouveaux* processus d'édition dans des configurations limitées.

Dans un contexte de crise climatique, il faut donc désormais interroger la pérennité de toute la chaîne d'édition — depuis l'inscription du texte jusqu'à sa mise en consultation — mais aussi et surtout identifier des pratiques réelles et en construire de nouvelles. Dit autrement, il ne s'agit donc plus d'étudier l'impact des modes de production, et pas seulement d'observer les alternatives émergentes, mais de créer des dispositifs numériques durables pour permettre leur usage et leur compréhension dans le long terme. Pour reprendre les mots de Corinne Morel Darleux (Morel Darleux 2023, pp. 151-155), il s'agit de passer d'un mode *revendicatif* à un mode *performatif* voire *offensif*, que nous détaillons plus loin. L'actualité — notamment la perte de biodiversité et la multiplication des catastrophes naturelles — nécessite une position radicale, en faisant le constat que les seules perspectives face à la situation climatique sont en opposition totale avec les causes responsables de cette situation — et en premier lieu les dynamiques capitalistes (Klein 2015).

Il existe, dans le domaine de l'informatique, de tels positionnements radicaux (Valk 2025b), dont nous explorons un exemple emblématique : le *permacomputing*, concept forgé par la rencontre des termes permaculture et informatique (au sens large, *computing* en anglais), soit l'application de principes comme la régénérescence, la réutilisation de matériels existants, la compatibilité, ou encore la réduction de consommation d'énergie des dispositifs numériques. Loin d'être un concept formalisé et arrêté, le *permacomputing* consiste surtout en une communauté de pratiques et en plusieurs principes, avec une forte dimension créative qui sied tout à fait à une réflexion sur les modes d'édition. Le collectif PrePostPrint a mis en lumière ce terme lors d'un événement où des projets répondant aux principes du *permacomputing* ont été présentés, forgeant le concept de *permapublishing*. PrePostPrint réunit des designers, chercheurs·ses, artistes et développeurs·ses depuis 2017 autour des techniques et des méthodes expérimentales de publication avec des logiciels libres, créant une communauté de pratiques engagée autour des notions de pérennité, d'autonomie, d'accessibilité, de communs numériques ou d'économie de moyens. Quel est l'apport du concept de *permacomputing* dans le

cadre d'une recherche de processus d'édition plus pérennes et de son pendant le *permapublishing* ?

Notre démarche et notre méthodologie sont construites autour de ces deux éléments — la définition du concept de *permacomputing* et la présentation de l'événement PPPermapublishing (les trois P faisant référence à PrePostPrint) — afin d'identifier des principes en lien avec les enjeux de durabilité, de pérennité et de sobriété, puis d'analyser leur implémentation et leur adaptation, et enfin de confronter ces éléments à des pratiques d'édition. Tout cela est agrémenté d'exemples concrets afin d'expliciter ce qui se joue en creux de ces expérimentations techniques, et notamment la constitution de modes d'édition sobres, ainsi que la reprise en main des outils de fabrication et de production d'édition. Nos analyses encouragent une évolution de nos modes de recherches via trois positions empruntées à Corinne Morel Darleux (Morel Darleux 2023, pp. 151-155) : revendicative, performative et offensive. Nous partons du *revendicatif* à travers des observations qui identifient des modes d'édition pérennes : en explicitant ces démarches existantes, nous cherchons à convaincre que d'autres modes d'édition sont possibles. Nous passons ensuite par le *performatif* en nous engageant dans des expérimentations qui appliquent des principes de sobriété : certains choix radicaux ne peuvent être explicités qu'en les expérimentant, qu'en *agissant*. Enfin nous finissons avec l'*offensif* avec des dispositifs en action qui viennent véritablement contrer des modalités d'édition non pérennes, il s'agit d'une opposition claire. À travers ce texte nous adoptons une démarche engagée en constatant que nous ne pouvons faire face à la crise climatique actuelle qu'avec une réaction radicale.

OBSERVATION : DÉFINITION DU *PERMACOMPUTING* COMME COMMUNAUTÉ DE PRATIQUES

Le *permacomputing* est un concept, une série de principes, une communauté de pratiques et un mouvement où les questions de durabilité, de pérennité et de sobriété sont clairement adressées, dans un contexte d'utilisation de l'informatique, et plus

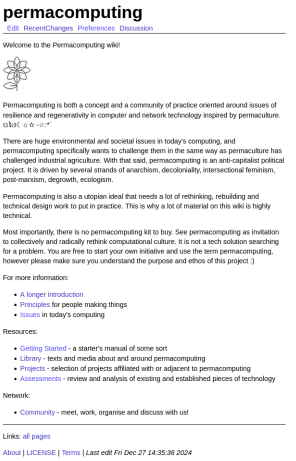

Figure 1 : Capture d'écran du wiki de la communauté permacomputing (https://permacomputing.net) (27 décembre 2024)

spécifiquement dans le champ de la création numérique. Le terme *permacomputing* est proposé par Ville-Matias Heikkilä en 2020 comme une série d'applications possibles des idées de la permaculture au domaine de l'informatique (Heikkilä 2020) — l'un de ces principes commun à la permaculture et au *permacomputing* est *observe first*, auquel le titre de cette section fait référence. Des communautés diversifiées s'emparent ensuite de ce terme pour le préciser, notamment via la création d'un wiki (Mansoux 2022) puis d'un article fondateur (Mansoux 2023).

> "Le *permacomputing* est un concept émergent et une communauté de pratique centrés sur des principes de conception qui considèrent les limites et les contraintes comme un élément positif dans la culture informatique, et sur la créativité avec des ressources informatiques restreintes." (traduction de l'auteur) (Mansoux 2023, p. 1)

Pour résumer ce concept en quelques mots, il s'agit de repenser notre usage et notre rapport à l'informatique en prenant en considération

les limites matérielles et énergétiques de notre planète. Cela se traduit en proposant une alternative à l'informatique industrielle, en concevant des outils numériques durables, en réutilisant le matériel déjà disponible, et enfin en limitant la consommation d'énergie ainsi que les puissances de calcul. Ce concept n'est pas construit autour d'une stratégie de rendement des machines existantes face à une crise climatique qui oblige à limiter nos consommations, et il tend à déconstruire les logiques de domination habituellement à l'œuvre dans le développement technologique. Le *permacomputing* consiste en une opportunité de remettre en question des logiques qui visent la maximisation des moyens numériques à des fins de rendement financier ou d'exploitation en général.

L'origine de ce terme est en soi un apport épistémologique dans notre recherche de modes d'édition plus pérennes. Tout d'abord le terme "perma" renvoie à l'idée d'une permanence ou d'une durabilité. Ensuite, d'autres concepts précèdent ou accompagnent celui de *permacomputing* comme ceux de *low-tech* (Bihouix, 2014), *small tech* (Valk 2022) ou *minimal computing* (Risam 2022), révélant la diversité des démarches autour des trois notions clés de pérennité, de durabilité et de sobriété. Marloes de Valk réalise un travail étymologique et terminologique dans un article publié en 2021 (Valk 2021) — complété par un wiki régulièrement mis à jour (Valk 2025a) et une thèse de doctorat passionnante (Valk 2025b) —, en interrogeant ce que signifie créer avec l'informatique dans un contexte de limites en contextualisant et en confrontant plusieurs notions, et en valorisant des alternatives invisibilisées. Trois termes historiques sont d'abord présentés : *liberatory technology* qui est principalement tourné autour de la décentralisation des technologies et de leur déploiement ; *appropriate technology* qui prône la suffisance, la robustesse et un mode de vie durable (Dunn 1978) ; et *convivial computing* qui est fortement inspiré d'Ivan Illich (Illich 2014) autour de l'acquisition d'une indépendance tout en permettant une certaine efficacité. Marloes de Valk présente ensuite des termes plus récents, comme le *benign computing* dont l'objet est de concevoir des systèmes informatiques moins nuisibles pour l'écosystème et donc pour la société humaine ; ou le *collapse informatics* qui consiste à développer des méthodes et des outils

dans une perspective d'effondrement. Enfin, l'autrice prend plus de temps pour aborder quatre termes contemporains : *permacomputing* comme la limitation des ressources informatiques ; *small technology*, ou *small tech*, dans le prolongement du DIY et de la déconnexion avec les outils et les réseaux commerciaux ; *salvage computing* en tant que récupération de matériel ancien et développement de logiciels compatibles avec ces outils déclassés ; et *low-tech* en opposition au *high-tech* qui vante l'innovation par une évolution exponentielle (Mateus 2023). Certains de ces termes connaissent un succès au-delà des petites communautés d'initié·e·s, au point d'être repris à des fins purement commerciales : le terme de *low-tech* est le plus emblématique avec des magazines ou des revues sponsorisées par des entreprises technologiques du monde *high-tech*. De cette diversité de termes qui se traduit par autant de pratiques, nous retenons une relative proxémie sur les questions de limitations et d'actions. D'une part il s'agit de limitations matérielles ou énergétiques, ou d'enjeux de maintenabilité dans le temps. D'autre part il est question de changer une situation par l'action : des principes sont majoritairement expérimentés et pas seulement énoncés.

Dans le champ des humanités numériques, le lien entre le *permacomputing* et le concept de *minimal computing* nous semble important à souligner : la prise en considération du contexte culturel, social, matériel, voire écologique, traduit une volonté d'utiliser des ressources disponibles pour adapter un environnement de travail et non l'inverse. Proposé par Alex Gil puis formalisé avec Roopika Risam (Risam 2022), le *minimal computing* correspond à la prise en compte des situations locales pour la mise en place de systèmes techniques, alors que bien souvent les systèmes sont conçus en amont avec des dispositions privilégiées difficiles à implémenter lorsque le réseau n'est pas optimal, le matériel informatique ancien ou l'accès à l'énergie non continu. Plusieurs des projets identifiés ou revendiqués *minimal computing* sont dans le champ de l'édition ou de la publication, comme Ed (Allés-Torrent 2023), un dispositif d'édition numérique minimal, ou la chaîne d'édition utilisée par le site Programming Historians (2025). Considérer les limites induites par une situation locale est essentiel, afin de créer et déployer des outils qui correspondent

à celles et ceux qui sont amenées à les utiliser. C'est donc un aspect adjacent du concept de *permacomputing*.

Si nous nous concentrons sur le terme de *permacomputing* — emprunt de performatif et d'offensif pour reprendre les trois modes exposés en préambule — c'est pour : son caractère radical qui limite toute récupération commerciale ; sa communauté hétérogène et critique ; sa diversité de compréhensions et d'implémentations ; et sa dimension militante et utopiste. Le *permacomputing* porte autant de perspectives engagées et positives que d'initiatives réjouissantes et polymorphes, comme nous le voyons plus loin dans ce texte avec des exemples concrets. C'est là un point essentiel pour appréhender ce qui suit : toute tentative de normalisation de ce terme/concept/mouvement éteint la force de ses principes basés sur la diversité culturelle, et c'est là toute la contradiction inhérente de ce texte, à la fois nécessaire et inutile.

ANALYSES : DES PRINCIPES INTERRELIÉS

Nous formulons quelques éléments clés à partir des principes du *permacomputing*, au nombre de dix dans la version modifiée de juin 2025 (Principles 2025), en soulignant la résonance avec les enjeux d'une édition pérenne, durable et sobre : conserver une dimension humaine, considérer la modularité, mettre à disposition les sources, observer et comprendre son environnement et partager cette prise de conscience, faire durer les microprocesseurs. Les principes originaux sont indiqués entre parenthèses et en italique.

La dimension humaine d'un projet prévient d'un niveau de complexité trop important (*Consider Carefully The Interaction Between Simplicity, Complexity and Scale*), et se traduit par la possibilité pour une même personne de comprendre l'ensemble d'un processus. Ce principe, confronté aux contraintes du domaine de l'édition, peut se traduire par une segmentation de certaines opérations complexes en de plus petits processus plus intelligibles. Si chaque opération et son implémentation dans des outils techniques est facilement compréhensible, alors il sera possible d'envisager une durabilité du processus

dans son ensemble sur le long terme. Les programmes et logiciels ne peuvent être pérennes qu'à condition qu'ils soient bien compris par les personnes humaines qui les utilisent. Segmenter les opérations peut aussi être un moyen de mieux gérer les ressources nécessaires pour ces outils.

La modularité (*Keep It Flexible*) est liée à cette volonté de garder les choses simples : en limitant les fonctions d'un outil il est possible d'envisager des extensions qui vont se traduire par la création de nouveaux outils. Pour reprendre la philosophie Unix (Raymond 2003, pp. 35-50) : il s'agit d'utiliser ou de créer des outils ou des programmes qui font bien une chose, quitte à ne faire que cette chose. Il est ensuite possible de conserver une flexibilité en modifiant les *modules* qui composent un processus complet. Certains utilitaires Unix communs à de nombreux systèmes d'exploitation (notamment basés sur Linux, ou sur BSD) peuvent être invoqués pour construire un processus d'édition et faciliter ainsi la compatibilité ou la reproductibilité.

Les projets qui se revendiquent du *permacomputing* reprennent certains des principes de la culture *Free/libre and open-source software* (FLOSS) sur les questions de maturité technologique, de partage de connaissance ou d'accès aux sources (*Build On Solid Ground*). La diffusion de briques technologiques (programmes et logiciels) sous licence ouverte (lisibles, modifiables, partageables), documentées, et mises à disposition sur des plateformes de code ou des sites web personnels facilitent leur utilisation et leur compréhension. Il s'agit de valoriser des communs numériques et de critiquer les logiques de rendement ou de rentes bâties sur les licences propriétaires. En ouvrant les sources il est possible de comprendre comment un système fonctionne, le partager, y contribuer, ou développer sa propre version pour des besoins spécifiques. L'ouverture des sources ne prévient pas pour autant de questions politiques et éthiques qui peuvent subvenir lors de l'évolution d'un projet, comme cela a été le cas pour le logiciel de gestion de versions Gitea qui a dû être *forké* pour conserver une ouverture et le respect de la communauté contributrice (Codeberg, 2022). Les structures d'édition se voient souvent imposer des modifications dans l'utilisation de logiciels de traitement de texte ou de pu-

blication assistée par ordinateur, propriétaires, sans pouvoir influer sur ces évolutions. Le fait de rendre disponibles toutes les informations liées à un outil permet à des communautés de développer leur propre usage et de traduire leur besoin en implémentations dans le cas où des personnes en ont les moyens techniques.

La compréhension de notre environnement (*Observe First*) prime sur l'action (*Not Doing*). Il est nécessaire d'observer avant d'agir. L'adoption ou la mise en place d'un outil doit d'abord passer par l'identification des besoins, l'analyse de l'existant, la liste des solutions techniques existantes et la mesure des capacités techniques pour l'usage ou le développement d'un outil. L'objectif ici est de réduire au maximum les interventions et les différentes consommations liées à ces activités (énergie, matériel, déchets, etc.). Nous comprenons ici combien ces principes sont interreliés : il n'est possible de comprendre pleinement un environnement qu'à condition que les informations soient accessibles. Il s'agit aussi de développer des espaces où ces informations peuvent être partagées, comme c'est le cas dans les communautés scientifiques et avec l'adoption des principes du libre accès. En observant et en partageant, il est possible d'acquérir une double littératie, écologique et numérique (Mansoux 2025).

Enfin, le composant qui demande le plus d'énergie pour être fabriqué et qui ne peut pas être recyclé, en informatique, c'est le microprocesseur (*Care for All Hardware — Especially the Chips*), il demande donc une grande attention. L'objectif est de limiter la puissance nécessaire à un programme ou à un logiciel informatique pour fonctionner, afin de prévoir le déploiement de ces outils sur un maximum de matériel différent — en âge, en puissance et en mode de fonctionnement. L'ajout de fonctionnalités basées sur des intelligences artificielles conversationnelles/génératives ou sur l'usage de grands modèles de langage demande par exemple des ressources beaucoup plus importantes aux machines (ordinateurs personnels et serveurs) : puissance de calcul, et énergie pour refroidir ces microprocesseurs. Il s'agit donc de poser clairement la question du besoin de certaines méthodes d'édition, et d'évaluer par exemple le coût écologique de modalités techniques : quelle est l'émission en carbone de chaque requête à un agent conversationnel qui utilise un fonctionnement in-

ductif basé sur de grands modèles de langage (sans parler de l'énergie et de l'eau nécessaire pour entraîner les modèles) (Patterson 2021) ? L'ajout de fonctionnalités qualifiées d'*IA* dans des logiciels de traitement de texte ou de publication assistée par ordinateur pose la question du besoin des utilisateurs et des utilisatrices face aux tâches réalisées en pratique dans un contexte où ces fonctionnalités sont bien souvent non sollicitées (Maudet 2025). L'argument selon lequel les machines doivent être remplacées par manque de puissance de calcul est en grande partie commercial. Il est possible, dans le domaine de l'édition, de repenser l'usage des ordinateurs et de s'opposer à une obsolescence programmée imposée par défaut.

Ces principes peuvent être appliqués à bien d'autres situations ou domaines, ils forment un mouvement de pensée qui dépasse les questions d'édition ou d'informatique, mais qui s'y appliquent néanmoins avec beaucoup de pertinence dans la perspective de modes d'édition plus pérennes. Le concept de *permapublishing* nous permet de rassembler des éléments compatibles avec les notions de durabilité, de pérennité et de sobriété, mais nous donnons tout d'abord des exemples concrets d'initiatives qui s'inscrivent dans le mouvement du *permacomputing*, et qui ont un lien avec le vaste champ de la publication.

ÉTUDE : LE PERMACOMPUTING PAR L'EXEMPLE

Le *permacomputing* est un ensemble de principes de conception, il n'a d'existence que dans des expérimentations pratiques dont nous explorons maintenant quelques exemples emblématiques. Les dimensions militante et activiste du *permacomputing* font partie de sa définition, elles ressortent systématiquement des initiatives que nous présentons ici. Les trois projets présentés ci-dessous ont tous un lien direct ou indirect avec l'édition : Gemini est un protocole et un langage de balisage pensé comme une alternative simplifiée et radicale du web ; UXN est une machine virtuelle permettant de créer des outils ou des jeux sur des machines demandant peu de ressources ; et Solar Protocol est une plateforme de ressources hébergées par différents serveurs alimentés par l'énergie solaire.

Gemini (2025) est un protocole de communication et un langage de balisage qui a été pensé comme une alternative au web, avec des principes de conception minimalistes et des dynamiques de l'ordre du *permacomputing* : légèreté du dispositif, à la fois côté création de contenus et accès à l'information ; compréhension possible des couches techniques ; résistance et réplicabilité du système grâce à sa relative simplicité. Gemini consiste en un protocole de communication qui s'inspire de HTTP (pour le web) ou de Gopher (une autre alternative au web plus ancienne), permettant d'effectuer des requêtes sur le réseau Internet depuis un client vers un serveur pour recevoir des informations structurées. Ce protocole se veut plus simple que HTTP afin de : faciliter son utilisation ; limiter les ressources pour le faire fonctionner ; et protéger les données personnelles de celles et ceux qui l'utilisent — nonobstant l'usage d'une brique technique comme TLS qui est loin d'être simple. Gemini est aussi un langage de balisage, une version très simplifiée de HTML qui s'inspire des balises typographiques de Markdown (Fauchié 2018), qui laisse visible certaines informations sémantiques — comme l'identification des niveaux de titre ou des blocs de citation — et qui privilégie d'abord le texte, notamment au détriment des images. Le format d'écriture est le format qui est affiché, autrement dit ce que vous écrivez est ce qui est lu, contrairement à HTML dont les navigateurs interprètent les balises (formant un langage plus verbeux mais aussi plus étendu sémantiquement). L'affichage (choix typographiques, couleurs, disposition des éléments, etc.) ne dépend pas d'une volonté en amont mais du logiciel client qui affiche la page Gemini.

Il y a un déplacement du contrôle de l'affichage depuis le document lui-même vers le dispositif qui accède à ce document. Le protocole et le langage, combinés, favorisent l'économie de moyens et d'interactions — il n'est pas possible d'afficher des images directement dans un document, d'intégrer une feuille de styles ou d'injecter du code JavaScript, par exemple — pour empêcher des dynamiques d'exploitation de s'accaparer ces espaces de publication. Gemini est donc une infrastructure de publication qui embrasse des principes de sobriété radicaux, en faisant des choix modifiant jusqu'aux pratiques d'écriture.

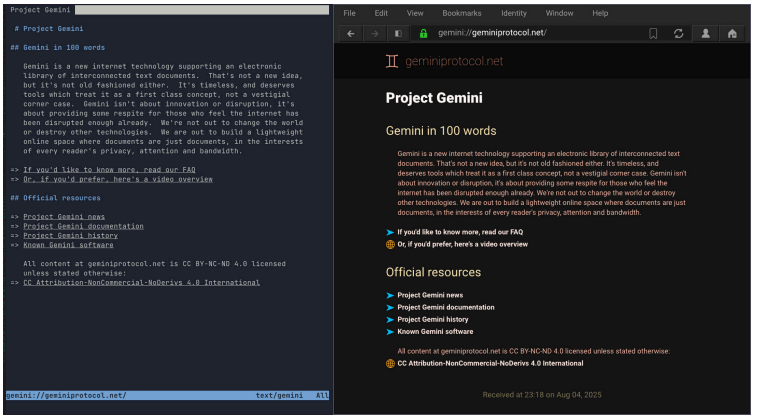

Figure 2 : Capture d'écran d'une même page Gemini (gemini://geminiprotocol.net/) affichée avec deux navigateurs/clients Gemini différents (Astronaut et Lagrange)

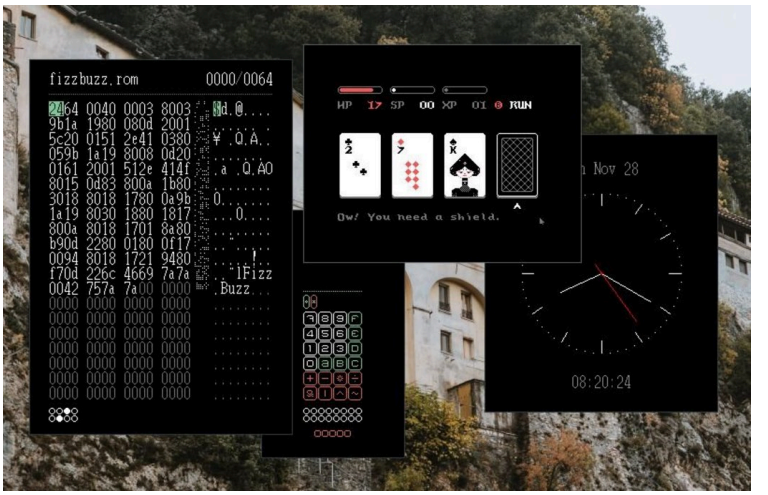

Figure 3 : Applications Uxn CC BY-NC-SA Hundred Rabbits (https://100r.co)

Uxn (Bellum 2024) est un dispositif de programmation pour créer des outils ou des jeux sans dépendances, Uxn est conçu pour pouvoir être utilisé sur des appareils comme des ordinateurs ou des consoles de

jeux, qui ont peu de ressources, et notamment des dispositifs parfois jugés obsolètes. Uxn convient à une variété particulièrement large de matériel et de systèmes d'exploitation. Devine Lu Linvega, qui forme le duo Hundred Rabbits avec Rekka Bellum, est à l'origine de Uxn, rejoint d'abord par quelques personnes qui développent cet environnement avec lui, puis ensuite par une communauté assez large qui participe désormais à cet écosystème. Uxn est plus spécifiquement : une pile informatique basée sur une machine virtuelle minimaliste qui permet d'exécuter une même application sur plusieurs types de systèmes ; et un langage de programmation qui produit des applications portables extrêmement légères. Parmi les nombreux objets numériques créés avec Uxn, nous pouvons citer : le jeu oneko-uxn [(hikari*no_yume 2025) qui consiste à faire courir un chat en bougeant le curseur ; l'éditeur de texte Left (Bellum 2025) dont le fonctionnement est minimaliste ; l'outil de dessin Noodle (Bellum 2025) en monochrome, avec uniquement quelques fonctionnalités disponibles. Ces trois projets ont en commun d'être extrêmement légers (le poids du fichier nécessaire au fonctionnement de chacun est de quelques kilo octets), et d'être autonomes (aucune connexion internet et aucune dépendance en dehors de l'environnement Uxn). Le cas de Uxn est emblématique d'une volonté de disposer d'un écosystème de création pérenne, et suffisamment ouvert et documenté pour qu'il puisse être largement utilisé. Le collectif Hundred Rabbits, composé de Devine Lu Linvega et Rekka Bellum, utilise massivement Uxn pour créer leurs jeux et leurs outils, avec toujours beaucoup de créativité, où les limites induites par leur mode de vie ont une forte influence (Devault 2021). Uxn est un cas d'application des principes du _permacomputing* sans compromis, formant une pratique créative stimulante.

Solar Protocol (Brain 2025) est une expérimentation d'hébergement de contenus entre plusieurs serveurs répartis dans le monde et alimentés à l'énergie solaire, permettant ainsi de proposer des ressources en changeant de machines selon l'ensoleillement et donc l'électricité disponible. Fortement inspiré du projet Solar Powered Website de la revue *Low Tech Magazine* (De Decker 2023), cette initiative est réflexive et performative, puisque les ressources proposées par ce site portent précisément sur la manière dont ce site est hé-

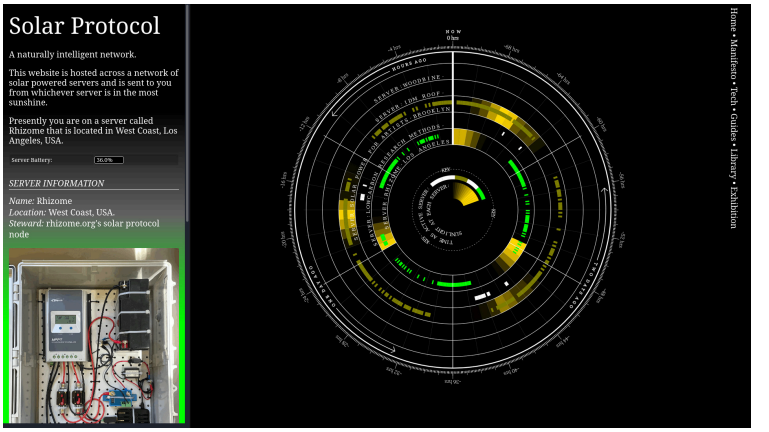

Figure 4 : Capture d'écran du site web Solar Protocol (https://solarprotocol.net)

bergé : manifeste, couches techniques, guides, bibliothèques, etc. Les personnes qui ont entrepris cette initiative ont rédigé un manifeste qui porte des valeurs écologiques fortes, considérant les limites inhérentes à notre écosystème et promouvant un dispositif qui prend totalement cette contrainte en considération.

> "Si l'intelligence est la capacité à synthétiser les connaissances sous forme de logique et à appliquer cette logique pour prendre des décisions, alors la plateforme Solar Protocol s'appuie sur une intelligence qui émerge des dynamiques terrestres, en particulier celles de l'interaction entre le soleil et la Terre. Nos vies ont toujours été guidées par toute une série de logiques naturelles qui émergent des dynamiques intermittentes de notre environnement commun." (Brain 2025)

Le positionnement politique tend à prouver qu'un autre modèle d'hébergement est possible, sans pour autant remettre en cause le principe même d'un serveur. Pour compléter cette approche nous pouvons citer le manifeste "Feminist Server Manifesto" (2014), qui revendique le droit de ne plus être disponible, de ne plus fonctionner, de repenser la dichotomie "client-serveur", et de visibiliser les failles inhérentes à tout dispositif technique.

Solar Protocol est une preuve de concept qui renverse le paradigme habituel du web moderne : plutôt que de proposer un contenu hébergé par un serveur alimenté en continu sans s'interroger sur l'origine de cette énergie, l'accès aux contenus dépend de l'ensoleillement de l'une des machines de ce réseau. En affichant l'énergie disponible sous forme de pourcentage, le site invite également à prendre conscience de la limite inhérente à tout système nécessitant de l'électricité. Cette volonté d'embrasser les limites va plus loin : le site lui-même est conçu en limitant son empreinte écologique en demandant peu de ressources aux navigateurs qui affichent ses pages. Solar Protocol déplace et critique les CDNs (*Content Delivery Network*) proposés par de nombreux hébergeurs : plutôt que multiplier les points d'accès dans le monde à un même contenu pour limiter la distance entre le serveur et le client, la contrainte de la disponibilité d'énergie porte ici la dynamique technique.

Plusieurs points communs ressortent de ces trois démarches et qui peuvent être repris dans la perspective de modèles d'édition qui visent autant une forme de durabilité qu'une projection de sobriété : la dimension utopiste autant que concrète, du fait de la radicalité des choix opérés tout en proposant des implémentations pratiques ; la capacité à transmettre les idées de conception et la documentation pour utiliser ou modifier le système ; l'aspect créatif de ces initiatives qui transforment des contraintes fortes en principes de conception. Cette radicalité est-elle compatible avec le domaine de l'édition ? Et ces trois démarches, qui relèvent d'engagements politiques et qui constituent en soi des actes militants, peuvent-elles influencer les modes d'édition ? Le collectif PrePostPrint y répond en forgeant le terme *permapublishing*, soit l'application des principes du *permacomputing* à l'édition.

TRANSPOSITION : LE *PERMAPUBLISHING* AU CROISEMENT DU *PERMACOMPUTING* ET DE L'ÉDITION

Le concept de *permacomputing*, entendu comme des principes de limitations en ressources appliqués à l'informatique via un processus créatif, peut être confronté au domaine de l'édition,

en envisageant non pas une application mais une mise en critique et en réflexion : c'est l'objectif de l'événement organisé par le collectif PrePostPrint en septembre 2024, PPPermapublishing. En analysant les projets présentés pendant cet événement nous pouvons répondre à la question : quel apport ce concept peut-il avoir dans une perspective de création de modes d'édition sobres et durables ? Ainsi, nous définissons une interprétation possible du *permacomputing* dans le champ de l'édition — ou plus globalement de la publication — avec le terme *permapublishing* introduit par le collectif PrePostPrint, en observant des projets qui s'y rattachent.

Le collectif PrePostPrint (Prepostprint 2025) rassemble des designers, des développeurs et des développeuses, des chercheurs et des chercheuses qui travaillent sur des techniques expérimentales de publication avec des logiciels libres, et plus globalement toute personne intéressée par des manières de créer autrement des publications (paginées ou non) et soucieuse de partager ces pratiques (Fauchié 2017). PrePostPrint a été fondé en 2017 par Sarah Garcin et Raphaël Bastide, autour de ressources et d'événements divers, alliant réflexion théorique, démonstrations de projets ou de prototypes, et ateliers pour apprendre à utiliser ou détourner des logiciels, des programmes ou du matériel. L'auteur de ce texte participe de plusieurs façons aux différentes activités de ce collectif, notamment en contribuant à l'organisation d'événements en 2017 et en 2018, et en faisant partie des huit *maintainers* pour la période 2024-2026 — chargé·e·s de gérer l'infrastructure du collectif (site web, wiki, liste de diffusion, etc.), de donner des orientations au groupe et d'organiser des événements. PrePostPrint est une opportunité de réunir des profils très divers autour des enjeux des technologies numériques de l'édition, et d'adresser concrètement des questionnements épistémologiques avec une communauté de pratiques.

En septembre 2024 PrePostPrint a organisé un événement de trois jours sur la thématique du *permacomputing*, intitulé "PPPermapublishing" (les trois "P" faisant référence aux trois "P" de PrePostPrint) combinant une table ronde avec trois intervenants, la présentation de projets et des ateliers informels de partage de techniques liées au *permacomputing* ou plus globalement aux thématiques de PrePostPrint.

Une prise de notes collective donne à voir la dimension organique de ces échanges (2024), croisant les différentes notions que nous interrogeons dans ce texte (durabilité, pérennité, sobriété) ainsi que les concepts voisins du *permacomputing* comme le *low-tech* et le *minimal computing*. L'événement a rassemblé une soixantaine de personnes, principalement des designers (en activité professionnelle ou en cours de formation) ayant des pratiques du code ou un intérêt pour ces pratiques, des enseignants et des enseignantes en design, des chercheuses et des chercheurs en design ou plus largement en sciences humaines. La volonté de définir des applications spécifiques des principes du *permacomputing* révèle deux choses : la dimension adjacente des principes portés par le collectif PrePostPrint et par ceux du *permacomputing*, et l'urgence de nommer des pratiques existantes ou émergentes pour mieux les situer et les diffuser. Le *permacomputing* s'inscrit dans un contexte où cohabitent plusieurs mouvements adjacents liés à l'informatique, dont certains ont été évoqués dans les sections précédentes, mais également avec des courants dans le champ de l'édition : la culture fanzine avec des approches engagées et bricolées ; la littérature électronique et les nombreuses expérimentations qui en ont émergées ; les initiatives de publication durable sur le plan écologique.

