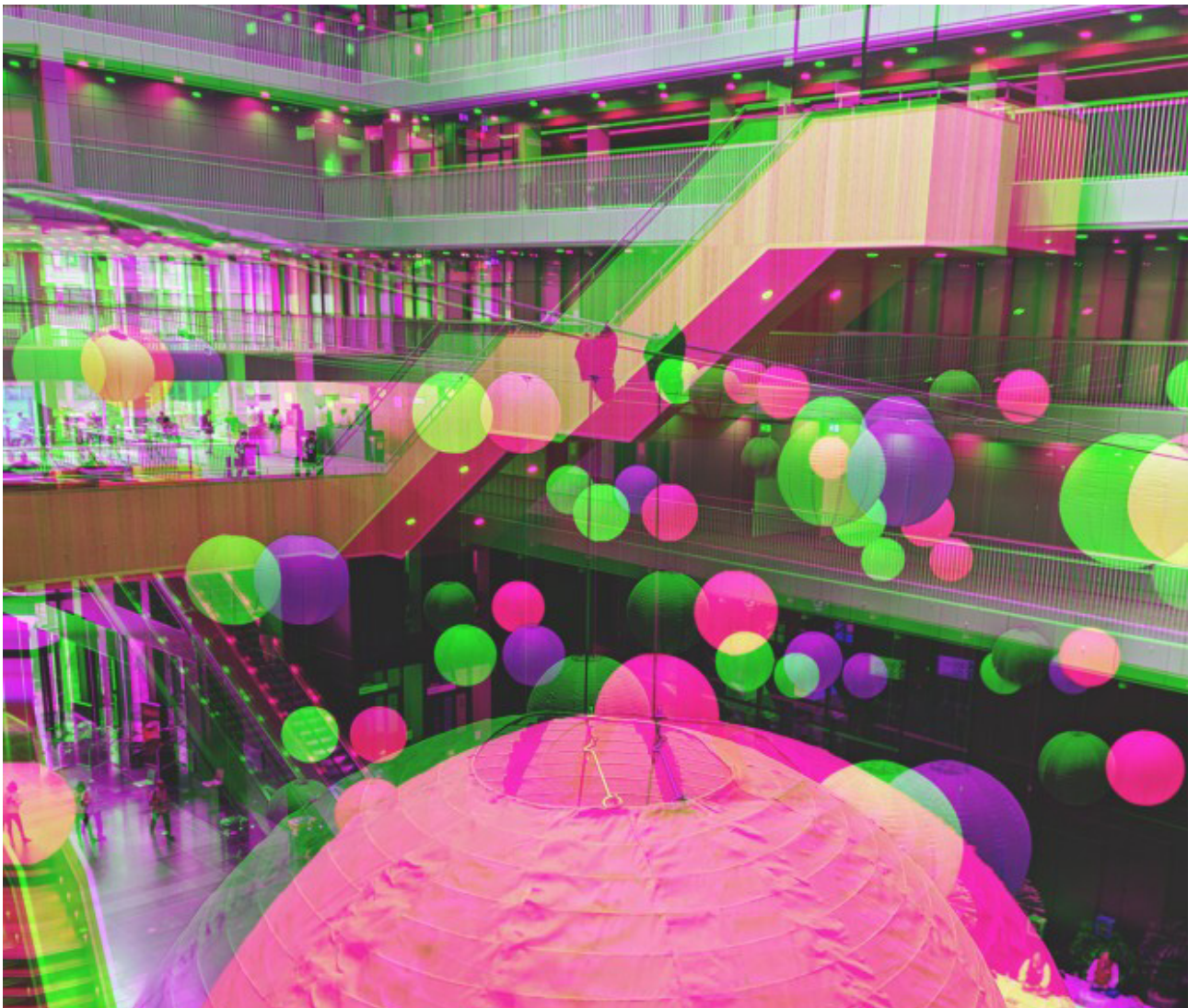


EASST *Review*

European Association for the Study of Science and Technology



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EDITORIAL

EASST REVIEW EDITORIAL

EASST Review Editorial Team

The Past and Futures of Transformations

The issue comes out in the dark winter months of Europe as the year draws to a close, but in it we look back to those sunny days many of us had the good fortune to spend in the company of colleagues and friends at the EASST-4S conference in July. We dedicate most of this issue of *EASST Review* to various reports and reflections from both the organizers and delegates at this conference in Amsterdam, which was the largest gathering in the history of the field. More than 3300 delegates from 63 countries came together to participate in nearly 400 panels as well as the other events that made up the conference. The co-chairs of the local organizing committee, Teun Zuiderent-Jerak and Michiel van Oudheusden, share their thoughts on what it was like to bring so many STS scholars together in one place. We also have contributions from several early career researchers, for some of whom this was their first ever STS conference. They share with us how they navigated the unfamiliar spaces and rhythms of EASST-4S and offer insights and suggestions to conference 'newbies'.

We are also pleased to showcase once again the range of creative talent and imagination of our community, by publishing the winning entries to the second EASST Creative Writing Competition. Building on the success of the first competition held in 2022, this year's entrants were asked to respond to the conference theme: 'Making and Doing Transformations' in the form of poetry, flash fiction, or short story. We hope you enjoy reading them.

We also include several reports from the exciting initiatives that colleagues are involved in leading all across Europe, often supported by the EASST Fund. This issue we learn about social scientists discussing outer space, venture capital and efforts to build STS communities and networks in Germany, Finland and Ireland.

It has been a tumultuous year of conflict and suffering, and STS and its communities are affected in numerous ways. The *Review* shall remain a place for collaboration and community-building, as well as a space to critically reflect on what it means for our discipline to be political. Please consider submitting contributions about your thoughts, experiences, and interventions that STS may make in a time when critique is under attack.

Whatever the year ahead may hold, we wish everyone a restful break for the forthcoming holiday period.

Looking ahead

Our next issue will come out in June 2025. If you are interested in contributing an article, please familiarise yourself with the [submission guidelines](#) and submit your piece by 12 May 2025. Feel free to contact your friendly editorial team at review@easst.net to discuss your contribution.

NEWS FROM THE COUNCIL

NEWS FROM THE COUNCIL: THE FUTURE OF THE EASST-4S JOINT CONFERENCE

Maja Horst and Michela Cozza (President and Secretary of EASST Council)

In the past few years, the EASST community has been discussing the future of conferencing in various forums and constellations. The last occasion was a thematic session organised by Richard Tutton and Brice Laurent—both elected members of the EASST Council—at the EASST/4S conference in Amsterdam (2024). That conversation confirmed a concern for the environmental impact and raised questions concerning the sustainability of gatherings like the joint event that, this year, counted over 3300 registered participants. As the conference organizers put in their report to the EASST Council, it was both a blessing and a challenge as it required huge organizational and logistical work. The attendance analysis revealed nearly 900 participants from outside Europe, which is by far the highest number for all joint meetings to date. Such data can feed into different considerations, and among others, one is certainly related to the environmental consequences of having so many people travelling to attend the same event.

The EASST Council has also had several internal discussions about the future of conferencing over the last few years, particularly considering the growing climate crisis and the lessons learned during the COVID-19 pandemic. Some of the things the Council has been worrying about are the climate effect of air travel weighed against the need to have face-to-face conferences (as a basic reason for academic gatherings). Council members have also been pondering over what kinds of inclusivity we prioritize with our current default mode of conferencing, and, perhaps, whether we could experiment with different kinds and modes of conferencing. Lastly, the EASST Council has been concerned about the size of joint conferences, which seems to be steadily growing – and the event in Amsterdam has confirmed this trend. The EASST Council finds it difficult to agree on one model for future conferencing as circumstances vary. Therefore, the Council would like to enter a mode of experimentation where the local organizers are each time invited to think about possible different conference formats and, together with the EASST Council, agree on the model to adopt.

On this basis, the EASST Council has suggested to 4S to change common current expectations towards having a joint conference every fourth year. Instead of automatically expecting the 2028 conference to be joint, the EASST Council suggested that each society organize its conferences for the time being. The response of the 4S Council has been very positive and has expressed a common view on principles of sustainability, inclusivity, and experimentation.

Despite moving away from the treasured tradition of co-hosting with 4S every four years, this decision does not mean an end to the collaboration between the two societies. On the contrary, EASST and 4S want to stay in conversation and look together forward to more flexible and open-ended approaches to such a collaboration in the years ahead.

Maja Horst and Michela Cozza (President and Secretary of EASST Council)

From the EASST-4S Conference

Amsterdam and After. Experiments in Conferencing

Teun Zuiderent-Jerak and Michiel van Oudheusden

There's something truly special about STS scholars coming together. This year's EASST/4S saw a mix of new and familiar faces from across the globe gathering in Amsterdam for four jam-packed days of collective learning. During the opening plenary, we were amazed by the number of hands that went up when we asked how many people were attending an EASST or 4S meeting for the first time. It proved a testament to the number of scholars who have taken an interest in STS in recent years, and to the large numbers who came to Amsterdam to explore whether this is a field where they may feel academically at home. We sincerely hope the conference has left a lasting impression on you and that the conversations you had and the connections you made convey that this is a welcoming and stimulating academic space.

Three months after the conference, what remains for us as a collective, as a field? When we offered to host the meeting back in 2022 following a lovely EASST meeting held at the height of summer in Madrid where colleagues could for the first time since lockdown times meet again in person, we wanted to ensure that the Amsterdam EASST/4S meeting would be held face-to-face. We felt that an online-only or hybrid model misses too much of what matters most in a conference: meaningful, authentic interactions between people in the flesh. We were unsure what the consequence of prioritizing the face-to-face encounter would be. We anticipated a possibly lower turnout but surmised that the chance to accommodate a wider range of possibilities for interaction, including mixed-format panels, would make up for that loss.

However, it soon transpired that there was an overwhelming interest in an in-person meeting. Although that posed its own logistical challenges, that truly stretched the superlative VU Amsterdam Events team, we haven't regretted the decision to meet in-person for a moment. Discussions during an online EASST Council conversation on the future of conferencing raised various issues regarding the best way to host a truly inclusive conference. Some feared that a hybrid format would allow everyone with sufficient funds to meet in person, while less well-resourced colleagues could seem to be included since they could also join online, thereby rendering invisible how much they would be excluded from some of the most important parts of the event. Since not being able to attend at all is clearly also a problematic form of exclusion, we were extremely pleased that both societies made additional budget available for precarious scholars.

What's next?

The enthusiasm about of this year's in-person format raises important questions for the future of STS conferencing. The meeting was a vital reminder of the rich interactions that follow when we are physically together and of the format-experiments that are then possible, but also of the unsustainable social and environmental impacts of gathering thousands of international colleagues in one place. Could the future of STS conferencing consist of events that combine online and face-to-face sessions? Could there be hubs, where people meet in different locations in person, with some shared sessions streamed online during a multi-sited

plenary? The main message we received during this year's EASST Council online conversation and during Amsterdam session on the future of conferencing was: experiment! The inventiveness of the STS community will be an enormous asset as we think about next steps. The experiments in Amsterdam did seem to pay off. These included the mixed-format panels, staggered timetable, voucher system for meals and drinks, and including the social event – the Forest Festival in the Amsterdamse Bos – in the registration fee. Each one provided valuable lessons about how we can continue to discover together what it means to meet in accessible, inclusive, and sustainable ways. Let's continue to explore these futures together in the months and years ahead.

Teun Zuiderent-Jerak is Professor of Transdisciplinary Science & Technology Studies. His research brings together intervening in practices and furthering scholarly understanding of them. Knowledge standardization, evidence-basing, global health, health care markets, and technologies for inclusion are among his interests.



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“Transformation” : How soon is now?

Esther Blokbergen

As the problems we collectively face grow in size, complexity, and urgency, transformation is now the name of the game. Perhaps, then indicative of the zeitgeist, it was also the theme of the EASST-4S Conference, hosted by the department where I work, the Athena Institute at the Vrije Universiteit. After the event was over and the dust had settled, after the whirlwind of volunteers, coordinators and guests milling around the campus and our corridors, after all the pots and pans and improvised cookware from the “Food Waste” workshop were scrubbed and returned to their respective owners, after new and old friends and colleagues returned home, life at Athena returned to its normal level of busyness. Given the opportunity with this special issue, however, we thought it valuable to think back on what was, for us and for our institute, a remarkable happening. “Making and Doing Transformations” was a vast and varied showcase of future-oriented scholarship, yet some of us were still left with some questions. Where does transformation really happen? What needs to be transformed? How should we, as academics, go about it? And, most importantly, where are we supposed to find the time?

I could only attend a very small number of panels, so I decided to talk to some of our colleagues at Athena about whether, where, and how they might have experienced “transformations,” both in and after the event. The following is based on an informal conversation with Teun Zuiderent-Jerak, Co-chair of the program committee, and coffee-corner encounters with a few close colleagues (mostly fellow PhDs) who were to varying extents involved in preparing and running the conference. Interwoven throughout are my own, very partial perspectives of a starting PhD student working on transdisciplinary boundary-crossing – constantly prodding at the edges.

“Trans-formats”

“Making and Doing Transformations” was truly a mega-event, gathering over three thousand attendees, including organizers, volunteers, speakers, panelists, and guests. When some of us at the department (me especially, I will admit) first heard of the number of accepted panels, we were highly skeptical (to put it mildly), envisioning the worst scenarios of confusion, entropy, and frustration. Yet it all, somehow, worked: *chapeau* to the organizing team, NomadIT, and of course all the support staff and volunteers – too many to be named, and each too valuable to mention a selection. One colleague noted how the conference having its own currency for food and drinks made it its own country, in a way – and the sheer size of it further served to create this feeling of, indeed, almost being on a different continent for a few days.

As suggested by Teun, the inclusivity of the program was not new to EASST-4S, which has long upheld the mission to embrace contributions from all career stages; this gives the opportunity especially to so many PhD students – who often carry the brunt of the academic labor, yet (are made to) feel so insecure about the value of their perspectives – to share their work, questions, and ideas. It is a sign, recurring in each edition, that the torch is ready to be passed on to the next generation, in a way; and a recognition that this generation – like each generation before – demands change.

Undeniably, the massive number of fascinating panels meant that everyone had to make tough choices of when and where to be; leaving one session early, often, to make it to another vitally important panel, or arriving late from one; and hearing over and over the inevitable refrain, “unfortunately we are out of time”, which so often suspends the discussion right as it is, finally (I feel), getting to the core of whichever question the panel hoped to address. We could of course continue thinking together over coffees and lunches, and after the panels, in the (exceptionally sunny) streets and canals of Amsterdam, but this time there was something new.

The organizers wisely crafted “other spaces” for picking up all the interrupted and new conversations. The “Making and Doing” at the heart of the conference encouraged alternative formats to traditional paper presentations, to connect with peers horizontally and through all the senses, to convey meanings, and meaningful concerns across backgrounds, expertise, tools and ingredients (literally and figuratively). Then, of course, there was the Forest Festival on Thursday. Never did I imagine that I would be at a full-scale festival attended almost entirely by academics. There I had the chance to shake hands, clink glasses, and share ideas with some of the speakers who had sparked my curiosity, and the informal setting created a much-needed space to air out both inspirations and doubts. Sadly, I missed the mosh pit that occurred later in the evening – I hope I’ll have the chance to experience that someday still.

Opening the discussion...

Another innovation was that there was significantly more space for the personal – for honesty, and, at times, even vulnerability: another conscious move away from the expectations of formality and composure which have for so long hung over young aspiring scholars’ heads. The open reflection on mechanisms of and against academic bullying and silencing (#MeTooSTS/#WeDoSTS) pushed the boundaries of “normal” academic conversation further still. The “black box” of the rules of academic engagement has undeniably been opened, and light is beginning to shine in. The problem of *time*, however, persists: we barely have time to peer in, acknowledge the problem, and move on to the next thing.

On that note, there were some other, more subtle limits, most evident for someone like me, as already announced at the start, with a proverbial bone to pick. Decolonial and feminist voices (to me, to us, the most staunchly transformative impulses in science) still feel too marginal, as witnessed, in my (again, limited) perception, in the relatively few, somewhat awkwardly scheduled panels. A simple search of the full program (including both panels and papers) on the conference website shows 66 results for “feminis[t/m]”, 52 for “[de/post] coloni[al/iz*]”, versus 682 for “AI” (a few of the latter did include feminist and decolonial perspectives, though) (EASST-4S, 2024). I had to fight the “mild flu” that was doing the rounds in the crowd to be on campus at 08:30 on Thursday and Friday, to join the conversations closest to my heart (and was impressed by the numerous attendance, in spite of the early hour). I was peeved that I would miss the Bernal Lecture, in order to be at the (absolutely inspiring and motivating) “Asking Different Questions” workshop by Sarah McCullough. (Luckily the Bernal Lecture in 2024 was recorded and uploaded to YouTube, as are some instances of McCullough’s workshop on *FRI UC Davis* channel.) While galvanized by the knowledge that there are others out there who feel the same, I continue to dream of when the conversations that matter so much to us will get to occupy a more central stage: when we will be able to take the time to “stay with the troubles,” as Haraway (2016) envisioned.

Then there was the final Friday afternoon's "Whac-a-Mole" game with student protests across the university buildings, where I witnessed with (exhausted) dismay the irritation of many of my peers for not being able to reach their panels on time. Disrupt they most certainly did, and my pointing out this achievement, as we were stuck together, powerless, in front of locked and guarded entrances, was met, each time, with a grimace of recognition. I leave to others, hopefully, to report on the debates that were sparked by the event. What stayed with me was the question: which transformations are really allowed to fit into the academic conversation? While we run our big and little races, real wars, injustices, and lawlessness continue to boil and brew in "the real world", driving forward their own, destructive transformations, and I feel we would do well to pay more attention to this – to make clear, for ourselves, and for the world around us, what we want to transform *from*, *against*, and *towards*. And for this, I personally think, we need more time.

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Understanding Process: First Encounters with Meaning-Making in Large STS Spaces (and Wondering Where the Planes Went)

Eva Gray

On the penultimate day of the 2024 EASST-4S Conference, Geoffrey Bowker argued that processes are just as important as things. STS practitioners, he said, are good at naming things, but not so good at naming processes. In many ways this is as expected. It is difficult to name the processes we use to make sense of the world. We try different names on for size: ontology, epistemology, methodology. Each one asks what there is to know and how we can know it. Spaces where we share our knowledge, and consider how we acquired it, are crucial as we grapple with the increasing complexity of our world. This year's EASST-4S in Amsterdam was my first experience of a space filled with people who make sense of the world in the same ways that I do. The inquisitive atmosphere of the conference gave me the opportunity to engage with innumerable topics that interested me, and the time to reflect on my own use of STS. This was an opportunity to consider 'things' as well as 'processes.'

Since my earliest days at school, I have drawn parallels between seemingly disparate subjects. It always seemed odd to me that our education systems divide subjects so sharply when they all seem to inform each other. I owe my own exploration of STS to a dearly departed member of the sociology faculty at Vassar College. While Marque Miringoff passed away before I could tell her my dream of moving to Scotland to study STS had come true, it was she who introduced me to the field as a first semester undergraduate. At the time, I was entirely overwhelmed and unsure which subject to choose as my academic home. I became enamored with the myriad paths opened up by STS's interrogation of knowledges, artifacts and histories. I soon realized that these paths could allow me to take classes in the natural, earth and social sciences, and use each to interpret the others. The Vassar STS department was small, close-knit and supportive, but still hosted an unbelievably diverse number of thesis projects. This balance between unity and variety was also evident at the EASST-4S Conference. Both spaces raised questions about future directions and the processes that will get us there. The constellation of topics, stories and knowledges from around the world prompted me to reflect on my early encounters with the field.

STS research constantly promotes collaboration, be it with colleagues, research participants or the communities in which STS researchers are embedded. This was reflected during many of the conference presentations. In the theme plenary, Making and Doing Transformations, there was a shared emphasis on co-definition of problems and solutions by researchers and communities. I found these processes everywhere I looked – in panels, projects and conversations with others. We might not be so good at naming them, but these processes of collaboration, collectivity and connectivity are STS. During my week at EASST-4S, it became apparent to me that STS is the process: the process by which we make sense of the world, share our ideas, and interrogate the artifacts and knowledges that constitute them.

As each presentation reminded me, we are living in an ever-intensifying complex of interactions. Our world operates at levels of speed and intricacy that are at times impossible to comprehend. However, society often seems to forget about the complexity of the world we have inherited. We have lessons, too many to count, still to learn from the natural world. Too often, we look for solutions to problems by the same means by which we brought them into being. It was reassuring



Power plants and wind turbines under condensation trails at sunset (view from hotel window during the 2024 EASST-4S Conference in Amsterdam). Photograph by Eva Gray.

that the EASST-4S panels on the Green Anthropocene, post-growth futures and perspectives on societal change, by and large, avoided falling into this trap. Each panel suggested promising avenues of future research, loci of knowledge, and means of holding ourselves accountable when we engage with them. As STS researchers, reflexive awareness of the processes that create technological artifacts and socio-technical systems is central. At the conference, processes of co-creation and co-definition were evident in many of the directions taken by STS scholars in their research. A shared commitment to contexts, reasons, artifacts and their relations to each other meant that processes were given as much attention as our final results.

Some would argue that all research is about process from the outset. Even choosing a topic to investigate entails a process of claim-making (Marshall 2015) that must balance the dynamism of social life, the meanings that encircle our artifacts, and the reciprocal impacts they have on each other. The contexts, peoples and technologies discussed by many of the panels were, at the very least, ever-changing, kaleidoscopic 'things' if indeed they were things at all. In some cases, the object of study was more like a process of creation. Conference participants thus engaged in one of the most decisive processes of all: that of future-making. EASST-4S featured an abundance of rhetoric around imagined futures, from AI to space exploration to soil restoration. As 'technologies not only intervene in present realities, [but] also create future realities, both symbolically and materially,' this 'rhetorical construction of future worlds directly (and indirectly) influences which technologies are brought into existence' (Selin 2008, p. 1879). In making and doing transformations, our forecasts can bring the futures we predict into being.

The panel I was involved in – 'Experimentation on Future Mobility and Society' – was very much concerned with these future predictions. Each presentation attempted to understand mobility technologies and shape their future direction. The wonderful organizing group from TU Munich convened the panel to discuss sites of experimentation such as testbeds and living labs. Living labs utilize public spaces, such as cities, to understand the potential implications of new technologies. As STS scholars we know that testing technologies means testing society, and that successful technologies require an environment in which they will be adopted and thrive. My fellow panelists theorized future mobility scenarios in various contexts, from e-cargo bikes to autonomous vehicles (Philips et al. 2024, Tennant and Stilgoe 2021). The panel centred processes of experimentation, familiarization, and above all, storytelling. Recognition of the importance of testing our visions and the critical role of storytelling in shaping our future has grown in recent years (Bergman 2017, Moezzi et al. 2017). Stories are a crucial part of the STS process, especially when it pertains to the immense environmental and social challenges that we collectively face. These are stories of curiosity and uncertainty which should be held in equal regard, as they help co-create meaning around our technologies.

Throughout the week in Amsterdam, I wondered how someone would tell the story of the conference. What were the narratives and processes at work here? As someone who spends much of their time thinking about mobility technologies and practices, one of my first observations was the sheer volume of air traffic that passed over the VU Amsterdam campus. When outside for lunch breaks or conversations with colleagues, I found myself distracted by the constant hum of planes overhead. I wondered where they had come from, and how the human race manages to send over 100,000 flights across our skies on a daily basis. Then, on the last day of the conference, the planes suddenly stopped, and I became aware of the complex processes governing our world in another way.

The irony of attending an STS conference during the largest information technology outage in history was not lost on conference participants. As panelists struggled to catch trains and rebook grounded flights, the world seemed to grind to a halt. We were reminded of a crucial tenet of STS: that infrastructure

disappears when working correctly but is instantly rendered visible when it breaks down (Gupta 2015). The processes at work in these vast socio-technical systems often escape our awareness, and our control. This was a timely illustration of Bowker's claim that processes are difficult to name, and thus to comprehend. A single software update by one cybersecurity firm effected tens of thousands of their customers, many of whom were companies we rely on every day. As blue Microsoft error screens appeared in airports around the world, an STS conference was perhaps the best place to be. The conversations I had that day were among the most compelling of the week. What came out of these conversations, for myself at least, was the realization that, just as in the natural world, the diversity of our systems is what makes them strong. This was yet another lesson we have to learn from the complex planet we have inherited. When every company uses the same cybersecurity software, one glitch can impact millions of devices and upend millions of lives. As these companies grow it becomes impossible for smaller firms to compete and our systems become centralized and homogenized. The diversity that gave those systems their strength is thus compromised.

Similar processes play out in STS research. The diversity of topics and interests is what makes STS healthy – a thriving, heterogeneous space that is not pigeon-holed by one dogmatic theory, but rather unified by a shared processual approach. It was this approach that first drew me to STS at Vassar and remains an integral part of why I love the field as much as I do. We must hold on to our ambivalence about technology rather than fall into techno-optimist or deterministic traps. As Wendy Faulkner (2001, p. 79) said, STS 'steers a course between uncritical endorsement and outright rejection of technology.' We use technologies to learn about society, but 'an interest in the "social" does not lead to society as a source of explanation' (Latour 1999, p. 9). Bruno Latour emphasized that 'things' are in fact assemblies, a definition that lies at the center of contemporary STS. Assemblies are created through processes: of exchange, symbiosis, acquisition, and entanglement. Our work uses artifacts and events to tell us something about the contexts from which they came, to make sense of the processes governing the world at that time and place. These processes are often invisible, like the infrastructure protecting the planes that fly into Amsterdam Schiphol Airport. Without our work, technologies are taken for granted as the inevitable result of unseen forces. In STS's fight against determinism, this mythological arrow of progress, we focus on processes: the things we are not so good at naming, but – for that reason – are all the more consequential to understand.

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Affective Ties of Academia: Belonging, Learning, and Community at EASST-4S

Benjamin Leon Hoffmann

Introduction: Navigating My First Large Conference

As a master's student in the Science and Technology program at Goethe University, I was delighted to attend this year's EASST-4S conference "Making and Doing Transformations." This was my first large conference, and it turned out to be an academic and personal journey. Specialising in environmental infrastructures in coastal regions, I was eager to see how diverse fields could inform my work. This review contains my personal impressions and reflections on panels that inspired my thinking. I also share some practical lessons for early career academics navigating their first conferences.

Initial Impressions: Overwhelmed and Disoriented

Staying with a childhood friend who was presenting his thesis research at the conference gave me an up-close perspective on what it is like to present your work at an international conference as a master's student. The EASST-4S conference was initially overwhelming compared to smaller events I had attended, such as the Leakage Conference in Dresden. However, the workshop "Demystifying Publishing Landscapes for Early Career Researchers (ECRs)" was a perfect entry point, offering a calm environment with coffee and snacks to meet fellow ECRs, listen to publishing advice, and ease into the experience. As I left the workshop, the conference's scale hit me: people around me, everywhere, heading to their panels, and I did not know where to go. I wandered through the venue, noticing people heading in different directions to attend their first panels, unsure where I should go myself. I felt disorientated, so I checked the panels I had marked to attend in my program. However I did not know where the first panel was being held. I met some people from Frankfurt University and asked them where to go, even convincing some to come with me to this panel. In the end, we found the panel together.

Each conference day was similarly overwhelming, as there was so much to see. I saw many people approaching new and old friends. I had the desire to imitate their behaviour, look for familiar faces, or approach new people, but I felt shy and overwhelmed by the incredible number of people. Luckily, I wasn't alone, as several colleagues from Goethe were also attending the conference. During these days, I realised that going from panel to panel can be exhausting. I felt drained, but simultaneously filled with excitement and joy, because every panel seemed to offer something novel and inspiring. This diversity made me very aware of the possibilities opened up by Science and Technology Studies. I already knew a lot through my studies, but EASST/4S provided many new insights into current research.

The Importance of Community: Social and Emotional Connections

Walking through the conference, I realised that EASST/4S functioned as a reunion for many—a community reconnecting. This duality between those who were familiar with and comfortable with this environment and those, like me, who were navigating a new space was especially visible during the celebration of the life and work of Adele Clarke during the Bernal Prize lecture. A deep sense of mentorship and partnership was palpable even to an ‘outsider.’ The conference was clearly not just about intellectual exchange, but also the emotional bonds created and sustained during academic careers. For me, it was an important realisation that building meaningful relationships is possible throughout your career.

Engaging with Panels: Learning and Inspiration

My panel selections were influenced by two factors. First, my familiarity with the lecturers. Second, my interest in the topics themselves. I was therefore conflicted between a wish to appreciate the people I have read, and my own research interests. My decision-making was thus a balancing act between familiarity and novelty. My first panel was titled “Making and doing Oceanic Futures: mobilising the Ocean and its Materialities between Hope and Loss.” This session aligned with my own research interests in coastal regions and land-water relations. The most exciting part for me was not the substance of the panel but rather how many different fields the speakers were coming from. These included a historian with a presentation titled: “Representing deep seas in the early modern period: fortunes and wreckages” (Jip van Besouw), and a legal scholar contemplating the rights of nature in “Agency and representation of the ocean: exploring the political and legal representation of the ocean through the Rights of Nature (RoN) and posthumanist STS” (Mariam Carlsson Kanyama).

It was stunning how these diverse speakers gathered in one panel, which gave me the impression that STS is a very open field full of exchanges between various perspectives. I asked myself what role do history and law play in my field? These questions pushed me to consider the broader implications of my research on coastal infrastructures, particularly how legal and historical perspectives could deepen my analysis of environmental practices. For instance, the discussion on early modern deep-sea cartography made me think about the long history of ecological practices and how these historical legacies influence modern infrastructures. It showed me that the historical context is often closer to the present than you might imagine.

I attended another panel—“Theorising the Breakdown of Digital Infrastructures”—because I knew one of the speakers - Laura Anna Kocksch - from a previous conference, despite having little knowledge of the topic. The panel was full of surprises, as I hadn’t seen Laura present her work before. Laura’s presentation “Fragile computing – how to live with insecure technologies” theorised the relationship between the mundane and breakdowns, which resonated deeply, especially after reading Latour’s reflections on Gabriel Tard, and the capacity of the small to contribute to ANT. Thinking more about the small, which happens in the mundane, has strongly impacted my thinking:

"You can enrol some aspects of the monads, but you can never dominate them. Revolt, resistance, breakdown, conspiracy, alternative is everywhere. Doesn't one have the impression of reading Deleuze and Guattari's Mille Plateaux? The social is not the whole, but a part, and a fragile one at that!" (Latour 2012, 124)

The next exciting panel I attended was "Critical Temperature Studies: spaces, technologies, and Regimes of Thermal Power," which I chose because Thomas Lemke is a professor at my university. This was a rewarding return to familiarity for two reasons. First, seeing a professor in a completely new setting outside the university lecture hall was striking, as their presentation mode subtly shifts. This helped me see that a conference is a thrilling setting for everyone, not only for first-time visitors. Second, I learned through Lemke's presentation "Critical Temperature Studies. Current Issues and Perspectives of a New Research Field" that Critical Temperature Studies is a growing area of research that brings many fields together, such as the Arctic humanities, cyropolitics, thermal colonialism, thermal modernity, and critical heat studies. I realized that conferences allow you to see new themes and dynamics emerging in the academic world.

The last panel I discuss here was titled "Beyond Anticipation and Preparedness—Governing Climate Emergencies." This was a roundtable discussion of a topic closely aligned with my research interests. The presentation "From Preparedness to Adaptive Management: Governing Water Volatility in California" by Andrew Lakoff was fascinating. Lakoff examined how anticipation dynamics can be integrated within adaptive planning. This helped me to think about how organisation works in the twenty-first century, especially in projects that try to capture the future.

Practical Tips for Future Conference-Goers

Reflecting on my visit to EASST-4S, I want to emphasise some points for early career researchers attending their first major conference. First, it's okay to feel overwhelmed when attending a big conference for the first time. You will see group dynamics with many unfamiliar faces, and it's okay just to sit down and observe, like an anthropologist, to see how the community interacts and how people get to know each other. When you are overwhelmed by what might seem like social chaos, it can be helpful to just lean back and observe until you feel comfortable approaching others.

Second, I also noticed that it's important not to rush straight into every lecture but to inform yourself beforehand and plan breaks outside of the official breaks. Typically, the official breaks are social events, so try to ensure extra breaks even if there are infinite exciting topics. Pauses are essential for mental rest, and for reflecting on the new ideas you have encountered. Conferences are overwhelming, and giving yourself time to absorb the content can lead to deeper insights. This is especially important when you are less familiar with the setting than those who do this regularly.

My last advice to other newbies would be to explore, think about your work, select interesting panels, and make sure that you investigate topics that might not mean anything to you at first. However, it's also a good idea to listen to scholars whose work you have read for your studies—seeing how their thoughts have developed or whether they are striving to create new fields. However, do not force yourself to be explorative at every minute of every day; go see a person from your university or someone you know personally and look at what they are doing. This can give you energy when you have to step out of your comfort zone.

Conclusion: Growing Into the Field

Attending the EASST-4S conference was an academic learning experience and a personal exploration of what it means to belong to a scholarly community. From diving into panels outside my usual research scope to observing the profoundly social nature of academic gatherings, I left with a clearer understanding of how one can contribute to and navigate the field of STS. As I continue my academic journey, I now understand that attending conferences is about gaining knowledge and building a sense of belonging in the scholarly community.

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I am Benjamin Leon Hoffmann, a young scholar in STS. I am a student in two master's programs at Goethe University Frankfurt, one in science and technology studies and the other in philosophy. Besides studying, I work at the Institute of Cultural Anthropology and the Writing Center. Coming from an anthropological background, my research areas are environmental STS, infrastructure and temporality. My recent interest has been in discussing new materialism, and I deeply admire Stefan Helmreich's work about waves and Gilles Deleuze's life work.



What Does the University Feel Like?

Lisette Jong, Donovan Schaefer, Ulrike Scholtes, Esha Shah

How can the university be understood not just as a forum for the exchange of ideas and a workshop for the fashioning of knowledge, but as a venue for the circulation and reproduction of embodied affects and emotions? What are the emotional priorities that go into teaching, research and writing across disciplines? What are the pleasures of academic work? How do institutional pressures, burnout, prestige, discrimination, and other dimensions of academic life transact with affect? How are systemic inequalities based on race, class, caste, and gender produced, navigated, challenged, and transformed through circuits of embodied emotions?

These were the questions behind our roundtable session “Affects, Power, and the University” at the 2024 4S-EASST in Amsterdam. Donovan Schaefer, Esha Shah, Lisette Jong and Ulrike Scholtes made short interventions after which we further explored the abovementioned topics together with the audience. Our conversation was prompted by recent work on the relationship of emotion to knowledge-production, specifically Esha Shah’s *Who Is the Scientist-Subject? Affective History of the Gene* from 2018 and Donovan Schaefer’s *Wild Experiment: Feeling Science and Secularism after Darwin* from 2022, which won 4S’s Ludwik Fleck Prize in 2023. This literature has a long pre-history in science studies, particularly in the work of feminist science studies scholarship like Evelyn Fox Keller’s 1983 classic *A Feeling for the Organism* (see also Bordo, 1989; Grosz, 1994; Hume, 1896, 2007; Jaggar, 1989; James, 1907; Polanyi, 1962; Rosfort and Stanghellini, 2012; Shapin and Lawrence, 1998; Thagard, 2006). But these approaches remain a minoritarian voice. This foundation has largely been neglected—and even obstructed—within the field of science studies.

Keller echoed the same sentiment to Shah in a letter after reading the draft of *Who Is the Scientist-Subject?*, she wrote:

yours is an ambition that I shared quite fully in my early work in the history and philosophy of science. Certainly, to bring the affective springs of scientific reasoning to the fore was a central aim of my McClintock book, and even more explicitly so, of Reflections on Gender and Science.... Ultimately, however, I gave up. The resistance in the history of science community to any kind of subjective analysis...was just too strong. (Keller, personal correspondence to Shah).