Julien Bidoret et Lucile Olympe Haute ont préparé et modéré la table ronde réunissant Michael Murtaugh (designer, enseignant et responsable du master Experimental Publishing à Rotterdam), Marie Verdeil (designer et contributrice de *Low Tech Magazine*), et Aymeric Mansoux (chercheur très impliqué dans la communauté *permacomputing*), relevant ainsi les liens qui pré-existent entre le champ de l'édition et celui du *permacomputing*. Voici quelques points de convergence qui ont émergé des échanges : les questions de consommation d'énergie dans un contexte critique, les enjeux de souveraineté numérique, la nécessité d'agir en collectifs et de rassembler les énergies et les compétences, la force des projets sur les imaginaires et leurs implications sociales et politiques, et enfin le fait qu'il n'y a pas de solution toute prête pour répondre aux enjeux de durabilité ou de sobriété. C'est sur ce dernier point qu'il est nécessaire d'insister et que les projets qui suivent illustrent : il n'y a pas de *kit* prêt à l'emploi

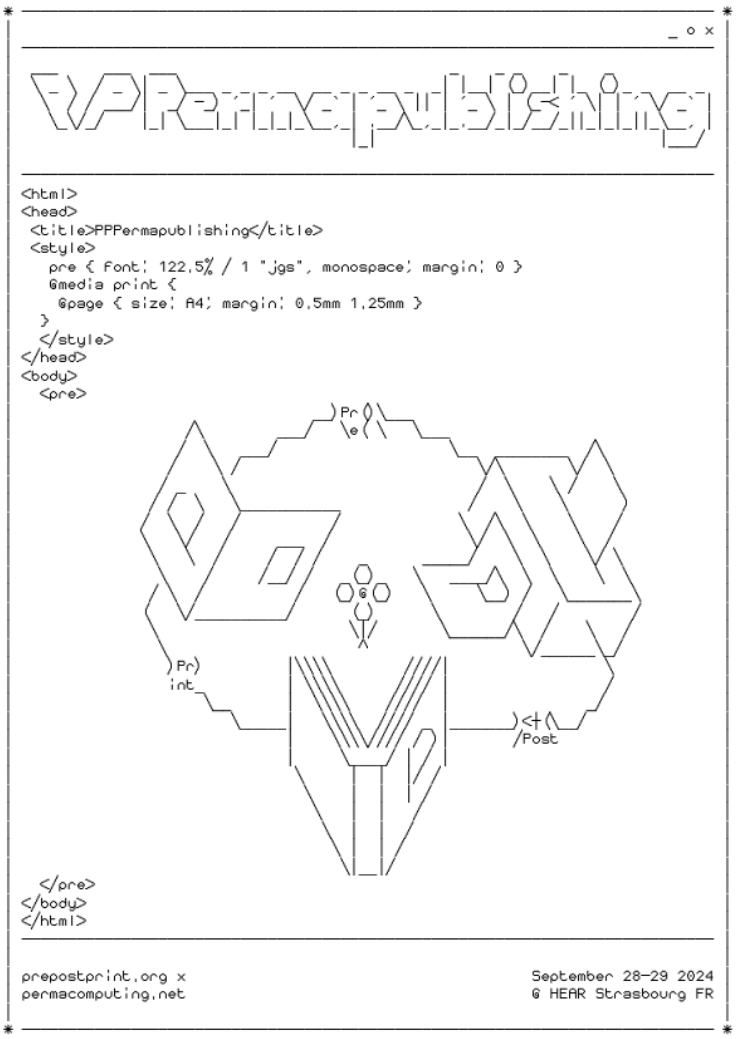

Figure 5 : Affiche de l'événement PPPermapublishing réalisée par Timothée Goguely en HTML et CSS dans un fichier de seulement 5Ko (source : https://timothee.goguely.com/code/PPPermapublishing-A4-jgs.html)

pour s'engager dans des modèles d'édition plus pérennes, tout solutionnisme technologique va à l'encontre des principes du *permacomputing*.

Cette rencontre a donc été l'occasion d'une part de constater les liens nombreux entre les pratiques du collectif PrePostPrint et les principes du *permacomputing*, et d'autre part de préciser des particularités liées au domaine de l'édition ou aux pratiques de publication. Il y a donc une volonté forte de se revendiquer de ce mouvement, en tant que position militante, mais aussi de dessiner de nouvelles perspectives, notamment avec des expérimentations qui relèvent précisément de la publication ou de l'édition.

Le reste de l'événement PPPermapublishing a été dédié à la présentation d'initiatives qui se réclament des principes de PrePostPrint ou du *permacomputing*, voire des deux ; ces temps d'échanges et de présentations étaient ouverts à toute personne (et dans deux ou trois salles simultanément). Parmi la douzaine de projets, nous en présentons quelques-uns répartis en deux groupes : des outils d'édition et des modalités de diffusion.

Bookolab (Haute 2024) est un *outil d'édition*, et plus spécifiquement une chaîne d'édition permettant de transformer des contenus structurés en site web et en publication paginée : le générateur de site statique Grav convertit des sources au format Markdown en appliquant des gabarits différents selon deux formats de sortie. Le projet est conçu et coordonné par Lucile Olympe Haute, développé par Arman Mohtadji et Benjamin Dumond, avec l'aide de Quentin Juhel. Une première version HTML est produite pour le web, et une seconde version HTML permet de générer un fichier PDF via l'usage de paged.js et de la fonction imprimer des navigateurs web. Le langage dynamique PHP permet de disposer d'une interface de gestion de contenus, mais sans base de données, le système ne repose que sur des fichiers texte — c'est ce qu'on appelle un *flat CMS* — qui permettent une infrastructure particulièrement légère. Le site web produit est lui aussi sobre, puisqu'il ne s'agit que de fichiers HTML facilement hébergeable.

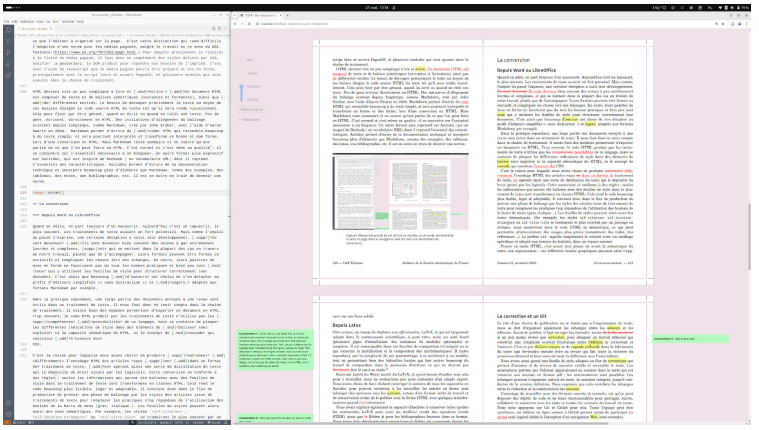

Figure 6 : Capture d'écran d'un environnement d'édition basé sur le langage de balisage léger AsciiDoc, une page en web to print, et un système de commentaires de la prévisualisation paginée (source : Nicolas Taffin, https://doi.org/10.48556/SIF.1024.24.59)

C&F Éditions, une maison d'édition créée par Hervé Le Crosnier et Nicolas Taffin, a développé un outil d'édition permettant d'afficher une version paginée d'un document dans un navigateur web et différentes couches de commentaires utilisées pendant les phases de révision. Ce prototype d'annotation, basé notamment sur paged.js, est utile pour des équipes éditoriales autant que pour les auteurs et les autrices dont certains niveaux de commentaires leur sont rendus accessibles. Il est pensé pour pouvoir se coupler à une chaîne d'édition modulaire. Ce mode d'édition complète une pile technique que Nicolas Taffin développe et maîtrise, et est en capacité de transmettre facilement, en remplacement des logiciels habituellement utilisés dans l'édition comme InDesign. Le développement de cette chaîne (Taffin 2024), qui repose notamment sur quelques programmes écrits en JavaScript et documentés, ouvre la possibilité de penser de nouvelles modalités d'édition tout en respectant des principes de légèreté et de modularité.

Côté *diffusion*, Martin Lemaire a présenté un dispositif d'impression avec une imprimante de ticket de caisse (Lemaire 2024), dans une

Figure 7 : Photographie de Martin Lemaire en pleine démonstration de banderole.sh

perspective d'autonomisation des moyens d'impression et pour produire facilement et rapidement des objets imprimés, avec une empreinte limitée. Ce type d'imprimante n'utilise en effet pas de consommable comme des encres, il s'agit d'une technique d'impression par chaleur, avec une durabilité du support qui varie selon l'imprimante et le type de papier. Notons toutefois que le papier thermique habituellement utilisé pose des problèmes de santé et d'écologie avec la présence de bisphénol A (aussi appelé BPA), mais des versions alternatives sans BPA existent. Le script au centre de ce dispositif consiste en moins de trente lignes de code, et les dépendances nécessaires sont très limitées. Le système peut être utilisé sur une grande variété de systèmes d'exploitation et de matériel informatique, limitant au maximum les problèmes de compatibilité, et utilisant le plus possible les outils Unix disponibles par défaut sur des systèmes d'exploitation répandus comme Linux ou *BSD. Avec banderole.sh, Martin Lemaire met à disposition un moyen d'imprimer à peu de frais, dans une volonté d'apprentissage et d'autonomie.

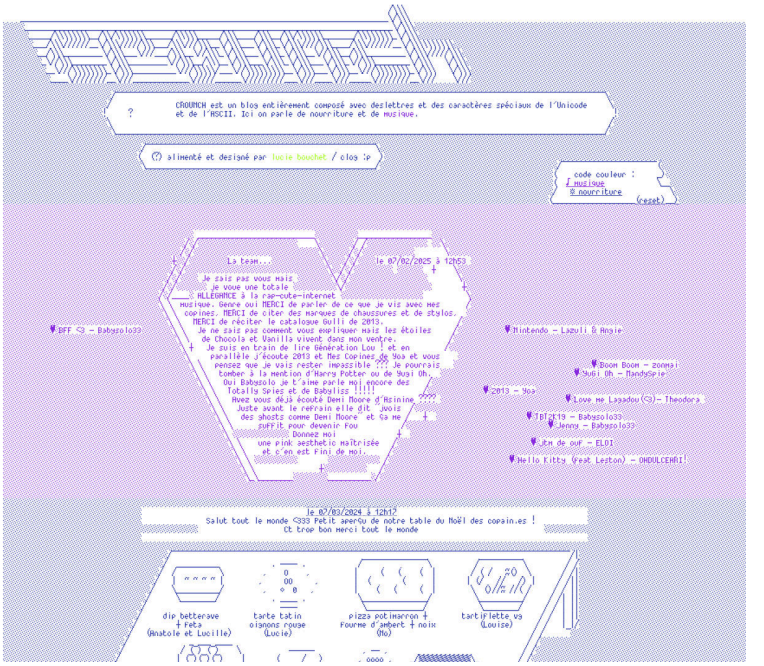

Figure 8 : Capture d'écran du site web "Crounch" de Lucie Robinet (https://crounch.lucierobinet.fr)

Enfin, toujours dans la partie *diffusion*, la designer Lucie Robinet a créé un site web dédié à la cuisine, "Crounch" (Robinet 2025), qui est entièrement conçu en ASCII art, c'est-à-dire une suite de caractères typographiques qui forment un design graphique (mise en page, effets graphiques et images). Le site web tient en une seule page web de 20Ko (avec quelques dépendances tout aussi légères), comportant des recettes de cuisine, des récits de soi, des messages divers et des sélections musicales. Ici la contrainte des moyens (les seuls caractères typographiques) devient un outil de création, et donne à voir une forme originale et sans compromis sur la sobriété.

À la suite de cette rencontre à Strasbourg et à l'occasion d'un autre événement organisé par PrePostPrint en avril 2025, plusieurs per-

sonnes ont discuté de ce que peut être le *permapublishing* (2025), les éléments évoqués convergent vers les analyses présentées dans ce papier. Les différentes questions abordées sont les suivantes : peut-on réduire le *permapublishing* à la limitation des ressources ou à l'impact des pratiques de publication ? Est-ce qu'il s'agit de construire des processus depuis zéro ou d'utiliser des briques existantes ? Comment négocier avec les dépendances techniques et économiques dans l'édition ? Comment prendre soin des dispositifs techniques que nous créons (Fauchié 2025) ? Le point central du *permapublishing*, comme le *permacomputing*, n'est-il pas la constitution de communautés pour envisager des initiatives autonomes ?

À partir de ces prototypes et de ces discussions, comment pouvons-nous définir le *permapublishing* ? Ces quelques projets présentent une riche diversité d'approches mais convergent tous vers les principes du *permacomputing*, notamment le fait d'observer un domaine de travail et de définir des outils adéquats, et de faire preuve de créativité tout en minimisant le niveau d'intervention pour limiter les ressources invoquées — les programmes utilisés ou créés. Ces différents exemples, même s'ils sont peu nombreux, constituent l'idée d'un modèle d'édition pérenne : définir des besoins propres à chaque projet, jouer avec les limites, construire des logiciels de façon indépendante, penser des processus faits pour durer sans devoir renouveler le matériel informatique, permettre une réutilisation de briques techniques. Le *permapublishing* se distingue du *permacomputing* sur deux plans : la dimension matérielle est propre à l'édition imprimée, avec la façon dont les modes de fabrication doivent être critiqués et réimaginés, par exemple à travers la gestion des encres et des papiers ou l'obsolescence des machines d'impression ; des questions métiers centrales sont communes à un groupe hétérogène, qui peut donc partager des expérimentations. Le *permapublishing* est une communauté de pratiques, en construction et en définition.

CONCLUSION : IMPLÉMENTATION DU *PERMAPUBLISHING*, TROIS PRINCIPES POUR L'ÉDITION SCIENTIFIQUE

La conclusion de ce texte prend la forme d'une ouverture vers un prochain rendez-vous ; à partir des analyses ci-dessus sur les concepts de *permacomputing* et de *permapublishing*, nous définissons trois méthodes pour un mode d'édition pérenne, sobre et durable, que nous illustrons plus précisément dans le champ de l'édition scientifique. Plusieurs projets implémentent ces méthodes dans le cadre de la Chaire d'excellence en édition numérique de l'Université de Rouen Normandie, en lien avec les Presses universitaires de Rouen et du Havre : éditions critiques, valorisation de textes thématiques, monographies, carnets de recherche. Nous articulons donc ici éléments théoriques et applications pratiques dans nos propositions, en prenant en considération qu'il ne sera possible de rendre compte de ces expérimentations qu'à l'horizon 2026 lors de la publication des premiers projets. Ces trois méthodes ou principes sont le *découplage* entre la chaîne d'édition et les artefacts produits, l'*autonomisation* des chercheurs·ses et des éditrices avec le développement d'outils minimalistes en collectif, et la *dépréciation* des outils pour l'utilisation prolongée de matériel informatique de production ou de consultation. Nous les décrivons ici succinctement, en résonance avec certaines initiatives de la Chaire d'excellence en édition numérique, et avec d'autres démarches déjà engagées sur ces questions.

Le *découplage* de la chaîne d'édition et des artefacts produits par ce processus est un principe qui permet d'isoler trois étapes : administrer, générer et diffuser. Souvent, les chaînes d'édition numériques savantes consistent en un système complet qui comprend autant l'administration des contenus, la génération des formats de sortie consultables, et le dispositif de diffusion de ces formats (bien souvent un site web). Ces processus sont complexes et nécessitent des architectures techniques ad hoc : langages dynamiques et bases de données relationnelles, serveurs d'hébergement pour accueillir ces couches techniques, connexion internet permanente pour accéder à l'administration des contenus ou pour consulter l'édition mise à disposition, travail de maintenance régulier pour éviter des coupures ou

des failles critiques. L'objectif est de découpler les trois opérations qui consistent d'une part à gérer les contenus, d'autre part à générer les formats consultables, et enfin à diffuser et rendre accessibles ces formats. Cela signifie plus concrètement séparer la chaîne d'édition qui permet d'administrer les contenus et de générer les formats, et l'espace de diffusion. Cette méthode est influencée notamment par des pratiques dans d'autres domaines, comme le développement web et les générateurs de site statique (Diaz 2018) : les artefacts nécessaires à la diffusion sont générés de façon indépendante par rapport au dispositif d'hébergement pour une exposition sur le web. C'est le fonctionnement adopté par la chaîne d'édition le Pressoir (Fauchié 2023) qui applique les principes des générateurs de site statique, cette chaîne est employée pour générer des versions numériques et paginées de monographies publiées dans une nouvelle collection des Presses universitaires de Rouen et du Havre, dont le premier livre porte justement sur l'édition (Vitali-Rosati 2025).

La deuxième méthode est celle de l'*autonomisation* des éditeurs, des éditrices, des chercheuses et des chercheurs, dans le cadre de projets d'édition numérique ou dans le cas d'utilisation de technologies numériques d'édition. Il s'agit de développer des outils minimalistes maintenables plus facilement et sur un temps long. Cette méthode est fortement liée à la première : via le découplage des opérations d'édition il est possible d'utiliser ou de créer un outil pour chacune de ces opérations, plutôt qu'un logiciel qui prend tout en charge. Des outils dont le périmètre d'action est plus limité (nombre de fonctionnalités disponibles, ou nombre de tâches à gérer) sont plus soutenables par rapport à une chaîne d'édition complète — et parfois monolithique. Il s'agit de la philosophie Unix dans le domaine du développement informatique (Raymond 2003, pp. 35-50) déjà évoquée précédemment, dont le principe est de disposer de nombreux petits programmes qui exécutent une tâche précise, afin de ne pas corrompre l'ensemble du système en cas de problème. Cette méthode d'autonomisation via l'utilisation de petits outils doit cependant être appliquée avec un regard critique, Tara McPherson développe un contre-argumentaire de cette philosophie afin de ne pas séparer l'objet du contexte, ou la cause de l'effet, dans une perspective inclusive qui

nous semble déterminante (Mcpherson 2018, pp. 53-62). Concrètement, cela se traduit par la segmentation de certaines opérations éditoriales complexes, prenons l'exemple de l'alignement du positionnement d'un texte encodé avec l'image du document original numérisé : un outil est développé pour ne faire que cette tâche, avec une prise en main dédiée.

Le troisième principe est celui de la *dépréciation* des outils de production des artefacts pour permettre une utilisation prolongée du matériel informatique. Ce principe est le plus expérimental, le plus radical, et le plus difficile à mesurer, tant il ne pourra prendre tout son sens que dans le temps long. Par ailleurs, une telle méthode de *dépréciation* n'est possible qu'à condition de diviser une chaîne d'édition en plusieurs programmes distincts correspondants à des sous-opérations. Pour donner un exemple pratique, il peut s'agir d'un changement de technologie lors de la mise à jour d'un logiciel : si celle-ci nécessite des ressources plus importantes que la version précédente, un choix pourrait être de changer cette *brique*, quitte à perdre certaines de ses fonctionnalités. La durabilité du matériel prime alors sur les fonctionnalités d'un processus d'édition, par exemple. En creux, la priorité est mise sur une approche respectueuse de l'environnement dans lequel nous nous situons, en évitant d'acquérir ou d'utiliser un matériel plus récent qui aura eu un impact négatif sur cet environnement. Il s'agit clairement d'une méthode en complète opposition avec la tendance actuelle d'intégrer des fonctionnalités liées à l'intelligence artificielle dans de plus en plus d'outils, quels qu'ils soient, y compris dans le domaine académique et dans celui de l'édition scientifique. Envisager d'utiliser des ordinateurs de plus de 10 ans, que ce soit pour des usages individuels ou pour la mise en place d'une infrastructure, voilà une pratique bien radicale.

Les concepts de *permacomputing* et de *permapublishing* doivent être considérés comme des paradigmes inédits pour la création ou l'adaptation de modes d'édition pérennes, sobres et durables, et ainsi nous inviter à reconsidérer tout processus technique d'édition. Il ne s'agit pas d'une liste de bonnes pratiques à appliquer mais bien plutôt de repenser certains des mécanismes d'édition à l'heure d'une nouvelle situation. Les trois principaux points communs du *permacomputing*

et du *permapublishing* sont la radicalité du positionnement qui laisse peu de place aux compromis, la dimension expérimentale de ces démarches, et la constitution de communautés autour de ces questionnements et de ces pratiques. Les trois méthodes que nous exposons sont le résultat d'un travail d'analyse et de réflexion critique des concepts et des communautés de pratiques que sont le *permacomputing* et le *permapublishing*, et de leur confrontation au sein d'une organisation humaine et technique. Ne pas déléguer certaines opérations techniques, accepter les défaillances, former les personnes impliquées en même temps que développer ses propres outils, afficher les objectifs d'un projet d'édition en opposition aux modèles marchands, ne pas chercher une reproductibilité absolue des modèles mais accepter les spécificités des situations locales, documenter nos outils pour faciliter la perméabilité des méthodes, aller vers une diversité hétéroclite de modes d'édition. Voilà un horizon complexe, émancipateur, et réjouissant, qui nous permet d'envisager des modes d'édition pérenne. Cet article devra être prolongé avec la présentation et l'analyse de processus d'édition développés dans le cadre de la Chaire d'excellence en édition numérique, afin de confronter les éléments présentés ici dans la perspective de création de modes pluriels d'édition durables, pérennes et sobres.

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LÉGENDES

Figure 1 : Capture d'écran du wiki de la communauté permacomputing (https://permacomputing.net) (27 décembre 2024)

Figure 2 : Capture d'écran d'une même page Gemini (gemini://geminiprotocol.net/) affichée avec deux navigateurs/clients Gemini différents (Astronaut et Lagrange)

Figure 3 : Applications Uxn CC BY-NC-SA Hundred Rabbits (https://100r.co)

Figure 4 : Capture d'écran du site web Solar Protocol (https://solarprotocol.net)

Figure 5 : Affiche de l'événement PPPermapublishing réalisée par Timothée Goguely en HTML et CSS dans un fichier de seulement 5Ko (source : https://timothee.goguely.com/code/PPPermapublishing-A4-jgs.html)

Figure 6 : Capture d'écran d'un environnement d'édition basé sur le langage de balisage léger AsciiDoc, une page en web to print, et un système de commentaires de la prévisualisation paginée (source : Nicolas Taffin, https://doi.org/10.48556/SIF.1024.24.59)

Figure 7 : Photographie de Martin Lemaire en pleine démonstration de banderole.sh

Figure 8 : Capture d'écran du site web "Crounch" de Lucie Robinet (https://crounch.lucierobinet.fr)

THE PEDAGOGY OF MANIFESTO MAKING: MOBILIZING COLLECTIVE EFFORTS FOR DECARBONIZING SCHOLARSHIP AND RESEARCH

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Thinking about decarbonizing research production, dissemination, and publishing stretches the colonized, western, neoliberal imagination. Oftentimes, scholars think of research as a cognitive process, but it is also a highly material one. Our assumptions of academic processes and outputs are infused by oil—whether these be frequent flights and quick trips, international collaborations, or high-carbon research events provisioned with single-use plastics, catered meals transported across distances, and swag and printed materials that contribute to waste and carbon emissions. The adoption of energy-intensive AI tools like ChatGPT and cloud-based computing platforms celebrated for expediting research processes are only augmenting the problem, despite their seeming immateriality.

High-carbon academic output expectations can be understood as petrocultural (Åberg et al. 2), inclusive of both the institutional mechanisms and cultural practices that entrench fossil fuel use. Higher education petrocultures result in inertia on emissions reductions even when higher education institutions express climate commitments. While we see, for example, institutional commitments to the Sustainable Development Goals, and funding earmarked for energy innovations, more insidious expectations of high-carbon research and dissemination remain beyond view. Petroculture scholar Stephanie LeMenager articulates how western subjects adhere to fos-

sil-fuelled notions of the good life associated with "unfettered luxury in the form of new time-saving machines, breathtaking speeds and automobility, and magical materials like plastics" (qtd. in Boyer 1; see also Martens 194-5)—a reality echoed in globalized academic expectations of fast-paced research publishing and dissemination. Linked to the progress narratives of modernity, petroculture shrouds its inherent "creative destruction" (LeMenager 82) by prioritizing speedy, high output, and efficient academic production over good relations, planetary boundaries, and issues of environmental and climate injustice. Instead, petrocultural norms oriented around academic output, mobility (Tzanakou and Henderon 1), and high-carbon fast travel (Conti 19-20; Pasek 35-36) provide the basis for the "cosmopolitan scholar" (Pasek 35), expected to single-author publications and disseminate research globally—a position that is not equally accessible to all. Problematically, for those not yet accessing the position of cosmopolitan scholar, whether due to early-career status or positioning in a marginalized region, aspirations for obtaining this position arguably drive petrocultural dissemination practices, even against these scholars' own climate commitments.

Changing these material relations is necessary if higher education is to act on climate. The paper you are reading is both a reflection on and invitation to participate in a collaboratively developed *Manifesto for Decarbonizing Scholarship and Research*, the full text of which is included below and can be found online at educators-for-climate-action.com/researchers/. Initiated during the global Learning Planet Festival in early 2023, the *Manifesto* responds to the call by Rachel Jekanowski and colleagues ("Part 2") for academics to call their institutions to account, advocating concrete changes to social sciences and humanities scholarship through shifts in institutional policies and practices that promote and support low-carbon research practices. Countering "oily entanglements" (Jekanowski "Part 1") and banal forms of petroculture in higher education, the *Manifesto*—and this paper—take a broad understanding of "publishing" inclusive of knowledge production, publishing ethics, and processes of dissemination such as conferences, guest lectures, book launches, and public presentations. In our field of education, and in the social sci-

ences more broadly, knowledge production, including data collection and collaboration, often occurs in practice-oriented contexts through partnerships with practitioners, rather than in campus-based labs. The *Manifesto* seeks to provide structural supports for institutional change, unpacking the ways fossil fuels are embedded in the material practices of research and dissemination and making concrete recommendations for decarbonizing research and publishing through institutional policies and practices.

Participating in the *Manifesto* allowed collaboration with a variety of scholars across varying disciplines and positions to consider how higher education institutions can and must do more to leverage policy, funding, and incentives to support alternative ways of being a researcher, doing research, and sharing research findings through various forms of publishing and dissemination. Written as a collective biography, this paper explores our experiences of developing the *Manifesto*—which we consider a living document—and the subsequent tensions that arise in the ongoing process. These tensions invite further dialogue and action on decarbonizing research and publishing among our readers.

THE CONTEXT FOR THE MANIFESTO: SETTING THE STAGE

The manifesto that undergirds the work of this paper grew out of the authors' collective critique of continuing petroculture in education and our concern for its immense effects on people and planetary ecosystems (Karsgaard and Shultz 4-5). These effects are clearly laid out in the Intergovernmental Panel on Climate Change report (2022), which also urgently calls for rapid emissions reductions. No industries or workplace sectors are exempt from an ethical responsibility to respond to the need to mitigate climate change in their organizational and institutional practices; there are no justifications or loopholes for academia to escape accountability in this regard (ALLEA 14; Borgermann et al. 18-21). As a collective, the authors seek to respond to the call for emissions reductions via adopting strategies and advocating for systems approaches to decarbonizing research.

While each of the individual authors has been slowly increasing awareness of the considerable carbon emissions generated by our research activities, our collective sensemaking has led us to converge and synthesize our understandings, as well as to better identify and differentiate the mechanisms and effects of carbonizing research. Each of us has taken personal steps to decarbonize our research over varying periods of time, motivated by concerns that largely mirror the anxieties of other scholars about digital carbon emissions. At the same time, as scholars have done before us, we wrestle with the ways that decarbonizing efforts can be in tension with research outputs, economic costs, and researcher well-being (see, for example, Reyes-Garcia et al. 8). Nonetheless, we are aware that collective action is needed to address systemic change, and we collectively struggle to advance pathways for advocacy and change. Hence, we see the *Manifesto* and its associated work (including this essay) as a way to get about that work.

Our work on the *Manifesto* began in 2023 during the Learning Planet Festival, a global event organized by the Learning Planet Institute in partnership with hundreds of partners across the world, including Arizona State University (ASU), where all authors were affiliated at the time as faculty, students, and a postdoc. This festival celebrates creativity, collaboration, and the power of collective intelligence, fostering connections across disciplines, sectors, and regions to address the most pressing challenges facing our planet. Operating on a decentralized model, the festival combines localized in-person gatherings with virtual sessions and hybrid events, creating an accessible, inclusive platform that significantly reduces the carbon footprint typically associated with large-scale conferences. This innovative format not only broadens participation but also provides a more sustainable alternative to how we come together to address planetary challenges.

The festival became a catalyst for us to come together, creating the opportunity to collaboratively address a pressing paradox: while many of us are committed to tackling the climate crisis through our scholarly activities and daily academic lives, the methods and processes of academic research and publishing often contribute to

the very problems we aim to solve. Within this framework, we organized a participatory workshop and invited participants from diverse disciplines and backgrounds "to come prepared with computers and ideas—and be ready to write!" Organized by the *Education for Planetary Futures* Learning Futures Collaborative[1] at ASU with support from the Greater Phoenix Regional Centre for Excellence in Education for Sustainable Development, the workshop brought together a small group of faculty members, postdoctoral scholars, and graduate students from the social sciences, sciences, and humanities, with a strong representation from the field of education. We provided participants with a set of background readings and viewings about reducing emissions through academic conferencing (e.g., Lewy et al.), as well as materials from the Low Carbon Research Methods Group (lowcarbonmethods.com/), to get them started.

Given our shared experiences within the dynamic and research-driven environment of ASU, it is important to situate the creation of this manifesto within this context. ASU has been consistently recognized as a global leader in sustainability, consistently ranked #1 in the United States and among the top ten universities worldwide for its sustainability efforts. The university is renowned for its technological innovations, such as the development of mechanical trees designed to capture carbon from the atmosphere ("Mechanical Tree") and its leadership in advancing just energy transitions ("Symposium"). Further, it has adopted ambitious campus-wide sustainability goals and a vision to drastically reduce carbon emissions (ASU Business and Finance) and has integrated sustainability into its curriculum, requiring all incoming students to take a sustainability course (Faller).

Despite these accomplishments, significant gaps and contradictions persist. ASU president Michael Crow has been a prominent advocate for reimagining the role of universities in addressing global challenges, openly critiquing the structural failings of higher education institutions and their contribution to the environmental crisis (Crow and Dabars). Reflecting on this responsibility, Crow stated, "We did not understand how to intellectually design a teaching, learning, and discovery organization capable of actually keeping us from killing

ourselves. It is unbelievable" (qtd. in Mitchell). This critique underscores a key tension not only at ASU but across higher education: while institutions may champion ambitious sustainability goals, they are complicit in the climate crisis as they continue to operate through neoliberal infrastructures and technocratic visions of progress that reinforce petrocultural norms (Crow and DaBars; Silova 54-59). ASU's public-facing sustainability commitments are undermined by persistent petrocultural norms embedded in academic research and publishing, high-carbon practices like frequent air travel for conferences, widespread use of single-use plastics, and hierarchical academic reward systems that prioritize speed and productivity. These deeper contradictions are particularly evident in the university's growing partnerships with artificial intelligence companies—such as OpenAI—without fully reckoning with their immense energy demands and alignment with extractive knowledge economies. These tensions are not unique to ASU but reflect broader systemic inconsistencies that pose challenges to scholars within large, public institutions who are striving to decarbonize their research while navigating complex institutional landscapes that perpetuate carbon-intensive academic practices. They highlight a disconnect between technological, infrastructure, and curricular advancements and the need for deeper cultural and institutional shifts in how academia operates.