Any number of explanations are available for this resistance. Across the humanities and social sciences, there is widespread suspicion toward affective accounts of experience, history, and power. In the wake of the linguistic turn, as Eve Sedgwick has noted, linguistic representation has become a kind of orthodoxy—the default template for critical analysis across the humanities. (Sedgwick, 2003, p. 93). There seems to be, simultaneously, an anxiety among humanists about the perception that our work is unserious—soft—which leads to an allergy to making emotion an analytic focus. Emotion becomes the thing that needs to be erased in order to arrive at “hard” truths. Although this is often taken as the “radical” position, in actuality, the prevailing disdain for emotion of western modernity is simply reaffirmed by the so-called critical apparatus of the university itself.

As Keller observed, this ambient hostility to affective analysis is especially acute when it comes to science studies. Precisely because of the deep embedding of what Schaefer has called the “thinking/feeling binary” in the contemporary

university, most accounts of knowledge-production actively preclude attention to feeling (Schaefer, 2022, p. 4). Our roundtable set out to correct this deficiency. We explored a number of different dimensions of the emotions of the university, all with an eye to paying attention to how they transacted power relations.

Intellectual Pleasure and Cruel Optimism

In his contribution to the roundtable, Donovan Schaefer noted the plurality of emotions associated with academic life. Scholarship is a source of pleasure. This statement is both blindingly obvious and *verboden* in accounts of scientific knowledge-production. Research is a playground, a field in which the dynamic of research, experimentation, and discovery can produce a complex dynamic of frustration and excitement, disappointment and joy. Science (as generations of science studies scholars going back to Fleck (1979) have shown) is also social. That's an epistemological point about the communal nature of contention, collaboration, validation, and verification. But it is also about social *emotions*. This moves well beyond appeals to "sociality" as an explanatory terminus; it activates attention to the pleasure of a deep intellectual connection with a long-term correspondent, the excitement of a research team's late-night breakthrough, and the strange, antagonistic spur of a professional rivalry.

These emotions are what make the university possible. It's only because the university is saturated with feeling that we're all here in the first place. But they are also, Schaefer argued, part of what makes the university a site of exploitation and oppression. Lauren Berlant (2011, p.1) coined the term "cruel optimism" to name what "exists when something you desire is actually an obstacle to your flourishing". It is, in other words, precisely because the university is so emotionally rich that we find ourselves often clinging to it even when it is causing damage.

Feeling Vulnerable in the University

The stories shared during the roundtable by Esha Shah and Lisette Jong made clear that not all bodies and affects are equally welcomed at the university. Some are oppressed, punished, or painfully neglected. Crying in response to any intense professional experience, Shah noted, is an emotional expression that is consistently invalidated and disapproved, even disdained with potential consequences for those who violate this boundary. The experience of feeling unwelcome at the university is a product of the pervasive figure of the academic as a mastermind without a body, as Jong powerfully argued. The body of the mastermind is unmarked—and can therefore enter the university unnoticed. It reminds us of what Margaret Thornton (2013) calls the "benchmark man"—the figure of the ideal academic under the liberal myth of meritocracy that defines academic success.

In 2023, Jong received the Mullins award from 4S and requested institutional funding to travel to Honolulu for that year's conference. Within a week and a few short emails, the request was approved. But Jong felt a stinging contrast with the procedure she had to go through when she needed an extension of her PhD due to an acquired chronic disease. That earlier process occupied many stressful months of waiting, uncertainty, and the work of lobbying, documentation, and evidence-gathering. Even this labor only resulted in a minimal extension.

This extra work was not just a waste of time: it defined the emotional landscape of the university as one of anxiety, frustration, and indifference, if not hostility. The contrast made painfully apparent what the university cares about: Thornton's "benchmark man," the unmarked body bringing status and prestige to the institute, rather than the actual knowledge-producing body of a chronically ill researcher. This can also be seen in grant schemes, which require a researcher to work full- or near-full-time, making it impossible that a body limited in working hours by disease could become a successful academic. These instances of academic life in which the body of the researcher becomes an obstacle shade in the relation between power, affect and the university. Mixed feelings of pain and pleasure define the balancing act between proximity and distance to the university.

These conflicting feelings raised one of the key concerns of many people in the room during our session in Amsterdam: How could it be otherwise? Ulrike Scholtes, Ellen Algera, and Sonja Jerak-Zuiderent teach a course on "Feeling Science" at the University of Amsterdam that centralizes the embodied practices of knowledge-making. Students learn to feel their bodies as an integral part of what it is to do science. Methods explored in the course actively break down the thinking/feeling binary. Could taking affective relations and feelings in academic work seriously contribute to making universities more welcoming places? Does training students to attune to their bodies and articulate the affective dimension of scholarship open up space for different academic positionalities? Can we envision an institutional environment in which we can safely articulate feelings—and in the process do the anti-colonial, queer, feminist, and diversity work needed to build more welcoming workplaces?

Emotions Tell the History of the Present

In her book *Affective Histories of the Gene*, Shah (2018) analyzed life histories of pioneering scientists to understand how their subjectivity shaped the history of genetics. Geneticists' life histories, she showed, link political, cultural, and historical factors to scientific knowledge-production. This method relinks macro-level history of science with micro-level life stories. In her contribution to the roundtable, Shah asked how we can move from such "bird's-eye view" of history of science to the "earthworm's-eye view": How do we consider embodiment and embeddedness—like an earthworm burrowed in soil—in telling our (her) stories of doing science, now and here? What does writing the history of the present look like?

As a woman of color who has worked in predominantly white, western universities for two decades, Shah commented on how racial and patriarchal hierarchies fused with the neoliberal institutional necessity of converting everything human and embodied into what Esther Turnhout (2014) calls "measure-mentality", significantly shape everyday-ness of working with the University. Shah observed that micro-aggressions—including the long-lasting after-effects of painful incidence of sexual abuse—bleed into her mundane, embodied experiences of working in the university.

Shah posed the suggestion that we can only write the history of the present by attending to emotions. This includes paying attention to how discriminatory structures are felt and experienced in everyday context. The key methodological question for such history of the present is, she posed: how to deal with the demand for anonymity that academic institutions procedurally often impose—and still be able to tell authentic stories of abuse and discrimination that routinely occur? Shah proposed paying further attention to the phenomenology of discrimination in higher education institutions— by bringing buried embodied experiences

to the surface, by 'marking' the feeling and experiencing bodies of researchers and teachers, as Jong also proposed during the roundtable. Shah ended her presentation with Derrida's question: What if eyes are there to weep rather than see? (Derrida, 1993).

We thank the audience/participants who shared their own stories and helped make visible the entanglements of power and affect in the university. We hope this is not the last time this topic is on the table at an STS conference. We continue to wrestle with the foundational question: What are the consequences when a university asks us to leave embodied emotions at the door?



'The masks of self-delusion.'
AI generated image by Edgard Purwandi that shows people wearing theatre masks of different emotions. Distributed under a CC-BY-4.0 license.

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Lisette Jong works at the Anthropology Department of the University of Amsterdam. Her current research on the remains of animals in natural history collections is part of the project "Pressing Matter: Ownership, Value and the Question of Colonial Heritage." In 2023 she received the 4S Nicholas C. Mullins award for the article "On the Persistence of Race: Unique skulls and average tissue depths in the practice of forensic craniofacial depiction" published in *Social Studies of Science*. Next to her academic work, she is also a passionate roller skater.



Donovan Schaefer is an associate professor in the Department of Religious Studies at the University of Pennsylvania. He is the author of *Religious Affects: Animality, Evolution, and Power* (Duke UP, 2015) and the award-winning *Wild Experiment: Feeling Science and Secularism after Darwin* (Duke UP, 2022). His research and teaching examine the roles of affect and power in formations of secularism, religion, race, science, and material culture.



Ulrike Scholtes (PhD, she/her) works at the intersection of art, body work and (social) science. She is specialized in body awareness, bodily knowledge, embodied methods and artistic research. She teaches and supervises artistic research projects (on bachelor, master and PhD level) and teaches scientists and artists about the role of the body in practicing research. Building on her background in art, anthropology and body work, she teaches body awareness as a research skill. In her artistic practice, she creates site-specific performative interventions that shift people's ways of relating to their body, their environment and other bodies. As a teacher/researcher Ulrike works for research centre What Art Knows, iArts and the Master in Theatre (Zuyd), the University of Amsterdam and MERIAN.



Esha Shah likes to introduce herself as a feminist scholar who believes in the moral power of ideas to change the world. She is currently working as a lecturer at Wageningen University, Netherlands. Her research has involved debates on development and technology in India involving history and anthropology of indigenous irrigation technology, social and environmental justice movements against large dams, debates on social and risk appraisal of GMOs, and farmers' suicides. Recently, she is working on the ways in which subjectivity (including emotions and affects) shape objectivity in scientific knowledge. And she is currently developing a broader research theme on the decolonial history of a metropolitan, European knowledge institution like Wageningen University and Research.



From Pretoria to Amsterdam: Discussing Decolonial Practices at EASST-4S?

Lara Dal Molin

On Monday the 15th of July, I reached Amsterdam with an overnight flight from Cape Town. I had just attended the 2024 Global Humanities Institute in Design Justice AI: a two-week “summer” school (but actually the dead of winter in the Southern hemisphere) at the University of Pretoria, South Africa, centred around community-oriented and decolonial practices in generative artificial intelligence. Professor Kwesi Kwaa Prah’s words still echoed in my mind as I strenuously pulled my overweight suitcase on the Sprinter train towards Amsterdam South. His talk focussed on what he referred to as ‘the language question’, situating language the central feature of culture. “The moment your tongue is taken out of your mouth and replaced with another”, he said with emotion, “you become a different person”. Text-based generative systems called Large Language Models (LLMs), such as ChatGPT, are available in over a hundred and fifty countries worldwide but only support a few dozens of ‘popular’ languages. Across the African continent, people often interact with ChatGPT through colonial languages such as English, French and Portuguese. However, those words also alluded to a disturbing past: in 1974, South Africa passed the Afrikaans Medium Decree, mandating all traditionally Black schools to use Afrikaans and English as official languages of instruction. The images of the Soweto uprising, displayed in the Apartheid Museum in Johannesburg, flashed before my eyes. In just under eleven hours, I was no longer a visitor in a country troubled by decades of institutionalised racial segregation, but walking through the former headquarter city of the Dutch East India Company. “It is not colour that will save us”, Professor Prah said, “it is our language”.

As a graduate student, I have been researching LLMs since September 2021 – a year and two months before OpenAI released ChatGPT – with a particular focus on investigating gender bias in artificially-generated text. Within the complex matrix of domination, first described by Collins (1990), gender is a single dimension within the broader spectrum of intersectional oppression, and influences other systemic issues including race, ethnicity, social class and colonial history. This was my first ever EASST-4S Conference and, with the theme this year being ‘making and doing transformations’, I was especially interested in interrogating the role of Science and Technology Studies (STS) in informing conversations on decoloniality within the context of emerging technologies. As I browsed the extensive and somewhat overwhelming conference program and attended the initial keynotes, I came to understand that an additional focus of the conference was, indeed, decoloniality. On the conference website, a thought-provoking question had sparked my interest: an invitation to consider how attendees could become part of making and doing contributions to transformations through mobilising STS sensibilities. In that moment, I recalled an enlightening exchange at the Design Justice AI Institute, where a fellow speaker described decoloniality as “a mode of life, a mode of challenging hegemonic systems – a sensibility”. Could these sensibilities, STS and decoloniality, speak to one another? How could they come together in conversation? Further, it is indeed what Professor Prah referred to as “the language question” during his lecture at the Institute that presently imbues the development of generative artificial intelligence systems. In this context, what could the combination of STS and decolonial sensibilities look like and what kind of reasoning could it inform? I would spend my time in Amsterdam, within and beyond the conference, looking for answers to these questions.

With Professor Prah’s ‘language question’ still in my mind, I attended a panel on

LLMs and the language sciences. The first presenter considered the problem of alignment in artificial intelligence, in this case whether generative systems can successfully align with human values. To my curiosity, the speaker contextualised this problem through introducing – in my opinion – a far more interesting one: that of normativity. Building on Jakobson and Halle's (1956) concept of linguistic anomalies, their presentation illustrated that, after an initial training, LLMs must be aligned with human values through the superimposition of normative structure onto their statistical model (Hristova, Magee and Soldatic, 2023). This practice of superimposition, which frames human input as an instrument of normative constraint, reformulates the problem of alignment as one that inherently considers the social and cultural dimensions of language. I started to wonder: what kind of cultural and social normativity could an individual possibly superimpose on a statistical model? Within feminist STS and gender studies more broadly, it is commonly understood that individuals are socialised to perform normativity since birth, based on a specifically situated social and cultural context (Butler, 1990). "Language", Professor Prah argued in his lecture, "is the central feature of culture". Therefore, any individual could only possibly reinforce a generative system to reproduce the kind of normativity they themselves experienced throughout their lifetime. However, based on the lessons learnt at the Design Justice AI Institute, the corollary of this understanding is that the normativity individuals impose upon generative systems, which the model then propagates through countless real-world scenarios, contributes to the reproduction of colonial mindsets. As Winston Churchill famously declared in 1943, "the empires of the future will be the empires of the mind".

In my EASST-4S talk, I opened my presentation with what I refer to as a 'statement of purpose' – perhaps a way of legitimising my presence in a room and a ready-made answer to the question that haunts the nightmares of most PhD students – what are you *actually* doing? I stated that:

This project attempts to shift the way we conceptualise Large Language Models (LLMs), from omniscient tools that stand on the epistemological pedestal of scientific knowledge production, to opportunities for participation and co-design. It proposes methods that redistribute user agency when interacting with LLMs and subvert deterministic on algorithmic fetishism.

Following, I outlined what I had learnt from my time at the Institute in Design Justice AI, crucially, that debiasing models often implies further exploitation of human and nonhuman resources. While technical papers champion the prospect of producing general artificial intelligence, large technology companies outsource exploitative content moderation practices to the African continent, where local data labellers work long and poorly remunerated shifts to categorise toxic context without any psychological support, with the objective of improving the functionality of their models (Bubeck et al., 2023; Perrigo, 2023). In a contextual landscape in which data work is often invisible and taken for granted, and in which humans are alienated from the technologies they create and interact with, my project attempts to frame prompt engineering – the process of crafting input text for LLMs – as an opportunity for co-design, community participation, and resistance from the forms of intersectional oppression that some technological artefacts and infrastructures perpetrate. Although my work positions itself as part of a small family of methods that attempt to redistribute power in human interactions with LLMs, I urged the audience to consider the full spectrum of participation and abolition in relation to technologies that embed systems of oppression. Beyond the opportunity to connect with a panel of outstanding researchers, perhaps the most enlightening part of this experience was a question I received from the audience. The landscape currently surrounding artificial intelligence looks bleak, they acknowledged, but can participatory methods truly be a way of establishing human agency in our relationship with artificial intelligence? In other words, what are participatory methods good for?

Despite my initial panic at these questions, thinking that I didn't have a statement of purpose for this occasion, a sudden certainty and calmness came over me. When my hands reached the microphone, I heard myself say that participatory methods are not solely significant for the relationship they allow to establish with technology, but especially for the one they allow us to create with one another. The person in the audience gave me an affirmative nod, indicating perhaps that we shared some common understanding, as if I had known this as a fact for a long time. EASST-4S was the first time where I stood in front of a crowd both so large and so welcoming at the same time and where, also for the first time in my PhD, I felt part of something greater than a single project or a single Department – a shared tradition, a shared curiosity, a sense of belonging.

While still attempting to make sense of these realisations and process the gratitude I felt towards the audience and fellow presenters, the panel dispersed, and I followed my friends and colleagues as they hurried into the Aula: Geoffrey Bowker was about to speak. The talk, titled 'where do infrastructures come from?', began by considering the nature and origin of infrastructural continuity. Some minutes into the presentation, Professor Bowker remembered his late partner and collaborator, Susan Leigh Star. I was profoundly touched by his tears, which spoke not only of an intellectual bond but a human one, one that was – and is – made of love. With this year marking the tenth anniversary of the release of the cinematic masterpiece that is *Interstellar*, this moment reminded me of the moving celebration of love throughout the film, as the one feeling that can transcend space and time, one that does not go gently into that good night (Thomas, 1951). Citing Donna Haraway, Bowker proceeded to question the persistence of STS in distinguishing between technology, nature and society, when machines are merely another human strategy for autopoiesis. While the talk overall spoke to the disciplinary field that those in the Aula shared, I couldn't help but let it speak of love, care and the existential bond that ties together all forms of life and culture, across space, time and different sides of history, across walls and other fictitious infrastructures.

On the final day of the conference, which happened to coincide with one of the largest global outages in the history of information technology, a group of Vrije Universiteit students marched through the campus to raise awareness of the ties between the university and the ongoing genocide in Palestine. Compared to South Africa, where the apartheid – an Afrikaans word meaning 'apartness' – formally ended in the early 1990s, Palestine also has a long-standing history of institutionalised segregation, occupation and violence that continues through today.

Vrije Universiteit, in conversation with the police, stopped the unannounced protesters from accessing buildings. This also meant that the ability of attendees and delegates in reaching their sessions was limited. During those final hours, the relevance of everything I just learnt became evident. The superimposition of normative structure onto statistical models implies that anything that deviates from the norm is marginalised and left behind. In my mind, Geoffrey Bowker and the Vrije Universiteit students marching through campus had a conversation. Suddenly, I had some answers to my questions. While STS sensibilities might bring to the forefront our positionality and reflexive practices, a decolonial sensibility proposes an additional, informed shift of focus from ourselves towards the relationships we cultivate with others and otherness. To prevent this otherness from transforming into 'apartness', STS must revive its commitment towards historically – and statistically – marginalised forms of knowledge and experience, while questioning the normativities engendered by its very practice.

I wish to bring this perspective to the broader EASST-4S community: that these themes deserve not only greater, but an official, institutionalised space in our conversations, and that alternative – radical, antagonistic, sometimes revolutionary – knowledge does not deserve a closed door, but a seat at our conference. Our work as researchers cannot be decoupled from its political significance. My experience at EASST-4S highlighted that we, as individuals and as a collective, are not merely

bystanders to technological development, societal challenges and revolutionary transformations, but actors. These lessons I learnt are part of the reason why I am writing this contribution. Additionally, in the context of generative artificial intelligence, and in my ongoing work, I plan to incorporate some of these ideas and perspectives in a panel submission for 4S 2025. Co-organised with University of Edinburgh colleagues, this panel will explore artificial intelligence as a 'broken machine' and centre technological failures as sites for care and sociotechnical change. My wish for 4S is to continue the conversations started last summer at EASST-4S, to share some of the thoughts described in this article, and for these to bring us closer as a community of researchers and practitioners.