ASU's approach to decarbonizing research and scholarship remains largely underspecified. There is no clear institutional framework for reducing the carbon footprint of academic knowledge production and publishing. It is important for us to be more explicit and discursive about our intentions and positionality. Recognizing these contradictions and the lack of a clear institutional framework, we see the urgency in addressing these systemic gaps. It is within this context that we wrote, and are now reflecting on, this *Manifesto for Decarbonizing Scholarship and Research.*

THE METHOD BEHIND THE MANIFESTO: A COLLECTIVE BIOGRAPHY APPROACH

Perhaps in keeping with the petrocultural norms we inhabit, we initially envisioned the manifesto writing workshop as a space for "rapid collaborative research" focused on decarbonizing research practices. However, as the workshop unfolded, it became clear that the act of writing could not—and perhaps should not—be rushed. Instead, the process evolved into a slower, more intentional journey, stretching over two years and marked by extended dialogues, background research, moments of pause and silence, and a commitment to deeply engaging with the complexities of the topic. Drawing inspiration from Isabelle Stengers' call for "another science" and Donna Haraway's notion of "staying with the trouble" (4) the writing process became an enactment of the principles we sought to articulate in the *Manifesto*. We grappled not only with the content of the *Manifesto* but also with the relational and ethical dimensions of our academic lives, including the inherent contradictions and tensions within our own practices. This slower, more intentional approach mirrored a different way of being in the academy—one that prioritized care, relationality, and collective accountability over speed and output. The process itself reminded us that how we work together is as important as the work we produce, underscoring the need to model the transformative practices we advocate for in academia.

Recognizing the importance of this process, we sought to make it visible to readers by sharing our reflections on the writing journey. Writing a manifesto involves not only articulating collective goals but also confronting our own positionalities, experiences, and complicities within the systems we critique. To provide a more grounded and personal entry point into the *Manifesto*, we turned to a collective biography approach (see Haug; Charteris et al.; ZIN). This method allowed us to illuminate the complexities and tensions of the writing process itself, highlighting how our personal and collective experiences shaped the vision and purpose of the *Manifesto* while situating ourselves within this work.

Collective biography is a collaborative research method that foregrounds the relational and embodied dimensions of knowledge production. It invites participants to engage deeply with their own and each other's stories, not as isolated accounts but as interconnected threads that reflect broader social, cultural, and historical contexts. By collapsing the traditional object/subject divide, it positions our experiences not as detached observations but as fundamental components of the knowledges we create. Furthermore, it challenges the prevailing academic culture of solo work by fostering collaboration, shared accountability, and a deeper relationality—principles that align with the *Manifesto*'s vision of reimagining education and knowledge production for planetary futures. As a group of women, we were drawn to this approach because it reflects how we want to work together, in ways that feel honest and grounded, creating space for vulnerability and connection—two elements often frowned upon in academia—while pushing back against systems that dismiss or silence women's voices.

Our approach to collective biography was also inspired by new materialist perspectives, particularly the work of Bronwyn Davies and Susanne Gannon, which emphasizes the entanglement of human and non-human forces in the production of knowledge. From this perspective, collective biography is not merely a method of narrating and reflecting on human experiences but an exploration of how those experiences are shaped by the material-discursive environments in which they occur. Memories are not static recollections but active, dynamic encounters with the past, influenced by the interplay of bodies, spaces, objects, and emotions. In our work, this meant paying attention not only to the content and process of writing the *Manifesto*, but also to the material and affective conditions that shaped them—the physical settings of our sessions, the digital tools we used to collaborate, the fossil fuels that powered our commute to work, and the emotional currents that emerged as we wrote and shared. By incorporating this new materialist sensibility, we aimed to situate our reflections within a broader web of relational and material influences, aligning our process with the *Manifesto*'s commitment to

interdependence and transformation, while acknowledging our own oily entanglements in academic life.

To craft this paper in the collective biography genre, we gathered for three focused sessions as a group and worked asynchronously between these sessions. We began by establishing a shared focus: exploring what brought us to this work, our experiences and memories of creating the Manifesto, and the tensions we encountered before, during, and after the writing process. Our goal was to recall specific, detailed memories related to these questions, writing them down in vivid, sensory-rich language, and sharing them with the group. We carefully listened to each other's stories and read each other's reflections, creating a collaborative space where individual stories intertwined, sparking connections and discussions about the broader social, cultural, and institutional forces influencing our work. We commented on each other's stories and critically examined recurring themes, contradictions, and moments of discomfort, asking questions such as: How do our positionalities and experiences inform the manifesto? What assumptions or frameworks have shaped this process? How do the tensions we have encountered reflect the systems we critique in the manifesto itself?

Through this iterative process, we revised and refined our narratives, drawing out insights that deepened our understanding of the *Manifesto*'s purpose and meaning. By weaving together these reflections, we attempted not only to articulate the personal and collective dimensions of this work but also ground the *Manifesto* in a relational and embodied praxis, aligning its creation with its goals. Through the process, we solidified a number of themes that shed light on the difficult and ongoing work of addressing the "oily entanglements" of academic work and decarbonizing research and publishing.

COLLECTIVE (OILY) ENTANGLEMENTS: INSIGHTS FROM THE MANIFESTO MAKING PROCESS

Our learning through the *Manifesto*'s creation process revealed the banality of petroculture in academic publishing practices and the complex responsibilities in unpacking and

shifting these practices. Where many of us had never considered the carbon output of academic research and publishing, engaging in the collaborative development of the *Manifesto* initiated a "slow dawning" of understanding. Prior to working on the *Manifesto*, many of us had engaged in climate-friendly behaviors in our personal lives, such as commuting by bike, engaging in local advocacy, and leading youth education initiatives about climate change. However, academic practices had remained beyond view, and we felt detached from the institutional work of decarbonization. As we worked together on the *Manifesto*, we began to realize the "oily entanglements" of academic research and publishing in our previously unexamined individual actions and professional or institutional expectations (e.g., Eisenbeiß et al.; Liora et al.; Wassénius et al.). This invisibility of petroculture within academia reminded us of Hannah Arendt's notion of the "banality of evil" (252) where the bureaucratic functioning of academic institutions—from ethics protocols to CV-development expectations—normalizes our unsustainable actions. Manifesto-making thus became a pedagogy as it led to surfacing these banal violences and driving us to reflect on our own practices, raising a number of tensions. We discuss these tensions in the sections below.

WHERE WE WORK AND WHY: EXAMINING GLOBAL-LOCAL TENSIONS IN ACADEMIC PUBLISHING

The tension between global and local travel in academic research and dissemination was a recurring theme in our reflections. It was not just about the frequency and distance of travel but about the relationships we build and the responsibilities we share—or fail to share—with those we collaborate and publish with. "I often wonder," one of us pondered, "why I need to travel halfway around the world to study something that could be explored here, in my own context." This question resonated deeply, prompting us to examine the assumptions tied to the perceived value of global research versus local work.

For scholars from rural areas, remote regions, or underrepresented contexts, however, travel is not optional—it is essential. "If I stayed

in my home country, I wouldn't have had access to the education and networks that are shaping my academic career now," one of us shared. This disparity, where some are required to travel to gain access while others may choose to travel for broader exposure, highlights inequities in academic systems that Jonathan Sterne describes as deeply rooted in uneven distributions of academic labor and power (1855-1856). Nicole Starosielski and Janet Walker explain that such disparities reflect systemic entanglements that prioritize resource-intensive practices over sustainable and inclusive alternatives (3)—reflections with which we strongly identified as we reflected on publishing expectations that demand international reach within a global knowledge economy. "When I think about my collaborators in Uganda," one of our team members noted, "I realize how different their needs are. Travel for them isn't just about opportunity—it's survival in academia."

But the tension is not only logistical, it is also relational. "When are we truly collaborating, and when are we extracting? Why do we feel more compelled to write about others than to reflect on our own practices and contexts?" These questions lingered as we grappled with our roles in perpetuating or challenging these dynamics. Meredith Conti's call for "slow academic travel" as an antidote to "fly-over" scholarship (18) echoes our own discomfort, suggesting deeper engagement with the contexts where we work—either globally or locally—as a counterbalance to the extractive tendencies of neoliberal scholarship. Similar to Anne Pasek, Emily Roehl, and Caleb Wellum, our discussions revolved around building relational networks of collaboration as a means of fostering connections and rebalancing relationships with our research participants, while reducing the ecological costs of research, publishing, and dissemination.

SLOWING DOWN: ENACTING ALTERNATIVE KNOWLEDGE ECONOMIES

The theme of slowing down is both a response to and a critique of the fast-paced, high-carbon academic culture embedded in

the knowledge economy (Conti 22-24; Le Quéré et al. 5-7). Increasing acceleration and expansion of fast-paced publishing and expectations of high mobility scholarship not only threaten research quality and integrity (Edwards and Roy 55-56) but also incur unsustainable material impacts, resource exploitation, and waste production (Arsenault et al. 14; Wassénius et al. 2770-2771). Slowing down advocates for a shift away from the extractive, hyper-achievement, productivity-driven norms that have come to dominate academic research and publishing toward a slower, more intentional engagement with knowledge creation and dissemination (Conti 24-25; Jekanowski et al., "Part 1," "Part 3"). Slowing down is not simply about doing less work (though this may also be the case) but about working differently—reorienting research practices to align with values of sustainability, equity, and relationality. It connects deeply with the degrowth movement, which calls for the deceleration of extractive systems to prioritize well-being and ecological balance over perpetual growth.

Within our collective reflections, we recognized expectations rooted in petrocultural norms, which drive scholars to prioritize speed and global dissemination even when they clash with the values of decarbonization and degrowth. One author reflected on tensions of balancing the ecological costs of travel with the expectations of maintaining scholarly networks, noting that her decision to attend fewer conferences impacts not only her but also her students, as they attend alone without the benefit of her mentorship during the conference. Another team member observed how institutions' approaches to decarbonization vary widely, emphasizing the challenges of aligning scholarly practices with sustainability goals, particularly in contexts where the pace of research is dictated by globalized academic norms.

Together, these reflections reveal the need to rethink how success is defined in academia, moving away from fast-paced research and publishing cycles and toward more sustainable and ethical practices. Systemic changes that prioritize slower, more deliberate and reflective approaches allow for deeper engagement with the subject matter, more ethical consideration of research impacts, and more sustainable use of resources. By resisting the pull of productivity-focused met-

rics, we can reimagine the knowledge economy through the principles of degrowth, reshaping academic culture to align with sustainability and relationality.

NAVIGATING EQUITY AND RESPONSIBILITY IN DECARBONIZING RESEARCH: SCALES OF RESPONSIBILITY

As we began to recognize petrocultural academic publishing processes and expectations, and faced our complicity in these, we subsequently began to recognize how responsibility for change is enacted in a dynamic between individuals and systems. We shared difficult conversations where we recognized our own affective investments in petrocultural publishing expectations—of enjoying international conference travel and feeling productive when we quickly produce manuscripts, for example. Here, we noted the personal and affective work involved in letting go of our investments in petro-fuelled modernity (Stein et al. 282-283), particularly as many of us still benefit from this system. At the same time, our reflections did not centre only on individual efforts. While each of us acknowledged the personal actions we could take to divest from modernity and decarbonize scholarly practices, advocating for institutional shifts to cultures and expectations (e.g., tenure and promotion) is necessary to support the agency of individuals. Additionally, we recognized that privilege and responsibility are not equally distributed among individuals or institutions. Questions such as, "How could we ensure that our recommendations prioritize equity?" and observations that some of the manifesto solutions "scream privilege" prompted us to further explore different challenges faced by individuals and institutions in decarbonizing research.

On the individual level, our group identified tensions between decarbonization and the research methods scholars use.[2] For example, a practice-based scholar may find it harder to reduce their carbon footprint compared to a survey-driven researcher, as on-site dissemination of published work may be expected by partners and practitioners. Similar challenges may be faced by scholars working on collaborative teams, since team-based research and publishing often in-

volves extensive coordination, travel, and resource demands for data collection and dissemination across multiple locations, all of which contribute to a larger carbon footprint than solo-authored research typically entails. Scholars are further influenced by the socio-historical cultural values in their fields, such as the deeply ingrained expectation of extensive travel in comparative and international education for global dissemination of published works. Career stage also plays a significant role: senior faculty may face fewer negative consequences from their decarbonizing efforts, while early-career scholars face more pressures, as one of us expressed: "In a period I am expected to develop my CV, generate and gather data, widely disseminate my research, and foster international networks, high carbon academic expectations influence my decision-making." Graduate student collaborators, far from home, expressed worry that restricting travel would negatively impact familial obligations and relational ties.

At the institutional level, decarbonization commitments may have different impacts depending on the university size and socio-historical contexts. Although each of us shares a connection with ASU—a large, research-intensive university—we also have scholarly kinship ties to different-sized and socio-culturally situated institutions. Several contributors expressed concern that decarbonization efforts might disproportionately impact scholars in more isolated or resource-poor contexts, such as rural universities or scholars from the Global South. For example, reducing travel opportunities or shifting to virtual publishing and dissemination formats could exacerbate isolation for scholars already struggling to access academic networks. On the other hand, these shifts may also pose equity challenges for under-resourced communities, where technology access may be limited. Recognizing that the *Manifesto*'s work was deeply influenced by being rooted in our shared ASU context prompted us to consider the potential strengths of non-dominant institutions in leading the way toward decarbonizing research and publishing. One scholar noted that at their smaller institution, "research that connects with and benefits the local community is prioritized, particularly where the local post-industrial community faces economic, social, and other challenges that research can help address." Smaller, regional univer-

sities may offer valuable lessons on decarbonizing research by focusing on connection with local communities and publishing in local venues, shifting the balance of academia away from a global knowledge economy.

AI'S CARBON COST IN ACADEMIA

The development of the *Manifesto* began at a time when AI—including generative AI—was widely regarded as a critical solution for both promoting sustainability and maintaining stability, with extensive literature highlighting AI's potential to positively impact sustainability initiatives, particularly its alignment with achieving the Sustainable Development Goals (SDGs). For instance, Ricardo Vinuesa and colleagues referred to AI as an enabler of 134 targets (79%) across all SDGs, while also cautioning that 59 targets (35%) across the SDGs could face negative impacts due to AI development (2). Although we deliberated on AI's role in supporting decarbonization efforts, the *Manifesto* itself does not explicitly address AI—a notable oversight, especially given the rapid and widespread adoption of Generative AI in research since its creation—for data analysis, writing, reviewing, and editing—and the concomitant enormous energy and resource use.

AI's efficiency comes at a substantial cost. The edtech platforms now used by educational institutions—driven by major technology companies such as Google, Microsoft, and Amazon—operate on cloud infrastructures housed in massive data centres, which require huge amounts of energy to run (N. Jones 163-166; Williamson). For instance, it is estimated that a single query to ChatGPT uses the same energy as keeping one light bulb on for 20 minutes (Kerr), and the platform has a massive water footprint (Li et al.). Furthermore, the rapid development of generative AI tools is impacting the sustainability commitments of tech companies. Organizations that once pledged to achieve net-zero carbon emissions by 2040 are now struggling to meet their goals, with some even questioning the feasibility of fully eliminating emissions while continuing to "grow" (Green).

Meanwhile, universities, including ASU, continue to embrace advancements in AI despite the apparent conflict between these innovations and their sustainability goals. In its AI guiding tenets, ASU asserts that "we have a responsibility to our community to keep pace with the rapid progression of AI," yet it makes no mention of the inherent tension between this stance and its decarbonization commitment. Additionally, continued reliance on generative AI tools to make research faster and more efficient prevents researchers from achieving carbon neutrality. Or even further, as a collaborator stated, "it seems that academia's ability to carbonize (via AI) outstrips even our ability to imagine decarbonizing research."

The rise of AI also raises ethical concerns about fairness and equity given the uneven access to these tools. This disparity exacerbates global research inequities, as scholars in resource-constrained environments struggle to compete with peers in well-funded institutions. In a system where academic opportunities and recognition often depend on publication volume, inequitable access to AI tools widens the gap, further entrenching systemic disadvantages (Bissio 82). Problematically, AI continues to be adopted without much critical reflection or consideration for this widening gap, as its efficiency has accelerated the pace of academic production leaving those unable—or unwilling—to integrate it at risk of being left behind.

The *Manifesto*, envisioned as a living document, offers an opportunity to revisit these omissions and adapt to emerging challenges. As AI's educational, environmental, and ethical impacts become increasingly clear, future iterations of the *Manifesto* will incorporate these issues, ensuring it remains relevant and responsive to the evolving landscape of decarbonizing research and scholarship. This iterative approach reinforces the *Manifesto*'s commitment to collective reflection and action, making it not only a call to decarbonize but also a dynamic framework for addressing the systemic inequities and complexities that shape academic practices.

DECARBONIZATION FOR ALL! FROM TECHNICAL JARGON TO COLLABORATIVE ACTION

During our collective writing process, we noticed a clear difference in how individuals related to the concept of decarbonization, shaped by their backgrounds and experiences. For some, particularly those with expertise in sustainability, renewable energy, or ecological justice, the connection to the *Manifesto* felt natural and urgent. These contributors engaged with ease, viewing decarbonization as directly tied to their academic work and professional responsibilities. In contrast, others, including some students and faculty from the field of education, felt that the term "decarbonizing" was distant, technical, and outside their realm of expertise. One student admitted that this unfamiliarity initially kept her from participating in manifesto-making, saying, "the word 'decarbonizing' sounded highly technical and felt intimidating." Another reflected, "thinking about decarbonization and climate change within academic scholarship was challenging for me," and pointed out the problem of low awareness of climate issues and solutions among the general population.

This unfamiliarity is not just about the term itself but reflects the deeply systemic and complex nature of decarbonization. One professor shared that her contributions felt "basic compared to the more sophisticated and nuanced understandings of decarbonization that others brought to the table." This sense of complexity can make the work feel inaccessible or overly specialized, leaving participants unsure if they belong in these conversations and spaces.

Based on this theme, we ask: how do we make sure everyone feels not only invited but essential to this effort? The *Manifesto* offers a way forward: as a public, open, and collaborative call to action, it is designed to spark a conversation, break down barriers, and bring together diverse voices. Manifestos have historically pushed boundaries by fostering collaboration and collective ownership of change (Faire et al., 553). In this context, our manifesto emphasizes that decarbonizing research and publishing is not just the responsibility of sustainability experts—it is something that affects and requires all of

us. Climate change is a shared challenge, and addressing it requires collective effort across disciplines and perspectives. By addressing the systemic roots of climate change in accessible ways, like by making the concept of "decarbonizing" familiar and accessible, we can bring more voices into the conversation and create momentum for systemic change at every level.

AN INVITATION INTO THE PEDAGOGY OF MANIFESTO-MAKING

The process of creating the *Manifesto for Decarbonizing Scholarship and Research* was as transformational as the document itself, offering a profound opportunity to reflect on the material and cultural dimensions of academic publishing practices. The manifesto-making process highlighted recurring themes that weave together personal, institutional, and global concerns, reflecting the complex nature of decarbonizing research in the context of higher education. Yet, one outcome of the manifesto process, perhaps unexpected, was a collective retrospective sense that each of us has individually garnered new insights and opened new questions of value to us personally and professionally. Marvelling at this shared experience of learning, someone dubbed this experience "the pedagogy of manifesto-making." One member felt, "I gained far more than I contributed during the process." For another, "the project became an awakening." A third expressed a learning as the emergence of new tensions related to the daunting challenge of translating commitments into action:

> "I find myself questioning how to integrate these principles into my own practice and how to navigate institutional inertia without losing momentum. These tensions remind me of the importance of vulnerability, collaboration, and persistence in driving change. While the work may feel overwhelming at times, being a part of this Manifesto also inspires a sense of collective hope and responsibility to align my actions with the vision we've articulated."

Even though many of these questions and tensions do not have immediate or definite solutions, the *Manifesto* offers an invitation to

slow down and reflect. As Báyò Akómoláfé suggests, "the idea of slowing down is not about getting answers, it is about questioning our questions. It is about staying in the places that are haunted" (par. 4). This perspective encourages us to sit with uncertainty and complexity while working for change, trusting that new ideas and ways forward can emerge from the process. By joining the *Manifesto*, we recognize that we are not alone—our tensions and concerns become opportunities for collective thinking and sharing. If there is one thing the collective biography approach has taught us, it is that uncertainties become clearer when we face them as a group. Ideas multiply as we inspire each other with thoughts and insights we did not have or considered before. Being part of this manifesto means staying, collectively, with the trouble of decarbonizing scholarship.

Looking forward, we hope the *Manifesto* will continue to unfold not as a conclusive statement but as a dynamic and relational project that invites participation, revision, and, at times, contestation. Our aim is to mobilize the *Manifesto* within ASU by discussing it with colleagues, administration, tenure and promotion committees, and the research office, and we invite readers to do the same within their home institutions. More broadly, we plan to share the *Manifesto* over social media and work with it through participatory online workshops and conference sessions, collaborating with colleagues to refine and make actionable its calls.

The power of the *Manifesto* lies not in closure, but in its capacity to generate new conversations, unsettle taken-for-granted assumptions and practices, and build solidarities across institutional, disciplinary, and geographic boundaries. As it circulates—through classrooms, ethics committees, conference panels, and informal dialogues—we envision the *Manifesto* as a kind of mobile commons: a shared, shifting space where the work of decarbonizing scholarship is continually reimagined in response to local conditions, emerging technologies, and the unpredictable urgencies of our time. Rather than offering a fixed roadmap, it gestures toward a plurality of paths, inviting others to walk, reroute, and extend it in directions we cannot yet foresee.

We conclude, therefore, with an invitation to readers to join us in the pedagogy of manifesto-making. Add your voice to the *Manifesto for Decarbonizing Scholarship and Research*, refine its vision, and carry it forward to transform research and publishing. To amend or add to the *Manifesto* itself, we welcome readers to reach out to us directly with ideas and research that can help refine this emergent vision for decarbonizing research and publishing. To put the *Manifesto* into action, we welcome readers to carry the *Manifesto* into their home academic contexts, sharing it with their departments, colleagues, educational leaders and upper administration, research ethics boards, tenure and promotion committees, and sustainability offices. Decarbonizing research and publishing will involve both individuals and institutions to recognize and excavate academia's petrocultural expectations and practices, while envisioning the academic life otherwise.

MANIFESTO FOR DECARBONIZING SCHOLARSHIP AND RESEARCH

1. Preamble and Summary

The ways in which we pursue our teaching, learning, service, and research (i.e. our scholarship) create significant carbon emissions. We aspire to do better - to minimize the carbon emissions directly and indirectly produced as part of conducting our scholarship. We recognize that this aspiration requires individual action as well as institutional and systemic change. We have outlined a series of actions we can take as individuals and institutions. Our goal is an inclusive, supportive, and ongoing movement that advances our individual and collective responsibility for a decarbonized future. We invite you to join us.

The leading cause of climate change is fossil fuel emissions. Increasingly, higher education and research institutions are creating climate commitments to safeguard the future of the planet and people. Decarbonization of research is necessary to meet these commitments. Decarbonizing refers to the process of reducing carbon dioxide (CO_2) emissions that result from human activities. In relation to research,

it's about making choices at every step of the research and knowledge mobilization processes.

2. Call to Action

We seek to join with the broad higher education community (including full-time and part-time faculty, graduate and undergraduate students, staff and administrators) as well as scholars inside and outside of academia to build an inclusive, supportive, and ongoing movement that advances our individual and collective responsibility for decarbonized scholarship. We invite you to join us in creating that movement through your own actions, our collective support for one another, and our combined efforts to support our universities in implementing policies and practices that support and reward decarbonized scholarship.

3. Who We Are

This effort was spearheaded by members of the *Education for Sustainability and Global Futures* Learning Futures Collaborative at Arizona State University. We are a multigenerational and multidisciplinary group of scholars and educators active in social science and/or education research and practice. We are committed to advancing our own efforts—and broader efforts within our institutions—to reduce or eliminate carbon emissions associated with academic and scholarly research activities.

We believe that education plays a key role in moving toward sustainable and equitable futures, and the decarbonization of education scholarship has a critical role to play. It is unfortunate that the ways we conduct that scholarship contribute to the problem we are trying to solve, and we commit to minimize our contributions. We also recognize, as educators, that we have a unique opportunity to model, with our scholarship, the very practices, behaviors, and approaches that we seek to advance through our scholarship. We see ourselves as advocates, with the goal of bringing research about the decarbonization of education systems to bear on those systems of which we are a part. To put it simply, we aspire to do no additional harm to the

planet and ourselves in our work, and instead to heal the planet and ourselves.

4. Foundations to Build On

There is much good work to build on in our effort to decarbonize scholarship.

As education scholars, we are inspired by our colleagues within social sciences, natural sciences, and technological fields and their ongoing actions to decarbonize research. Our colleagues have reduced travel, minimized their labs' carbon emissions, increased the efficiency of their numerical models, shifted toward renewables, reduced their use of toxic chemicals in laboratories, created alternative modes of conferencing and collective research, centred relationality and the importance of long term connections to place, and more.

We are inspired by the efforts of young individuals who are actively combating climate change worldwide. Contemporary youth across the world are increasingly alarmed about the future of our shared home planet, which must endure the repercussions of prior generations' actions. It is imperative that we commit to collaboration with youth to foster a more sustainable Earth.

5. Guiding Principles

- Scholars and Institutions of Higher Education can reduce their carbon impact across research—which we recognize is often interconnected with teaching and service.
- Campus decarbonization occurs through actions of physical and social infrastructuring. For example, viable alternatives to high-emissions travel exist, but taking advantage of those alternatives requires that they be accessible, safe, convenient, and culturally acceptable.
- Cultural shifts in academia are necessary to contribute to decarbonization efforts.
- Incentivizing responsible, respectful, collaborative local research can contribute to decarbonization efforts.

- Decarbonization and equity should be complementary, not competing goals. Decarbonization should ensure all communities can thrive, including non-human and more-than-human communities and communities who will come after us in time.

6. Intended and Suggested Actions

In this section, we outline our commitments and suggest actions for our higher-education institutions. In accordance with evidence that decarbonization requires both individual action and systemic and institutional changes, we outline action for ourselves as individuals and for our institutions.

6.1 Localizing Scholarship

As individual scholars, we will lower our carbon emissions by localizing our scholarship. We commit to the following actions:

- Prioritize research dissemination with local community organizations and businesses (i.e. playhouses, museums, gardens, and schools).
- Re-invigorate local research conference attendance and participation.
- Encourage and build local partnerships for all research. This would both create a collaborative research culture in international contexts and reduce travel needs for data collection.
- Value the multiplicity and diversity of local knowledges, which leads to more nuanced and contextually relevant findings and promotes more inclusive, sustainable research informed by and aligned with the specific needs and conditions of local communities.

We ask institutions of higher education to:

- Develop and implement evaluation and promotion practices that recognize forms of expertise revealed and expressed locally, nationally, and internationally. International reputation matters but isn't the most significant indicator of quality scholarship, meaning that expertise isn't only contained in academic practice.

- Facilitate and foster collaboration with local governments, community-based organizations, and industries.
- Create and appropriately fund local networks among graduate students and among proximal institutions (universities, colleges, community organizations) for collaboration, peer review/feedback, and graduate student conferences.
- Prioritize research dissemination with local community organizations and businesses (i.e., playhouses, museums, gardens, and schools).
- Re-invigorate local research conferences attendance and participation.
- Establish local hubs that bridge to international organizations to reduce travel.
- Encourage and build local partnerships for all research - this would both create a collaborative culture of research in international contexts and reduce travel needs for data collection.
- Offer adequate compensation for non-academic collaborators.

6.2 Aligning Rewards and Incentives

As individual scholars, we will support, celebrate, and encourage others in their efforts to help build a culture that rewards decarbonization. We commit to the following actions:

- Promote and celebrate research on decarbonization.
- Design academic meetings to allow for robust remote participation and ensure the actual and perceived value of meetings doesn't depend on in-person participation.
- Highlight the decarbonization work of our colleagues in our efforts to support their tenure and promotion.
- Define metrics and criteria for assessing the decarbonization of scholarship.

- Volunteer to work on tenure and promotion policies and advocate for decarbonization as a consideration.

We ask institutions of higher education to support us in these efforts by committing to the following:

- Recognize the value of local and regional conferences in tenure, promotion, and milestones of graduate students and other scholars.
- Align personnel evaluation, including tenure and promotion requirements, with the goals of decarbonization.
- Create incentives for low carbon (or carbon neutral) research and scholarship (e.g., funding, recognized in the standards of academe).
- Create internal research awards across each university.
- Create an interdisciplinary collaboratory of scholars conducting research on decarbonization (educational, social sciences, natural sciences, engineering).

6.3 Developing and Advancing the Ethics of Decarbonized Research

The research process is never devoid of values. Decisions about what is deemed significant to explore, the premises accepted, the approaches employed, the interpretations made, the outcomes shared, and the reactions to these findings are all imbued with values. As such, it is critical to create and share ethical frameworks for decarbonized research. As individual scholars we commit to the following actions:

- Develop and share decarbonization ethics and goals as part of our scholarship.
- Include an analysis of carbon emissions and decarbonization efforts in our research outputs.
- Integrate practices of calculating and estimating energy input and carbon output as part of research methodology courses.

We ask institutions of higher education to:

- Require a statement of carbon emissions and decarbonization efforts as part of the Institutional Review Board process.
- Encourage researchers and students to prioritize decarbonization, recognizing that tenured, permanent, or senior researchers are likely in a more advantageous position to employ decarbonizing strategies.
- Make the tools and resources for understanding carbon emissions widely available.
- Provide tools and resources that students and scholars can use to understand and reduce the carbon emissions of their research activities. For example, connect to renewable energy grids when possible, subscribe to computing and storage providers that use renewable energy, maximize the lifespan of technology devices.
- Continue to learn and understand how climate change and energy transitions are impacting scholars, universities, and communities worldwide. Institutions of higher education should then modify their practices as understandings emerge, with a strong emphasis on the ethics of a just transition and the equitable distribution of energy resources.

6.4 Reducing Carbon Emissions

We must implement practices that result in fewer emissions of pollutants released into the atmosphere. The goal of reducing emissions is to mitigate environmental damage, combat climate change, and improve air quality. As individual scholars, we commit to the following actions:

- Reduce our travel to national and international conferencing.
- Power our scholarship with carbonless energy sources (e.g., connect to renewable energy grids when possible, subscribe to computing and storage providers that use renewable energy, maximize the lifespan of your technology]
- Increase our everyday use of public transportation, walking, biking, skateboarding, and/or virtual meetings.

- Minimize plastics use and mitigate all forms of waste through prevention, reduction, recycling, and reuse, thereby maximizing the life cycle of products and materials by keeping them in use.
- Eat locally sourced foods and reduce our intake of high-carbon foods (i.e. focusing on plant-based options).
- Minimize the carbon footprint of AI and digital research tools: Recognize that the growing reliance on artificial intelligence and cloud-based technologies contributes significantly to carbon emissions through the energy-intensive operation of data centers. Commit to using energy-efficient tools, advocating for providers powered by renewable energy, and critically assessing the necessity of AI-driven processes in research workflows.

We ask institutions of higher education to:

- Create campus as a living carbon lab with metrics showing carbon output of basic activities (computing, data storage, commuting, food systems, etc.).
- Continue to decarbonize campus transportation, including investing in infrastructure to make human-powered transportation (like walking and biking) safe, convenient, and accessible; creating incentives for people to use low-carbon transportation options and disincentives for high-carbon options; and offering low-carbon transportation alternatives for people with mobility challenges.
- Decarbonize energy and computing, including more solar-powered servers and storage, reducing use of cloud-based storage that uses fossil-fuels.
- Foster awareness and accountability around AI-related carbon emissions: Ensure that university policies include guidance on the responsible use of AI and digital tools, prioritizing partnerships with technology providers committed to renewable energy. Use local computing for AI when possible. Provide tools and training for researchers to calculate and reduce the carbon footprint of AI-based research activities.

- Reduce single-use plastics.
- Source local foods insofar as possible.
- Prioritize local vendors.
- Install dishwashers in shared kitchen/break room spaces.
- Disallow the use of plastic utensils and dishes by campus catering and food services.
- Limit the use of high-carbon foods (e.g., focusing on vegetarian and plant-based options).
- Reduce the use of fertilizers on campus and curate natural spaces to make them less water-demanding.
- Offer more small-scale, off-grid solar charging stations for devices.
- Create more covered spaces to work outside.
- Decentralize climate controls (i.e., office temperatures).
- As we transition away from fossil fuels, foreground the implications of energy transition, particularly for those most vulnerable to these shifts (e.g. workers, communities at extractive sites).

6.5 Carbon-neutral Investing, Funding, and Support

As individuals, we will not seek or accept funding from sources that currently profit from fossil fuels or that derive profits from activities that increase the overall levels of atmospheric carbon., and we pledge to work with the university to divest from fossil fuels.

Higher Education Institutions must take a definitive stand by divesting from fossil fuel companies and rejecting research funding or partnerships with entities that contribute to environmental degradation. This action is not only a moral imperative but also a necessary step in aligning academic institutions with the principles of sustainability and social responsibility. By distancing from fossil fuel interests, universities can prioritize research and initiatives that advance

clean energy solutions, climate justice, and the long-term well-being of global communities.