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EASST's Creative Writing Competition

Presenting the winners of EASST's second creative writing competition

Michela Cozza, Nina Klimburg-Witjes, Sally Wyatt

Those lucky enough to attend the Forest Festival at the EASST/4S conference in July will never forget it. Conference dinners usually involve over-priced rubbery chicken in some anonymous conference hotel, sitting at the same table for several hours. If you're especially unlucky, you will have run out of conversation after 20 minutes. Instead, the local organisers organised a festival for all participants in one of Amsterdam's largest parks. They also managed to arrange fantastic weather, not a given in Dutch summers. We were alongside the rowing course, built almost a century ago for the 1928 Olympic games.

The Festival aimed to be inclusive. Entry to the festival was part of the registration fee, and we all received tokens for food and drinks. Everyone was welcome, and not only those with money to waste on bad food. It was not a mono-festival. In addition to the trees, food and drinks, there were live bands, a DJ, and a silent disco. Podcasts were recorded. It was possible to take a tour of the park with one of the park rangers. And the three of us hosted a literary festival, featuring some of the talented writers of the STS community. Just as we had in 2022 for the EASST conference in Madrid, we organised a creative writing competition. (Winning entries for the 2022 competition were published in the *EASST Review* in October 2022, and can be [found here](#).) This year, entrants were invited to address the [theme of the conference](#), 'Making and Doing Transformations'. Our invitation to creative talents in STS opened with a haiku of our own:

Making and doing

Science, Tech and STS

For a better world

We received many entries in the three categories of poetry, flash fiction and short stories. One condition of entry was that authors would attend the conference so they could read their work, and receive their prizes. This mini-literary festival took place next to the rowing course, in warm sunshine, with a good crowd of listeners who stayed to hear the winners read their work, included in full here. In addition to the three announced categories, we awarded two special prizes, for a graphic poem and a graphic short story.

Just as in 2022, the people who generously shared their creative work mentioned how much they enjoyed writing in such a way. Entries often reflected people's own research interests but in a form very different from what we read in academic journals, monographs and policy documents. If we continue to organise this competition, maybe we can consider producing an edited collection or, more radically, including creative non-fiction in our journals. We would love to hear from any editors or publishers who might be interested in pursuing such a project.

We are very grateful to Kathrin Eitel, University of Zurich, and to Bodhisattva Chattopadhyaya, University of Oslo for their help in judging the many wonderful entries we received. We are also grateful to the University of Bristol Press, Mattering Press and The MIT Press for generously donating books which we gave as prizes. Most of all, we are grateful to everyone who participated. We couldn't give prizes to everyone, but we appreciated the creative efforts of all of our STS colleagues who shared their work with us.

Winners and organisers of the Creative Writing Competition.



Michela Cozza is an Associate Professor at Mälardalen University, Sweden. Her research lies at the intersection of Science and Technology Studies, Critical Gerontology, and Organisation Studies. Her work explores the interplay of ageing and technoscience. She is a qualitative researcher interested in post qualitative inquiry and methodological experimentation. Michela Cozza is an elected Council member of EASST (2021-2024). She is the author of Key Concepts in Science and Technology Studies (2021, Studentlitteratur) along with other contributions published in international journals, books, and edited collections. <https://michelacozza.wordpress.com>



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Sally Wyatt is a Professor of Digital Cultures in the Maastricht University Science, Technology and Society (MUSTS) research group. She originally studied economics in Canada and England but has long been identified as an STS scholar. Wyatt's research has focused on digital technologies since the mid-1980s. Together with Flora Lysen, she published 'Refusing participation: hesitations about designing responsible patient engagement with artificial intelligence in healthcare', Journal of Responsible Innovation (2024). In 2023, she contributed to a collection of creative nonfiction, called The Stories We Tell, edited by Elsje Fourie and Christin Hoene. Between 2000-2004, Wyatt was President of EASST. <https://sallywyatt.nl>, www.linkedin.com/in/sally-wyatt-a15014147

Blood of food

Yuanhui Ding

Short story winner

Turn on the fire, mild and firm fire. Heat the pot, with patience. Then oil, not too much, to stay healthy. Shallot, ginger, and garlic, cut into small cubes, to spice up. Wait until you smell the pleasant taste, but don't burn anything. Chicken pieces, previously boiled in warm water, throw them in. Then big fire. A spoonful of sugar to colour the flesh. Salt, cumin, dark soy sauce, and chili. Stir quickly before it gets sticky. Onion, pepper, potato, and mushroom. The more the merrier. White, green, red, yellow, brown. Fry until everything is covered with a mouth-watering shiny light brown, add water and more salt, and stew it. One secret is that, if, unfortunately but often, the chicken is of bad quality, a piece of dried mandarin peel would perfectly improve the flesh texture, and add fruit fragrance to the meat. Finally, potato vermicelli, or handmade broad noodles, which look like a waist belt. When it's almost done, (sorry there's no hard index here. It's about experiences and observations. A wrong judgement will not kill, but it tells if one is a good cook or not), a bit of soy sauce, flow it in alongside the edge of the pot. Plus a little green coriander to make it look nicer.

Here we go. Big Plate Chicken. A classic of north-west China, widely loved, across regions. You can tell the dish is meant for sharing. Big big plate, so everyone sitting by the table could reach it. If you visit people's houses around festival times, you will be having this dish and stretching your arm all day. When I was little, every time I visited my grandmother, I mean, mother of my mother, this dish was how she spoiled me. She would catch a cheerfully quacking chicken from the yard in advance, then an agile cut on the throat, remove the feather in boiling water, and dismantle it to eatable sizes. It sounds easy, but actually not. Local families used it as a test for their future son-in-law which my father nearly failed. Years later, when I started my bachelor's in Beijing, I was surprised that this dish was only placed in the halal section of the student canteen, and many people thought it was a Muslim dish. But see, the Han Chinese enjoy it too.

I have never learned how to cook this dish. Or, I have never learned how to cook.

Why, Mom?

You have been worried about my eating since the first day I arrived in the Netherlands. It seemed that I could starve to death at any point. You can't cook. You said so, trying to look loving but only putting on a face of mocking. You said. Those things from supermarkets don't feed you, you know? There's no nutrition in it. And you can't learn how to cook from the Internet. From someone you are not bound with in any sense? That does not work. And where do you buy meat? Animals fed by hand, raised with touch and gentle staring, killed by a skillful craft, blood properly let out, dismantled by a proficient knife? You can't cook, and there's nothing you can eat. You said.

Right, I have never asked how you learned cooking from my grandmother, but surely, that teaching didn't happen between us. You have always been proud that

I was a kid raised with homemade food, which earned you respect among your friends and colleagues. Home-fed is a sign of diligent and honest people, who do not leave their own house-caring work to others, nor waste unnecessarily on restaurants. Besides, food security incidents that happened in the first decade of the century have terrified you. Homemade food has been the only way you could keep me safe from any dirty or even poisonous ingredients made by an unknown hand. You couldn't be convinced that I somehow cooked. Even if I managed to survive, still, food without you, without blood, is not trustworthy.

But it doesn't mean I didn't learn. Mom. When Father was yelling from the living room, threatening to slap me to death, waving fists, telling us to fuck off and go begging on the street if food can't be served in half an hour. When you stood there, in silence, preparing, throwing things into the trash bin from time to time. I was crying most of the time, didn't know where to go, so hid in the kitchen, hoping that you could say something to stop this. That was when I learned. Mom. Over and over again. Day and night. Fire on and off. In heavy silence. Oil, bottle after bottle. Bags of salt, rice and flour. Through your hands, seasoned by your silence and my tears, food is chopped, frozen, heated up, thrown away and eaten, and I have grown. And I learned. For a long time, I thought if I could cook and replace you for all that labour, everything would be fine, and every problem would be solved. Would it? That's also when I started hating cooking and that tear-seasoned food. Why it's us, you and me? Why do I have to go through this? At some point in my 20s, I couldn't bear sharing food with Father any more. I stole my noodles, covered with a few pieces of mushroom, and hid in my room. I ate carefully, with no sound, tears on face, pretending that I didn't exist. And you sat at the table, eyes on the floor, leaving food untouched. Fried eggplant, tomato and pepper. That's Father's favourite, despite my genuine resentment. Vegetables cooled down. Noodles turned hard and sticky. Then you said, "How come I gave birth to such a disgusting thing like you". You see. The wish to refuse the blood of food is always the most hurtful, and it brings out the strongest hurt backwards.

And this home-fed kid cannot cook. When I was living with you, you never let me make a whole meal by myself. During my bachelor time, electricity in my dormitory room couldn't even support a water kettle, let alone cooking. However, the first day I was in full responsibility of my eating after I moved to the Netherlands, I told you that somehow I made tomato noodles, and it was actually good. Your face in the video call was shocked, and a bit hurt. Right, my food was skeptical. How could it be possible? But Mom, those techniques and knowledge were growing in me, and automatically flown out. My food tasted familiar, salted enough, sometimes excessively, because you were not there anymore, to stop me from salting things since Father didn't like it. My food without you. I soon became a proficient cook, since my tight schedule left no room for being a raw-hand. Now I knew. Cooking is not hard to learn. Simply by being female in a family, by being expected to be a mother, by being the one to answer the question "what to eat for dinner", one could learn. The position fosters knowledge. So it is never only about me being not able to cook. It's about your daughter eating without you. And now, thanks to the time difference, I was the one washing, chopping, dismantling, and stirring, and you watched me through screens. Stir the egg faster. Flow it through the slotted spoon one more time. Don't be lazy. Put dried small shrimp. It's nutritious. A little more water, and be careful when steaming. You said I loved this steamed egg when I was little, and Father would always be the one who fed me. But like you said, I was too little to remember.

Father has his own version of fooding. He is just not tangled with it, yet. Very often, this piece of fact—that Father spent his childhood in deadly starvation and bare poverty—still smells unrealistic to me. In those winters when he had to herd the goats with half-broken shoes, and passed by the unburied corps of young-passed babies, by the snow that submerged his waist, by the graves of the deceased where he hoped to find some offering to eat, he starved. My grandfather, so father of my father, who was the captain of the production brigade of that little village in

the time of collectivism, was forged as an incredibly capable man. The sparrows hiding underneath the house eave, rats giggling in the cracks of walls, leaves of radish and elm trees, and potherbs beside the water well. He found food from everywhere, turned inedible to edible, and fed his three kids. Eat. Eat it. Grow your flesh. And feed people around you. The schools charged students in grains, not in money. With bags and bags of grain, Father, Father's older brother, finished their education, finally got rid of farming, and moved to the city, although my aunt stayed a farmer until recently. But something remained unchanged for Father. Throughout his life, one thing makes an unparalleled delicacy— a handful of high-land barley, freshly cut and picked from the field, baked in the fire pond. Rub off the husks, and eat it like a snack. Eating wheat like this was him enduring, and responding, to the painful image of food. Food that fills bellies, that saves lives, and that creates love and hatred between humans regardless of their close or far connections. The village he was born and raised in is located at the foot of gigantic mountains that breed the source of the most important rivers in China. I remember white poplars alongside the roads, the far-away mountain covered with snow, bathing in blood-red sunset light. The soil was always cold, hard, in rough black. So were people's faces. Cold and hard, in rough black, silently undertaking hard labour. The soil grows life, and the soil defines death. Until two years ago, the villagers were collectively resettled in a newly built and well-infrastructure neighbourhood. People who have struggled to live for centuries left their land, where lives were born and taken.

But Father hasn't ended up untangled yet. He hates it when I want to try something fancy. He demanded that I should eat poorly as he did as a kid. No snacks. No soft drinks. No street food. No eating outside. Nothing with too much spice and salt. How fucking dare you ask for candy and cakes? Those fancy vanity trash-es do no good to health. But he was throwing money on alcohol, cigarettes and mahjong. How does he expect me to eat? How does he expect me to live? I have never figured it out. He was lost. Lost between the brutality and bitterness of the last generation, and the material redundancy of the next generations. He wanted to retain his austerity of farmers, but also wanted to experience the magnificence of urban life. He was not sure. Things change too much, too quickly. Having spent my early years in the countryside, I had no idea what a cake was like until I was 6 years old, got to know scallops and crabs as food in primary school, and tried my first steak at 13. When KFC first expanded to the town, it was too luxurious to expect as a birthday treat. I have never gone through any structural starvation. But the remaining dust of that time already made my fooding so heavy. Don't waste anything. Save it, because scarcity of anything is dangerous. Keep restrained. The most boiling words I have ever heard are, "Buy yourself whatever you want to eat". And many of the people who have said this to me passed away without having whatever they want to eat ever. She said this when I talked to my grandmother for the last time, well, mother of my father. She said, you have grown up as a kid who understands the bitterness of life. Never made trouble. Always obey. Always behave well. You have borne the weight of food, but that is what your father has done wrong. He hurts your heart, but you've got to understand him. He fed you. He's your father. I couldn't answer her. I didn't say anything. See. Our blood intersects, with each other, with food, with soil and water, with icy cold wind and the wildfire that burns the dried feather grass. Blood spreads vitality, and creates pain.

I hated cooking, but moving to the Netherlands ironically gave me no other choice, and I was made to start thinking how I wanted my fooding to be. I started to learn. Learn about it by eating. Even if people in this country don't seem to prioritise food that much, food makes the clue alongside which I know this place. Anything I recognized, or I figured out a way to eat it, indexes some senses of reality, and also ambiguous but tangible thoughts about this country. Fruits, great. Um so many kinds of cheese? No problem, I'll try them out. Oh, there's crab sticks. I wasn't expecting this. So many kinds of half-ready food. Are they struggling with cooking? One kilo of spinach? How much does one have to eat everyday before it

rots? Gosh. Various kinds of salads, and none of them properly salted. No thanks. Localized Surinamese, Indian, Chinese, and Indonesian food. Huh, no comments. Spicy Chai? Smells like something that would be perfect to go into a bottle of cheap wine to make a cooking wine that kills the horrible fleshy taste of those bad-quality meat from supermarkets. Wait, what are these little white-yellow vegetables that look like a shrunk version of Chinese cabbage, with an innocent appearance but evil taste? Pitloof? Until today I still know it as its Dutch name only. Well, such a bitter name. Meat has been particularly suspicious. Where are other parts of chicken and cows, except drumstick or shoulder steak? Skin, viscera, claws, heads, blood. One chicken only has two legs right? Then if there are so many drum legs sealed in a plastic box, what happens to other parts of its body? Did they throw them away, make them into something else, or sell them to poorer people?

It took me a long time to navigate the supermarkets. My Polish roommate made a friendly joke, "Supermarkets are like a museum for you". Surely they are. My supermarket adventures remind me of those so-called ethnological museums that present the cultures of humans. Culture of making something edible or not, fresh or canned, hot or cold, organic or vegan. If I find a spot for these items in my kitchen, then I will own some knowledge of them. Of course, there are still things I have never managed to know, as if they are a hard rock and my mind repeatedly attempted to chew it, swallow it, but never even found the right spot to bite it. Things whose edibility is unclear are incomprehensible. Parsnips. My mind prefers to see it as a piece of fossil made by dental calculus of some prehistoric colonizing creatures from Mars. I have therefore decided to exclude their existence out of my own being.

Bit by bit, bite by bite, the blood of beings is articulated, and my life turned solid, solid enough to let something grow on it. Someday I was frying some pasta, with potatoes, celery and carrots, seasoned with the sauce that makes a hot pot base (These little spicy red cubes are a necessity for Chinese students who study abroad, and also a hard currency within the student community.). Everything smelled nice. Then I got a message from Roos.

Where are you? I'm home. Cooking.

What are you making? Fried pasta [a robot face emoji].

Then came a bit of silence. Then we texted at the same time.

Can I eat at your place? Do you wanna come to my place and have dinner with me?

This conversation, as later repeated again and again, got abbreviated over time. Would you like to have dinner at mine? How about food at my place? Food at mine? Dinner?

Just like the food her country has, the way Roos fed herself also took an intellectual toll on me to understand. She appeared so homeless to me, eating no freshly made food for a whole day due to long-distance commuting between a small town and Amsterdam. Without sitting settled in front of the dining table, what she keeps in her backpack is a sandwich box filled with two pieces of bread, perhaps with peanut butter or cheese. Drifting, drifting. Hasty eating. Cold food. Swallowing ice-cold bread together with the wind blowing over the humidity of the canals. No no no, please come over. Coldness would prevent anything from being digested. Eat your food under a shelter. Stop working, take time, chew every bite, disconnect from labour. And anchor yourself where life can be restored.

In those years, I made dumplings by myself, steamed buns, and even mooncake. I also learned a little about Thai and Malaysian cuisine by shopping in hell-expensive Asian supermarkets. But Mom, you remained skeptical. I felt like you were awaiting a point when I sent myself to the hospital for food poisoning. That didn't happen, thank god, since my poverty-stricken recipe circumstanced me in a limited and safe range of ingredients. This also somewhat comforted you. You

seemed to believe that food in the Netherlands is too alien and suspicious to afford any connections, even though I talked about how I accommodate my friend group for dumplings and how that rooted my life down to earth. For you, most importantly, my cooking was domestically imparted, and Dutch food, in essence, was too light and shallow to alter me. You had a brilliant metaphor for this: it's not nutritious. Beef was not nutritious. Shrimps were not nutritious. Eggs were not nutritious. Those animals were locked in cages. No way their flesh can be nutritious. You said. And vegetables and fruits were basically condensed water. I was speechless, and asked you in confusion, then what do you think is nutritious? You got slightly choked, then a little awkwardness. "Mom's food is nutritious."

Things changed in 2022. Covid-19 systematically disrupted my fieldwork plan and I unexpectedly ended up in a Tibetan village right beside my hometown. The residents were herders who were resettled from their pastureland, but their animal-centered fooding was not dissolved. Chunky yaks were slaughtered, amid fervent talking, tea drinking, gossiping, and cooperated labour of herders. Warm blood was given back to the earth, through a carefully dug hole on the ground, so it's not messed up everywhere. Also, keep some blood with the flesh, so it stays juicy and tender. But if the yak was not wildly grazed, no butchering nor preserving skills could help with that gross taste and texture. A pair of hands, the hands that peeled the skin and removed the entrails, with dried blood on, fondly collected the fat into a plastic bag. "This is to make a hot pot for you." Someone smelled and said to me. Those hands, with flesh and blood on, made the dough, rolled noodles, cut onions, boiled beef, passed bowls and chopsticks, and peeled a piece of garlic for me. The exuberant fire was fueled by dried cow poop, and it gives the noodles an elastic but tender texture, with a robust fragrance of wheat. At one moment, I felt like I was eating the blood of earth.

But people noticed something dubious with my eating. One day, my gatekeeper, a local cadre who was burly in appearance but considerate inside, visited me, and found moulded rice in my pot. He put back the pot lid, and looked at me, with blame. I said shamefacedly in my mind, sorry, I was too desperate about the lockdowns happening out there, to my friends, and to ordinary people who suffered. Covid had been there for three years, and back then all my sufferings peaked, and erupted. I felt no wish to thrive, or namely, to eat. After that day, I rarely turned on my fire any more. No one let me. People called, one household after another, inviting me for meals. Occasionally there was forced drinking, too much food, or too little vegetables. My stomach ached. I felt reluctant. I gained so much weight. But I also learned. I learned their way of drinking tea with the powder of dried highland barley, milk, and goji berries. This filling aliment used to be a necessity for the herders wandering around 4000 meters high mountain and grazing their cattle. Although later their herding livelihood was gone, this tea remained, as a breakfast and afternoon dessert. And it causes health problems, since without the demanding labour, such an amount of calories negatively influences cardiovascular functions. I also learned that food shall not be treated carelessly. Fooding is not always for joy and fulfilment. It's for subsistence, tenacity and endurance of life. That's the responsibility one carries. Only by such an unswerving determination in being serious with every meal could life find its internal impulses. Have a meal, and next meal, and next. The pumping flow of eating is directing the temporality firmly towards the future. Eat. Grow your blood and flesh. Fix your feet on the ground. Then you walk. I learned, and I was grateful, for all the care and vigour that had grown me.

But Mom was shocked, and you sensed a crisis. I noticed how you saw a competition over blood. A competition, as I have been eating too much with others, ethnic others, cultural others, blood others. What if it changes me? And it has changed me. You showed a low-key unhappiness when I said I was invited to a household for food, and was even more shocked that I picked up the habit of boiling tea leaves with milk. Before I left home for Mongolia, you put aside everything else, and got up early to buy pig hooves and chicken claws for me. You accepted me

hating eggplants, and tried to stew fish in a sour flavour as I always longed for. You were finally realizing that there are too many people entangled in my eating now. Fermented chilli and tomato soup from Southwestern provinces in China, Uruguayan stew of carrots, potatoes, and pork, sugar from Belgium, Korean fried rice cake, Dutch stroopwafel that is too sweet to have more than one bag in one's whole life, Mongolian dried milk bar and fried noodles. I am turning into someone's friend, someone's roommate, someone's guest, someone's student, and someone's dating partner. I cook with them and eat with them. My blood has complexed, and smells like things that you don't understand and food you don't trust. I know that you were feeling sorry, eagerly sorry, for what I have gone through these years. But you were also proud, that your daughter has enriched her life, beyond what her mother provides. You said, you've been living a way too tough life these years, so just let Mom take care of you. There seems nothing else that could keep me beside you, but food.

Mom. This year I am 25, and you are 49. Let's eat together. Big plate chicken. Let me cook it for you, in your usual way, but I would ask for more vegetables and potato vermicelli. And some early summer peaches afterwards, the kind of peach you can have a whole bucket by yourself. Our blood diversifies, deforms, and reforms, but it doesn't turn me into another person. We have eaten together, and will eat together. So does our blood. It will surge, on and on, until tomorrow, until forever.

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It's hard to be a ... Research Ethics Committee chair

Olga Zvonareva

Flash fiction winner

I am gulping down my coffee. It went cold sitting by my elbow, while I was sorting through heaps of printed reports. Actually, I receive all reports digitally through our AI-powered system, Vigilia. It flags all risky instances and rejects all reports with more than three flags. So, I do not need to print anything. I still do, though, since I prefer reading what is left without Vigilia's interference. I am old-fashioned, perhaps.

In our largest meeting room, a stack of reports I picked makes a thud, landing in front of the Committee members. They all are there, bleary-eyed. We've been stretched to the limit since the University announced the termination of licenses for all researchers who could not prove indubitably that their human subject research is risk-free. Yet, we must proceed. Enough damage has been done by researchers who scamper around, poking into conflicts, grey areas, and private spaces. They land the University into media controversies and attract inquiries from control agencies. Now we, as a Research Ethics Committee, received a mandate to protect the University's reputation and weed them out.

"Good news!" I announce as an opening. "You remember the team of ethnographers whose licenses we revoked?" The secretary clarifies, "The ones who neglected full data anonymization?" "Yes," I confirm, "Instead they followed their research participants' preferences on the degree of anonymity, as if participants can assess all risks involved. Anyways, our signal about them proceeding with research without licenses was received and this morning arrests were made."

Situated on the intersection of science and technology studies and global health, Olga Zvonareva's research focuses on public engagement in health and biomedical knowledge production. Her primary research line concerns relations between scientific knowledge, technologies, and politics. Politics are found not only in parliaments and election practices, but also in doctors' offices, R&D laboratories, and public health interventions. Due to the profound impacts of health technologies on how we live our lives and how our society functions, it is of crucial importance to study not only how exactly these impacts come about but also how citizens (can) participate in shaping them. She is especially invested in studying instances of participating in situations when members of the public are discouraged from doing so. <https://www.inpart-project.com/>



LUN

Noah Khan

Poetry winner

these are thoughts through keys that i actually love
show me the image of a heart; ask what it is actually of
and i will tell you as though category mattered for me
you could have requested the world but you had to bore me

with a binary i oppose through these very ones and zeroes
the numbers want to meet but never meet your heroes
for they are discrete when you are looking for connection
so you place subject and object under close inspection

the former is missing and the latter isn't real
a contract to construct cognition is no big deal
my computer is a toy and i am playing with wire
but it will not be my fault when your world is on fire

for this was the state of affairs before i'd begun
the algorithm has started and it cannot be done
but if passion was programmatic would it be less fun?
let me code you a story; all you need to do is run

Noah Khan (he/him) is completing his PhD in Social Justice Education at the University of Toronto. His research examines the effects of emotion on artificial intelligence development, looking at the ways in which experiences of fear, grief, romance, etc., shape the technologies that get made, features that get prioritized, and ideas that get discarded. Noah is also currently the co-applicant of a project funded by an Inlight Research Development Grant that focuses on exploring the phenomenon of artificial intelligence anxiety. Noah is presently a CGS-D Scholar, Massey College Junior Fellow, and Victoria College Junior Fellow.



Hero, who cared about the forest and wanted to transform it

Aisha So

Graphic short story winner

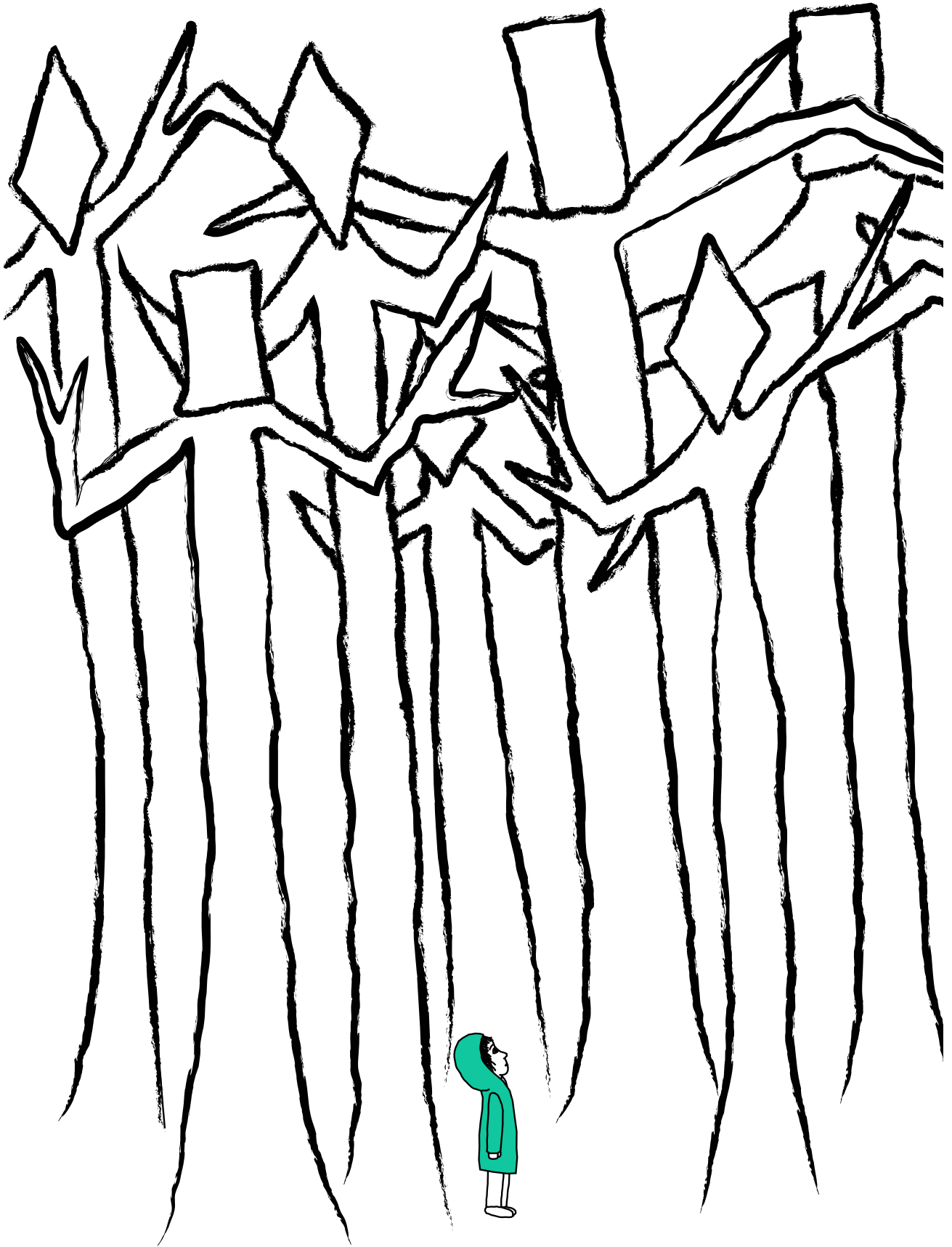
Aisha So is a second-year PhD candidate at the Copernicus Institute of Sustainable Development, Utrecht University. Before starting her PhD, she obtained a double masters degree in Environmental Science and Plant Biotechnology from Wageningen University. During her master's degree, she investigated the roles and responsibilities of plant scientists in the governance of genome-edited crops (So et al., 2024). Her research interests include plant science, agricultural resilience, knowledge co-production, transdisciplinarity, and transformative change. Aisha made the first version of her illustrated story for the PhD course Transformative Research for Sustainability Challenges.

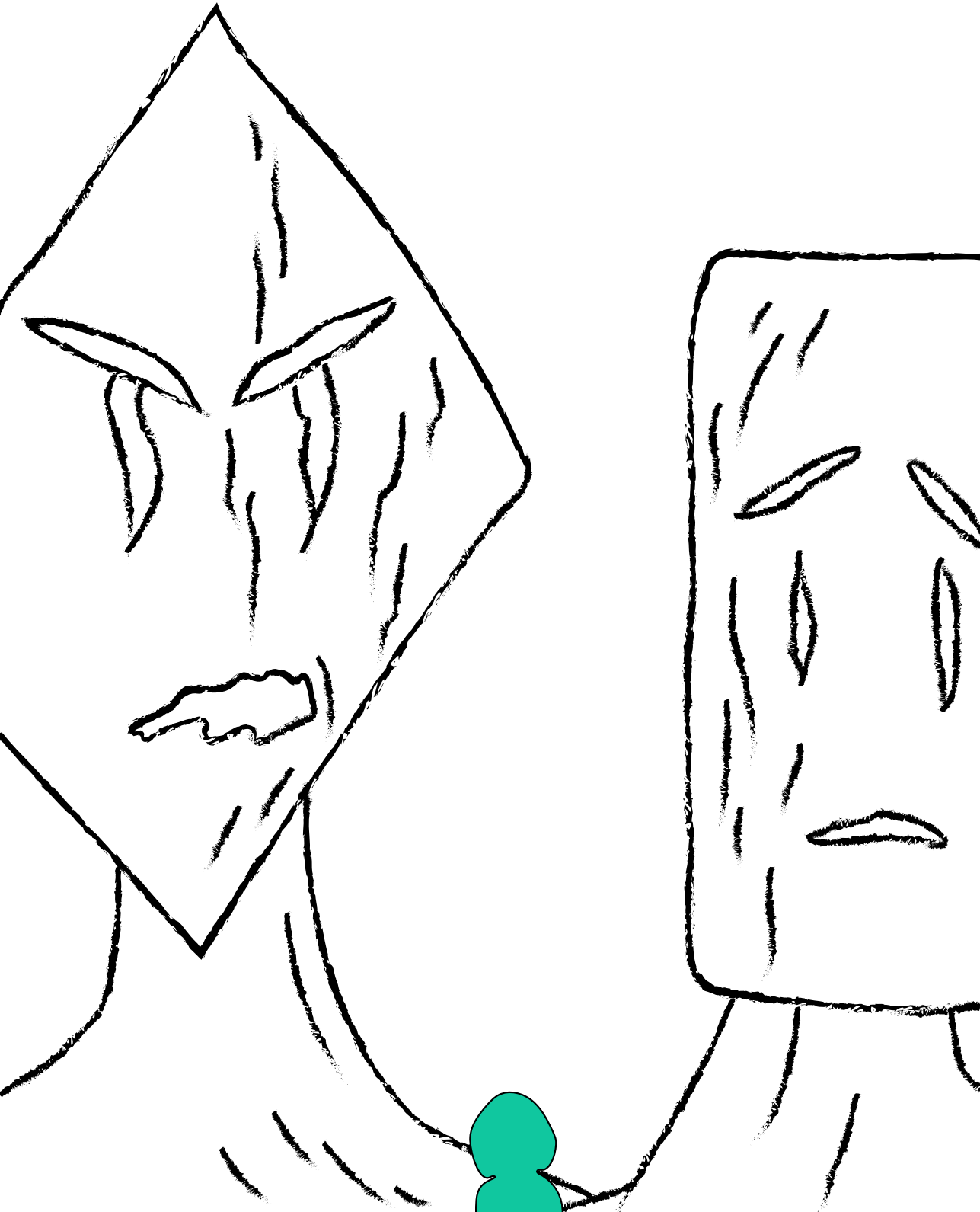
Hero, who cared about the forest and wanted to transform it

Aisha So

One day, not so long ago, far from here,
Hero found herself in a forest. The trees
were barren, high, and stern-looking, and
they seemed to rule over the forest. The
forest was not doing well. The soil was dry
and rigid, and there were no animals to be
found.

Hero felt that something had to change,
so she climbed up to the trees to ask them
about the forest.





“The wind is to blame,” said the most stern-looking tree, “they blow all our leaves off.” “Oh, I see,” Hero said.

“And the animals,” another tree added, “they help the wind, so we try to keep them out.” “Oh, I see,” Hero said.

And indeed, from so far above, the gushing wind seemed intimidating, and the thought of scurrying treacherous animals down below was unnerving.

“How do you try to keep the animals out?” she asked. A large, worried-looking tree replied: “We build walls with the very leaves they make us shed. It is the only way to keep the forest alive!”

Hero looked around, she saw several determined trees who were busy building walls.

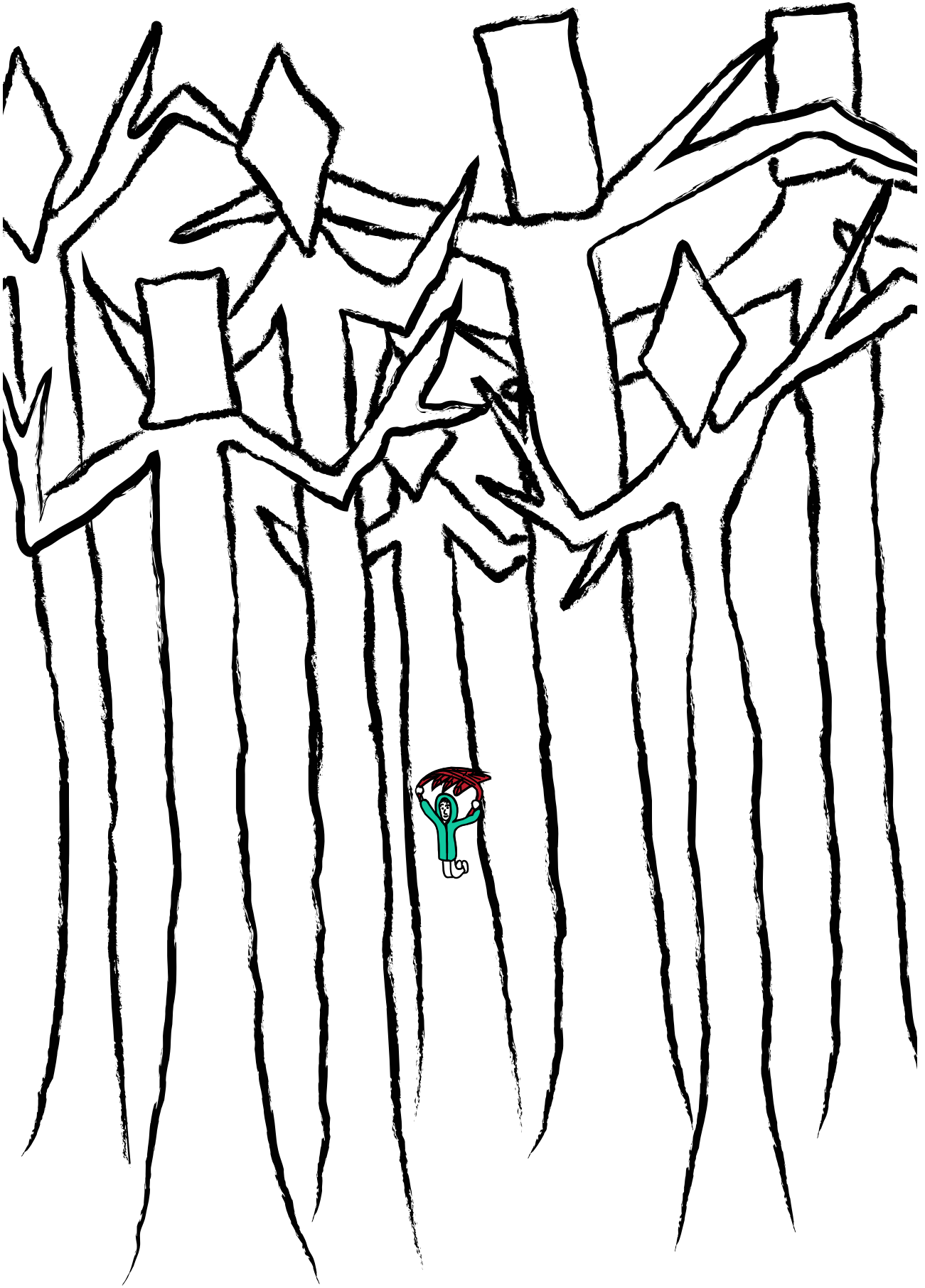
But not all trees seemed equally determined. A few seemed uncertain, or even reluctant.