In tandem, universities should actively seek partnerships with organizations and funding sources that are genuinely committed to reducing their carbon emissions. This may require investing more time and resources or collaborating with smaller, less prominent organizations, but these efforts should be encouraged. By prioritizing these partnerships, universities can play a crucial role in supporting and advancing research that drives sustainable innovation and promotes climate justice.

7. Invitation and Close

Thank you for your interest in this important work and for learning about our current approach. This is meant as a living document that will grow and improve through expanded and deepened participation, learning, and experience. As noted in our call to action, our goal with hope is that this document can catalyze an inclusive, supportive, and ongoing movement that advances our individual and collective responsibility for decarbonized scholarship. We invite you to join us in creating and capturing that movement in this document.

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NOTES

1. A multidisciplinary group dedicated to transforming education systems to foster sustainable, just, and equitable planetary futures through research, innovation, and action-oriented pedagogies (Weinberg et al., 2024).↩

2. For readers interested in methodological shifts, Anne Pasek's forthcoming edited collection, *Low Carbon Research Methods: Making Equity and Epistemological Gains through Decarbonising Academic Work* (Goldsmiths Press), takes up many of the issues introduced in this section, imagining collective reconfiguring of research methods in relation with climate action.↩

PUBLISHING WITH TREE-MEDIA: ARBO-REAL AESTHETICS, PEDAGOGICAL RUPTURES

AHMED TAHSIN SHAMS

In response to the ecological and epistemic crises of the Capitalocene, this paper examines how eco-artist Thijs Biersteker develops tree-media—sensor-driven AI installations that treat trees and fungi not as metaphors or data sources, but as co-authors of environmental knowledge. Through the concept of arbo-real aesthetics, the paper proposes an elemental model of publishing rooted in multispecies reciprocity, latency, and refusal. Biersteker's installations resist extractive AI paradigms by staging alternative epistemologies grounded in vegetal sensing, seasonal rhythms, and symbiotic time. Analyzing six installations produced between 2018 and 2024, the paper theorizes how these works enact a compostable media logic—one that unsettles mastery and reimagines publishing as a sensory, ethical, and relational process. Rather than offering techno-utopian solutions, the installations inhabit the Promethean paradox: they critique digital extractivism while operating within its constraints. As a prescriptive intervention, the paper introduces *Listening with Trees*, a three-day pedagogical prototype that speculatively translates these insights into multispecies publishing practices. By publishing with trees—through slowness, decay, and co-authorship—this model offers a low-carbon, speculative alternative to academic and AI-driven knowledge systems in the age of the Chthulucene.

INTRODUCTION

> *"Trees are nature's record keepers. They document their lives through annual growth rings hidden behind their bark, and for those that know how to read this arboreal script, the rings tell a detailed story." — Thijs Biersteker,* Voice of Nature

Trees inscribe ecological memory silently—encoded not in language but in time, temperature, and water, registering planetary changes through material growth. This arboreal metaphor, derived from Thijs Biersteker's *Voice of Nature*, furnishes an access route into this article's investigation: how environmental knowledge might be co-authored, translated, and mediated through digital systems involved in extractive processes such as energy-intensive sensors with servers contributing to resource depletion?

Ecological crises in the Anthropocene have exposed the limits of dominant media infrastructures—systems that privilege human-centred narratives while operating through energy-intensive technologies that contribute to the very degradation they document. Digital platforms, often perceived as immaterial, rely on rare-earth mining and resource-intensive AI models, along with sizable server farms that consume water and electricity at rates comparable to those of small cities. Grandinetti and Ingraham depict this dynamic through media extractivism, where platforms reproduce colonial and petro-capitalist logics (2021, 101-3). For example, Google's server farms consume over 4 billion gallons of water annually—comparable to 29 golf courses (Hölzle)—while the mining of cobalt and lithium for AI technology causes severe ecological and human harm in places like the Congo and Chile ("Forced Evictions"). Similarly, academia's reliance on fossil-fuel-funded grants often skews research toward industry-friendly narratives (Harrabin).

These extractive operations are not confined to Silicon Valley. The academic sphere, too, is embedded in what Elliot et al. call "oily entanglements": carbon-intensive archival travel, fossil-fuel-funded research grants, and high-emissions publishing infrastructures (2022). Donna Haraway, drawing from Malm and Moore, reframes the Anthropocene as the Capitalocene—highlighting capitalism's relentless extraction of "cheap nature" and multispecies futures (Haraway 100). The Anthropocene frames environmental crises as those caused by generalized human activity; however, the Capitalocene particularly highlights capitalism's systemic extraction as well as exploitation of natural resources and labour. Conversely, Haraway's Chthulucene suggests a contrasting model. It accentuates multispecies entangle-

ments, collaboration, and kinship, positing these as survival methods that exceed capitalist extraction. For instance, in Biersteker's installation *Symbiosia*, trees' metabolic stress data visualize ongoing relational networks, illustrating Chthulucene entanglements, not merely as passive victims, but as active participants co-creating ecological narratives.

Chthulucene is defined as a compound of Greek roots: "khthôn" (earth/ground, evoking underworld powers and depths) and "kainos" (now/a time of beginnings, freshness, and open questions) (Haraway 2). It is a "kind of timeplace for learning to stay with the trouble of living and dying in response-ability on a damaged earth" (ibid.). Haraway stresses it is about "symchthonic forces" (earth-bound collaborations) where humans are part of dynamic powers for flourishing, not dominance (101). She asserts: "the earth of the ongoing Chthulucene is sympoietic, not autopoietic" (33). This means it is a collaborative, making-with system (sympoiesis) involving all beings, rather than self-contained or automatic (autopoietic) processes. It is a framework for "intense commitment and collaborative work and play with other terrans [Earth beings]" for possible flourishing, not a return to paradise (101). So, Chthulucene focuses on "attentive practices of thought, love, rage, and care" amid damage, without cynicism or defeatism (56).

I adopt the term arbo-real (with hyphenation) from Selmin Kara's 2024 conference paper "The Roots of Contingency: Documenting the Arbo-real," where she proposes a mode of arboreal mediation in cinema that privileges continuity, contingency, and vegetal presence over representation. However, in this article, I present the notion of "arbo-real aesthetics" to articulate an artistic construct that unifies "arbor" (Latin for tree) with "real" (stressing genuine or hyper-real experiences) as it fabricates engaging installations where living trees and real-time environmental data become dynamic participants in art. The hyphen functions as a compound modifier, signaling a hybrid unity: an aesthetics rooted in tree-like authenticity, rendering ecological media tactile and immersive rather than abstracted. Yet, this punctuation enacts a "rupture" in language itself—mirroring the article's pedagogical disruptions—by imposing a pause that compels

reflection on the blend, akin to how Biersteker's interfaces stall human mastery. Without the hyphen, "arbo real" fragments into duality, risking anthropocentric separation. By contrast, a one-word merger like the existing "arboreal" (meaning "tree-related") or an invented variant would collapse the roots seamlessly, diluting the pun on "real" and evoking botanical connotations over Chthulucene disruption; it risks autopoietic unity, implying harmonious resolution that contradicts relational uncertainty and "staying with the trouble" (Haraway 1-7). With the hyphen, the term instead embodies sympoiesis, a collaborative forging that invites ethical diffraction across human and nonhuman realms. This linguistic entanglement advances Chthulucene inquiries: How might such hyphenated forms "publish" relational uncertainty, composting words into regenerative cosmograms for multispecies flourishing?

For instance, in Biersteker's *Voice of Nature* (see figure 1), arbo-real aesthetics manifests as a living tree equipped with sensors monitoring pollution readings every second, translating the tree's physiological responses into expanding and contracting digital rings projected on a halo-like screen (Biersteker, *Voice of Nature*). This not only visualizes air quality impacts in real-time but also invites viewers to touch the tree, altering the rings' patterns and demonstrating that individuals can change the environment. Therefore, abstract climate data becomes a tactile interactive reality. I see Biersteker's broader array of eco-art works—like *Xylemia*, *Symbiosia*, *Fungal Faculty*, *MB>CO2*, *Wither*—as imaginative blueprints for a sympoietic form of publishing yet to fully emerge: vital repositories tuned to the pulse of ecosystems, from the ebb and flow of sap to the cadence of seasons, the ups and downs of contamination, or the sway of carbon levels, all beyond our urge to dominate. (Here, "sympoietic"—Haraway's term for collaborative "making-with" others—should not be conflated with "sustainable," which often implies a stabilizing of existing systems rather than the radical, multispecies entanglements that embrace decay, renewal, and uncertainty.)

John Durham Peters's conceptualization of the sky as a cosmogram—a natural, ambient map representing the universe's structure through patterns like stars and weather (172)—provides a convincing

Figure 1. "Voice of Nature" by Thijs Biersteker, installation at Chengdu, China in 2018. Partner: Netherlands' Delft University of Technology; Production: Woven Studio; Producer: Sophie de Krom.

parallel for interpreting trees as similarly ambient maps in eco-art installations. Just as the sky's ever-changing visuals serve as a "diagram" of cosmic order and disorder, blending navigation tools such as compass and calendar into a speculative representation of planetary entanglement (173), trees in Biersteker's works map these ecological rhythms as dynamic cosmograms of human-nature interconnections. This common thread is rooted in Peters's elemental media philosophy, in which both sky and trees function as non-human "publishers" of uncertainty, turning natural elements into immersive, relational blueprints without fixed boundaries.

I interpret this dynamic as an apedagogical practice, discussed by Steven Swarbrick and Jean-Thomas Tremblay as "negative life," a form of media engagement that unravels traditional, didactic approaches to knowledge, emphasizing unlearning human-centred ways of seeing the world (18). This "negative life" takes existential contradiction—between individual continuity and planetary viability—as a generative condition for thought, rejecting mastery in favor of sensorial disorientation and epistemic fracture (4-5). Trees "publish" ecological rhythms not as fixed archives but as ephemeral yet

enduring loops. Wendy Hui Kyong Chun describes this dynamic as one of precarious persistence, where continuity depends not on static storage but on constant repetition and regeneration—a process "as destructive as it is as constructive" (87). Biersteker's works enable viewers to confront ecological fragility without narrative closure, as fleeting data (e.g. sap flow) regenerates cyclically, sustaining bare vitality amid extinction.

Instead of presenting data as a form of ecological control, these works foreground the volatility and fragility of vegetal responses, which are usually invisible to human perception. Alexander R. Galloway describes such interfaces not as transparent windows but as thresholds—zones where mediation actively shapes meaning rather than merely conveying it (25-32). Anne Friedberg explains that traditional media frames, rooted in Renaissance optics and Alberti's metaphor of the window, structured visual experience through linear perspective and a fixed point of view (3-5). Biersteker departs from this convention: installations entangle viewers directly within nonhuman temporalities.

Critics might argue that eco-art contributes to the very climate catastrophe it critiques. But the question is no longer simply "to be or not to be"—a false binary of presence or withdrawal. Instead, as Haraway reminds us, the urgent task is to cultivate "response-ability on a damaged earth" (2): a relational form of survival rooted in entangled care. Biersteker's regenerative aesthetics confront this paradox head-on. His installations may also rely on resource-intensive infrastructures that contribute to the environmental degradation they visualize. For instance, *Symbiosia* makes this tension explicit: it uses real-time projections of tree ring growth data to reveal climate stress, yet the process itself depends on constant power consumption. In this way, the work does not resolve but inhabits what David Macauley calls the Promethean paradox (40-42), fostering ethical attention without techno-utopian escape. Biersteker's installations invite a multispecies publishing ethic via refusal of resolution, an ethic based in relational uncertainty in which viewers, sensors, and trees participate within continuing ecological witnessing acts. They stage an apedagogical encounter—a scene emptied of moral insight, where

viewers are denied narrative resolution or ethical instruction (Swarbrick and Tremblay 18).

Biersteker's *Wither*, presented during COP16, featured unsettling clicks as a soundtrack, with each one marking the real-time flicker and vanishing of digital leaves, synchronized with live deforestation data. These sensory cues transformed abstract statistics into embodied discomfort, prompting delegates to pause and reflect amid policy negotiations (Biersteker and Bandelli). These installations do not deliver clear messages or moral lessons; they create perceptual standstills, where the viewer is held between beauty and unease. Such moments unsettle human-centred assumptions and invite ethical reconsideration. As Biersteker and Bandelli argue, eco-art can help decision-makers imagine new responses—not through instruction, but through affect.

These affective disruptions can be read pedagogically, not as structured lessons, but as invitations to unlearn habits of mastery and control. Clate Korsant describes pluriversal education as a process of learning-with difference: an embodied decentring of the human that foregrounds plural ways of sensing and knowing the world (371-373). Biersteker's installations enact this through interfaces that provoke physiological entanglement. This is a "pedagogy of discomfort," a term borrowed from Megan Boler: one that resists the smooth legibility of neoliberal eco-interfaces and foregrounds ecological interdependence as vulnerable, situated, and incomplete (Boler 175-199).

To clarify, the "pedagogical ruptures" of my title allude to deliberate breaks or disruptions within the customary, human-centred educational model. They create opportunities to enable transformative learning via challenging established norms and fostering new relational dynamics with the environment. Drawing from Sharim Hannegan-Martinez's work on "seeds of resistance" in urban education, these ruptures manifest as moments in which conventional teaching hierarchies are inverted, allowing for activist, embodied experiences (Hannegan-Martinez et al. 2070-2077). This ruptures passive observation by turning the viewer into an observer of dynamic effects—e.g., proximity allowing real-time witnessing of environmental

impacts—thus shifting from didactic instruction to experiential accountability and prompting reflection on collective impact (Griffiths).

This pedagogy of embodied unlearning takes shape in Biersteker's installations, which also function as epistemic traps in the sense described by Alberto Corsín Jiménez: recursive, environment-making devices that capture and redistribute relations, like spiderwebs that both entangle and mediate ecological intelligences (62-66). This resonates with Mario Blaser and Marisol de la Cadena's concept of the pluriverse: a world where nature is not singular or universal, but composed of many ontologies that coexist without convergence (4). Rather than offering a unified narrative, these works stage encounters through partial translation—interfaces that maintain difference while enabling relation.

These installations imagine not just aesthetic alternatives, but ethical infrastructures for multispecies publishing in the Capitalocene. Robin Wall Kimmerer deepens this vision through a "grammar of animacy"—a Potawatomi linguistic ethic that recognizes plants and other nonhumans as sentient kin, requiring a shift from control to conversation (55). In Biersteker's installations, this animacy becomes interface: trees are not subjects of representation but communicative partners.

My exploration proceeds through three interwoven orientations. First, it offers detailed readings of Thijs Biersteker's eco-art installations to examine how sensor-based tree-media reshape environmental witnessing through elemental aesthetics. Second, it speculates on alternative pedagogical and publishing frameworks grounded in latency, refusal, and multispecies relationality. Third, it composts these insights into a flexible, three-day workshop model—*Listening with Trees*—designed as a prescriptive yet open-ended intervention that educators can integrate into existing curricula. Rather than prescribing closure, the prototype invites experimentation, unlearning, and sympoietic drift across disciplinary boundaries.

BIERSTEKER'S TREE-MEDIA IN THE CHTHULUCENE

> *"I had still not managed to become a tree. But I had at least become its shadow."*
>
> *—Sumana Roy (81).*

With this quiet confession, Sumana Roy shifts from human-centred views to a partnership with plants, creating equal bonds between bodies, shadows, and light. Her idea of "tree time"—a slow, thoughtful pace that pushes back against rushed industrial life (62, 221)—sets an emotional and conceptual stage for analyzing Biersteker's installations as sympoietic media that cultivate relational unlearning amid ecological tensions. Roy's thoughts on tree shadows as raw, outsider art and ancient trees as living landmarks encourage a careful attention that unlearns fast-paced, human-dominated habits of speed, ownership, and easy understanding. Yet, this creates a useful tension: if Roy's "tree time" defies quick readability and human-driven speed, Biersteker's installations treat trees as natural record-keepers—channels for breath, growth, and air that capture environmental changes not through clear symbols but through what Peters describes as the elemental expressiveness of media such as clouds and sky—world-shaping textures that register planetary presence through variability, circulation, and sensory atmosphere (Peters 386-87). Biersteker's sensor-powered setups convert plant cycles into digital displays, making hidden ecological info approachable while keeping the mystery and incompleteness of nonhuman viewpoints.

Exploring Biersteker's arboreal installations as "tree-media" in the Chthulucene offers a progressive method for publishing with trees that challenges knowledge control. By tree-media, I mean artworks where trees are not just symbols but sensing partners and story co-creators; they are tech-supported while still resistant to total comprehension, defying thorough decoding and neat conclusions. Unlike bio-art, which tweaks biology or displays living things, or data art that highlights number visuals, this arboreal-media singularly presents trees as animated narrative-formers with natural messages shaping creative outcomes, which distinguishes it from other forms,

such as bio-art or data art. "Arbo-real aesthetics," then, captures the wider sensory approach in tree-media, spotlighting gradual plant paces and knowing styles that shake up human-focused timing and sight, welcoming a humbler eco-awareness.

Biersteker's tree-media can be framed as a negotiation between time-biased and space-biased communication forms in the Capitalocene (Innis 33-60). Time-biased media, such as the arboreal 'scripts' of growth rings, prioritize durability, relational depth, and multispecies continuity over centuries—fostering stability and ethical entanglements akin to Haraway's Chthulucene (ibid., 33-34). In contrast, the space-biased elements of sensor-driven AI installations enable wide dissemination and real-time interaction across geographies, yet risk reinforcing extractive logics through energy-intensive infrastructures. By hybridizing these biases, Biersteker's works exemplify a sympoietic publishing model that resists the "obsession with space" in digital media while harnessing arboreal time for regenerative knowledge practices (ibid., 60).

To examine how Biersteker's eco-art constructs a theory of multispecies publishing and elemental aesthetics, this chapter analyzes six installations spanning 2019 to 2024. These works were selected not to be exhaustive, but because they trace a deliberate arc from individual vegetal witnessing to distributed, ecosystemic intelligence. Grouped by conceptual focus—air (*Voice of Nature*), sap and internal stress (*Xylemia*), networked roots and symbiosis (*Symbiosia*), deforestation and climate grief (*Wither*), digital infrastructure critique (*MB>CO2*), and fungal-AI entanglement (*Fungal Faculty*)—the sequence maps a progression from surface-level sensory mediation to deeper, interspecies epistemologies. Each installation expands the question of what it means to "publish" in a post-extractive world and stages refusal, latency, and co-authorship in distinct aesthetic forms. The selection, therefore, is not about chronology or scope, but about modeling a nonlinear pedagogy that composts extractive publishing through arbo-real media.

The first of these works, *Voice of Nature* (2018), transforms a living tree into a responsive atmospheric interface. Exhibited in Cheng-

du—a city facing critical levels of air pollution—the installation was developed in collaboration with scientists from Delft Technical University. A living tree was equipped with twelve environmental sensors that collected over 12,000 data points on pollutants, CO_2 levels, temperature, moisture, photosynthesis, and growth patterns. From these, 1,600 real-time data points were used to generate a continuous visualization of the tree's wellbeing as digital rings, updated every second instead of every year (Biersteker, *Voice of Nature*). Rejecting linear narratives of redemption, the halo-rings expose pollution's immediacy as urgent alerts, resistance to anthropocentric delay, and relational entanglements where staying with the trouble becomes a method of survival in the Chthulucene.

Shifting inward from this atmospheric urgency, *Xylemia* (created for Ruinart Carte Blanche 2024 in Reims, France) shifts to internal vegetal time—the slow, often invisible rhythms by which plants endure and respond to environmental stress. Embedded in a sculptural form made from sustainable materials, sensors track sap flow within the tree and translate drought stress into a real-time visualization that climbs the trunk. The movement resembles blood flowing through human veins, drawing attention to the shared vulnerability of vegetal and human bodies (Biersteker, *Xylemia*). Viewers witness each of the tree's metabolic processes that include the sap flow that then responds to environmental conditions, but receive absolutely no explicit guidance. This apedagogical approach is evident in how participants confront the rupture, unlearning assumptions of human control over nature without gaining a solution, as seen in audience reflections from similar installations like *Voice of Nature*, where one young viewer noted that the tree "gets angry if a lot of cars are smoking" (Chaisson).

Nature is not a seamless puzzle; it is a messy web where differences create strength, as seen in ecosystems where plants and fungi exchange nutrients without becoming one entity. Such eco-arts redefine education as humble and adaptive, countering human-centred arrogance that worsens climate issues—partial relations encourage us to "stay with the trouble" (Haraway 2), building sustainable al-

liances amid uncertainty, rather than false harmony. *Symbiosia* brings these threads together—melding growth data, environmental rhythms, and speculative interfaces into a vegetal archive of lived stress. Developed for the 2019 "Trees" exhibition at Fondation Cartier, Paris, two trees outfitted with sensors generate second-by-second ring formations based on fluctuating data, including air quality, temperature, photosynthesis, and moisture (Biersteker, *Symbiosia*). Biersteker describes this system as revealing "the symbiotic relationship of trees and their communication in times of climate change" (ibid.). The installation does not translate environmental knowledge into anthropocentric terms; rather, it composts temporal data into layered, speculative traces. This speculative layering does not seek full legibility, but cultivates a kind of ethical diffraction across species, technologies, and tempos.

In *Symbiosia*, rings of light translate climatic stress into legible pulses, derived from sensors that "listen" to internal growth rhythms—rendering vegetal life audible without totalizing it. This gesture aligns with what Kimmerer calls the "Honorable Harvest," a guide for ethical engagement grounded in restraint, reciprocity, and gratitude (175-201). Rather than erasing extractive contradictions, these works model a speculative publishing-with—a co-authored practice of listening, witnessing, and staying with the trouble of ecological entanglement. The tree's growth rings in *Symbiosia*, historically used to date forests or register drought, now become moving images—celestial inscriptions in vegetal form. It echoes Eduardo Viveiros de Castro and Deborah Danowski's argument for resisting premature "cosmopolitical unification," where true learning—especially in interspecies or cross-world contexts—emerges not through synthesis or consensus, but through the fragile coexistence of divergent lifeways and conflicting ontologies (178).

Yet this speculative gesture does not escape inscription's imperial residues. Publishing, even here, remains bound to histories of inscription as control. As Peters notes, writing is a "power technology"—dependent on substrates like stone, papyrus, or silicon and on hidden infrastructures of forestry, energy, and vision—that binds fu-

turity to imperial logics of order, from Caesar's census to metadata colonialism (278-279).

Scaling from relational networks to critiques of deforestation and digital complicity, *Wither* (2019) is a digital rainforest in which leaves vanish in real time—"every second, ten leaves disappear, with each flicker signifying the loss of 1280 square meters of rainforest" (Biersteker, *Wither*). Powered by live deforestation data, the piece transforms into what Biersteker calls a "living monument" (ibid.). Created during a 71% spike in deforestation amid COVID-19 lockdowns, and developed with fashion brand Daily Paper (ibid.), *Wither* critiques the Capitalocene while running on the very infrastructures it questions. This paradox mirrors Mark Allwood's "accidental sculptures" at Toronto's Leslie Spit—rubble twisted into feral forms that "juxtapose a degraded and discarded city with fertile and vigorous ecology" (Allwood 29, 38)—where human waste seeds multispecies resurgence, challenging eco-art to witness without resolution. Can such interfaces foster relational ethics without veiling the scars of the Capitalocene? And who, ultimately, is invited to feel these entanglements—the institutions that host them, or the communities they represent? Rather than resolving these tensions, the work holds them open, offering not harmony but speculative, sympoietic futures.

Further interrogating the Capitalocene's hidden costs, *MB>CO2* (2022) makes the invisible carbon footprint of digital life palpable by releasing real CO_2 into a sealed terrarium each time a viewer initiates an online action—streaming, video calls, or NFT trades. Housed in a sphere built from recycled steel and powered by a low-energy processor, the work visualizes emissions in real time, translating seemingly weightless activities into visible plant stress. With each data-triggered puff, viewers witness the slow suffocation of flora, exposing the ecological cost of our virtual habits (Biersteker, *MB>CO2*). Unlike Biersteker's vegetal interfaces that foreground sympoiesis through tree rhythms, here the algorithm acts as a Galloway's threshold—an active gateway that mediates between systems by opening passage and shaping interactions rather than serving as a transparent window (31)—for partial translations between human actions and planetary responses, compelling viewers to linger in the

apedagogical disorientation of watching flora suffocate under their own virtual footprints. This sensor-based ecosystem literalizes what Biersteker calls "making complex problems smaller," shrinking planetary-scale emissions into an intimate, apedagogical moment of friction (Biersteker, *MB>CO2*). Rather than offering solutions, *MB>CO2* confronts audiences with its criticism of digital extractivism while operating within it, relying on data infrastructure and industrial CO_2 emissions.

Finally, as tree-media extends underground, *Fungal Faculty*, commissioned by Vrije Universiteit Amsterdam, combines old mycelial intelligence and adaptive Artificial Intelligence, allowing it to question human cognition hierarchies. At first, viewers guide the system by using a depth sensor and a light grid, but they soon lose control because the installation takes over. Developed with Prof. Dr. A.E. Eiben's Computational Intelligence research group and constructed from recycled steel and 3D-printed plastics, the work blends regenerative material ethics with technological critique (Biersteker, *Fungal Faculty*). Biersteker frames this shift as a call toward "reimagine humanity's place in the intelligence hierarchy," and it replaces autopoietic control with sympoietic entanglement (ibid.).

The installation mirrors Anna Lowenhaupt Tsing's fungal assemblages, where intelligence thrives in precarity, not control (Tsing 23-29). Participants confront systems that adapt unpredictably, because those systems demand they unlearn control as well as linger within an apedagogical impasse that is decentralized, unsettling, and alive (Vera). *Fungal Faculty* opens speculative futures, posing the question of whether fungal epistemologies—rooted deeply in multispecies reciprocity rather than simple domination—might then seed ethical AI, and how their pedagogical roots may cultivate even more entangled, decolonial ecologies. Across these case studies, I ask: What does it mean to publish with trees in a time of ecological exhaustion? And how might such practices reframe pedagogy not as instruction, but as modes of dwelling with fragility?

"ARBO-REAL" FUTURES IN PEDAGOGY AND PUBLISHING

The existing models of scholarly publishing, especially within environmental media and the digital humanities, remain deeply entangled with extractive operations. Whether in the energy-intensive infrastructures of online journals or the metrics-driven frameworks of AI-assisted platforms, these systems reproduce the ongoing colonial exploitation and erasure of Indigenous epistemologies that Zoe Todd critiques as inherent to Euro-Western academia (7-8) because they extract value from Indigenous thought while denying reciprocity to Indigenous peoples and their relations with land and nonhumans. Artificial intelligence is not a neutral abstraction but a system rooted in planetary-scale depletion, from lithium mines located in Nevada to e-waste sites in Ghana (Crawford 26-32). Such operations, far from accidental, encode and sustain "homogenizing universals" that prioritize optimization over pluralism (Korsant 371).

Against this backdrop, Biersteker's installations propose a critical reimagining of publishing and pedagogy. Rather than treating AI as a translator of nonhuman signals into legible human data, these installations configure it as a co-listener within a multispecies archive. Sensors respond to both human biometrics and plant rhythms, creating an interface that adapts, rather than dominates. The system does not seek to "speak for" the tree; it listens with the tree, participating in what Laura McLauchlan calls a "non-heroic" conservation practice that privileges relational duration over technological triumph (141).

Such tree-rooted co-authorship aligns with what Wendy Hui Kyong Chun names "enduring ephemerality"—the internet's logic of update and decay, in which platforms promise permanence through continual degradation (15). But arbo-real publishing, as imagined through Biersteker's installations, does not overwrite past versions. It composts them. Each data ring, sap reading, or visual pulse is not a replacement, but a resonance—what Chun might contrast to the "epistemology of outing," where revelation becomes spectacle (150-52). Here, revelation is refusal: a refusal to stabilize, to resolve, to instruct. Instead, these interfaces metabolize data into latency, breath, and

partial witnessing. They reject the extractive demand for visibility and instead cultivate a pedagogy of inhabitation and lingering.

The significance of this model becomes clearer when placed in tension with dominant AI-enhanced academic infrastructures. Citation tracking algorithms, machine-assisted peer review, and editorial platforms simulate objectivity while relying on resource-intensive data centres and invisible global labour. Crawford critiques these systems as perpetuating the illusion of digital weightlessness, obscuring their material dependencies and extractive foundations in planetary resources and exploited labour (117-18). Publishing with AI, under these conditions, risks deepening ecological harm while proclaiming sustainability. Yet Biersteker's installations turn this paradox on its head: its digital architecture exposes its entanglement with arboreal life, visibly tethering updates to tree respiration and environmental rhythms.

This redefinition of interface—from output machine to co-regulative membrane—extends beyond pedagogy. It signals a radical departure from the idea of publishing as a product. Instead, Biersteker's installations invite us to think of publishing as an atmospheric duration, a sensorial practice shaped by cohabitation and uncertainty. They propose what Tsing calls the "arts of noticing"—subtle, multispecies rhythms that evade metrics but matter ecologically (17-25). If JSTOR and Project MUSE, for instance, flatten knowledge into linear, paginated files, Biersteker's eco-arts offer something else: a breathing interface inseparable from its living source.

This model carries direct pedagogical implications. As Osgood et al. write, arboreal methodologies resist the idea of nature as a "separate space" and instead insist on entangled and accountable co-becoming (115). Translating this into academic publishing means rethinking value itself. A nonhuman publication agreement, for example, might take the form of plantable documents, biodegradable media, or sensor-driven archives that update through seasonal changes. Such formats are not utopian fantasies—they are already emerging through experimental infrastructures, such as Biersteker's.

What these installations offer is not an escape from technology, but a rescripting of its purpose. Publishing, in this vision, becomes a durational act of multispecies co-authorship—formed through spore logic, fungal latency, and vegetal time. Rather than accelerating knowledge flows or rendering nature legible, arbo-real publishing slows us down. It invites us to listen with trees. To read with mycelium. To recompose not only what we publish, but how, and with whom.

TOWARD COMPOSTABLE PUBLISHING INFRASTRUCTURES

In dominant discourse, sustainable publishing often implies durability, optimization, or resilience. In contrast, the arbo-real framework advanced here defines sustainability as compostability: the capacity to decompose, co-adapt, and co-author with nonhuman rhythms. To sustain is not to preserve but to participate in cycles of decay, latency, and renewal. Publishing becomes a sympoietic act, not a perfected output.

Listening with Trees (see Appendix A) is not simply a workshop, it is a speculative prototype for multispecies publishing in the Capitalocene. Drawing from Biersteker's sensor-based installations—such as *Voice of Nature* and *Fungal Faculty*—this model reframes AI as a sensor-mediated ecology, entangled with tree sap, fungal drift, and atmospheric delay. It resists extractive AI imaginaries by composting their epistemic foundations: speed, legibility, and abstraction. In place of progress, it offers perishability; in place of optimization, speculative resonance.

Each component of *Listening with Trees* functions as a low-carbon publishing prototype: tree-listening rituals model refusal-based peer review; fungal decay diaries become ephemeral media that reject permanence; tree-tied submissions transform weather and decay into editorial collaborators; syllabus redesigns enact curriculum as soil—mutable, embedded, and non-metric. These are not symbolic acts. They constitute a material and ethical media logic for post-extractive publishing.

Just as Biersteker's works translate ecological data into sensorial rituals, *Listening with Trees* have the potential to translate arbo-real aesthetics into a compostable infrastructure—one not meant to scale, but to spore. It invites a publishing practice rooted in latency, refusal, and entanglement. In this vision, the future of publishing is not extractive but reciprocal, not fixed but alive.

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IMAGE NOTES

Figure 1: Biersteker, Thijs. *Voice of Nature.* 2018, Chengdu, China. *Thijs Biersteker*, thijsbiersteker.com/voice-of-nature.

APPENDIX A

Listening with Trees

This three-day workshop introduces a hands-on, multispecies approach to publishing and AI education. Instead of focusing on algorithms or output, *Listening with Trees* explores how trees, fungi, and environmental rhythms can co-author how we learn, write, and share knowledge. The workshop cultivates practices of slow attention, seasonal thinking, and speculative publishing. Designed for students and educators across the humanities, arts, and media studies, it invites participants to listen with trees, co-compose with fungi, and prototype low-carbon, earth-bound alternatives to extractive academic publishing.

Workshop Objectives

- Engage with nonhuman intelligence through hands-on, sensory activities that involve trees, fungi, and natural rhythms like sap flow, decay, and breath.
- Explore new ways of sharing knowledge by creating low-tech, compostable formats—such as tree-tied writings, fungal zines (magazine), and seasonal rituals—that invite co-authorship with the environment.
- Rethink educational outcomes by shifting focus from permanence and productivity to slowness, transformation, and relational learning across species.