Hero approached a young tree, who had watched the conversation with doubtful eyes. “I contribute my leaves to the walls,” the tree said, “but I wonder if this is truly the way to save the forest. It must be, if my whole family says so...”



Then, a woodpecker landed near the trunk of a particularly determined-looking tree, and started pecking away. Hero was very happy to finally see an animal, and she decided to go down to talk to the woodpecker.

When she said goodbye to the trees, they gave her a farewell gift. It was a leaf, a beautiful red leaf, that she could use to get down safely. She said, "Thank you, goodbye!" And she flew down to the woodpecker.





“It’s the trees,” said the woodpecker earnestly, “they are building walls to keep the animals out. But the animals are needed for a healthy forest. The animals can keep the soil healthy, and only they can make the trees regain their leaves.”

“Oh... I see” Hero said, getting confused.

“The animals try to break down the walls,” the woodpecker explained, “but the trees just keep building more. Leaves can be useful for the forest, but not when they form walls to keep the animals out.”

The woodpecker seemed very smart and knowing. “Oh...” Hero said.

“And the trees blame the wind, ha ha!” the woodpecker suddenly laughed, “how stupid can they be?”

What?! How could the woodpecker make fun of the trees while they try to do the right thing? “The trees care about the forest!” she exclaimed. She felt misunderstood, and hurt, on behalf of the trees.

“I’m sure they do,” said the woodpecker dismissively, “but they try to care for the forest by trying to control it, and that will only do harm...”

Hero felt confused, and sad, and she wanted to walk away, but then the woodpecker continued.





“There exist other forests, you know? Forests far, far away, in which the trees are not separate from the animals, or the wind. These forests are one; one being. In these forests, building walls would be like cutting the forest in pieces.” Hero looked at the woodpecker with wide eyes. The woodpecker continued: “There is a risk that if our trees don’t change, they will contaminate these other forests with their practices...”

Hero had heard enough. She needed to think, so she said goodbye to the woodpecker.

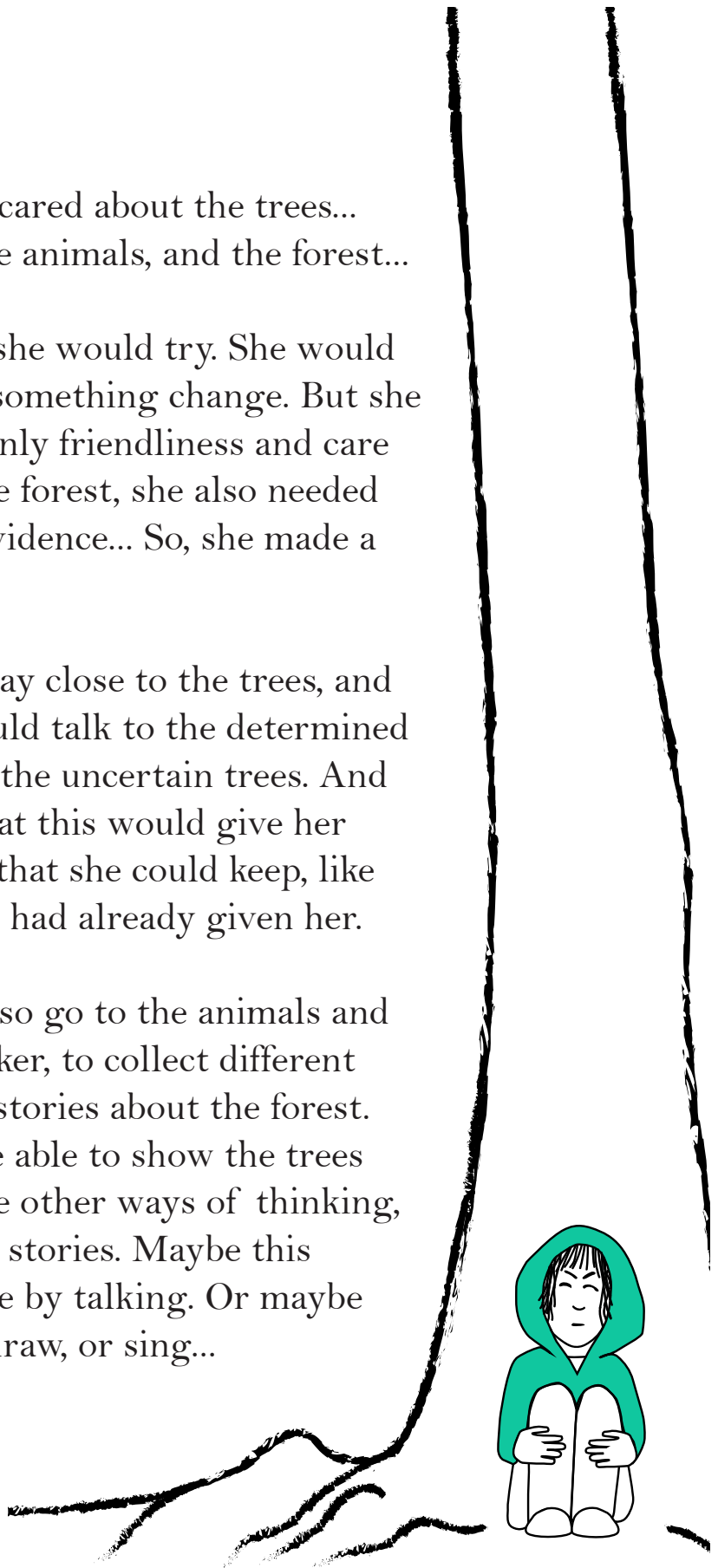
Sitting by herself in the forest, and thinking about trees, animals, leaves, walls... the words made her head spin. But when pondering over the words of the woodpecker, they did make sense... Why would the wind and the animals hurt the forest? That didn't sound right. Surely the wind and the animals were supposed to be a part of a healthy forest? But then why would the determined-looking trees be so sure about their walls? It was clearly not going well so far, was it? How did this situation arise? She felt disappointed and frustrated about the trees for being so sure. And she felt frustrated with the woodpecker for not being more friendly with the trees. But she also felt nervous and hesitant. She was nervous about what might happen if she would confront the trees. Would they start building walls to keep her out too? And she was hesitant to stay friends with the trees. Would she legitimize their actions by staying so close? And who was she to say or do anything, anyway? Should she just walk away?

But she also cared about the trees...
and about the animals, and the forest...

She decided she would try. She would try to make something change. But she needed not only friendliness and care to change the forest, she also needed power and evidence... So, she made a plan.

She would stay close to the trees, and talk. She would talk to the determined trees, and to the uncertain trees. And she hoped that this would give her some power that she could keep, like the leaf they had already given her.

She would also go to the animals and the woodpecker, to collect different views and histories about the forest. She might be able to show the trees that there are other ways of thinking, and different stories. Maybe this could be done by talking. Or maybe they would draw, or sing...



She would visit the very different forest that the woodpecker had told her about. The forest that was one being. The forest where building walls would be like cutting the forest in pieces. She thought that her forest might learn a lot from this other forest. She would go back to her trees and show them what she had found.

And then, she would gather the doubting trees and invite them to talk, or draw, or sing to each other. She would try to find trees who did not contribute their leaves to the walls, or trees that were in contact with the animals. She would discuss with them – and those animals – how things could be different. And she would go back to all trees and show them what they had found.

Together, they would talk, or draw, or sing more, and the walls might break down. Maybe she would get angry, maybe the trees or the animals or the woodpecker would get angry, or sad – and maybe they would feel lost, or regret their actions. But



that would be good, because that would mean they cared. And through this process, the trees, the animals, and the woodpecker might start to reflect critically and listen openly. And maybe they would start to understand each other better.

So now, if you walk in a forest, the trees might have shed, and regained, and shed their leaves. And maybe some walls will appear again. But I hope that, with your help, the trees will also break them down again every time. Or maybe the trees will not even decide about those walls anymore...



Strange World

Denise Petzold, Veerle Spronck, Maud Oostindie

Graphic poetry winner

Denise Petzold (she/her) is Assistant Professor of Cultural Heritage and Performance Art at the Faculty of Arts and Social Sciences, Maastricht University. She has a background in science and technology studies, contemporary art conservation studies, and museum and heritage studies. Her research interests revolve around the role of technology and science in artistic practice and heritage conservation, transdisciplinary collaboration involving the arts, the life cycles of performative artworks, ephemeral materials and new materialisms, as well as processes of craftsmanship and making. d.petzold@maastrichtuniversity.nl



Veerle Spronck is Associate Professor of Valuable Entrepreneurship in and through the Arts at the University of the Arts Utrecht. In her research, she examines and experiments with the roles that arts and design can play in societal challenges. Building on her background in science & technology studies and artistic research, she employs ethnographic as well as artistic methods to do so. She also coordinates the transdisciplinary Minor Creative Research for Change. Outside of her academic work, Veerle enjoys knitting, reading, and running at a leisurely (or: slow) pace. Veerle.spronck@hku.nl



Maud Oostindie is a PhD candidate in the Department of Philosophy at Maastricht University. Her current research focuses on communication in the online public sphere, with a specific focus on climate change, sustainability, and food systems. She ethnographically investigates online communication and moderation practices. Outside work, Maud enjoys all things creative: reading, writing, drawing, painting. And being outside—anywhere. m.oostindie@maastrichtuniversity.nl



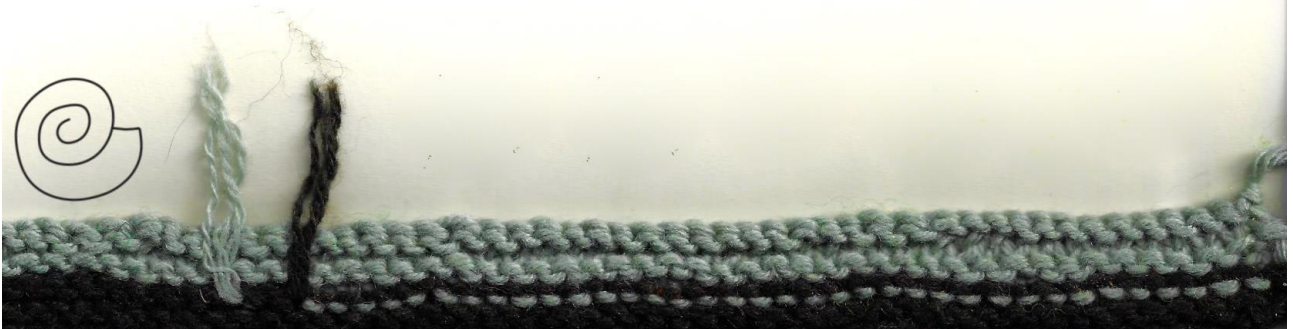
STRANGE WORLD

Denise Petzold

Veerle Spronck

Maud Oostindie

Shell still cool, but air feels right
Frosty grass turning soft
Feeling my way into world again
New cycle, familiar but —



Trrr!! Brk! Brk! Taktaktak!

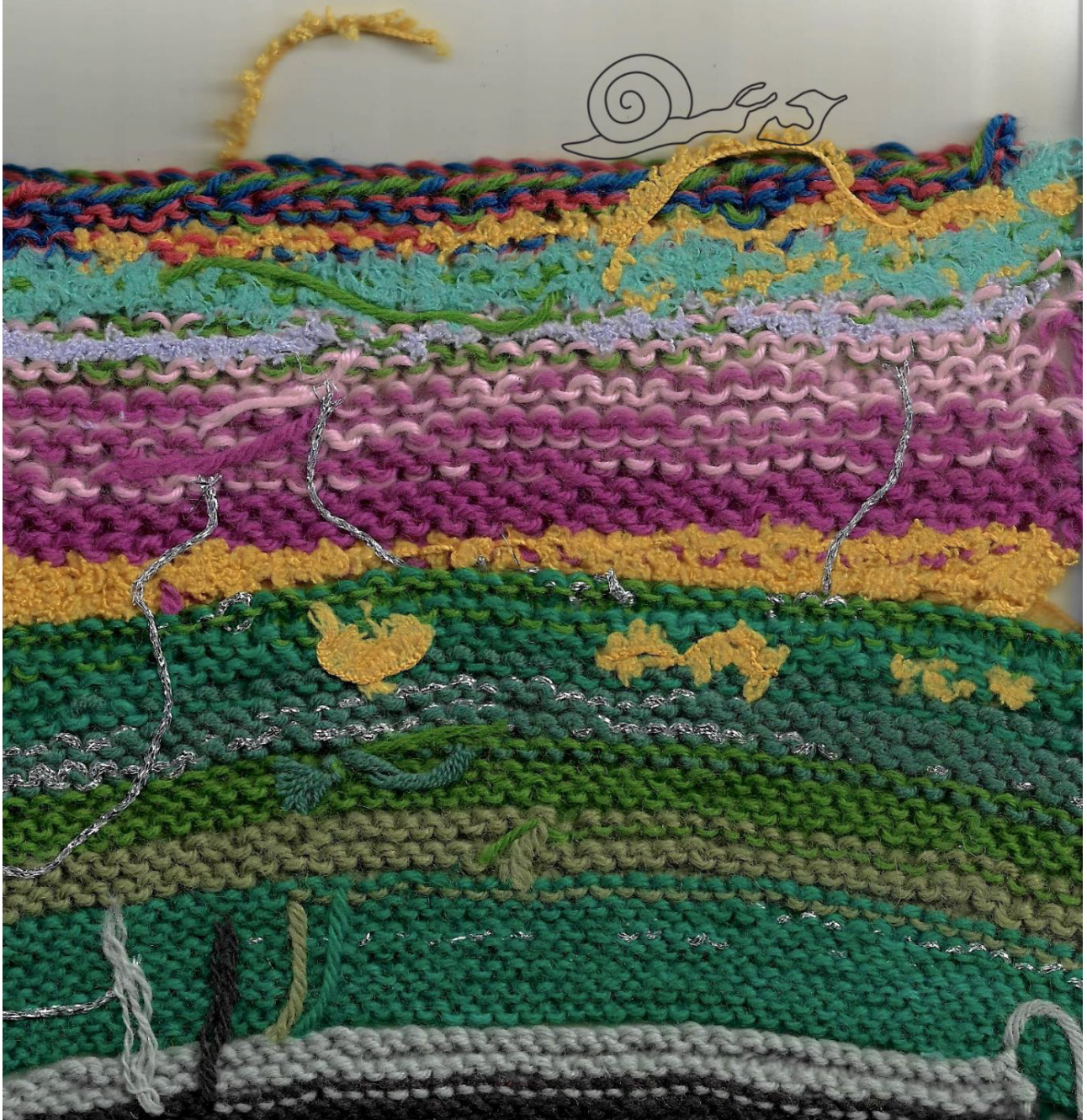
It comes at me, I don't understand

Too slow for sharp noises and silver gleam...