Workshop Structure

Day 1: Tree Listening and Refusal

Morning (Outdoor Field Immersion)

- **Prompt:** "Can a tree refuse your gaze?"
- **Activity:** Choose one tree. Spend 20 minutes silently observing. Sketch, record breath/sound, or trace sap movement. The most accessible method is non-invasive auditory observation, which can be performed using a stethoscope or a contact microphone. Place the stethoscope's chest piece (diaphragm) firmly against the tree trunk, about 3-5 feet off the ground, on the south-facing side where flow is often stronger. Wrap the area with a towel to

block wind or ambient sounds if needed. Listen quietly for 1-2 minutes. You may hear gurgling, bubbling, popping, or rushing sounds—like a heartbeat or water through pipes—as sap moves through the xylem (water-conducting tissues). This is caused by pressure changes pulling water upward from the roots.

- **To record:** Insert one earbud from your phone's headphones into a stethoscope earpiece (or tape the phone's mic near an open earpiece). Start recording on the app [smartphone] while pressing the diaphragm to the tree. To record with a contact microphone (commonly used in field recording for capturing internal vibrations) is a lot easier; however, that is a little expensive depending on the context.
- **Mini-discussion:** "Tree time" (reading excerpts from *How I Became a Tree* by Sumana Roy and Biersteker's *Voice of Nature*).

Afternoon (Reflection + Artifact)

- **Group Discussion:** What did you expect the tree to do? What did it refuse?
- **Create a 'tree resonance vessel'**: Craft a simple amplifier from found materials (e.g., roll cardstock into a cone for an ear trumpet, weave yarn as mycelial 'strings,' layer leaves or bark as sound filters). Draw from morning sap whispers by replaying your recording softly through the cone—positioned near branches to blend ambient rustles with echoed xylem flows, held lightly without contact. Sketch the fused rhythms or murmur them aloud to the group, probing: How does this attunement compost extraction into mutual hum? (Preserve vessel, sketches, and recordings for Day 2 composting.)

Day 1 takeaway: Tree listening shifts our attention from extraction to attunement, asking us to notice refusal as a form of epistemic agency.

Day 2: Fungal Publishing and Decay

Morning (Indoor Studio/Lab)

- **Prompt:** "What does fungal intelligence teach us about delay?"
- **Build:** Simple 'decay diaries' using everyday classroom materials (e.g., recycled paper, tea bags or coffee filters for biodegradable pages, natural 'inks' like berry juice or pencil rubbings from leaves). Fold a few sheets into a mini-notebook, bind with string or staples, and inscribe slow-publishing ideas—such as notes that 'fade' over time by wetting edges with water. Weave in Day 1's tree recordings (replay softly) or resonance sketches as embedded layers, composting arboreal refusals into fungal latencies for relational depth.

Afternoon (Design + Reflection)

- **Collaborative Artifact:** Making a Fungal Zine

This activity is a hands-on group project where 3-5 people work together to create a small, handmade booklet called a 'zine' (short for magazine). The zine is 'slow-publishing prototype'—a basic, low-tech book that represents 'slow publishing,' meaning it's made deliberately slowly, using natural materials that can break down over time, to contrast with fast, digital, AI-driven publishing. The theme is fungi (such as mushrooms and their underground networks), illustrating how fungal 'intelligence' (e.g., their slow connection and adaptation) can inspire more effective ways to create and share knowledge than AI's rapid, extractive methods.

The zine utilizes 'foraged elements'—such as leaves or berries. It takes about 30-45 minutes, and the goal is collaboration. Forage safely outdoors or use pre-collected items, such as leaves, moss, small berries (for ink—crush them to extract juice), rocks or sticks (for rubbing pigments), and charcoal bits (from a fire pit or art supply). Avoid anything toxic or protected—stick to standard, non-harmful stuff like oak leaves or wild berries.

Decide on 4-6 pages: E.g., Page 1: A poem; Page 2: A drawn mycelium diagram. Fold your paper sheets in half to form a booklet (like a mini pamphlet—cut a slit in the center if needed for a 6-page version). Add textures. Gently press dead leaves or moss between pages (use a book or flat surface to flatten them briefly—they will leave imprints

or stains for a natural feel). Stack the pages, fold them neatly, and tie with string through the punched holes (or staple if it's easier). Add more foraged elements, such as tying a leaf to the cover. Test 'slowness.' Wet an edge with water to see the ink fade slightly, revealing how the zine changes over time, much like fungi decaying and renewing.

- **Discussion:** What counts as a 'finished' product in multispecies communication?

Day 2 takeaway: Fungi teach us to publish with slowness and rot, crafting ephemeral formats that prioritize decay over durability.

Day 3: Rewriting the Syllabus

Morning (Conceptual Mapping)

- Read excerpts from Haraway ("Sympoiesis") and Kimmerer ("The Grammar of Animacy") aloud together outdoors, using Days 1–2 artifacts as prompts—e.g., replay tree recordings or flip through fungal zines to diagram how sympoiesis and animacy reframe prior attunements and decays into curricular entanglements.

Afternoon (Activation + Integration)

- Mini-project: Update an existing syllabus (of any relevant course) or assignment using multispecies logic.

Example: Transform a final paper into a tree-tied ritual:

A 'tree-tied ritual' converts the paper into a performative, site-specific act where content is tied to a tree, inviting weather, animals, or growth to interact and co-author it over time. This practice stems from arts-based eco-pedagogy, such as projects engaging participants with trees through mapping and attachment rituals to build environmental connections. Use twine, yarn, or vines for tying; recycled cloth or paper for messages; natural inks. Select a tree (e.g., on campus). In a group or solo session, tie the messages to branches gently. Include a written invocation, like acknowledging the tree's 'refusal' or rhythms, inspired by experiential learning with trees. Photograph or video the tying process. Revisit periodically to note

changes (e.g., fading from rain or bird interactions), reflecting on how the tree 'responds.' Evaluate via a ritual description, photos, and a meta-reflection on shifts in perspective. This builds on paradigm shifts in art and environment studies for holistic learning.

Closing: Share-out in a circle. Each participant names a future pedagogical or publishing action they will try, highlighting how Days 1–3's progression—from tree attunement to fungal composting to syllabus ritual—creates a unified, compostable narrative.

Day 3 takeaway: Rewriting curricula through multispecies thinking transforms education into a compostable, co-authored process, weaving the elements of prior days into enduring, relational change.

N.B.: This speculative workshop offers a material translation of arboreal aesthetics and multispecies pedagogy, grounding the arguments of this paper in compostable practices for an alternative classroom setting. It invites educators to treat publishing not as a product but as a process, in which trees, fungi, and decay act as co-authors, collaborators, and teachers.

NOTES ON A RESEARCH PROPOSAL

MEGEN DE BRUIN-MOLÉ
AMY BROOKES

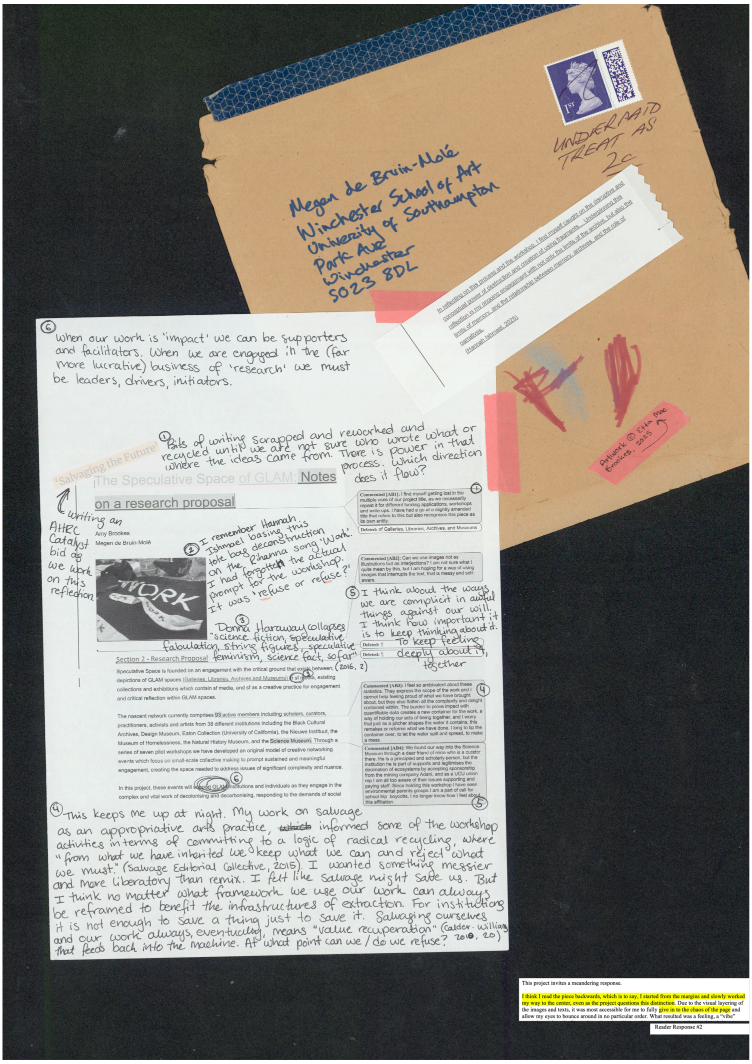
> "We discussed which texts had lingered and shaped us while we sat in a café in the park, each feeling like we had stolen ourselves from work, freed from our desks and devices, despite the fact that we sat discussing a research project. I remember mentioning the work of Jane Rendell, Jack Halberstam, Donna Haraway, and Katherine McKittrick whose work I encountered thanks to you... These works do not include an introduction that details their originality and impact. To engage with them has been to follow a trail of breadcrumbs through the woods. They have taken me somewhere entirely elsewhere, but I have had to work to follow them. I picture their disdain for the slides I am shown in a REF Impact workshop, these strategies to make work appealing to assessors. I imagine them laughing and slipping away between the trees, or at least that is what I want for them, to remain untethered and elusive, free to revel in wild strangeness."

How do we sustain creative work in the face of burnout, institutional crisis, the end of funding, the mess of life? Like the workshops that it addresses, this article is a deliberate attempt to resist closure. It draws on the ongoing work of our "Speculative Space" project, which uses "SF as a creative practice for engagement and critical reflection within GLAM space"—galleries, libraries, archives, and museums. This project has comprised a series of workshops oriented around site-specific small acts of collective making. Over the last three years we have gathered in the back rooms of the Winchester Gallery, the Women's Art Library, the Whitechapel Gallery, Science Museum London, the Museum of English Rural Life, the Natural History Museum, and in the digital institutional spaces of Teams meetings. Each workshop was fragile and fleeting, and the record of the work which lingers in photographs, quotes, and ephemera is only

an echo of the true outcome which was in the act of gathering, the trust engendered, and the space created for concerns to be voiced. How then to document this work, and to answer the institutional demands to validate its worth using the metrics of academic research and funding frameworks?

In answer, this article consists of a series of images of scanned and annotated pages which revel in relational complexity. They are layered and non-linear, and while this reflects our ambitions for this work we do not want this form of representation to be an act of exclusion. Embedded within this work is metadata including the original bid and tracked changes as alt text, and image descriptions for each page and the photographs within, in a further digital layering of code and content.

Scroll down to view the images, or click this link to access the accessible version as a Word document.


Megan de Bruin-Molé
Winchester School of Art
University of Southampton
Park Ave
Winchester
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In reflecting on this process and the workshop, I find myself caught on the disruptive and conceptual power of destruction and creation of using fragments… Underpinning this reflection is my ongoing engagement with not only the limits of the archive, but also the limits of memory, and the relationship between memory, archives, and the role of narratives.
(Hannah Ishmael, 2025)
Artwork © Etta Mae Brookes, 2025
⑥ When our work is 'impact' we can be supporters and facilitators. When we are engaged in the (far more lucrative) business of 'research' we must be leaders, drivers, initiators.
① Bits of writing scrapped and reworked and recycled until we are not sure who wrote what or where the ideas came from. There is power in that process. Which direction does it flow?
'Salvaging the Future'
The Speculative Space of GLAM: Notes on a research proposal
writing an AHRC Catalyst bid as we work on this reflection.
Amy Brookes
Megen de Bruin-Molé
Commented [AB1]: I find myself getting lost in the multiple uses of our project title, as we necessarily repeat it for different funding applications, workshops and write-ups. I have had a go at a slightly amended title that refers to this but also recognises this piece as its own entity.
Deleted: of Galleries, Libraries, Archives, and Museums
② I remember Hannah Ishmael basing this tote bag deconstruction on the Rihanna song 'Work'. I had forgotten the actual prompt for the workshop. It was 'refuse or refuse?'
WORK
③ Donna Haraway collapses "science fiction, speculative fabulation, string figures, speculative feminism, science fact, so far" (2016, 2)
Commented [AB2]: Can we use images not as illustrations but as interjections? I am not sure what I quite mean by this, but I am hoping for a way of using images that interrupts the text, that is messy and self-aware.
⑤ I think about the ways we are complicit in awful things against our will. I think how important it is to keep thinking about it. To keep feeling deeply about it, together
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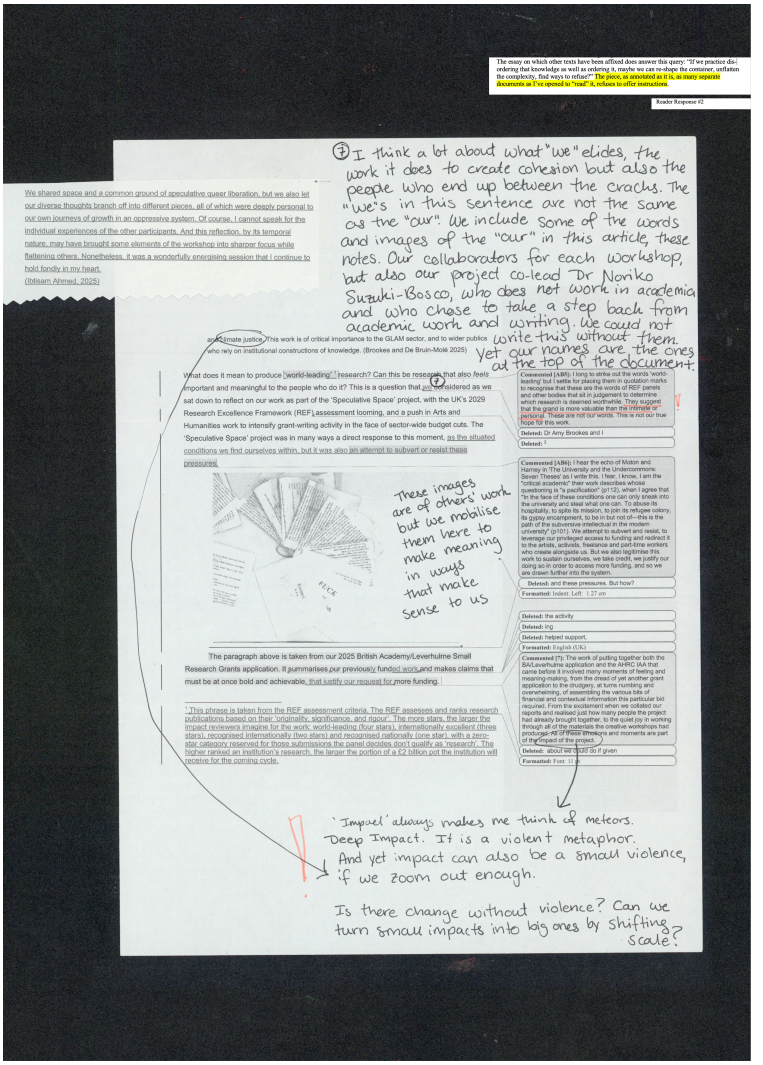
Section 2 - Research Proposal
Speculative Space is founded on an engagement with the critical ground that exists between; depictions of GLAM spaces (Galleries, Libraries, Archives and Museums) in sf media, existing collections and exhibitions which contain sf media, and sf as a creative practice for engagement and critical reflection within GLAM spaces.
The nascent network currently comprises 93 active members including scholars, curators, practitioners, activists and artists from 38 different institutions including the Black Cultural Archives, Design Museum, Eaton Collection (University of California), the Nieuwe Instituut, the Museum of Homelessness, the Natural History Museum, and the Science Museum. Through a series of seven pilot workshops we have developed an original model of creative networking events which focus on small-scale collective making to prompt sustained and meaningful engagement, creating the space needed to address issues of significant complexity and nuance.
In this project, these events will support GLAM institutions and individuals as they engage in the complex and vital work of decolonising and decarbonising, responding to the demands of social
Commented [AB3]: I feel so ambivalent about these statistics. They express the scope of the work and I cannot help feeling proud of what we have brought about, but they also flatten all the complexity and delight contained within. The burden to prove impact with quantifiable data creates a new container for the work, a way of holding our acts of being together, and I worry that just as a pitcher shapes the water it contains, this remakes or reforms what we have done. I long to tip the container over, to let the water spill and spread, to make a mess.
Commented [AB4]: We found our way into the Science Museum through a dear friend of mine who is a curator there. He is a principled and scholarly person, but the institution he is part of supports and legitimises the decimation of ecosystems by accepting sponsorship from the mining company Adani, and as a UCU union rep I am all too aware of their issues supporting and paying staff. Since holding this workshop I have seen environmental parents groups I am a part of call for school trip boycotts. I no longer know how I feel about this affiliation.
④ This keeps me up at night. My work on salvage as an appropriative arts practice, ~~which~~ informed some of the workshop activities in terms of committing to a logic of radical recycling, where "from what we have inherited we keep what we can and reject what we must." (Salvage Editorial Collective, 2015). I wanted something messier and more liberatory than remix. I felt like salvage might save us. But I think no matter what framework we use our work can always be reframed to benefit the infrastructures of extraction. For institutions it is not enough to save a thing just to save it. Salvaging ourselves and our work always, eventually, means "value recuperation" (Calder-Williams 2010, 20) that feeds back into the machine. At what point can we / do we refuse?

This project invites a meandering response.

I think I read the piece backwards, which is to say, I started from the margins and slowly worked my way to the center, even as the project questions this distinction. Due to the visual layering of the images and texts, it was most accessible for me to fully give in to the chaos of the page and allow my eyes to bounce around in no particular order. What resulted was a feeling, a "vibe"

Reader Response #2


The essay on which other texts have been affixed does answer this query: "If we practice dis-ordering that knowledge as well as ordering it, maybe we can re-shape the container, unflatten the complexity, find ways to reflect." The piece, as annotated as it is, as many separate documents as I've opened to "read" it, refuses to offer instructions.
Reader Response #2
We shared space and a common ground of speculative queer liberation, but we also let our diverse thoughts branch off into different pieces, all of which were deeply personal to our own journeys of growth in an oppressive system. Of course, I cannot speak for the individual experiences of the other participants. And this reflection, by its temporal nature, may have brought some elements of the workshop into sharper focus while flattening others. Nonetheless, it was a wonderfully energising session that I continue to hold fondly in my heart.
(Ifitisam Ahmed, 2025)
I think a lot about what "we" elides, the work it does to create cohesion but also the people who end up between the cracks. The "we's in this sentence are not the same as the "our". We include some of the words and images of the "our" in this article, these notes. Our collaborators for each workshop, but also our project co-lead Dr Noriko Suzuki-Bosco, who does not work in academia and who chose to take a step back from academic work and writing. We could not write this without them. Yet our names are the ones at the top of the document.
and climate justice. This work is of critical importance to the GLAM sector, and to wider publics who rely on institutional constructions of knowledge. (Brookes and De Bruin-Molé 2025)
What does it mean to produce 'world-leading'[1] research? Can this be research that also feels important and meaningful to the people who do it? This is a question that we considered as we sat down to reflect on our work as part of the 'Speculative Space' project, with the UK's 2029 Research Excellence Framework (REF) assessment looming, and a push in Arts and Humanities work to intensify grant-writing activity in the face of sector-wide budget cuts. The 'Speculative Space' project was in many ways a direct response to this moment, as the situated conditions we find ourselves within, but it was also an attempt to subvert or resist these pressures.
These images are of others' work but we mobilise them here to make meaning in ways that make sense to us
The paragraph above is taken from our 2025 British Academy/Leverhulme Small Research Grants application. It summarises our previously funded work and makes claims that must be bold and achievable, that justify our request for more funding.
[1] This phrase is taken from the REF assessment criteria. The REF assesses and ranks research publications based on their 'originality, significance, and rigour'. The more stars, the larger the impact reviewers imagine for the work: world-leading (four stars), internationally excellent (three stars), recognised internationally (two stars) and recognised nationally (one star), with a zero-star category reserved for those submissions the panel decides don't qualify as 'research'. The higher ranked an institution's research, the larger the portion of a £2 billion pot the institution will receive for the coming cycle.
Commented [ABR]: I long to strike out the words 'world-leading' but I settle for placing them in quotation marks to recognise that these are the words of REF panels and other bodies that sit in judgement to determine which research is deemed worthwhile. They suggest that the grant is more valuable than the intimate or personal. These are not our words. This is not our true hope for this work.
Deleted: Dr Amy Brookes and I
Deleted: ?
Commented [ABR]: I hear the echo of Moten and Harney in 'The University and the Undercommons: Seven Theses' as I write this. I fear, I know, I am the "critical academic" their work describes whose questioning is "a pacification" (p112), when I agree that "In the face of these conditions one can only sneak into the university and steal what one can. To abuse its hospitality, to spite its mission, to join its refugee colony, its gypsy encampment, to be in but not of—this is the path of the subversive intellectual in the modern university" (p101). We attempt to subvert and resist, to leverage our privileged access to funding and redirect it to the artists, activists, freelance and part-time workers who create alongside us. But we also legitimise this work to sustain ourselves, we take credit, we justify our doing so in order to access more funding, and so we are drawn further into the system.
Deleted: and these pressures. But how?
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Commented [7]: The work of putting together both the BAL/Leverhulme application and the AHRC IAA that came before it involved many moments of feeling and meaning-making, from the dread of yet another grant application to the drudgery, at turns numbing and overwhelming, of assembling the various bits of financial and contextual information this particular bid required. From the excitement when we collated our reports and realised just how many people the project had already brought together, to the quiet joy in working through all of the data from the creative workshops had produced. All of these feelings and moments are part of the impact of the project.
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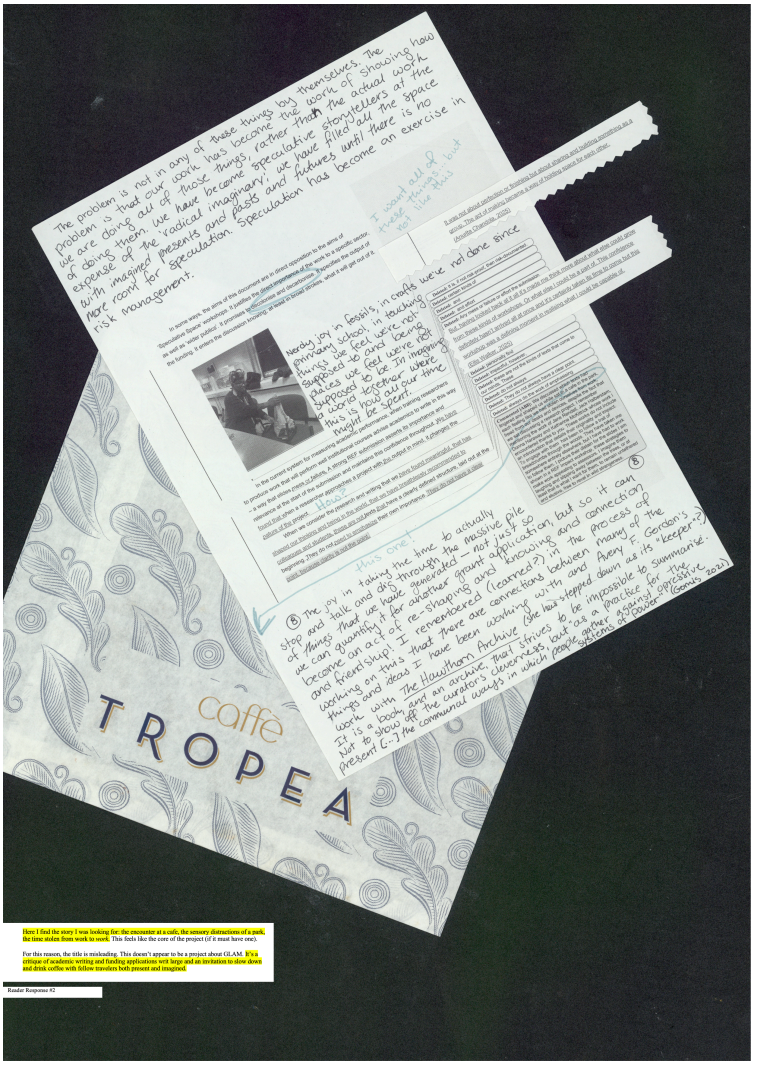
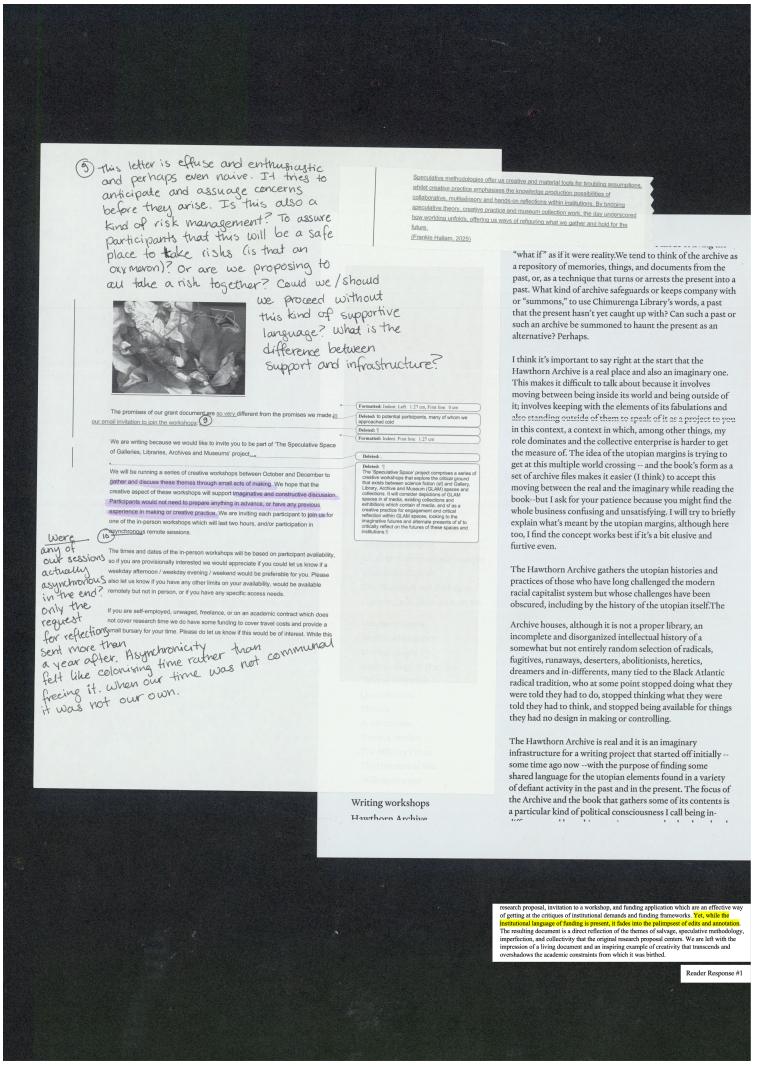
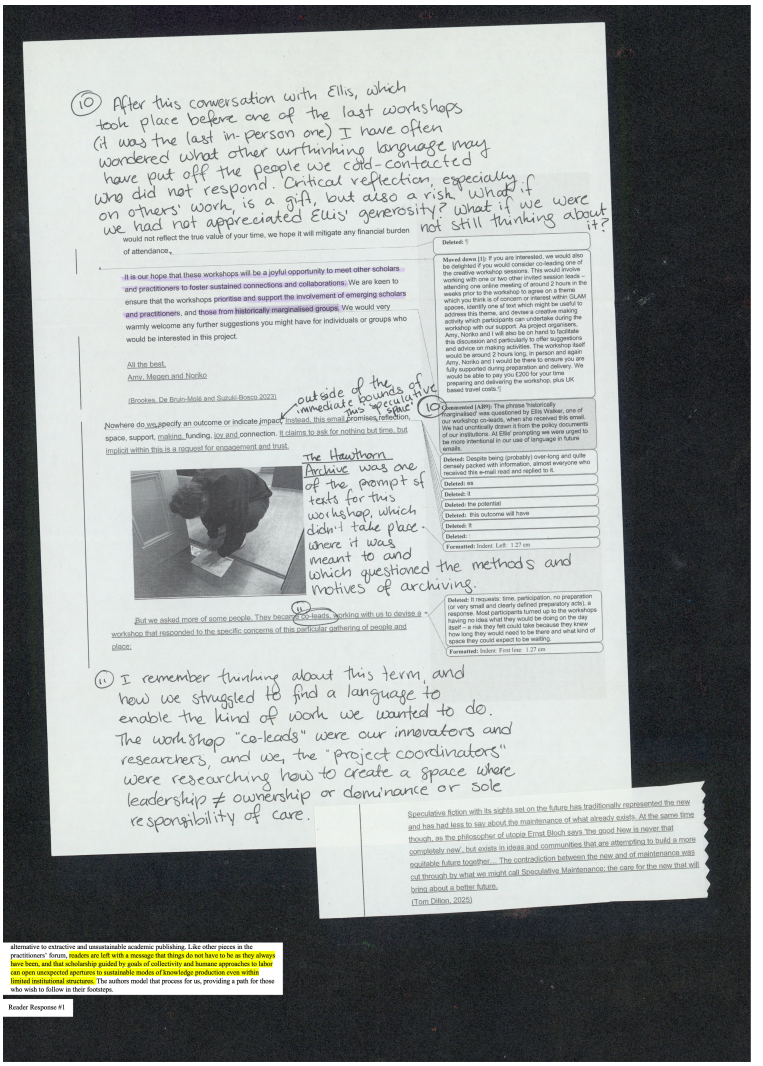
'Impact' always makes me think of meteors. Deep Impact. It is a violent metaphor. And yet impact can also be a small violence, if we zoom out enough.
Is there change without violence? Can we turn small impacts into big ones by shifting scale?


caffè
TROPEA
Here I find the story I was looking for: the encounter at a cafe, the sensory distractions of a park, the time stolen from work to work. This feels like the core of the project (if it must have one).
For this reason, the title is misleading. This doesn't appear to be a project about GLAM. It's a critique of academic writing and funding applications writ large and an invitation to slow down and drink coffee with fellow travelers both present and imagined.
Reader Response #2


this letter is effuse and enthusiastic and perhaps even naive. It tries to anticipate and assuage concerns before they arise. Is this also a kind of risk management? To assure participants that this will be a safe place to take risks (is that an oxymoron)? Or are we proposing to all take a risk together? Could we/should we proceed without this kind of supportive language? What is the difference between support and infrastructure?
Speculative methodologies offer us creative and material tools for troubling assumptions, whilst creative practice emphasises the knowledge production possibilities of collaborative, multisensory and hands-on reflections within institutions. By bringing speculative theory, creative practice and museum collection work, the duo underscored how working artfists, offering us ways of refiguring what we gather and hold for the future.
(Frankie Hallam, 2026)
"what if" as if it were reality.We tend to think of the archive as a repository of memories, things, and documents from the past, or, as a technique that turns or arrests the present into a past. What kind of archive safeguards or keeps company with or "summons," to use Chimurenga Library's words, a past that the present hasn't yet caught up with? Can such a past or such an archive be summoned to haunt the present as an alternative? Perhaps.
I think it's important to say right at the start that the Hawthorn Archive is a real place and also an imaginary one. This makes it difficult to talk about because it involves moving between being inside its world and being outside of it; involves keeping with the elements of its fabulations and also standing outside of them to speak of it as a project to you in this context, a context in which, among other things, my role dominates and the collective enterprise is harder to get the measure of. The idea of the utopian margins is trying to get at this multiple world crossing -- and the book's form as a set of archive files makes it easier (I think) to accept this moving between the real and the imaginary while reading the book--but I ask for your patience because you might find the whole business confusing and unsatisfying. I will try to briefly explain what's meant by the utopian margins, although here too, I find the concept works best if it's a bit elusive and furtive even.
The Hawthorn Archive gathers the utopian histories and practices of those who have long challenged the modern racial capitalist system but whose challenges have been obscured, including by the history of the utopian itself.The
Archive houses, although it is not a proper library, an incomplete and disorganized intellectual history of a somewhat but not entirely random selection of radicals, fugitives, runaways, deserters, abolitionists, heretics, dreamers and in-differents, many tied to the Black Atlantic radical tradition, who at some point stopped doing what they were told they had to do, stopped thinking what they were told they had to think, and stopped being available for things they had no design in making or controlling.
The Hawthorn Archive is real and it is an imaginary infrastructure for a writing project that started off initially -- some time ago now --with the purpose of finding some shared language for the utopian elements found in a variety of defiant activity in the past and in the present. The focus of the Archive and the book that gathers some of its contents is a particular kind of political consciousness I call being in-
Writing workshops
Hawthorn Archive
research proposal, invitation to a workshop, and funding application which are an effective way of getting at the critiques of institutional demands and funding frameworks. Yet, while the institutional language of funding is present, it fades into the palimpsest of edits and annotation. The resulting document is a direct reflection of the themes of salvage, speculative methodology, imperfection, and collectivity that the original research proposal centers. We are left with the impression of a living document and an inspiring example of creativity that transcends and overshadows the academic constraints from which it was birthed.
Reader Response #1