Wanting to hide back in my shell



But then I take a deep breath
An embrace of warmth; dullness around me
Munching on soft green leaves
Not quite that bad, in such a strange world



As the change keeps coming, you don't know
Where the next season will take you
500 million years! I've been here before
Take one thing from me: slow down

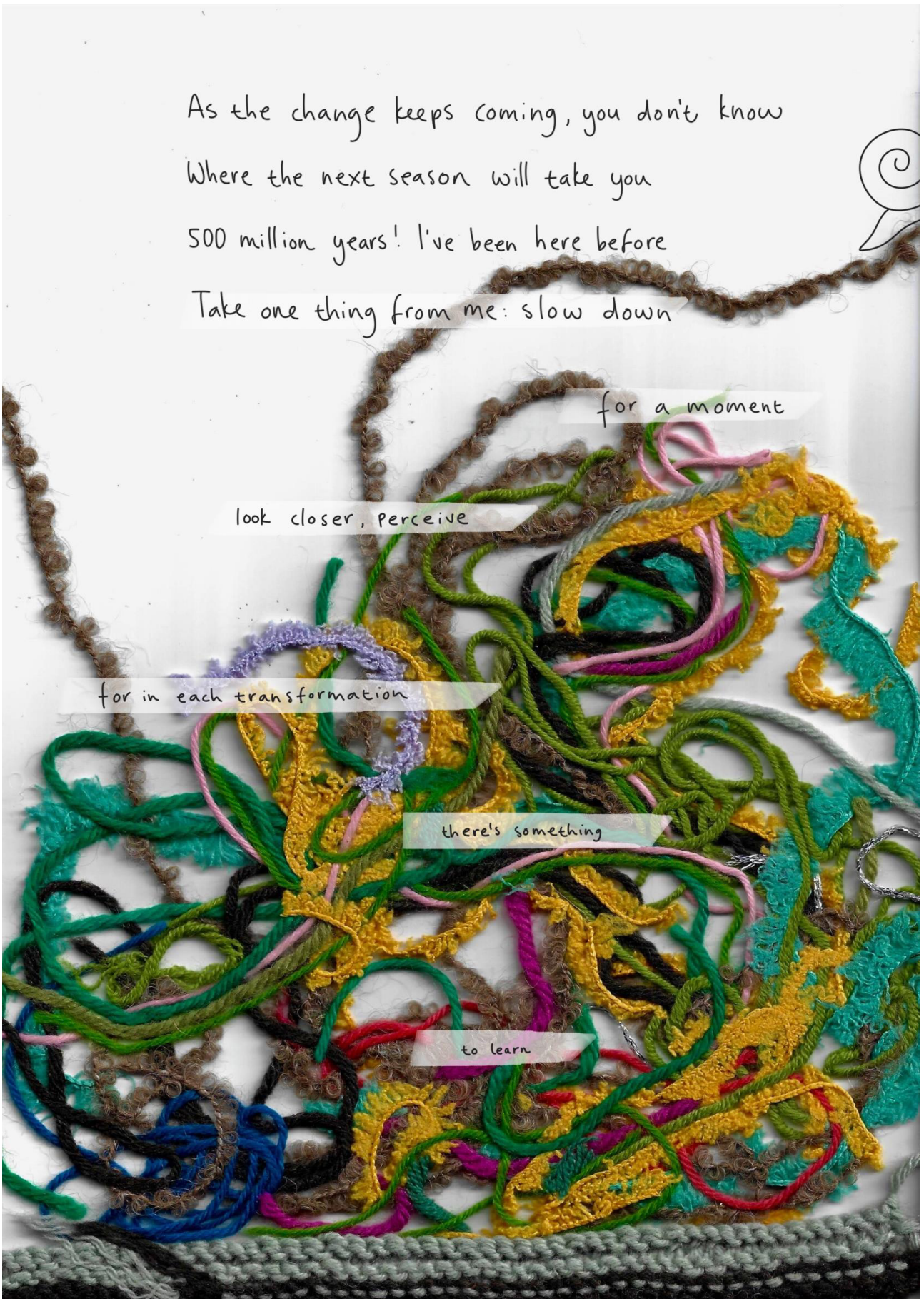
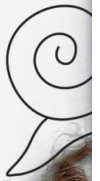
for a moment

look closer, perceive

for in each transformation

there's something

to learn



STS Events

Report from Space Science in Context 2023: Our efforts to bring STS approaches to Outer Space to a wider community

Eleanor S Armstrong and Divya M Persaud

STS scholarship on outer space covers a wide range of ideas: from understanding organisational sociology of such space mission teams, to economic and political dimensions driving the development of space sciences and technologies, to resistance to normative assumptions about access and rights to the cosmos, to the imaginaries created, sustained and resisted about outer space. Our project in Space Science in Context (SSiC) is to specifically connect such STS themes and issues in research about outer space with non-STs audiences, particularly with those working and researching in planetary and space sciences. SSiC also returns concerns and work of practising researchers and workers to the social studies of outer space communities. We (the authors: Divya Persaud, Ellie Armstrong) as the conference organisers come from these two different disciplinary backgrounds. Our praxis of organising this event is a model for the kinds of engagements and work that can take place between STS scholars and scientists. In this text we explain first what SSiC is as an event and who attends, and secondly we reflect on transformations we see in the matters of concern for the community through SSiC 2023 specifically. For more reflections on our own working practice that makes the events happen, you can read our [five reflections on co-organising Space Science in Context 2023](#), or listen to us reflect on how SSiC 2020 tackled [space science and space colonialism](#) as much as it [modelled disability activism and access in academia](#).

SSiC 2023 was funded by both the EASST Fund and the Royal Astronomical Society's Meetings Grant.

Note: all data in this report are sourced from the SSiC 2023 registrations and feedback forms.

What is Space Science in Context?

We began organising SSiC 2020 in January 2020, planning the event as a virtual conference engaging planetary scientists with science & technology studies (STS) and other scholars, and supported through the UCL Researcher-Led Initiative Award. Our intention was to sculpt a space that would offer accessibility in many modes—flexibility built into the schedule, closed-captioning and transcription of content, and small honoraria for all speakers. We therefore decided to structure the conference after the “flipped classroom,” with pre-prepared content in advance of the live event such that attendees could engage with the content in their own time and at their own pace.

The conference was held in May 2020. We reached 450 registrants and, in lieu of a registration fee, raised £1000 for a COVID-19 relief fund. Our global contributors included 12 invited speakers and 30+ e-poster presenters from a range of disciplines exploring themes related to space and society. We hosted three themed panels: Decolonising Space; Computing, Technology, and Space; and Space and Society. The pre-recorded component of the event was held digitally and remains online for future access, with the live component hosted over Microsoft Teams on 12 May 2020. Since that first conference, we have run SSiC again in January 2023 (which we primarily discuss in this article) and October 2024. All the material from

these three events remain online on our conference website, spacescienceincontext.com.

The ethos of SSiC 2023

Two core goals drove the organisation of SSiC 2023: first, interdisciplinary community building, and second, access and equity.

Interdisciplinary community building: In organising SSiC 2020, we had identified a disconnect between STS work on space, and the space humanities more broadly, and STEM practitioners in the space sciences, as well as a lack of scholarly opportunities for those who research that may exist at the boundaries between these two disciplines. We sought to address this issue through a community-building approach to SSiC, building speaker panels that platformed research across the boundary between the two disciplines, structuring the conference schedule to promote cross-pollination of ideas and themes, and advertising across networks.

SSiC 2023's speaker roster brought with them important questions facing those of us engaging with outer space from many different perspectives—from the pervasiveness of debris to the interrelation of military and commercial communities; and from community practices that support minoritised communities including Black researchers in the USA, and LGBTQ+ communities around the world, to unpacking histories of space engagement in Kenya and India. Participants commented that this gave them a 'broader picture of the impacts of space science', and that for participants hearing more about 'human impacts [gave them] more confidence to talk about those issues'.

Access and equity: Each time we run SSiC we make a strong commitment to accessibility—the benefits of which we detail further later in this text—recognising that many disabled and/or neurodivergent people are limited by ableist academic conferencing. The success of our approach to equity and access in 2020 heavily had relied on an ethos of accessibility and safety. In planning SSiC 2023, our second goal was therefore to centre equity in planning and facilitating a diverse, accessible event. We developed our existing virtual environment access guidance and policy for the speakers', poster presenters' media for the event, and everyone's conduct, in consultation with an accessibility expert. The 2023 conference once again employed a flipped-classroom model, with pre-recorded talks and e-posters hosted online in advance (along with an option to submit questions in advance as well) and discussions at the live event and on social media. We continued to deliver closed-captioning and transcription of pre-recorded invited talks; a website compliant with Web Content Accessibility Guidelines (WCAG 2.1); and access guidelines and resources for the e-poster authors. Based on responses from SSiC 2020 and from the requests in the pre-registration form for SSiC 2023, we provided live human stenography (CART) in all the main sessions, and for one of the poster rooms during each slot.

Many of our participants noted that these provisions were important to them, and we share one evocative piece of feedback here in full:

This is the first conference (and honestly only the 3rd event) I've felt fully able to participate in since becoming disabled. I have felt so disconnected from this academic community and it truly means the world to be able to engage with these thoughts, ideas and most of all PEOPLE again.

18–26% of the UK/EU/US is disabled, compared with ~7% of UK academics; however, 24% of respondents in SSiC 2023 declared that they were disabled and/or neurodivergent, and 96% of attendees who gave feedback reported that their access needs had been met. Particularly, as one participant noted, our system of 'talks provided ahead of time, meant that I actually had the energy to be present and pay attention during the discussions'.

We were particularly interested in supporting junior scholars (within 10 years of terminal degree) into inclusive communities oriented around outer space, which we took three-fold measures to achieve. Firstly, we ensured that our speakers skewed towards Early Career (with 11 out of 12 invited speakers as ECR) and paid them an honorarium to reflect their time and effort. Secondly, many of those who made the conference possible were ECR: four paid moderators, an accessibility consultant, and an ECR-led captioning and transcription company. This gave a sense of ownership to more junior contributors and paying them valued their time commitments. Finally, we made sure that the conference policy was clear about the treatment of junior colleagues to ensure that those most likely to experience harassment were not excluded from building community.

Composition of attendees to SSiC 2023

In reprising the event in 2023, we remained a fully virtual conference and carried these two pillars strong in our organising, advertising, and production of the event. We continued to engage our core audience of space scientists and STS scholars, but sought to expand further to non-academics, such as teachers and undergraduate students, as well as a further breadth of disciplines, such as Earth science and architecture. As such, we sought funding from both STS and physical science societies in order to make the conference legible to attendees from different communities as a cross-disciplinary space that would speak to their interests. With 13 invited speakers again who spanned the world, we hosted three panels at SSiC 2023: on Space, Technology and Dual-Use; Environment and Space Science; and Labour and Space. We also supported 22 e-poster presenters whose contributions once again covered a range of themes on space and society. The live event was hosted over Zoom on January 26, 2023.

We had 418 participants, from 52 countries (Fig 1) register for the conference, including our speakers. Like SSiC 2020, when we had a diverse range of people register and attend the events, SSiC 2023 reached a broad community. Our success in our commitment to bringing together people is clear in who attended—45% early-career researchers (ECRs); 43% non-academic—who came from vastly different disciplinary backgrounds is most keenly represented in the range of institutions that people noted they worked with in the registration. In addition to many STS departments at European and Global Universities, SSiC had participants coming from scientific and space research facilities—all of which can be seen as both publics and interlocutors for STS researchers. We had participants from a range of high-profile museums around the world, including Porto Planetarium—Ciência Viva Center, Portugal; and global government agencies, such as Korean Astronomy & Space Science Institute. Many learned society members joined our conference, for example from The Geological Society, as well as journalists who have by-lines at leading international publications, like WIRED. We also reached engaged publics from schools, outreach coordinators like the Afrikagera Geological Center in Tanzania, and astronomy clubs in countries including Romania, Morocco, and India. We also drew government scientists and educators from research centres like the National Institute for Astrophysics in Italy or working observatories, Observatorio Astronómico de la UNAN-MANAGUA, Nicaragua as well as those based at companies and nonprofits from across the world.

This geographic range was also reflected in our attendee demographics. As all demographic categories are socially and culturally contingent, we tried to use broad geographical categories – see Table 1) to make these as relevant as possible to a community from around the world, and offered the option to select multiple

descriptions to report on their own identities. We also asked about gender identity at registration, and 52% identified as female, 38% as male. 18% identified as trans* and/or non-binary and/or Two Spirit (please note participants could select multiple options in the form for this option). This is in contrast to findings that 30% of the space workforce identify as women in a [UN Space4Women report of 2024](#); and a [UK survey](#) in 2023 recently finding that 29% of the workforce were women and 1% as trans*; or a [2019 OECD report](#) showing that as low as 20% were women in the space industry in Europe and North America; demonstrating we are reaching an audience underserved more generally in space events. In the registration, 40% of people identified as LGBTQ+ when asked about their sexuality.

Description of demographic in survey	Percentage of registrants who identified (possible to select multiple in registration)
African/African Diaspora (including Black)	15%
Asian / Asian Diaspora	20%
Indigenous/Indigenous Diaspora	3%
Latin American/Latin American Diaspora	7%
West Asian/West Asian Diaspora	3%
white/European	60%



Fig. 1. A map of registrants for SSiC 2023.

Reflections from from SSiC 2023

Here, we reflect on four key themes: Access and Code of Conduct; Building and Doing Cross-Disciplinary Communities; Seeing Space as Part of Larger Sociotechnical Systems; and Pluralising the publics of outer space.

Access and CoC: Our effort to build accessibility into our infrastructure from the ground up has reshaped who can participate in conversations as SSiC, both on the basis of (dis)ability, and geographical location. This commitment not only shapes who can participate in the field, but what concerns are raised and acted upon. You can read more about how we have been thinking about [redefining the scientific conference to be more inclusive](#) and the steps to take, beyond the ones we have described above, towards making this a reality in your own STS events.

Further we worked to foster a safe environment for sensitive topics and interdisciplinary learning, regardless of academic background, protected characteristic(s), or access needs, and to do that safety had to be at the forefront of planning and executing the conference. In 2020, we developed a Code of Conduct to which all people participating in SSiC have to agree in order to participate, and to which they are held within the conference space. The SSiC Code of Conduct has since been utilised widely—within STS, for example, at the [2020 6S Virtual Workshop](#); but also beyond, for example, shaping the [2021 Virtual NASA Exploration Forum and European Lunar Symposium Code of Conduct](#). We continue to see these as vital parts of infrastructuring an equitable STS field, and encourage all organisers to think about how the mission of their events informs access and conduct expectations in spaces they create.

Building cross-disciplinary communities: Our conference infrastructure that embodied our commitment to community building beyond those who would typically think of themselves as “STS” scholars shaped both who was giving the talks as well as who was attending; and allowed participants to be ‘potentially recasting [their] own research’ through new approaches and ideas in this space of multiplicity. This brought together perspectives that were distinctly STS in nature but came from non-traditional sources: for example, foregrounding the knowledge and contributions of communities that organised to support minoritised researchers and social movements to challenge military influences in outer space, which gave, as one participant reflected:

a sense of what people in kindred fields are working on makes the work feel more vibrant generally. Opens new avenues of inquiry and possibility of future collaborations.

Conversely, by focusing on a range of different disciplinary ways to think about outer space, SSiC helped to scope out some of the parameters of the emerging field of social studies of outer space by giving a sense of the ‘larger concerns that appear in the research of several people’ and itself helping outsiders to the field make sense of ‘outer space as a sub-discipline, ...[and] what its particular topics are’.

Seeing space as part of larger sociotechnical systems: Talks across our three panels engaged with questions of climate justice, decolonisation, militarism, and other wider systems. This introduced many participants to ideas of how outer space operates within existing sociotechnical systems like biopolitics and governance, infrastructure and development, or justice, ethics and colonialism in ways that were new to some of those attending:

It was the first discussion I had heard from within the space sector about the ethical issues of engaging with space exploration as an arm of the military

Instead of just thinking of outer space as rovers on Mars, space telescopes like Hubble, or the Big Bang, SSiC brought STS focuses on the entanglements of outer space down to Earth within our everyday lives. Themes such as remote sensing,

dual use of space technologies, or ongoing campaigns by climate activist groups were shared with new audiences through this event, allowing participants unfamiliar with thinking about science and technology in society in these ways to see for themselves a ‘much broader picture of the impacts of space science as well as [getting] tangible information and resources that [they could] share.’

Pluralising the publics of outer space: Publics, created around media available, of outer space are hegemonically shorthanded as people who are inspired by outer space—beautiful images of the world and the wonders of knowing more deeply about the cosmos we live in. In developing SSiC, we worked to contextualise improvements and scientific advances that are more readily reported with their interrelations with the wider systems such as environmental justice, space debris, community-building and retention in STEM fields, and Indigenous Land Sovereignty; we helped bring create a new public that is focused on thinking otherwise about space science:

The talks and poster presentations I listened to brought me perspectives on the impact of space science research in our society...I'll definitely have that in mind when writing/talking about the future of space sciences and its impact in our day-to-day life.

The work we highlighted in both SSiC 2020 and 2023 echoed a shift within the scientific media over the same period at large to showcasing different sides of space industries including greater reporting of things like sexual harassment in NewSpace companies, the occupation of sacred Indigenous spaces by TMT, or questions about memorialising problematic members of space history in JWST. We understand SSiC as part of this trend that challenges uncritical celebration of “objective science” with publics and practitioners, as well as a venue that foregrounds real attention to the material realities of doing such transformative work by inviting speakers making these changes in the world. Excitingly participants saw this too—and felt like this was something they could take away with them:

The panellists were great at drawing connections across disciplines, and gave me a lot of topics I could bring in my own discussions with people outside my discipline and people who aren't scientists.

We also saw increased sign ups from people who identified themselves as amateur astronomers, or people who participated as teachers or leaders in informal astronomy contexts—communities who might ordinarily be seen as the target audience of more ‘traditional’ science communication about outer space but who are, in fact, interested in these wider social systems that surround, support, and interrelate to what we might conventionally think of as space research.

Conclusions from the event

As we prepare for, and host, [SSiC 2024](#), one thing we are most excited about is the way that building this community has continued over time—where participants come to share and develop ideas, perspectives, and conversations, event after event building a space together to rethink how outer space is situated in global social contexts. In the words of one attendee:

The experience will certainly provide inspiration for my future science education and outreach projects. An example is the educational resource I presented in my poster, which was (at least in part) inspired by discussions and insight from SSiC 2020, on the impact of giant astronomical infrastructure on the territories they occupy and the people who inhabit or use these territories for a very long time.

This process of building ideas and approaches through the SSiC community, demonstrates the kinds of iterative changes to both the STS and non-STS

communities that have been made possible through the sequence of Space Science in Context conferences. We are thrilled to have seen how our efforts to centre minoritised voices across disciplines, and to build an equitable and accessible community of care and ideas is beginning to see changes in the actions and research undertaken by and presented to the wider community.

Acknowledgements

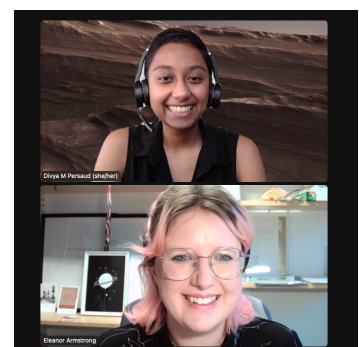
We are deeply indebted to the wonderful relationship we have with [Academic Audio Transcription](#), who have provided the transcription and captioning for speaker videos, and [Ai-Media](#) who provided CART for SSiC 2023. We further thank Zahra Khan for writing our poster guidelines, and our four moderators: Connor, Erika, Bhargavi, and Leslie. We also thank our thirteen speakers and twenty-two poster authors for their outstanding contributions that made the content of the conference. We would not have been able to host the conference without the support of the European Association for the Studies of Science and Technology's EASST Fund 2023 and the Royal Astronomical Society's Meetings Fund 2023; and the support of our institutions at the time, Stockholm University and JPL/University of Glasgow.

If you'd like to learn more about Space Science in Context 2020, 2023, or 2024, please visit our website and request access to the content through the contact form: spacescienceincontext.com.