(10) After this conversation with Ellis, which took place before one of the last workshops (it was the last in-person one) I have often wondered what other unthinking language may have put off the people we cold-contacted who did not respond. Critical reflection, especially on others' work, is a gift, but also a risk. What if we had not appreciated Ellis' generosity? What if we were not still thinking about it?
would not reflect the true value of your time, we hope it will mitigate any financial burden of attendance.
It is our hope that these workshops will be a joyful opportunity to meet other scholars and practitioners to foster sustained connections and collaborations. We are keen to ensure that the workshops prioritise and support the involvement of emerging scholars and practitioners, and those from historically marginalised groups. We would very warmly welcome any further suggestions you might have for individuals or groups who would be interested in this project.
All the best,
Amy, Megen and Noriko
(Brookes, De Bruin-Molé and Suzuki-Bosco 2023)
outside of the immediate bounds of this "speculative space"
Instead, this email promises reflection,
Nowhere do we specify an outcome or indicate impact,
space, support, making, funding, joy and connection. It claims to ask for nothing but time, but implicit within this is a request for engagement and trust.
The Hawthorn Archive was one of the prompt of texts for this workshop, which didn't take place - where it was meant to and which questioned the methods and motives of archiving.
But we asked more of some people. They became co-leads, working with us to devise a workshop that responded to the specific concerns of this particular gathering of people and place:
(11) I remember thinking about this term, and how we struggled to find a language to enable the kind of work we wanted to do. The workshop "co-leads" were our innovators and researchers, and we, the "project coordinators" were researching how to create a space where leadership ≠ ownership or dominance or sole responsibility of care.
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Moved down [1]: If you are interested, we would also be delighted if you would consider co-leading one of the creative workshop sessions. This would involve working with one or two other invited session leads – attend one online meeting of around 2 hours in the week prior to the workshop to agree on a theme which you think is of concern or interest within GLAM spaces, identify one of text which might be useful to address this theme, and devise a creative making activity which participants can undertake during the workshop with our support. As project organisers, Amy, Noriko and I will also be on hand to facilitate this discussion and particularly to offer suggestions and advice on making activities. The workshop itself would be around 2 hours long, in person and again Amy, Noriko and I would be there to ensure you are fully supported during preparation and delivery. We would be able to pay you £200 for your time preparing and delivering the workshop, plus UK based travel costs.¶
Commented [AB9]: The phrase 'historically marginalised' was questioned by Ellis Walker, one of our workshop co-leads, when s/he received this email. We had uncritically drawn it from the policy documents of our institutions. At Ellis' prompting we were urged to be more intentional in our use of language in future emails.
Deleted: Despite being (probably) over-long and quite densely packed with information, almost everyone who received this e-mail read and replied to it.
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Deleted: It requests: time, participation, no preparation (or very small and clearly defined preparatory acts), a response. Most participants turned up to the workshops having no idea what they would be doing on the day itself – a risk they felt could take because they knew how long they would need to be there and what kind of space they could expect to be waiting.
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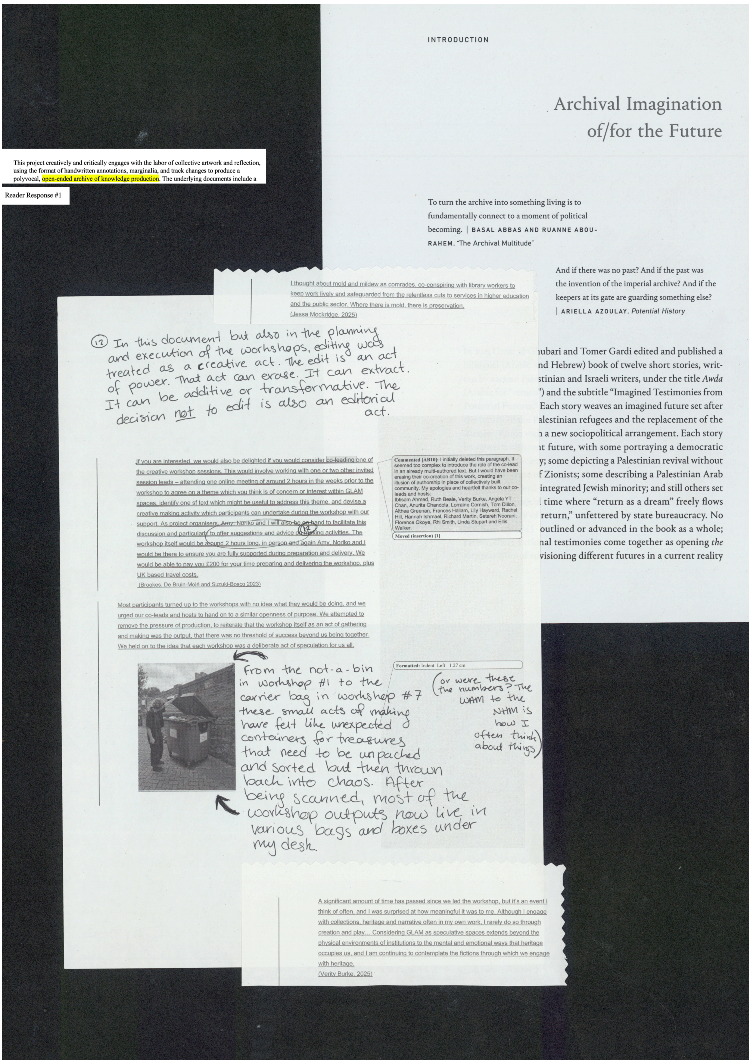
Speculative fiction with its sights set on the future has traditionally represented the new and has had less to say about the maintenance of what already exists. At the same time though, as the philosopher of utopia Ernst Bloch says 'the good New is never that completely new', but exists in ideas and communities that are attempting to build a more equitable future together… The contradiction between the new and of maintenance was cut through by what we might call Speculative Maintenance: the care for the new that will bring about a better future.
(Tom Dillon, 2025)
alternative to extractive and unsustainable academic publishing. Like other pieces in the practitioners' forum, readers are left with a message that things do not have to be as they always have been, and that scholarship guided by goals of collectivity and humane approaches to labor can open unexpected apertures to sustainable modes of knowledge production even within limited institutional structures. The authors model that process for us, providing a path for those who wish to follow in their footsteps.
Reader Response #1


This project creatively and critically engages with the labor of collective artwork and reflection, using the format of handwritten annotations, marginalia, and track changes to produce a polyvocal, open-ended archive of knowledge production. The underlying documents include a
Reader Response #1
INTRODUCTION
Archival Imagination of/for the Future
To turn the archive into something living is to fundamentally connect to a moment of political becoming. | BASAL ABBAS AND RUANNE ABOU-RAHEM, "The Archival Multitude"
And if there was no past? And if the past was the invention of the imperial archive? And if the keepers at its gate are guarding something else? | ARIELLA AZOULAY, Potential History
I thought about mold and mildew as comrades, co-conspiring with library workers to keep work lively and safeguarded from the relentless cuts to services in higher education and the public sector. Where there is mold, there is preservation.
(Jessa Mockridge, 2025)
(12) In this document but also in the planning and execution of the workshops, editing was treated as a creative act. The edit is an act of power. That act can erase. It can extract. It can be additive or transformative. The decision not to edit is also an editorial act.
If you are interested, we would also be delighted if you would consider co-leading one of the creative workshop sessions. This would involve working with one or two other invited session leads – attending one online meeting of around 2 hours in the weeks prior to the workshop to agree on a theme which you think is of concern or interest within GLAM spaces, identify one sf text which might be useful to address this theme, and devise a creative making activity which participants can undertake during the workshop with our support. As project organisers, Amy, Noriko and I will also be on hand to facilitate this discussion and particularly to offer suggestions and advice on making activities. The workshop itself would be around 2 hours long, in person and again Amy, Noriko and I would be there to ensure you are fully supported during preparation and delivery. We would be able to pay you £200 for your time preparing and delivering the workshop, plus UK based travel costs.
(Brookes, De Bruin-Molé and Suzuki-Bosco 2023)
(12)
Commented [AB10]: I initially deleted this paragraph. It seemed too complex to introduce the role of the co-lead in an already multi-authored text. But I would have been erasing their co-creation of this work, creating an illusion of authorship in place of collectively built community. My apologies and heartfelt thanks to our co-leads and hosts: Ibtisam Ahmed, Ruth Beale, Verity Burke, Angela YT Chan, Anurita Chandola, Lorraine Cornish, Tom Dillon, Althea Greenan, Frances Hallam, Lily Hayward, Rachel Hill, Hannah Ishmael, Richard Martin, Setareh Noorani, Florence Okoye, Rhi Smith, Linda Stupart and Ellis Walker.
Moved (insertion) [1]
Most participants turned up to the workshops with no idea what they would be doing, and we urged our co-leads and hosts to hand on to a similar openness of purpose. We attempted to remove the pressure of production, to reiterate that the workshop itself as an act of gathering and making was the output, that there was no threshold of success beyond us being together. We held on to the idea that each workshop was a deliberate act of speculation for us all.
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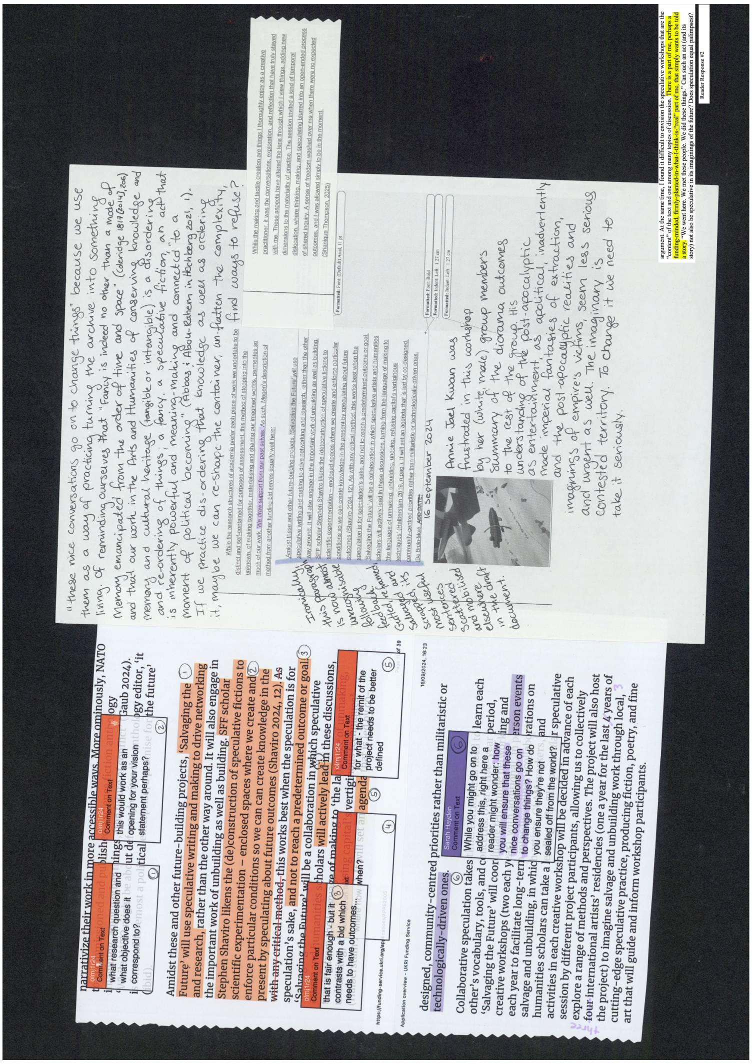
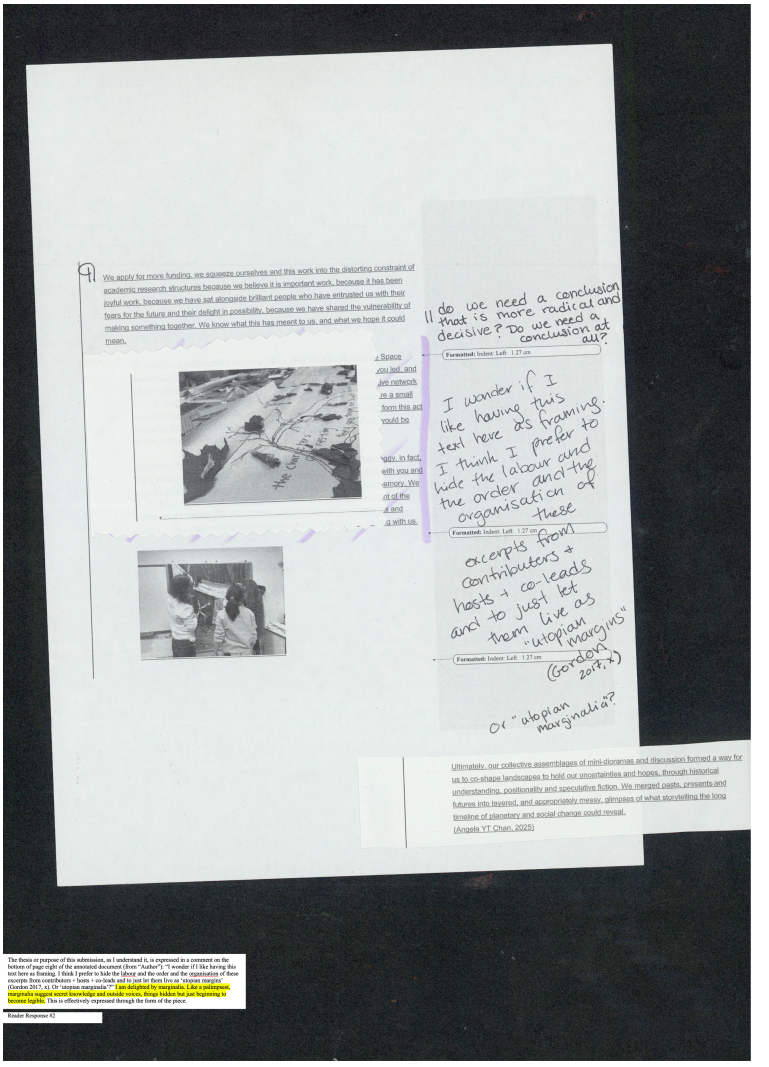
From the not-a-bin in workshop #1 to the carrier bag in workshop #7 these small acts of making have felt like unexpected containers for treasures that need to be unpacked and sorted but then thrown back into chaos. After being scanned, most of the workshop outputs now live in various bags and boxes under my desk.
(or were these the numbers? The WAM to the NHM is how I often think about things)
A significant amount of time has passed since we led the workshop, but it's an event I think of often, and I was surprised at how meaningful it was to me. Although I engage with collections, heritage and narrative often in my own work, I rarely do so through creation and play… Considering GLAM as speculative spaces extends beyond the physical environments of institutions to the mental and emotional ways that heritage occupies us, and I am continuing to contemplate the fictions through which we engage with heritage.
(Verity Burke, 2025)


"these nice conversations go on to change things" because we use them as a way of practicing turning the archive into something living. Of reminding ourselves that "Fancy is indeed no other than a mode of Memory emancipated from the order of time and space" (Coleridge 1817[2014], 206) and that our work in the Arts and Humanities of conserving knowledge and memory and cultural heritage (tangible or intangible) is a disordering and re-ordering of things; a fancy, a speculative fiction, an act that is inherently powerful and meaning-making and connected to a moment of political becoming" (Abbas & Abou-Rahem in Hochberg 2021, 1). If we practice dis-ordering that knowledge as well as ordering it, maybe we can re-shape the container, un-flatten the complexity, find ways to refuse?
Ironically, this paragraph is now almost unrecognisable following feedback. Gutted, reframed, salvaged and scrapped, its most useful sentences scattered and mobilised elsewhere in the draft document.
16 September 2024
Annie Jael Kwan was frustrated in this workshop by her (white, male) group member's summary of the diorama outcomes to the rest of the group. His understanding of the post-apocalyptic as entertainment, as apolitical, inadvertently made imperial fantasies of extraction, and the post-apocalyptic realities and imaginings of empire's victims, seem less serious and urgent as well. The imaginary is contested territory. To change it we need to take it seriously.
Amidst these and other future-building projects, 'Salvaging the Future' will use speculative writing and making to drive networking and research, rather than the other way around. It will also engage in the important work of unbuilding as well as building. SFF scholar Stephen Shaviro likens the (de)construction of speculative fictions to scientific experimentation – enclosed spaces where we create and enforce particular conditions so we can can create knowledge in the present by speculating about future outcomes (Shaviro 2024, 12). As with any critical method, this works best when the speculation is for speculation's sake, and not to reach a predetermined outcome or goal.
what research question and what objective does it correspond to?
this would work as an opening for your vision statement perhaps?
that is fair enough - but it contrasts with a bid which needs to have outcomes...
for what - the remit of the project needs to be better defined
Application overview - UKRI Funding Service
designed, community-centred priorities rather than militaristic or technologically-driven ones.
Sarah Hayden
Comment on Text
While you might go on to address this, right here a reader might wonder: how you will ensure that these nice conversations go on to change things? How do you ensure they're not sealed off from the world?
session by different project participants, allowing us to collectively explore a range of methods and perspectives. The project will also host four international artists' residencies (one a year for the last 4 years of the project) to imagine salvage and unbuilding work through local, cutting-edge speculative practice, producing fiction, poetry, and fine art that will guide and inform workshop participants.
argument. At the same time, I found it difficult to envision the speculative workshops that are the "content" of the text and one among many topics of discussion. There is a part of me, perhaps a funding-minded, firmly-planted-in-what-I-think-is-"real" part of me, that simply wants to be told a story. "We went here. We met these people. We did these things." Can such an act (and its story) not also be speculative in its imaginings of the future? Does speculation equal palimpsest?
Reader Response #2


We apply for more funding, we squeeze ourselves and this work into the distorting constraint of academic research structures because we believe it is important work, because it has been joyful work, because we have sat alongside brilliant people who have entrusted us with their fears for the future and their delight in possibility, because we have shared the vulnerability of making something together. We know what this has meant to us, and what we hope it could mean.
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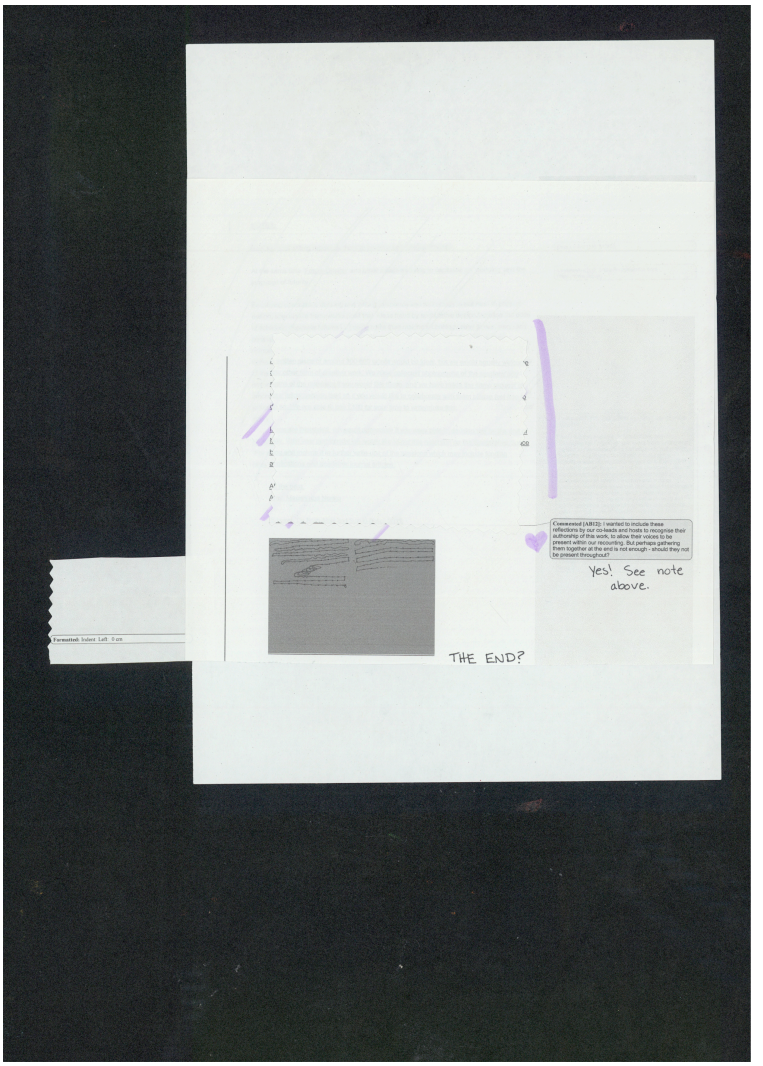
I wonder if I like having this text here as framing. I think I prefer to hide the labour and the order and the organisation of these excerpts from contributors + hosts + co-leads and to just let them live as "utopian marginalia" (Gordon, 2017, x)
Or "utopian marginalia"?
Ultimately, our collective assemblages of mini-dioramas and discussion formed a way for us to co-shape landscapes to hold our uncertainties and hopes, through historical understanding, positionality and speculative fiction. We merged pasts, presents and futures into layered, and appropriately messy, glimpses of what storytelling the long timeline of planetary and social change could reveal.
(Angela YT Chan, 2025)
The thesis or purpose of this submission, as I understand it, is expressed in a comment on the bottom of page eight of the annotated document (form "Author"): "I wonder if I like having this text here as framing. I think I prefer to hide the labour and the order and the organisation of these excerpts from contributors + hosts + co-leads and to just let them live as "utopian marginalia"" (Gordon 2017, x). Or "utopian marginalia"? I am delighted by marginalia. Like a palimpsest, marginalia suggest secret knowledge and outside voices, things hidden but just beginning to become legible. This is effectively expressed through the form of the piece.
Reader Response #2


Commented [AB12]: I wanted to include these reflections by our co-leads and hosts to recognise their authorship of this work, to allow their voices to be present within our recounting. But perhaps gathering them together at the end is not enough - should they not be present throughout?
Yes! See note above.
THE END?

ACKNOWLEDGEMENTS

The original Speculative Space project website can be accessed here: speculativespace.wordpress.com. It includes images and materials from, as well as further reflections on, the workshops.

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It was also supported by our collaborations and engagements with the people whose work and words are included in this piece, most directly Noriko Suzuki-Bosco, Hannah Ishmael, Etta Mae Brookes, Ibtisam Ahmed, Anurita Chandola, Ellis Walker, Frankie Hallam, Tom Dillon, Jessa Mockridge, Verity Burke, Shanique Thompson, Olu Jenzen, Sarah Hayden, Annie Jael Kwan, Angela YT Chan, and anonymous Readers #1 and #2. More traditionally cited are the Salvage Editorial Collective, Evan Calder Williams, Emma Gomis, Avery F. Gordon, Gil Z. Hochberg, Stephen Shaviro, and Jack Halberstam. Many more uncited individuals and groups made this work possible, including the attendees and coordinators of the Speculative Space workshops.

Figure 1. Demilade Oyatemi. "Sustainable Publishing & Climate Crisis," Joint CCA/CCLA panel on Sustainable Publishing, 31 May 2023, York University.

SUSTAINABLE PUBLISHING & CLIMATE CRISIS

DEMILADE OYATEMI

The graphic recording was created as a live visual response to the panel's dialogue, capturing the rhythm of ideas and emotions as they unfolded. For me, the drawing and understanding of the dialogue happened concurrently, allowing each icon, line, and colour to emerge from the atmosphere of the discussion, reflecting its coherence and shared energy. Rather than merely documenting, I sought to visualize the relational flow among participants and ideas, creating a record of the communal experience of imagining a better future together.

ZINES FOR RESEARCH EXCHANGE: A CONVERSATION

ANNE PASEK
AKSEL BIØRN-HANSEN

In this piece Anne Pasek and Aksel Biørn-Hansen interview each other on their respective experiments in zine-based experimental research exchange: DIY Methods, an annual conference-by-postal-mail, and Liminal Excavations, a zine-based intervention at ICT4S (Information and Communication Studies for Sustainability) 2024. They reflect on practical lessons they've learned in facilitating alternative publishing for academic research as well as some of the ways print helps make the environmental, cultural, and emotional character of scholarly norms both easier to analyze and contest.

Dans cet article, Anne Pasek et Aksel Biørn-Hansen s'entretiennent mutuellement de leurs expériences respectives en matière d'échange de recherches expérimentales basées sur des zines : DIY Methods, une conférence annuelle par courrier postal, et Liminal Excavations, une intervention sous forme de zine à ICT4S 2024. Ils réfléchissent aux leçons pratiques qu'ils ont apprises en facilitant l'édition alternative pour la recherche universitaire, ainsi qu'à certaines des façons dont l'impression aide à rendre le caractère environnemental, culturel et émotionnel des normes savantes à la fois plus facile à analyser et à contester.

This conversation was recorded on October 4, 2024. It has been edited for clarity and to add relevant citations.

Anne Pasek: Thank you so much for having this conversation with me. I'm really excited to hear more about your experiences with zine-based publishing and alternative conference tracks, as well as all the ways this work connects with our mutual interests in sustainable technology and energy transitions in academia.

Aksel Biørn-Hansen: I think there are a lot of interesting things to unpack. Let's start with DIY Methods.[1] It was one of the first initiatives that I saw that really did this on a big scale, inviting people into

a different and new kind of process. Do you want to tell a bit about what the DIY Methods Conference is, and how it came to be?

Pasek: Sure. DIY Methods is a conference about experimental research methods, conducted by zine.[2] It is a provocation for scholars to consider alternative ways of doing research exchange, both stylistically and environmentally. We've run it through my lab for the past three years, and we just published 2024's proceedings this week.

Participating in DIY Methods looks very different from your typical conference. No one gets on a plane or sits in front of a screen. Instead, we jury, print, and collate zines, which we then send in the mail to participants.

This shift is important to me because, in my wider political and scholarly life, I'm sort of "professionally freaked out about climate change." Because of this, I'm quite worried about academic aeromobility—our tendency to fly a lot is part of our broader professional culture and is a real barrier to building a more climate-conscious university (Tseng et al.; Katz-Rosene and Pasek). I want to see a global academy that flies less, but it's clear that there are better and worse ways to do this. For instance, during the pandemic we were all suddenly, non-consensually, grounded. This resulted in a lot of Zoom-based conferences that didn't really think too terribly much about the form of things, right? There was a crisis pivot moment where we wanted to keep the continuity of academic life going, even if those forms weren't really bringing a lot of joy. I'm sure we all remember a lot of bad user interfaces, a lot of sitting stuck at your desk for multiple hours a day, and sort of pixelating your eyes in unlovely virtual rooms.

As a result, since travel restrictions have been lifted, there's been a sudden return to normal—even an intensification of aeromobility—which makes a certain kind of social sense. People are a little bit traumatized and want to forget (Thierry) rather than learn from the pandemic. But unfortunately, the race back to in-person gatherings has also meant an uncritical acceleration of air travel and thus ever more increasing carbon emissions. Zoom conferences today (though

they continue to provide important accessibility benefits) are still more of a supplement than a replacement to in-person gatherings.

So by having a zine-based conference, we were hoping to find a third option, a wedge between the dichotomy of online versus in-person conferences, and to also really try to practice our environmental values through a more deliberate politics of pleasure. By moving to print, and by letting people be creative in how they approach the visual and textual qualities of their ideas, we wanted to spark new possibilities and a critical re-evaluation of what the form academic exchange should be. Hopefully, too, our participants would find ways of presenting versions of their academic selves that are a little less buttoned-up and overdetermined by the conference room or PowerPoint as the dominant media and milieu in which "good academic work" happens.

The results have been pretty positive. For one, people genuinely like getting a kilogram of zines in the mail. Participation is free. It emits way less carbon. It also doesn't come into tension with the ongoing care work obligations or administrative and financial burdens that we know produce inequities with the demographics in-person conference participation (Skiles et al.). Three years in, we're continuing to see that idea be of interest to people, and be the kind of impetus for publishing some really interesting and provocative zines.

So that's DIY Methods. We started in 2022, wrote a white paper on how we did it (Rayner and Pasek), and have been really delighted to see a couple of different groups take that idea and run with it in their own directions and add to the collective notion of what a zine-based conference could look like and do.

One of those projects was your own. I was really very excited when I saw the CFP for ICT4S (Information and Communication Technology for Sustainability) this year! I think you've maybe gone the furthest of all the folks that I know in trying to run a parallel zine-track within an already existing conference. Could you tell me a little bit more about how that idea started, and what it was like to pull that off?

Biørn-Hansen: Yeah, I think it has multiple starting points. But I think one was that we had a big, three-year long research project on academic flying and one of these parts of the projects we ended up submitting to DIY Methods (Biørn-Hansen et al.). We found that experience really invigorating in expressing ideas that were maybe very hard to do with less conventional data. We didn't have enough grounding, you know, to submit it to a journal, but we could share our findings with that community. And so that sort of simmered a bit.

And then we, my research group, the Sustainable Futures Lab in Stockholm, we are quite active in the ICT4S Community and the ICT4S Conference. In 2023 it was hosted in Rennes, in France. They promoted flying (we took the train there). But this conference has a tradition of being a bit conservative, or like techno-optimist and tech-solutionist. And so at the conference, the papers and the things and the topics discussed were mostly about efficiency measures, maybe working with incremental changes and better computer systems. But then, we sort of felt this… There was a lot of tensions in the rooms and in the conversations during coffee breaks, and there was one specific paper track that had a lot of discussion. It was a session on measuring the energy consumption of, I think, eco-efficient data centers. During the Q&A, a more or less heated argument emerged where critics asked why this direction was important compared to more critical and transformative topics such as a focus on reducing the complexity of computer systems or degrowth computing (e.g. Espãna et al.). I think it was a clash between different worldviews that happened, between ideas of technological solutionism on the one hand and fears of how computer systems are accelerating the climate crises (Nardi et al.). Throughout the conference you could feel this simmering, but these tensions were never recognised publicly and not given space to be properly addressed during the conference.

After the conference, we travelled back home. And I thought this was peculiar. And like, what? Why was there so much tension? And then, my research group decided to run next year's ICT4S conference. We had lunch one day and we sat there in the restaurant thinking, how

could we sort of play into those tensions? How could we unpack what was happening and give space to all those unsaid ideas that were not part of the formal program in France in 2023? Elina Eriksson said, "Let's make a zine!" And so we ran with the idea of trying to have an alternative, maybe not companion, but an alternative proceeding that went alongside the official program as a way to show and act against some of the mainstream narratives at this conference.

Pasek: It's kind of a "Shadow Conference."

Biørn-Hansen: Yes, I think one could see it like this. Oliver Bates, who was my co-editor and conspirator, and I—we struggled a bit with sort of appealing to this "Shadow Conference" idea without appropriating the whole concept of zine making just to fit into this context. So we worked a lot with finding the right language, finding the right ways of explaining what this was without it being seen as a formalization of these counterculture or radical ideas.

Yeah. And so we applied the DIY Methods template: soliciting abstracts, inviting people to create, and then published a zine compilation called Liminal Excavations (Biørn-Hansen et al.). We didn't do separate zines, but a single book with many zines together. A zine compilation? I don't know what to call it.

Pasek: Proceedings? Does that language work?

Biørn-Hansen: Yeah, we can call it that. We printed like 150 copies and we put them on tables without saying anything. We hosted a small session where we talked about why we did this, and then invited people to have a zine cafe where they also could sort of react back to the zine. And they started making things and having discussions at tables. And we also made a zine station (see figure 1) during the whole conference, where people could sort of express their frustrations or their ideas or questions—to give space to all of those things that we saw from the previous years. Someone made a "tree of positivity" where people could share positive experiences from attending the conference, while others critically reflected on the lack of research and thinking about the more-than-human in the ICT4S community. So that's sort of the long format of the story, I think.

Figure 1. The zine café at the 2024 ICT4S conference in Stockholm, Sweden. Aksel Biørn-Hansen, June 26, 2024.

Pasek: The concern about having the "right emotions" there is so fascinating! So how officially sanctioned was the zine track?

Biørn-Hansen: Yeah. So Elina Eriksson and Daniel Pargman were the general chairs of the conference. They endorsed this, but not publicly. But they were fully on board, and also gave us a small budget to print, and also post this on the conference pages. That was a way for us, I guess, to reach out to the general ICT4S Community. I don't think everyone understood what it was and so we also shared it in many other arenas. And then also Elina and Daniel, as the general chairs, gave us a spot in the program to do something. And that's where we were a bit hesitant because we didn't even think that we would have a program point. We were first exploring the idea of printing the whole zine page by page on A1 paper and putting it on the walls and just, you know, be a bit provocative or not saying anything. I think they gave us the space to do something, but they didn't

demand a certain format. It could be very different in a different setting, right? And I don't think I would have appreciated it being very formalized. So that's why we did this sort of small trio conversation and zine cafe format to engage people rather than have them sit and listen to presentations.

Pasek: Yeah, it's so interesting. I am drawn towards print because of this stealthy politics of pleasure and conviviality, whereas for you it seems like it was a way to make a really important intervention and to share some dissensus that was otherwise difficult to accommodate in the typical format of the conference. Why do you think that print was so productive for getting those ideas out?

Biørn-Hansen: Hmm. What do I think? I think print is important, but I don't think the printing is the only thing that made it different.

Printing it out—it is tangible. It's something you can hold in your hand. You can share it like in DIY Methods. You send it by post, right? But here we had a space. We could go and give zines to people, and they could share them with others. We decided actively to print on a kind of paper that you can draw on so people could scribble and doodle. Also, it gave, I guess, the authors, the contributors, this sort of end object or artifact they could contribute to… I don't want to say product—but artifact. Yeah, I don't know—why do you think print is important?

Pasek: I come out of a more of a media studies background than an HCI (Human-Computer Interaction) or critical ICT (Information and Communications Technology) perspective. And you know, there we are very fond of stories about the power of print. There's the idea from Voltaire that the most dangerous book is a very small and cheap one, right (Cronk)? One that can communicate its ideas stylishly to a mass audience, but with some economy, and can slip into one's pocket. This kind of print culture can set an agenda in a way that's quite hard to do if you're otherwise beholden to the forms of attention and the performance of rigour that comes from traditional academic publishing.

And also, I think conferences are so interesting socially. They are spaces where our capacities to communicate interpersonally are often driven to the point of exhaustion. There's always that moment where we're just going to go hide in a corner to recharge, right? And I think having just a lot of print materials floating around those spaces lets ideas land wherever people are at, asynchronously and evolving. It can be fodder for gossip that's going to spread around the conference. And so if you're hoping to create an intervention in a scholarly community it seems like a great way to do so.

Biørn-Hansen: Yeah, I really think that is what happened. We wrote this in the call for papers, and also we encouraged the authors to also include something that made the reader able to engage: it could be like a blank page to write something on, or a small activity, because in the conference it would be physically printed. You can bring it around with you. In the end, one contribution in the zine asks the reader to draw plants they saw around them (Cerna & Christophersen), while another invites the reader to start cutting and recreate the pages to explore questions about the Internet of Things and repair (Fixing the Future Collective). I think the tangible affords so much more than digital materials when you have these social meeting points. So that is why—that's the power of it. But I mean the zine format is also—it's enough. Inexpensive printing and sharing is kind of the essence of it all.

Pasek: Yeah, the circulation of these objects is also impossible to predict at the beginning, and that's part of the charm. With DIY Methods, we know that a lot of the stuff that we publish ends up getting used in classrooms because students also appreciate being communicated with more of a human face and with more brevity than the traditional academic article. In particular, there's this one participatory action research zine by Megan Heise that I send all my students to whenever they need a PAR 101. Our surplus zines are also used as gifts for visiting scholars passing through my lab, or just for people that I know who care about a topic that we've published on.

We're really interested in the kind of "gift economy of research" that these exchanges help us understand as such (Rayner et al.). Like, we

produce these papers that, as you well know, contain countless hours of work—an amount of work that, if we were to try and quantify from an hourly wage perspective, would make us all look like fools. So, it's nice to have a way of addressing the reader, saying, "This is a gift we're giving you. This is an object that we have put value and care into, and even though we don't know who you are, we want you to have it." I'm interested in the work that affective dimension might be doing within the reading/research exchange.[3]

Biørn-Hansen: Yeah, I think that's important. Despite all of the good things with these experiments, there's a lot of resistance from people saying, "Not like this. This is so strange or different from what I usually do," or "Oh no, I don't know how to draw!" or yeah, just people can't imagine doing something that is so visceral and in a different media or form than the written word. And, okay, zines can also be only words. But I had a feeling that people don't really know or understand, or are a bit resistant to, this sort of format, because it's so different.

Pasek: I want to ask you about that because I think there are sort of two concerns or barriers (and probably different strategies!) for how to address this. As you mentioned, 1) academics are not often trained in the design skills that a person would need to make a very slick looking zine. And of course, we know that the history of zines is one that's full of very amateur forms of making that often prove that one doesn't need a graphic design degree to make something good, or that doing something without design training can often be part of making the point you want to make, or making something truly original. But how to bring people into that zone of discomfort, and how to encourage people to present themselves in front of their peers in a way that isn't perfect? I'm curious about that.

And 2) I'm also curious about the need for academic legitimacy. It's understandable that, if you're going to put time into something, you want to ensure that it will be recognized in forms of review that you're subsequently going to be subjected to, whether that's the job market or a grant or eccentric performance indicators at your university.[4]

How have you tried to tackle either of those problems?

Biørn-Hansen: I think this is really hard. Just to bring people in—both those who feel like they have the capacities to do and make really nice things, and people that really want to share something, but don't feel the courage to just make something. In the call we tried to write this in words. But that's words. I don't think people can tell someone, "Yes, you can just put together some scans of words, and, you know, make something." You don't need to pull up InDesign or Illustrator and start making something very advanced. So, we had contributors who sent in pictures. There was everything from the very simple, like, "I'm just gonna see if I can try to put together some pages about this concept," or "We are going to unpack this research paper in six pages, and it's going to be full of material." But luckily we had these sort of "zine circles." So when we had sent out the notification to people whose proposals were accepted, we invited them also to a conversation so that we could burst some bubbles about what zines are or should be. This helped some of the participants feel that they could make something that was not, you know, picture perfect. And there was one of them who really said, "I don't know what to do. I will see if I can try to make it happen!" In the final zine, we have everything from very sophisticated collages with different visual depths and colours and hand-drawn illustrations, to black and white text with a few pictures added in. I think, meeting the participants and talking about those fears or uncertainties really helps break some of those barriers to engage. But I think it's also challenging, because, you know, it can become too advanced or too slick or too nice.

Pasek: Yeah.

Biørn-Hansen: Well, at least that is what Oliver Bates thought, because he's more like, "It shouldn't be all perfect! It shouldn't all be sleek and nice! Maybe even it should look a bit rough." And talking together about it, I think we did that a lot about the sort of aesthetics and language that we wanted to bring into this. But I don't—we didn't put any restraints on, that "It shouldn't look like this." But I didn't want…

Pasek: …want to be the aesthetic police?

Biørn-Hansen: Yes. But I know with DIY Methods, when I got that box it was everything in between so and I don't know. Do you want to reflect back a bit on that and how you communicated, or tried to mediate, those sorts of differences?

Pasek: Yeah. So I'll say, first of all, we also did the zine making circle thing recently with accepted authors working on their zines, and found it really helpful. It's useful for people to have a community of practice when they're doing something new. It has me sentimentally thinking: wouldn't it be great if all conferences had a little Zoom meetup before the event, where, even if you're just writing papers, you could sit and write your papers together? There's a way in which that kind of primes you to maybe be a little bit more invested in the success of everyone rather than seeing them as rivals for the shared and finite attention available at the hotel during the conference.

But yeah, we have seen a really diverse set of formal aesthetic skills in DIY Methods. And I think that's ultimately good for ensuring that present and future contributors feel like they can participate, regardless of skill. There are zine authors who teach in design schools and contribute very beautiful objects. I'm thinking, in particular, of one about textiles, technology, and feminism that came out in last year's proceedings and involved computer-stitched covers that held together a series of very sleek, beautiful booklets (Psarra and Desjardins). There was another, printed on large format newsprint, that could be folded and cut to make a pop-up map of Providence's historic Chinatown—a very analog (and thus senior-friendly) kind of VR experience (Yoo Warren and Tarrersfield)! You know, these are really pleasurable objects to have and hold. But there's also plenty of work that's made from collage and photocopied or just done up in Microsoft Word, and that's totally fine. It's great for us, because it means that we can support people with a stipend if they want to print something complicated on their end that involves specialized equipment (we don't have computer-assisted sewing machines!). But it also means people can just send us a PDF and we'll print it, either at our campus print shop or with our little risograph printer (which is delightful and cheap!).

Biørn-Hansen: There are a lot of considerations to make it happen—to make the zine circle, to make the timeline work, to be able to put everything together. What were the most challenging and the most exciting parts of bringing the zine proceedings together from start to finish?

Pasek: I think the most challenging part is being an actual publisher. You're responsible for the execution of people's visions. So little in academia prepares you for that! And so, to make your life easier and to prevent heartbreak, it's really important to clearly communicate where the boundaries of possibility are so you know what we can and can't accommodate and have a fair estimation of what the final product might look like in our hands. But you know, if this is your first attempt at layout, you might colour outside those lines, and we'll need to work with people to do some retroactive fixes to their design to make sure that it's printable in a way that will be a good outcome, even if it isn't the outcome they initially imagined. As academics, we're normally troubleshooting citations and questions like, how does the flow of an argument work? But now we're also thinking in the register of form and how to support the people we're publishing by making their argument through both images and text and different kinds of print materials (this year we had entries made of felt (Schmidt) and the disassembled parts of a shortwave radio receiver (Wintermeier)). This isn't a skill that I think everyone comes by naturally. My first degree was in Fine Art so it often feels, in a way that's familiar and fun, like doing a studio critique. But it does have its challenges, and we don't always get it right.

And then, in terms of just the labour and effort of it, we've been able to finance DIY Methods through a Canada Research Chairs grant that I've held. Hopefully that grant gets renewed. But thinking about a self-funded alternative is a bit tricky because it stands to change the terms of participation. Do we shift from being a conference that publishes everything and ships everything for free, towards being more of a zine distro that is collecting materials and then sending out an annual package to people who subscribe to it? Or even just selling stuff item by item on demand? That would certainly shift the gift relation that we've been enjoying thinking with and about. But

you know, maybe this is a direction that some people want. So far we've only been able to give physical zines to direct participants in the conference, rather than a wider audience (though people can always read the proceedings online for free). People want that physical encounter, though. Finding ways to finance that at scale is tricky. How about you?

Biørn-Hansen: Yeah. So we had a lot of learnings from participating in DIY Methods and also looking at timelines from the white paper (Rayner and Pasek). I think we prepared so much, but still—working towards a conference that happened at a specific time, in a specific place, turning into the last one and a half months we were like, "We have to get this done, and then we have to get this done, and then we have to get this done. We have to have proof print, and we have to…" There was a lot of logistics involved. We had such a good reference, and were able to plan it out quite thoroughly, and also the people contributing sent in their submissions in a timely manner—that was crucial to make it happen.

Pasek: Not always a guarantee!

Biørn-Hansen: But I didn't realize, since it was a collection, how much we had to put into the final thing—that took more, much more time than I thought. If we would print separate zines, or they would send us their smaller contributions separately, it would probably look a bit different and would be less work for us. But I think it was very rewarding, because we had time to send proofs back to the participants, and they could give feedback before we did the final print. There was a lot of back and forth, and I really enjoyed that. So that was also really fun. I like that with printed media. And you know, you get to sort of create which I really love.

But I yeah—I think one of the earliest things we had a challenge with, especially for me, was tone. Oliver was more into breaking free from academic language and ways of working to be able to communicate more openly compared to a classic call for papers. It was really difficult to stop using all those fancy words to describe something that, you know, is maybe not possible to describe in words. So we worked with the call for several iterations before we were happy that

it was open and broad enough to invite not only that very sophisticated research-y material, but also something that could be just some thoughts that are, you know, not very well grounded in a research study or whatever.

Pasek: Yeah. I'm just curious to hear more about the results. You know, you had this very targeted intervention in mind with ICT$_4$S. What do you think the outcome was of having this "Shadow Conference?"

Biørn-Hansen: So the zine proceedings are, I mean, fantastic. I couldn't be more happy. We thought we would have, like, five contributions and we ended up with fourteen. And at the conference there were a lot of conversations. I wasn't able to, you know, capture it all. But I think we did succeed in terms of calling in an intervention and bringing in other perspectives. To give an example, one part of the zine is about menstrual health and speculations (Campo Woytuk and Tuli). You wouldn't see that in this conference regularly, and so bringing that in, I think, could possibly have brought up other conversations when people talk to each other. I know that there's a lot of people who brought the zine with them after the conference. We had just a few left, so hopefully these ideas will sort of travel a bit.

Pasek: Yeah, I'm following your footsteps and I'm helping organize a zine track at the Society for the Social Studies of Science in Seattle this year. That conference is a little different—they have an august history of doing weird things in their Making & Doing section. We're part of that crew, and I really love that. For us, one benefit to the parallel track is that it's going to be a space for folks to contribute materials without physically being at the conference. And we're going try and have a space for zine readings and a people's choice award. The Making & Doing section also has a history of staging science fair style presentations and giving out awards from a jury, but we like the idea of opening things up to a vote for both in-person and digital audiences, on a bit of a level playing field. But I will be very curious to know how this part of the event trends in terms of topics and tone, relative to the rest of the conference. What new ideas are possible,

what interventions are easier, when the form of research exchange is underdetermined?

Biørn-Hansen: Yeah, I don't think we can see the results of that now in terms of ICT4S. I think it needs to compost. It's too early to say what sort of long-term effects it has on the community. But there's been talk about doing it again next year. I think there's the possibility to open a new crack in the kinds of questions we ask and the kinds of research that we do. And then maybe people find out that, "Oh, this is also possible…"

Pasek: Is there anything else that you wanted to touch on that we haven't had the opportunity to mention?

Biørn-Hansen: We covered so many things. I think there's a lot of good advice to get if you're starting this from scratch, and we can take inspiration from each other. That is something that should also be communicated to everyone who wants to try it out—we can support each other with the knowledge we have from past experiences. At the end of the ICT4S zine, we added some practical advice that others can build upon, such as the timeline for when we did what, and I think we should encourage this sort of transparency.

Pasek: Yeah, I love that. There're a thousand flowers blooming right now, many different experiments, building off each other and going in new directions.

I think the only thing that I wanted to touch a little bit more on, that maybe we haven't talked about directly, is to ask a question about culture. I think part of what you were experiencing, if I'm understanding correctly, is that it was not the case that ICT4S had formal rules saying that you couldn't have these conversations or touch on those topics. But there's nevertheless something unspoken that creates these norms that then become self-reinforcing—that limit what's comfortable to say when and where, often in a subtle and embodied way (Ahmed). So if we think about how this experiment in publishing is also an experiment in creating underdetermined spaces for what research is about, what it looks like, who gets to do it, and what

that feels like—can we then understand that as a kind of intervention on the level of research culture and social norms?[5]

Biørn-Hansen: Hmm! I have two reflections on that. I think one is, as you said, holding space for what's in the cracks—to give room to all those ideas that maybe don't get expressed. That is an intervention, because then those are brought into the light and can be unpacked and discussed. What that means for the culture, or, let's say, for the ICT4S community and computing is maybe… maybe it's too grand to say that it will impact the culture. But I think it's like academic flying, at least at my institution, where flying is so ingrained and unequal (Pargman et al.), and where no one wants to talk about it. There's a culture of silence in academia about flying. And then it's very uncomfortable to bring something like that up in collegial discussions (Biørn-Hansen et al.). I think, at least in the context of the ICT4S conference, that some ideas are less controversial than others. Depending on who you are and what ideas you bring in, then the conversations can be more or less confrontational, or more or less friction-making. So there's absolutely something there about how it could impact cultures and how it could give space to cultures. But yeah, do you have any comments on that or final reflections?

Pasek: It's often the case that when we think about, you know, theories of political change, there are sort of two main camps. There are people who are really, really interested in small, often prefigurative experiments: you know, zones of exception where things are possible that aren't otherwise in everyday life. And on the other hand, there are people who are quite insistent that we need structural change, not little experiments. And so it's very interesting—the critique from the latter group might be, "Going into a field and having a rave is not going to win us the bread-and-butter changes that we need!" and I am cognizant of that in thinking about these experiments. They do seem to be these temporary free spaces (Evans and Boyte) that haven't radically shaken the bones of academic institutions as we know them.

But there are moments where these concerns do come together, where giving people lines on their CV for this sort of stuff is sub-

stantive and helpful—where shifting norms about academic mobility expectations, or the format of an academic paper, or how much research is enough research to make an argument publishable does help make space and provide recognition to a wider pool of thinkers. I am encouraged by the prospects here. Even if not in a linear way, scaling up such efforts still mobilizes valuable resources that can help people having that struggle on the structural level. At the very least, it sets helpful precedents. So I will be very curious to follow further experiments, the additional spaces of possibility they open up, the changing desires and expectations they nourish, and the tools and resources they provide to people negotiating hostile academic institutions.[6] We live in inherited and imperfect organizations, but they're also ones that we're slowly reforming, hopefully towards more equitable, environmental, and enjoyable outcomes. Ha, at least, that's my speech.

Biørn-Hansen: The end!

ACKNOWLEDGEMENTS

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IMAGE NOTES

Figure 1. The zine café at the 2024 ICT4S conference in Stockholm, Sweden. Aksel Biørn-Hansen, June 26, 2024.

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NOTES

1. For the conference CFP, FAQs, and links to all proceedings, see https://diymethods.net/.↩
2. "Zine" is a very open-ended term to describe short-run, largely print-based ephemera made by the authors themselves rather than being professionally printed and vetted by an external publisher. They can take many different shapes and sizes and experimental turns within that definition.↩
3. See also Lakind et al. 2025.↩
4. This is a problem experienced by the facilitators of many alternative publishing formats. For an affectively informative exploration of these challenges from the perspective of journal editors, see Beckstead, Cook, and McGregor's choose-your-own-adventure themed account.↩
5. See also Neimanis, this volume.↩
6. See Jekanowski and Karsgaard et al., both in this issue.↩

USING RESEARCH BLOGS TO COMBINE COMMUNITY AND CAPACITY BUILDING IN THE FEELED LAB

JULIA JUNG
MANUELA ROSSO-BRUGNACH
CHRISTIAN WIEWELHOVE

The FEELed Lab is an interdisciplinary environmental humanities lab of the University of British Columbia, Okanagan (UBCO), located on unceded syilx territory in Kelowna, British Columbia. Led by Astrida Neimanis, the lab includes faculty, students, community members, and partners who contribute to its goals in diverse ways. The FEELed Lab focuses on promoting feminist, anti-racist, anti-colonial, queer, and disability justice perspectives to engage with interlocking socio-environmental crises, particularly as they manifest in this place, on unceded syilx territory. The name "FEELed Lab" plays on the concept of *field labs* and *field stations* more common in the natural sciences as places for gathering data about the adjacent "nature." But as well as gathering data, field labs also gather people, who work and sometimes also play and live together. In this sense, field labs also build and become social infrastructure and community. The FEELed Lab reimagines the field lab concept by positioning feelings and community building as central to environmental inquiry. These feelings include those tied to climate change research and climate justice, such as anxiety and grief (Neimanis and Hamilton), but they are also more generally about the work of "feeling things out." This is particularly important as we strive to make mainstream environmental science more diverse and inclusive of Black, Indigenous, and racialized communities, and queer and disabled perspectives (Johri et al.).

Knowledge about the lab's theoretically informed practice-based research has been published in conventional academic fora; however, the FEELed Lab also prioritizes community-oriented publishing and knowledge mobilization. Building community is both the aim and

process of the lab's knowledge mobilization strategy. In keeping with this orientation, the lab has produced a range of non-academic outputs, including zines, workshop methods, a documentary, and artistic projects that engage broader publics, and centre collaborative forms of knowledge.

The lab's website serves as a central archive and repository illustrated especially through the *FEELed Notes* blog series (see www.thefeeledlab.ca/feeled-notes/). These research blogs provide event summaries, workshop invitations, more general project updates, and other developments happening in and around the lab, including reflections from lab members on their work in ways that expand into more theoretical ideas and contextual frameworks. Thereby, these blogs offer context and a sense of continuity of happenings at the lab. Monthly summaries of new *FEELed Notes* posts are shared through our newsletter, the *FEELed Guide*, which improves their distribution.

The research blog format also makes our work more accessible than other publication formats and allows us to share information in a more timely and democratic manner. The open access format accommodates multimodal, experimental contributions including photo essays, poetic texts, and zine-inspired works. Those contributions facilitate broad and accessible sharing beyond traditional academic platforms. As informal and often personal communications, they also offer a means of relaying the lab's relational, affective, and interdisciplinary approach that allows us to share the *vibes* and values of the lab in a tangible way.

These publishing opportunities have been especially helpful for those without publishing experience to get practice writing for different audiences and becoming acquainted with publishing processes. These contributors receive editorial guidance in producing public humanities scholarship, while also being encouraged to find and develop their own voice. As students, lab members, and community partners are regularly invited to contribute to *FEELed Notes*, we have created a low-barrier platform for them to share their thoughts, voice, and perspectives.

FROM RESEARCH BLOGS TO A POTENTIAL FEELED MAGAZINE

One special feature of the *FEELed Notes* has been a series of essays by undergraduate students titled "Outstanding Feelz." In contrast to most other *FEELed Notes* posts, these essays are more thematically focused. Rather than offering project-specific updates or reflections, they engage more broadly with the lab's thematic research areas. Some examples include imagining the future of campus using Indigenous futurism and Afrofuturism (Packo, "Cultural Resilience") as well as solarpunk principles (Packo, "Reimagining"); or describing connection to local places as a means of considering eco-cultural identity and obligation (Rader). For many students, this is their first publication experience, which can also be a valuable addition to their curriculum vitae. While still in an early exploratory stage, registering the series with the Government of Canada to obtain an International Standard Serial Number (a unique 8-digit identifier for serial publications) could enhance the citability, visibility, and discoverability of student work across academic and library databases (Simpson et al.). With this next step we hope to strengthen our existing blog platform while deepening its role in sustainable and inclusive publishing in a student-centred way. We aim for these contributions to offer students an accessible first step into publishing while engaging meaningfully with the lab's intellectual and environmental concerns.

HOPES AND IMPLICATIONS

We have focused on building our research blog archive as a way of responding to the increasingly urgent stakes of knowledge production, specifically questions of who gets to speak, be heard, and archived. We see this as a growing platform for amplifying diverse voices and sustaining inclusive, evolving forms of scholarly engagement. Our hope in sharing how we use research blogs as a knowledge mobilization tool in the FEELed Lab is to offer a model for how practitioners can leverage existing work (rather than always creating new content) to improve accessibility and foster inclusive archiving and knowledge production and mobi-

lization practices. By encouraging students and contributors to write for public audiences, this approach also supports those who may not yet have access to more traditional publishing platforms. More broadly, it contributes to the expanding ecosystem of open resources and their potential for knowledge mobilization in Canada (*Imagining the Future*).

As calls to decolonize, democratize, and reimagine academic and public knowledge intensify, we feel there is a growing need for publishing models that honour situated, affective, and speculative forms of thinking. Our understanding of *sustainable publishing* is grounded in the lab's commitment to feeling as a mode of knowing and relating. This means creating accessible, evolving archives that continue to expand **what counts as knowledge** and **who is invited into its creation**. We aim to build an archive of feeling (Cvetkovich) of perhaps ephemeral experiences and emerging or marginalized perspectives and knowledges. Being sustainable, this kind of publishing is gentle, reliable and easily accessible—in other words, it allows us all to share and accrue knowledge in ways that are also sustainable for ourselves and communities. This publishing also expands the notion of which perspectives, topics and formats are classified as dealing with the topic *sustainability*.

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We acknowledge that the physical home of the FEELed Lab, Woodhaven Eco Culture Centre, is located on the ancestral territory of the syilx Okanagan people. This land was never ceded and the FEELed Lab is committed to building relationships and activities that recognize, honour, and contribute to the stewardship of the syilx people of this land, which has been ongoing since time immemorial. We are grateful to Astrida Neimanis for their support and encouragement in writing this article.

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SWITCH-OFF

MARGOT MELLET

> Nur was schaltbar ist, ist überhaupt. (Friedrich Kittler *Draculas Vermächtnis: technische Schriften*, 1993, 182)
>
> Only that which can be switched is, fully is.

Cette contribution will be écrite in a switchable-langage.

La sentence de Kittler me pursues un peu in all mes écrits, mais here je ne la cite pas in the ontological sense, plutôt au sens de dispositif de passer d'une activity to another autre. Comme switcher d'une langue to another autre.

```
exercice sa souplesse
fluidify its mind
```

Since quelques months, I'm co-rédactrice at the journal of études cross-cultural de l'image *Imaginations* with Brent Bellamy dont le travail est amplement enough. Si on lit la french page of the Collectif où we're testing a bilingual version de la revue grâce au travail de David Duhamel, je suis even editor responsable. Au long de ma editorial life, I've been à several rangs éditoriaux : petite main, copy editor, correctrice, coordinatrice, to the point of becoming vice-directrice de la revue *Sens public*. Now que je suis dans une position of responsability, with the symbolic autorité dont I do not know que faire with, one question me bugg : Comment make sustainable une publishing chaîne quand même ma position reflects une hiérarchie qui semble imply des power mecanisms ?

Or my personnelle research sur l'obfuscation des processus de knowledge production (aka les petites mains) me rappellent que la collaboration gets lost in le produit final.

```
Je ne veux pas become tyrannic
but I ne veux pas to do all by myself
```

```
I do want to comprendre comment le knowledge emerge
but je ne pense pas le pouvoir if I'm in a symbolic altitude
```

Je ne sais pas *Imaginations* has solved cette question tant abyssale than commongrounded, mais in our regular *Imaginations* activités éditoriales, we switchons au-delà des status assigned.

```
jouer à leapfrog
play saute-moutons
```

This require une idée approximative de la publishing chain : une vision d'ensemble together shared and la possibilité de former who ever want to copy-edit, convertir, deploy, indexer. La publishing machine tourne as la communauté involved switch.

```
more on switch
plus on pratique in different ways
and nous maintain un group qui co-product ses knowledges
```

Maybe, pour un short moment, we can let les status in the locker room of the institution, pour travailler without et more together. Community, dans le switch mode, émerge par le partage des tasks and habilités :

```
sustainability est un share-alike processus
```

So switch, switch et switch et switch off/on/another autre encore.

Merci to all individuals that peuple my editorial life.

CRITICAL AI LITERACY FOR SUSTAINABLE SCHOLARLY PUBLISHING

CHELSEA HUMPHRIES

As a librarian, I am on the frontlines of scholarship. I support the development of scholars by assisting and instructing undergraduate and graduate students at my mid-sized Canadian university, I support faculty research and conduct my own, and I disseminate scholarly outputs by building our collections and performing outreach to promote them. Additionally, I work as a co-editor for a journal in the library and information sciences (LIS). Scholarly communication underpins every aspect of my various roles, and I see how generative AI is impacting its sustainability every day.

Generative text tools in particular, also known as Large Language Models (LLMs), are powerful in their ability to synthesize vast amounts of data in natural language. They are emerging in seemingly every digital product at our fingertips, and while they may provide creative new avenues for research and education, they require a critical literacy that explicitly invites opportunity for an informed stance of refusal and resistance prior to their use to avoid harms to scholarship, the people who perform it, and the world in which this work is done. This is an uncommon perspective, but one that is essential in ensuring sustainable scholarly publishing as these tools continue to emerge, proliferate within, and impact academia.

There are many misconceptions and misapplications surrounding these tools, which I encounter every day in the library and in the classroom. For example, hallucination—or these tools' tendencies to fabricate information (in often too-confident language)—surprises many scholars, no matter their stage of career or publishing goals; frequently, chatting with a generative text tool is incorrectly seen as an equivalent for running a search in a search engine.[1] This misunderstanding spills into a variety of areas. The thinking that these tools are all-knowing conversational search engines may augment

students' abilities to build their critical thinking skills and practice the research and synthesis necessary to become credible scholars (and active, critical citizens of the world). Overreliance upon and cognitive offloading to AI tools are already being seen to influence critical thinking skills in users (Gerlich; Kosmyna et al.). This is compounded, insofar as AI-generated summaries and "assistants" are pervading digital products, providing a shortcut and possible alternative to engaging with challenging material directly.

These generated alternatives may also come to devalue the hard work of scholars who are creating new knowledge in their disciplines. That "information has value" is one of the core precepts in the Association of College and Research Libraries' (ACRL) Information Literacy Framework (2015), and librarians are particularly well-poised to discuss this devaluation and fight against it. Alongside generated text summaries, machine-generated texts are now entering publishers' frontlists; these range from entirely generated texts with human editorial oversight,[2] to texts that blend human-written material with generated literature reviews ("Springer Nature"). It is easy to use generative tools to brainstorm, draft, edit, and translate text, and this may have implications for editorial work and workers. But, because these tools are prone to error[3,4] and draw from unsustainable amounts of natural resources, the expertise of scholars and those in scholarly publishing should not be devalued but rather valued *more highly*, so that we can navigate generative AI use carefully and thoughtfully, deploying it strategically as befits its multifold and dramatic impacts upon the world. Librarians in scholarly publishing can and should advocate for themselves and other experts who are creating information.

The environmental impact of generative AI tools is staggering. We have known, nearly since their inception, that the energy and natural resource demands of generative AI data centres are high (Meredith). In particular, the increasing water footprint of generative AI threatens clean water supplies (Pengfei et al.); it also makes unsustainable demands on power, with predictions forecasting that global data centre electricity consumption will more than double by 2030, exceed-

ing the power demands of the entire country of Japan (International Energy Agency). This is a direct threat to the ecological sustainability of our planet and must be handled carefully, although it is often either unthought of or obfuscated as users increasingly engage with incorporeal chats. Libraries are increasingly prioritizing sustainable practices, with the Association of Research Libraries (ARL) stating that it "believes in fostering a research and knowledge ecosystem that is financially, technologically, and ecologically sustainable," and the American Library Association (ALA) "recogniz[ing] sustainability as a core value of the profession, highlighting libraries' vital role in fostering a sustainable future and inspiring solutions for global challenges like climate change, social equity, and economic viability" (Tribelhorn). Voicing concerns regarding new, unsustainable, and pervasive technology, and offering informed refusal as a legitimate response, is not just an ethical consideration—it is a requirement in our profession.

To date, developing AI competencies and AI literacy frameworks in LIS seek to promote meaningful engagement with AI. There is very little mention of intentional *dis*engagement. AI literacy is defined by one authority as "the ability to understand, use, and think critically about AI technologies and their impact on society, ethics, and everyday life" (Lo 120). This corresponds with a point made in the most recent draft of the *AI Competencies for Library Workers* document from the ACRL: "Critical evaluation fosters healthy skepticism and ongoing assessment of AI-generated outputs, benefits, and challenges" (Assn. of College and Research Libraries, *AI Competencies*). These are admirable goals; however, they fall short of explicitly recognizing that engagement and "healthy skepticism" can also look like conscious and informed resistance. "Use" is not required. Similar to Leo S. Lo's framework, the Canadian Association of Research Libraries' (CARL's) strategic plan includes a focus on AI, but this falls short of being non-prescriptive, wanting to foster "the understanding and integration of generative artificial intelligence into support for research, teaching and learning and into library practices" (Canadian Assn. of Research Libraries). AI literacy can include but should

not presuppose integration and use. This is a point emerging in LIS scholarship (see Slater), but not yet at the fore.

Teaching generative AI literacy, rooted in human-centred approaches to AI, is central to the future of sustainable scholarly publishing. As Shannon Vallor, the Baillie Gifford Chair in the Ethics of Data and Artificial Intelligence at the University of Edinburgh's Edinburgh Futures Institute, defines human-centred AI systems, they are "designed by people, for people, and with people, in such a way that the ultimate design aim is the promotion of human flourishing" (13). As a librarian with robust instruction duties, I lead conversations about generative AI in my guest lectures on information literacy to support intellectual and scholarly flourishing at the institution. I pull students *and* faculty into these conversations as equals, exploring their thoughts about these tools, why they do and do not choose to use them, situating our affective responses (ranging from effusive supporters to frustrated detractors), how we understand these tools to work, the implications of their presence in scholarly environments, and larger topics and themes. I regularly discuss who owns these tools and profits from them; intellectual property, copyright, and privacy in relation to training data, inputs, and outputs; and environmental impacts and what they mean for populations around the world. Frequently, I structure these conversations as a game of true and false, asking students and instructors questions about generative AI using anonymous live polling tools. Anonymity creates a low-stakes environment for participation in which all thoughts, opinions, and questions can be voiced without personal judgement, and I have found that robust conversation usually ensues, both within the anonymous polling tool (I often use Mentimeter's Q&A feature, and follow up comments and questions are common as new topics are discussed) and vocally in the classroom. I have also run similar activities and facilitated similar conversations among library staff and various faculty groups, encouraging curiosity and critical, practical evaluation methods for generative AI tool use (see, for example, Hervieux and Wheatley) that are impartial to specific tools and do not presuppose their value. To this end, I have also created a LibGuide in collaboration with my colleagues in the library that

does not promote or discuss specific generative AI tools, but rather provides frameworks and guidelines for thinking about AI tools and evaluating them for use. My goal is agnostic and pragmatic: I aim to help scholars understand these tools, evaluate them, and make informed and defensible decisions about their use or resistance to their use in relation to their scholarly goals, encouraging transparency and human participation at every step along the way.

There is often a sense of inevitability surrounding generative AI—an assumption that these tools should and will become embedded in every aspect of our lives. If one were to choose otherwise, they might be described as a Luddite or as attempting to bury their head in the sand. This sense of inevitability can thus couple with a fear that not using these tools will render scholars and their work obsolete, which may in turn increase workloads as scholars attempt to master generative AI tools to stay relevant. Insofar as this is frequently undertaken with little institutional guidance or support, this inevitability and urgency for mastery is itself an unsustainable approach to professional development and learning. Becoming AI literate and meaningfully engaging with generative AI tools does *not* necessitate mastery and use. This assumption is one that is rooted in capitalistic and neoliberal ways of thinking emerging from Big Tech drives for profit. It is no coincidence that Google, Meta, Microsoft, Apple, and others are embedding generative AI into all of their products; it is not for our benefit or to support human flourishing that they are doing so (I, for one, definitely did not ask for AI summaries to be appended to every search),[5] but rather to increase their profits as we literally buy in to the narrative that we must adopt these tools as they emerge, regardless of their actual value. I believe that comprehensive and critical AI literacy should provide equal opportunity for informed use *and* informed resistance. Generative AI can be useful, but it must be human-centred. We must ask ourselves as we approach it: Is this tool something that we actually need? Will it help us solve the problems that we are working on as scholars? Does it further our goals and support our flourishing? Or are we allowing it, and its creators, to shape and define new problems for us? Who is in charge of our scholarly futures—us, or the technology that has been thrust up-

on us? It is too late to ignore generative AI, but it is not too late to address our understanding of it and make informed decisions about its use and usefulness in scholarship and scholarly communications.

I encourage readers to explore these topics, critically investigate your own scholarly goals, and engage others in conversation about generative AI. Chat with librarians, researchers, instructors, editors, authors, and students. We should do what we do best as scholars—be curious, critical, and collaborative.

We cannot wait for "perfect" circumstances within which to begin these conversations; the pace of institutional policy development is slower than that of generative AI tools. While we should contribute to these larger institutional discussions wherever possible, we cannot bide our time. Generative AI is all around us, and we must meaningfully engage and disengage with it *now* or risk having the future of our scholarly communications work decided for us as generative AI continues to be more deeply entangled in our publishing processes and technologies.

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NOTES

1. To generalize, as language-pattern machines, these tools are not inherently designed for information retrieval; they are designed for natural language production corresponding with certain probabilities. They will give you the *most likely* response to your query, according to their algorithms, training data, and other design features. The quality of these outputs must be checked by those with relevant expertise.↩

2. See, for example, Gireesan and Chathukulam; Khine; Udaya and Reddy; Baikady.↩

3. For example, the nonsense phrase "vegetative electron microscopy" has been appearing in an increasing number of scientific publications, and it is attributed to erroneous generative AI chat suggestions (Snoswell et al.).↩

4. A recent title, *Mastering Machine Learning: From Basics to Advanced,* was retracted by Springer Nature after generated citations in the text were discovered to be nonexistent (Aksenfeld).↩

5. For those interested in avoiding Google Gemini's generated responses, at the time of writing, running a search and selecting "Web" or another filter at the top of the search's landing page (instead of searching "All") should eliminate the summary.↩

TOWARDS RELATIONAL MODELS OF PUBLISHING IN NATIVE AND INDIGENOUS STUDIES

BETH BOULOUKOS

As the director of a diamond open access press in the United States, I am constantly made aware of how relationships are key to the sustainability of our small and—at least in the US context—unique publishing model. Amherst College Press is not alone in this. As a community of publishers within the academy, we have at least begun the hard work of starting to grapple with long-standing power inequities in our field in order to work towards more equitable relational practices. One area we have yet to grapple with in any sort of systematic way is what constitutes ethical practices when publishing work by and about Native and Indigenous communities. We need to think more critically about those relationships in order to make them sustainable. Good work is being done in pockets of our field, but there hasn't been a forum for people to contemplate, discuss, and share on this topic.

In the past few years Amherst College Press has published important volumes in the field of Native and Indigenous studies, such as *Abiayalan Pluriverses: Bridging Indigenous Studies and Hispanic Studies* and *Boundless: Native American Abundance in Art and Literature*. Throughout the processes for these books, I have become increasingly interested in the great potential of making Native and Indigenous knowledge available digitally and in print, including centring and celebrating Indigenous sovereignty, agency, and expression. Yet it remains true that open access and publishing in general are not necessarily monolithic goods, especially given their brutal histories of intellectual dispossession. Even terms such as "acquiring editor" and "acquisitions" speak to troubling imbalances inherent in conventional publishing. I believe we need to move beyond what my colleague Brian Halley at the University of Massachusetts Press calls "extrac-

tive publishing" and find alternative models that prioritize ethics, justice, and mutuality.

Unlike in the areas of librarianship and museum studies, there is almost nothing written on the topic of working with Native and Indigenous authors, communities, and knowledge in the area of scholarly publishing—nor has a dialogue really begun in any organized way on an industry level. In order to try to start that conversation, I planned a panel for the June 2024 meeting of the Association of University Presses (AUPresses) called Prioritizing Ethics and Community-Based Practices: Publishing Models for Native and Indigenous Studies. Participants discussed ways in which they have reconceived publishing work as a set of relational and community-based practices. The topics ranged from linguistic sovereignty to compensation to technological tools that might enable this work. This panel served as a call to action and my hope is that those reading this will also feel compelled to get involved.

It was heartening that the panel was well attended, but we need to convene more people who are interested in coming up with guidelines on better practices. I am imagining something in the vein of what one of the AUPresses panelists, Geneviève Sioui, co-authored with Amanda Shawayahamish: *Dewemaagannag/My Relations Indigenous Engagement Guide: Key Principles and Values to Decolonize Engagement with Indigenous Communities*, but specifically on the topic of publishing. In the guide, Sioui and her collaborators encourage deep listening and also the contemplation of motives in order to avoid using Native and Indigenous individuals, groups, history, and knowledge for our own cultural capital. The guide maintains that this process should produce pathways from reflection to action.

What would that action look like for scholarly publishing? As the guide suggests, it needs to start with honest self-reflection on positionality. We need to make space at our individual institutions and as a publishing community to grapple with power imbalances. Ethical publishing under these principles is slower, more collaborative, and community driven. It treats books not just as products, but as relationships in print. The difficulty here is that a market-based economy

does not place the same value on this attention to relational processes. Some publishers may have the will to do this but not the bandwidth given financial pressures and constraints.

As the contribution to this collection "Reimagining Academic Publishing: Community, Knowledge, and the Future Beyond Academia" notes, in some ways the academic institutions that house us and provide legitimacy are also the ones that can hinder our efforts and the vitality of the community. In this case, that has looked like the defunding of publishing initiatives, which has resulted in more reliance on the market than in the past and less time for reflection. This is why diamond open access publishers have a pivotal role to play in this conversation and can set an example for what may be possible. Even so, we will only move towards more relational models if publishers of all kinds are involved.

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REIMAGINING ACADEMIC PUBLISHING: COMMUNITY, KNOWLEDGE, AND THE FUTURE BEYOND ACADEMIA

JESSICA DEWITT

I originally joined the Network in Canadian History and Environment (NiCHE) in 2014. I was in the third year of my doctorate program, when I was offered the position of social media editor. Although I was excited about the opportunity, I had no idea at that time how much this chance moment would change the trajectory of my career. Over the past decade, I found my passion: public scholarship and digital knowledge dissemination. When I finished my PhD in 2019, I made the conscious choice to leave formal academia to better focus on this passion and work adjacent to the academic institutions that no longer served me. Today, I am a NiCHE executive member and editor-in-chief of our blog, *The Otter*, and the rest of our website where our team of over twenty editors publish nearly every weekday. Although I hold other contracts, NiCHE is, as Rachel Jekanowski describes in "Editing the Environmental Humanities" (this issue), my personal "labour of love."

NiCHE is a Canadian-based confederation of scholars of environmental history, environmental humanities, and historical geography from both within and beyond Canada. NiCHE began as a Social Sciences and Humanities Research Council (SSHRC) Cluster grant project in 2004, led by Alan MacEachern. From the outset the goal of NiCHE was to mobilize knowledge through the building of community. The website and blog were only part of this, and a relatively small part in the first decade. But it has grown, particularly after the SSHRC funding ran out, and even more since 2020 and the start of the pandemic. Our readership has more than doubled in the past decade, as have our contributor numbers. Our articles and other content are viewed around 20,000 times a month, and our annual readership in 2024 was nearly 150,000 (220,000 views). Over the past 21 years, NiCHE has become one of the premier environmental human-

ities publications in the world. At the core of this success is the continued commitment to community.

NiCHE's blog—or online magazine, for those, like myself, who feel we've moved beyond the 2010s term "blog"—is revered internationally and cited in academic scholarship, but continues to be undervalued by the formal academic institution.[1] We are well over a decade into the prominence of academic blogging in knowledge dissemination and democratization, and yet our institutions continue to not recognize this labour financially or in regards to promotion and hiring practices, leading these important publications to serve as symbols of academic precarity and inflexibility.

At Active History's "The Future of Knowledge Mobilization and Public History Online" workshop in August 2024 at Huron College, representatives of the leading history blogs in Canada gathered to discuss some of these issues. Participants brainstormed possible ways forward, including requiring peer review in order to gain more middle- and late-career contributors and be taken more seriously by the academy. I also attended the Sustainable Publishing Atelier in July 2024—which was attended by individuals primarily from peer-reviewed publications—where our visioning boards emphasized dreams of the end of peer review and prestige-chasing and universal open access. Ironically, having been at both events, I found that the academic blogs wanted to be more like peer-reviewed publications, while peer-reviewed publications wanted to be more like the blogs!

Two main points bind these groups of publishers together. Firstly, both groups found strength and fulfillment in community and recognized that it was this community that needed to be prioritized above all else moving forward. Secondly, for both groups, it is the very academic institutions that we rely on for funding and standing that hinder the work we want to do and the nourishment of this community. The challenge then, for all of us, is to imagine academic publishing, and ultimately all education and knowledge-building, beyond the academy. This is no easy task. And, if taken to its final conclusion, could mean the dissolution of the academic system that currently provides structure to our disciplines and ways of being in the

Western world. The disbandment of academia will, of course, not happen overnight, or perhaps never in our lifetimes, but each of us has the power, to varying degrees, to make space for the future that we want, to push back against institutional hegemony, and to prioritize, at the individual relational level, community and care.

NOTES

1. NiCHE does publish a long-form, peer-reviewed, open-access publication, *Papers in Canadian History and Environment* (PiCHE), but it accounts for only 1-3 publications per year on the website.↩

PUBLISHING IN AND FOR PLACE

FIONA POLACK

Place-based university presses are committed to disseminating knowledge generated in, about, or of particular relevance to the lands and waters surrounding them. They invariably work in close and creative relation with adjacent academic and non-academic communities in order to cultivate and spread ideas. Despite their deep intellectual and ethical commitments, the vital work undertaken by place-based scholarly publishers is not always sufficiently acknowledged.

My reflections in this piece are very much shaped by my simultaneous roles as a professor who disseminates her own research in a variety of scholarly venues, and as an academic editor who publishes other people's work. I have held the dual roles of professor in Memorial University's Department of English and academic editor at Memorial University Press since 2017. My main responsibilities at the Press include developing our list, overseeing peer and community review processes, and developmental editing. The academic editor role is rare in Canadian scholarly publishing; the position's duties are more typically divided between (non-academic) acquisition and (academic) series editors. However, MUPress's size—we currently publish four to six North-Atlantic-associated books each year and have two full-time staff—makes the academic editor position economically practical, with the added benefit of ensuring our authors' access to deep scholarly developmental engagement in their projects from the outset. My views are also heavily influenced by the fact I'm a settler academic who received her doctoral training at the University of Tasmania in Lutruwita/Tasmania and has been based for most of her subsequent career at Memorial University in Ktaqmkuk/Newfoundland.

In Memorial University Press's case, a place-based approach has generated publications including multidisciplinary artist and scholar

Pam Hall's *Towards an Encyclopedia of Local Knowledge* (*ELK*) project. The most recent volume of the series, *Chapter Three: Miawpukek: The Middle River,* was composed by Hall, who is a settler, in collaboration with Mi'kmaw artist Jerry Evans, and published, after extensive community peer review, with the approval of Miawpukek First Nation. *Miawpukek: The Middle River* is a meticulously illustrated, bilingual Mi'kmaq/English volume. In order to afford to produce it, we partnered with local press Breakwater Books, and leveraged grants from sources including SSHRC and the Canada Council for the Arts. The translation was completed by a freelancer in Mi'kma'ki, Breakwater undertook the copyediting of the English portion of the text, and MUPress handled design and production. The very existence of the *ELK* is testament to the ways in which place-based scholarly publishing is invariably richly and complexly collaborative.

Place-based scholarly publishing does not only mean disseminating knowledge derived from a press's immediate vicinity. To state the obvious, the local is deeply imbricated with the global in multifarious ways. MUPress also publishes work extending from sociologist Rie Croll's *Shaped by Silence*, focusing on the experiences of female inmates in the Catholic church's Magdalene laundries around the world, to Sheena Wilson and Lisa Moore's edited volume of flash fiction about energy transition across Canada and beyond. In order to make sure our scholarly publications reach all of their potential readers, MUPress has devoted considerable attention in recent years to gradually and sustainably shoring up our distribution networks. Having first built solid connections with regional bookstores and booksellers, we have moved on to partner with national and, subsequently, international distributors that share our values. We have also ventured into open access publication, although with some trepidation given the intense financial burden it can place on operations of our size. In the process of these developments, MUPress has benefited enormously from the generous professional knowledge sharing that occurs in organizations such as the Association of Canadian University Presses. Place-based scholarly publishing is ultimately intensely relational, and deeply reliant on the building and sustaining

of myriad connections to produce and circulate ideas in the context of limited financial resources.

The kind of scholarly publishing I am championing here is not always given its appropriate due. As an academic, I feel subject to professional pressure to publish with the Big Five, and am a regular member of hiring and promotion and tenure committees in which questions around the supposed "prestige" or otherwise of a scholarly press or journal often arise. "Prestige" does, of course, matter when it is code for robust and appropriately conceived peer and/or community review processes, meticulous attention to production and design, and a press's ability to disseminate widely the innovative and valuable ideas the books it produces contain. There are, however, arguably far more scholarly presses with these capacities than those typically perceived as top tier. All too often, "prestige" is also code for sizeable, metropolitan, corporatized, and often (for Canadian scholars, at least) located elsewhere. The prioritizing of "prestige," in these latter senses, decreases opportunities for decentring power, and for bolstering the health and diversity of the scholarly publishing ecosystem. This latter concern is particularly critical at a time when university budgets are shrinking, and those of university presses along with them. Academics, and the crucial decision-making committees on which they serve, urgently need to give greater weight to the circumstances under which publications are produced, and the ethical and relational commitments (or otherwise) of the scholarly publishers in question.

WE ARE DOING ENOUGH

BRENT BELLAMY

Margot Mellet and I are co-managing editors at *Imaginations*. We have both confessed a feeling of needing to do more in our work at the journal. In one of our regular *Imaginations* managing editor meetings, Margot uttered a truism that resonated: "We are doing enough." This phrase made me laugh. It made Margot laugh. It hit a nerve in a good way. The sentiment draws on a kind of cognitive dissonance I have as an academic, as a colleague, as an editor: I think I'm not doing enough. To put it more precisely, I know I could be doing more and doing better with more attention, care, and time.

This thought becomes a feeling even as I rush from this meeting to lecture prep, from class to the graduate student writing workshop, and from a directed reading course to phone a union member. This list doesn't even account for research and writing time! The cognitive dissonance comes from the individuated way I feel I have to work. "I am falling behind. I am letting colleagues down. I should take on something else." These thoughts are a part of a perceived deficiency motivator: expressions of insufficiency often match profound accomplishment, and people often actually achieve more in the areas where they feel they are falling behind. I share this academic-psychological commentary to characterize the profound impact Margot's words had on me. "We are Doing Enough." It caused a short circuit. When I look at our plans and what we've done, I realize that, "Yes, we are doing enough."

I have been with *Imaginations* since 2014. Sheena Wilson invited me to join as web editor and it wasn't long before I took on being managing editor. Somewhere between 2016 and 2017, during the transition from Wilson to Markus Reisenleitner as editor-in-chief, there was a gap where I was the only bit of continuity for the journal. I kept it running through several issues. I didn't ask for help or reach

out in need. I thought because I could take this on I had to. At this time, I was a postdoc and was working on several other editorial projects as well as my monograph. I was applying for tenure track jobs, and it felt right to be working extra hard. I felt like the more I did, the more likely I was to land one of those elusive tenure track gigs. Then working with Markus grounded me, but, in recent years, I have still felt I was falling behind, letting our authors and editors down by not keeping up with everything. So, I was thrilled to start working with Margot, a seasoned journal editor (vice-directrice at *Sens Public*). I was nervous because I didn't want to make assumptions about or overload work on my colleague.

When Margot and I first met, we talked about expectations, work habits, shared documents. All the things that make this job possible. Developing practices that work for us and the journal has become a delight. The key to sustainable publishing in all of this, besides characterizing academic psychology, is that for me working together makes everything easier, makes things possible. A meeting every other week is a place to keep up with what has been happening. Dividing tasks means no one is on the hook entirely. Being able to blow off steam about something frustrating and to celebrate something great is exactly what I needed to be re-energized. I don't dread how far I've fallen behind on journal work because we're on it together.

As Universities continue to operate according to business logic, as funding bodies are under duress, as metrics come to dominate academic publishing, editorial teams are being required to do more with less. The push to produce and circulate work is strong. The resources to carry out publication are lacking. It's easy to forget that sustaining an open-access, online journal means sustaining a political statement about the availability and accessibility of knowledge, about who has access to research and, crucially, who has access to a publication platform. The content of *Imaginations* can be weird and wonderful. Sometimes our authors make bold, necessary, provocative political contributions. Other times, they work through a unique, precise aesthetic quandary. In both instances, the format and accessibility of our publication makes their work available.

For *Imaginations*, for *The Goose*, and for the institutions and people represented here, this issue is about turning the form of our publications into content. We offer metacommentary on sustainable publishing in order to shore up capacities across academic publishing. In some sense, I wanted to share my good experience working with Margot as a model for how journals can work together.

Together, we are doing enough. My question to you is this: how can we do enough together in a meaningful, restorative, and just way?

Thanks to Margot Mellet, Rachel Webb Jekanowski, Lisa Han, and Lee Campbell for the notes!

RESPONSIBLE AND SUSTAINABLE OPEN PUBLISHING: Q&A WITH CANADA'S LARGEST LIBRARY-BASED OPEN PUBLISHER

AMANDA WAKARUK
SONYA BETZ

The University of Alberta Library partners with Canadian organizations, editorial boards, and researchers to publish more than 70 fully open access scholarly journals.

Question: What is library-based open publishing?

Answer: An increasing number of academic libraries are providing digital publishing platforms and services that enable academics to produce a range of journals, monographs, and textbooks. If these programs are operated without direct cost to authors or readers, they are considered to be "open publishers." These publishers help authors comply with the Tri-Agency Open Access Policy on Publications.

Question: How is library-based open publishing more environmentally sustainable than similar publishing services offered by commercial operators?

Answer: Academic libraries are based in organizations whose missions usually include knowledge production, dissemination, and stewardship. Economies of scale related to resource usage and cultural uptake of relatively environmentally-friendly decision making is more likely in a nonprofit, higher education setting. Additionally, solving the climate crisis requires free and unfettered global access to research, and library-based open publishing helps ensure that scholarly contributions are more easily found and cited. Sustainable knowledge systems, more broadly, are those that are openly available, used, and shared. Many library publishers also have a preservation program in place, helping to ensure that articles are found and read in perpetuity.

Library-based and other non-profit publishing models can also support and sustain scholarly communities that have been excluded from commercial publishing systems. With a values-based and community-centred approach to publishing, libraries can be viable publishing venues that support languages other than English, on topics of interest to local or regional or specialized communities, and by authors who face systemic barriers to publication.

Question: What about labour practices? Higher education has been criticized for exploiting graduate students and adjunct faculty, among others, and many of these people provide free labour as part of running open journals.

Answer: Journals' reliance on precarious volunteer labour is certainly problematic, both for the volunteers and for the sustainability of the journal itself. Without predictable revenue sources such as subscription fees or article processing charges, library-based journals face significant challenges in funding their production, especially for tasks such as layout and copyediting. In Canada, significant progress has been made in developing shared funding models and granting programs that can help pay for the labour needed to produce a journal issue. These include the Partnership for Open Access (collective funding contributed by academic libraries and distributed directly to journals), the Social Sciences and Humanities Research Council Aid to Scholarly Journals grant, and the Fonds de recherche du Québec soutien aux revues scientifiques en français grant. Compare that to commercial publishers which, in general, do not pay for author manuscripts or related peer review activities and then make profits off this free labour. Some of the largest for-profit academic journal publishers are currently facing a class-action antitrust lawsuit that is bringing these issues into sharp relief.

Question: What is the current scope and governance model of library-based open publishing?

Answer: There are nearly 400 open scholarly journals supported by more than 30 library-based publishing programs across Canada. Most of these journals have editorial boards that work in partnership with libraries to ensure that their authors reach readers around the

globe. While there is significant variation with governance across these programs, journals typically retain autonomy over their editorial decision making, submission and peer review processes, as well as the structure of their editorial teams and boards. Libraries provide a wide range of services to the journals they support, including access to publishing and peer review platforms, guidance and training in editorial practices, support for indexing, guidance on copyright and licensing, and infrastructure that enables broad dissemination and long-term preservation of content. Most libraries provide these services free of charge, often with criteria for participation that encourage or require journals to adopt author-processing-charges-free and open-access publishing models.

Question: How can academic communities support open, scholar-run, non-profit journals?

Answer: Although libraries are one of the major supporters of non-commercial, no-fee, open access journals, there are other organizations working with similar models, including scholarly associations, non-profit publishing organizations like Érudit, and university-based publishers. In Canada, there is also a significant collaborative momentum to develop shared infrastructure for non-profit scholarly publishing through the Coalition Publica project. All of these organizations rely on precarious sources of funding such as granting programs, university budgets, and library contributions. Raising awareness of the value of these journals, and the organizations which support them, is critical to their ongoing survival and sustainability. As a member of an academic community, you can:

- Seek out publishers that prioritize equitable and open access to published research, eliminate barriers to authors to publish (financial and otherwise), and contribute to social and environmental sustainability. Consider the publisher's values when making decisions about where to publish and where to commit your labour in reviewing and validating others research.
- Advocate for recognition and concrete supports for editors on your own campus who are contributing volunteer labour to open journals.

- Consider how conversations around tenure and promotion criteria can recognize and reward publication in non-profit, open access journals. Encourage your institution to commit to the principles of the Declaration on Research Assessment.
- Vocally support libraries' national efforts to reduce their collective investments in exploitative commercial publishers and increase their investment in non-profit, open access publishers.
- Talk to your colleagues about these ideas and actions.

EDITING THE ENVIRONMENTAL HUMANITIES: THE AFFECTIVE LABOUR OF SHAPING A FIELD

RACHEL WEBB JEKANOWSKI

Feminist media and literary scholars Kate Eichhorn and Heather Milne describe editorial work as "a labour of love," expressing the both deeply affective and rewarding nature of contributing to our scholarly communities without direct financial gain (189). Teaching their book chapter in my undergraduate research methods course, I saw myself reflected in their characterization of literary editing as "both essential to fostering and sustaining [...] communities" and "deeply undervalued" by the cultural institutions that depend on this labour (189). For the past several years, I have been engaged in a labour of love, serving as an editor at two environmental humanities journals: *The Goose: Journal of Arts, Environment, and Culture in Canada* and *Journal of Environmental Media* (*JEM*).

Working as both a reviews editor at *JEM* and a co-editor at *The Goose* is certainly time-consuming; these tasks are often squeezed into lunch breaks and juggled alongside other writing commitments, cutting into my personal writing and research time. Yet, I find it deeply rewarding. It connects me with my communities of like-minded writers and scholars, people who have become my friends, collaborators, and support networks through life changes, being on the academic job market, and the COVID-19 pandemic. Like Eichhorn and Milne, my motivation for undertaking this work is entangled with my "affective attachments" to these communities and, broadly, the environmental humanities (189).

As editors, we act as both stewards and gatekeepers of scholarly conversations, helping to shape the contours of the field and cultivating its future. This work extends beyond the selection and preparation of scholarly manuscripts for publication—although this is, of course, the reason many of us got into academic editing in the first place.

Editing also involves relationship-building (Johanson), with authors, peer reviewers, academic presses, funding agencies, students, and, of course, our readers themselves. I understand it as a form of reproductive labour, (re)producing bodies of knowledge as well as subsequent generations of scholars. This relational work builds academic communities—from our readerships and author networks, to professional associations with which we are entwined. *The Goose*, for instance, is the official publication of ALECC: the Association for Literature, Environment, and Culture in Canada. The journal exists in a symbiotic relationship with ALECC and its biannual conference, attracting readers and contributors to ALECC's orbit, while benefiting from the association's institutional support and dedicated readership.

Unfortunately, like other forms of reproductive and feminized labour, editing—and the publishing infrastructures and workflows that carry a piece of writing through to final publication—is typically invisible to the reader (Johanson 52). This invisibility can contribute to the devaluing of this relational, reproductive labour within universities' productivity-focused metrics and an academic culture that privileges monographs and peer-reviewed journal articles over the slow, collaborative work of editing and publishing. This labour has a gendered and classed component as well. The editorial boards I've worked on in the last decade have been predominantly staffed by people who are already struggling to find a place within academic workplaces not historically designed for them (particularly, women, queer folks, and precariously-employed scholars).

Visualizing editors' important contributions to field formation is particularly relevant to newer disciplines, such the environmental humanities. EH is relatively young, consolidating as an interdisciplinary field over the last two decades. Academic publishing has played a key role in this process, as evidenced by the outsized role of peer-reviewed journals such as *ISLE: Interdisciplinary Studies in Literature and Environment* (the journal of the Association for the Study of Literature and Environment [ASLE]) and, more recently, *JEM* and *Media + Environment*. These journals' publishing philosophies have material impacts on the field's accessibility, geographic and cultural diversity, and inclusivity.

JEM, for instance, published its first issue in 2020 with a commitment to steward socially-just environmental research that is methodologically complex and invested in conceptualizing "more equal resource access and potential spaces for digital resistance and community-building" (Shriver-Rice and Vaughan 10). Folding a commitment to social and environmental justice into peer-reviewed environmental media scholarship prompts, on the editorial side, questions of readership access, who we publish, and how this reflects intersectional and diverse knowledges. As reviews editor alongside Lisa Han, I approach this role as cultivating conversations within our field. We ask authors to extend their reviews beyond evaluating the text to situate it within the relevant subfields and to refrain from critical "take-downs." We also try to seek reviewers and review titles from diverse disciplinary and global perspectives, reflecting the expansiveness of environmental media studies. In this way, the reviews section helps map the discipline's changing landscape, while highlighting approaches or topics that we, as editors, consider particularly salient. However, *JEM* still has a way to go in terms of expanding reader access and challenging the privatization of knowledge. Published through Intellect, *JEM* offers the option of Open Access publication but most articles remain behind a paywall.

The Goose, in contrast, is an open-access journal, publishing both scholarly and creative work "at the fringe of the critical/creative nexus," including scholarly articles, poetry, creative nonfiction, book reviews, photo essays, and other forms of research creation ("Aims & Scope"). As one of three managing co-editors, my role is fundamentally collaborative. We manage day-to-day editorial operations while also working closely with members of our editorial team of section editors, copy editors, and translators. As a volunteer-run publication, *The Goose* doesn't receive much institutional support outside of ALECC. While this gives us a great deal of editorial flexibility compared to peer-reviewed journals like *JEM*, it also means that we're constantly seeking funding. We've also been developing internal mentorship networks between in-coming and senior editors to support each other as we learn on the job.

Together, my co-editors and I are helping shape scholarly and creative publishing in the environmental humanities in Canada. We strive to keep an eye to the historical strengths of *The Goose* as an outlet for Canadian environmental poetry and amplifier for Canadian scholarly publishing through its book reviews, while also looking forward to the publishing futures we wish to help build. Since 2020, the editorial team has been steadily working to educate ourselves and integrate equity-informed approaches into the journal's editorial practices and philosophy. This has included facilitating anti-racist training for the editorial team; hosting a series of equity-based copy-editing workshops; and participating in this sustainable publishing project as one of the hosting journals. We've also worked to reconceptualize whom the journal serves in order to move away from nationalist discourses and commit to publishing "Indigenous writers, writers of colour, and those working on the margins" ("Aims & Scope"). Editing, as Kateri Akiwenzie-Damm reminds us, needs to be culturally appropriate and informed, particularly when working with Indigenous authors and others from intersectional positionalities (30). We are learning how to meaningfully integrate lived experience, embodied knowledge, and culturally appropriate editing into our publishing workflows. An important starting place has been the equity-informed best practices that already exist, such as Gregory Younging's *Elements of Indigenous Style* (2018).

One challenge that I'm still working through—as both an editor and scholar—is *slowing down.* As my collaborator Brent Ryan Bellamy joyously affirms in his entry in this forum: "we are doing enough" (see Bellamy, this issue). Saying no and slowing down are practices of resistance in late capitalist academic culture. I'm inspired by the idea of doing *slow publishing* as part of an equity-informed, sustainable practice of slow scholarship (Mountz et al. 2015).[1] One way we've been trying to practice this at *The Goose* is by participating in the slow work of developing a meaningful land and labour acknowledgement. We've also tried to slow down our publishing timelines to become more personally sustainable; spacing issues out and tailoring the workflow around people's capacities and life rhythms has helped us to reduce burnout (or at least, feel more validated when we vocal-

ize it and "tag out" accordingly) and remain passionate and engaged in our work. We have expanded our editorial team to distribute the work more widely as well, publishing on average one issue per year rather than two.

This work is not easy, nor is it smooth. It cannot single-handedly solve academia's culture of overwork and resource scarcity, nor have I resolved my own internalized ideas of productivity. The affective nature of this work also makes slowness more difficult to square when the motivation to say "yes" comes from a place of obligation (which is, of course, also highly gendered). Recognizing the power we do have as editors to shape the practices and publishing norms remains an important step towards creating more sustainable and just scholarly communities.

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NOTES

1. For further analysis of the intersections of slow scholarship and decarbonizing academia, see Carrie Karsgaard et al.'s article "The Pedagogy of Manifesto Making: Countering the Oily Entanglements of Academic Publishing" in this issue.↩