Divya (top) and Ellie (bottom) on Zoom after our online conference January 2023. With the permissions of Ellie and Divya.

Image description: The image is two zoom screens, one on top of each other. On the top image is Divya, against a background of a Mars valley. Divya has cropped dark hair wears over-ear headphones and a black shirt. Ellie is in her office with books and pictures on the shelves behind her. She has pink hair, a black shirt, and round glasses. Both are smiling as they are happy to be finished with the whole day event!

Dr. Divya M. Persaud and Dr Eleanor S Armstrong are asking you to do what you can today to interrupt genocide, dismantle settler colonialism, and free Palestine. As you draw breath, draw on the bravery of students and scholars who came before us; the scientists in universities that no longer exist, our fellow human beings who stare up at the same stars to which we have committed our lives and research. Confront the apparatus that make us co-conspirators in this death-making project. Be renewed in knowing of those who will follow.



Leakage Revisited – Report from the inaugural conference of stsing

Markus Hoffmann, Michaela Büsse, Ozan Altinok, Poonam Kamath & Aurora A. Sauter

19. – 22. March 2024, Technical University Dresden¹

Introduction

The German STS community convened at TU Dresden in March this year to celebrate the founding of “stsing” – an association that seeks to strengthen and increase the visibility of the German STS community. Although established in 2020, the association had to wait four years for its inaugural celebration due to the COVID-19 pandemic. Over two hundred participants gathered in the beautiful city of Dresden in eastern Germany to discuss science and technology through the lens of “leakage,” a term that reminds us that boundaries are constantly crossed in natural and human-made systems, that constructions are not stable, and that the consequences of actions deserve attention alongside their intended goals.

This report brings the perspectives by two stsing board members together with those of conference participants. We emphasise three main points. First, we want to share a glimpse of the good time we had with the wider STS community at the conference. Second, we want to provide an idea of the vibrant exchanges taking place in and around Germany related to our field. Third, in an era of ever-larger conferences, we want to highlight the value of mid-sized meetings like this one, not as substitutes for large gatherings, but as complements that allow a diverse range of people to enjoy a mutual exchange of ideas.

Organising Leakage

Situating the conference at a technical university was a deliberate effort to build bridges between the natural sciences, engineering, humanities, and social sciences, by emphasising their respective world-making capacities. Choosing “leakage” as the conference theme illuminated the myriad ways in which bodies, technologies, and environments permeate one another, as well as how STS approaches inspire productive new encounters when they cross disciplinary boundaries. Leakage, framed as both an environmental and infrastructural phenomenon, attracted a diverse range of contributions. Panels spanned critical data studies, environmental humanities, border studies, marine STS, museum studies, science within and beyond the lab, human-machine interactions, algorithmic justice, extractivism and more. While associations with leakage were usually negative – something to be contained – it was both challenging and enriching to explore positive aspects of the concept – leakage as something potentially productive.

The organisers took great care preparing the conference – from drafting the call for papers, reviewing abstracts, selecting an outstanding line-up of keynote speakers (Nerea Calvillo, Amade M’charek, Thao Phan), conceptualising off-site events, assembling the program, and establishing an intentional and inclusive etiquette. The goal was to create a rich and welcoming conference experience for all participants. The program featured a variety of formats, including traditional paper presentations, roundtables, workshops, lectures, audio walks, film screenings and artistic performances. This diverse program demonstrated that research can take many forms, and that cross-disciplinary collaboration has the potential to create new and engaging formats that push the boundaries of academic inquiry.

Although organising Leakage required considerable effort, it was a rewarding process. Collaborating with colleagues from different departments and career stages initiated the kind of interdisciplinary engagement we strive to cultivate as a community. At a time when academic freedom in Germany was under scrutiny, this gathering was a hopeful demonstration of how interdisciplinary and critical thinking can thrive under challenging circumstances. Positive feedback from participants confirmed that Leakage fulfilled its aim of fostering meaningful connections between disciplines.



An opportunity to meet

Science and Technology Studies is still an emerging field in Germany, scattered across institutions and largely driven by early-career researchers. Although a few institutions offer dedicated STS programs, STS is typically integrated within sociology, anthropology, geography, political science, media studies, or design departments. It is therefore crucial that we cultivate spaces for interdisciplinary exchange and offer young scholars opportunities to connect and collaborate beyond disciplinary boundaries.

For many participants, Leakage was the first large gathering of the STS community they had attended in Germany. With over fifty panels over four days, the event created a lively, intense, and stimulating space for ideas and conversation. From anthropology to philosophy, and from environmental leakage to a leaky Z-drive, it truly included the A-Z of STS in Germany and beyond. The event's breadth made it easier for new members of the community to connect across varying academic origins. From early career researchers to professors, everyone shared the same space, and every effort was made to include voices from all stages of the academic career trajectory. The thoughtfully assembled panels included independent scholars, artists, graduate students, postdocs, and tenured professors who

Figure 1: Conference opening by stsing co-chair and organiser Michaela Büsse (picture by Johanna Mehl)

CONFERENCE ETIQUETTE

Working towards a respectful environment of non-discrimination and safety for all participants at LEAKAGE we ask you to adhere to principles of respectful communication, non-violence and non-reactivity. This means as a speaker, we ask you to keep in mind to speak from your own positionalities, use

non-violent modes of communication, do not react to violence with violence, do not reciprocate or escalate. As a listener, listen to and value the positionalities of others and practice non-reactivity. Do not take people's words out of context and do not use them inappropriately.

What position of power do I have in society?

Where am I in academic hierarchies?

How does this affect people who are in subordinate positions to me?

How much space and time do I take in discussions?

What are my intentions here?

At what point am I reflecting on my gender positioning, and how sensitized am I to other gender positions?

Am I aware of my privileges in the racist system?

Do I recognize ableist discrimination situations?

How is my behavior possibly impacting the precarity experienced by other conference participants?

Questions based on the awareness concept that was developed by Sara Bahadori and Vanessa Figueiro for the membra(l)nes conference (annual conference of the gender studies association, 2023).

HOW TO APPROACH US?

If you want to report an incident, where you observed or experienced discriminatory behavior, you can do so anonymously on-site through the feedback box, reach out to the awareness team or write an e-mail to: leakage.accessibility@tu-dresden.de

The awareness team is approachable during the time of the conference. You can reach out to them if you need help, feel overwhelmed, unsafe and/or experienced or observed discriminatory behavior. You will find them in the designated quiet room and also walking through the corridors. They can be recognized by their light blue armbands. They speak German, English and Spanish.

Figure 2: Conference etiquette posters (picture by Poonam Kamath)

offered a wide range of intellectual perspectives.

This diversity was further encouraged by several caring infrastructures. These included conference etiquette posters that reminded attendees to be mindful of their positionalities and respect others, the availability of safe spaces where participants could retreat from the hectic pace of the conference, a multilingual awareness team to assist in cases of uncomfortable interactions and catering that accommodated participants' preferences and tolerances. Many participants highlighted these initiatives in their feedback to the organisers. They told us that they felt welcomed, safe and able to concentrate on what makes in-person conferences interesting: meeting new people.

This inclusivity was facilitated by generous conference fee waivers sponsored by stsing and EASST that enabled seventeen junior scholars to present their work at the conference. Financially precarious early career scholars also received a free year of stsing membership to help them familiarise themselves with the association. This support, alongside access to networks and thoughtful feedback on presentations, was a significant benefit to junior scholars, and to the conference as a whole.

Leakage through art

We are well-versed in the usual conference practices: talking, listening, and analysing. However, when confronting one of the greatest crises of our time, our words fall short. Recent years have shown that while facts help us grasp the scale of the ecological crisis, it fails to translate those facts into the actions and transformations needed to protect our leaky earth. Latour and Schultz (2023) argue that emotional understanding and affection are crucial for political action. Yet emotions require more than presentations and words.

The question then becomes: How does knowledge permeate our bodies and everyday lives, even at a conference? In Dresden, it did so through art, film, and sound provided by Rosa Barba, Kat Austen, and Dongjoo Seo. On the third day, attendees were invited to "Leaky Earth: Multi-Mediations of a Planet in Transformation" at the Technische Sammlungen Dresden (TSD). The term "Anthropocene" is often contested, but watching Rosa Barba's two short films translated this grand concept into tangible, vivid forms. One might say that the concept and the landscape leaked into each other. Two films by Barba, TSD's artist in residence, portrayed landscapes destroyed, adapted, and transformed by human action. *Bending to Earth* (2015) depicted a radioactive waste dump that illustrated the destructive side of human-nonhuman relations. *They Shine* (2007) materialised and substantiated the notion of the Anthropocene through a series of arresting aerial views of solar panel fields in shimmering desert vistas.

After the screening, we wandered through the exhibition of technical objects, ending up on the sixth floor. After a long day of words, Kat Austen and Dongjoo Seo captivated our attention with their wordless performance. Their combination of sound and visualisations made climate change audible and visible. Images of destruction, deforestation, melting ice, and mining accompanied pressing, moving electronic beats, and the transformed sounds of water glasses and sticks. It was a lesson in how infrastructure shapes an audience: the room was full of chairs, and the bodies were quietly glued to them. Perhaps an empty space would have encouraged bodily expression of sound and beat. This evening was a successful attempt to translate our planetary predicament into a multi sensorial experience.



Figure 3: LEAKY EARTH: Multi-Mediations of a Planet in Transformation. Performance by Kat Austen. Live visuals by Dongjoo Seo (picture by Michaela Büsse)



Figure 4: Members of stsing at the general assembly (picture by Stefan Laser)

Celebrating Leakage

The conference also hosted stsing's much-postponed birthday party. To celebrate this occasion, the first evening concluded with a reception at "object klein a" (the hottest club in Dresden, according to local colleagues). It was unusual and enjoyable to experience this venue in an academic context that set a positive tone for the rest of the week. The reception provided an opportunity for past and present board representatives to meet and share their perspectives on the association's journey so far¹. Another major event was the association's 2024 General Assembly. While general assemblies are typically administrative tasks for those involved in running associations, they are also a valuable opportunity to bring the community together. Previously, these meetings were held on Zoom, which allowed attendees to participate without extensive travel, while still maintaining the social aspect of the gathering. This year's meeting was the first attempt to gather as many members as possible in one place. Along with handling the usual administrative tasks, members approved the stsing code of conduct², and thus took a significant step towards establishing an ombudsgroup for the association.

Epilogue

As enjoyable as it was to gather in one place at one time, this event is unlikely to be first of a series of annual German STS conferences. However, the association will continue to support the bi-annual STS-Hubs³ conferences organised

¹ For more detail, see two EASST review articles by founder members of stsing (Niewöhner et al 2021; Helm et al 2021).

² More info here: <https://stsing.org/the-stsing-e-v-code-of-conduct-annex>

³ More info about the next STS-Hub here: <https://sts-hub.de/25/>

by various associations and in Germany. Moreover, we want to adhere to one of the core principles of stsing: a commitment to small and local collaborations on topics of interest to our members. This typically occurs in working groups on various topics from specific research areas to infrastructure-related goals. We hope that Leakage served as a catalyst for new topics, the creation of new working groups, and a sense of vibrancy and engagement within the STS community in and around Germany.

Acknowledgements

OA, PK and AAS wish to acknowledge the fee waivers awarded by stsing and EASST. PK also acknowledges the generous travel grant by the Department of Social and Cultural Anthropology, AOI, Universität Tuebingen. The authors thank all who made the conference possible, who provided the pictures used here, and especially Melina Antonakaki for her valuable input into this report.

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Finnish Society for Science and Technology Studies 2024 Symposium 'How to make a scientific contribution'

Elis Jones

Conference Report

On the 6-7th June 2024, Helsinki University hosted the [Finnish Society for Science and Technology Studies \(FSSTS\) Symposium](#) titled: 'How to make a scientific contribution: from intellectual exercise to scientific agency'. The event was built around the question: *what exactly does it mean to make a contribution to science?* The answers posited by attendees included reflexive takes on becoming and being an STS scholar, and critical evaluations of the commitments and practices that produce knowledge about science and technology. The event was also an exercise in community building that provided a relaxed and amicable atmosphere with plenty of time for questions and discussion. Although fairly small in scale it was rich in content, providing a wonderful opportunity to exchange emerging ideas in STS. Talks featured work from Finnish and international contexts, including a strong contingent of early career researchers.

Keynotes: technology and human lives

The symposium featured keynotes from highly regarded scholars including Teun Zuiderent-Jerak (Vrije Universiteit Amsterdam), Noortje Marres (University of Warwick), and Minna Ruckenstein (University of Helsinki). The talks offered insights into contemporary ways of doing STS, but also scrutiny of technoscientific activity in other areas of society.

Noortje Marres and Minna Ruckenstein both offered examples of how technology is not always developed with respect for human lives. Ruckenstein highlighted the need for 'breathing space' in technoscientific processes, something many digital platforms are designed to reduce. Think of the breathlessly self-scrolling news-feeds employed by so many apps today, and the weaponised psychology and behaviour-tracking systems that underlie them. The notion of 'breathing space' was offered as a way of understanding human autonomy and the gaps between our actions and self-images (Savolainen & Ruckenstein, 2024).

Marres offered a critical analysis of 'testing' and its use as a smokescreen to roll-out intrusive technologies to unsuspecting publics, such as facial recognition or machine learning. 'Testing' in these cases differs greatly from traditional testing, and provided a stark reminder of why 'breathing space' can be so useful when thinking about technological developments. This theme returned later in a presented paper on 'slow science' by Michiru Nagatsu and Anna Rainio, which examined how logics such as productivity, speed and efficiency can negatively impact scientific processes.

Zuiderent-Jerak offered a striking case of how newer methods, such as sentiment analysis, can be paired with qualitative techniques to help incorporate patient perspectives into health guidelines. This mixed methods approach produced

guidelines that take patient expertise seriously, and show how STS can contribute to scientific processes without becoming beholden to them. Teun described this process as STS and other areas of research 'contaminating' one another fruitfully, a twist on the conference theme of 'contribution'.

Pre-conference workshop

The conference also featured a summer school on publishing in STS for early career researchers. The school was led by two members of the *Science and Technology Studies* editorial team, Antti Silvast and Heta Tarkkala. This session provided valuable insights into the publishing process and a forum for discussion about publishing norms, writing techniques, and gaining experience as a journal editor. A highlight from this session included excerpts from a book on thesis rejections in Finland since the 1600s (Väliaverronen & Ekholm, 2020). The reasons given ranged from the academic (unwarranted paradigm shifts) to the personal (unwanted colleagues). Another activity saw participants trying to summarise one another's work after only a minute or two of discussion, providing valuable opportunities to get to know one another (and one another's research topics).



Sunny weather arrived in Helsinki just in time for the summer school

Themes

The next two days showcased a broad range of research from established and early-career scholars. Talks were organised in several streams (see the [book of abstracts](#)). The first focused on bringing new empirical phenomena into science studies. This goal was vividly exemplified by Boglarka Kiss's talk on innovation in bacteriophage research. Kiss's focus on human-microbe relations foreshadowed several talks by members of Helsinki's [Centre for the Social Study of Microbes](#). Stream two focused on how to make theoretical contributions to STS, science, or other societal processes. Alongside stream three ('what constitutes a methodological contribution?') these sessions saw a series of talks that further developed themes from the keynotes. Many examined how innovative STS methods can diversify our contributions to knowledge generation, often by scrutinizing knowledge generation processes themselves.

Speakers discussed the use of auto-ethnography in the context of pollution exposure guidelines (Sam van der Lugt); network analysis in social work and caring environments (Samuel Salovaara); and 'methodological immaturity' in the study of emerging digital technologies (Kirsikka Gron). These talks demonstrated STS's ability to contribute to science and society without converging on a single methodological approach. Another stream concentrated on societal impact. Speakers examined how knowledge is brokered between different organisations (Tommi Kärkkäinen), and how digital platforms can make flows of health data accessible to some audiences and not others (Heta Tarkkala). Examinations of societal impact continued in a later session exploring the relation between scientific contributions and activism, for example in conservation science (Selen Eren). A final set of talks featured ruminations on microbes (including immersive-artwork on multispecies care by Riina Hannula) and the problems and promises of conversational AI as a teaching aid (David Moats).

Looking to the future

The event was an excellent opportunity to meet other researchers working in STS from many countries, learn about their work, understand Finland's long-standing contribution to STS, and enjoy the beautiful (and uncharacteristically sunny) weather and in Helsinki. It also set the stage nicely for the EASST-4S conference in Amsterdam, and demonstrated the importance of knowledge production, multi-species relations and technological innovation in STS, science more broadly, and society generally.

I would like to thank to the organisers, supporters and attendees for putting such an excellent event together, and look forward to the Finnish Society for Science and Technology Studies' 40th anniversary celebrations next year.

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Capitalization and the Startup Economy: Critical Perspectives on Innovation, Entrepreneurship and Venture Capitalism

Anna Lytvynova

June 20-21 2024. University of Lausanne

Workshop Report

The author would like to thank Tanja Schneider and Loïc Riom for their assistance in producing this report.

What do a secret music concert and a vertical farm have in common? The workshop on Capitalization and the Startup Economy¹, led by Loïc Riom and Tanja Schneider at the University of Lausanne in June 2024 took this question as a point of departure. With the aim of examining practices related to venture funding and startups, over twenty researchers from all over the world came together to participate in a critical, interdisciplinary exploration of venture capital, entrepreneurship, and the startup economy. How do practices shape the entrepreneurial project and what makes a startup a particular kind of actor with particular values and practices? What is the infrastructure of the startup economy and why does it exist in the shape that it does?

The workshop began with an investigation of finance, capital, and entrepreneurial startup practices. *Assetization: Turning Things into Assets in Technoscientific Capitalism* (2020), edited by Kean Birch and Fabian Muniesa, was one of the works that sparked this conversation. The volume examines the ways in which contemporary technoscientific capitalism reduces virtually every element of social life to a financial entity that can be capitalized and thus controlled. Another influential starting point was *Capitalization: A Cultural Guide* (2017), which contained essays by Fabian Muniesa, Liliana Doganova, Horacio Ortiz, Álvaro Pina-Stranger, Florence Paterson, Alaric Bourgoïn, Véra Ehrenstein, Pierre-André Juven, David Pontille, and Basak Saraç-Lesavre. This collection uses ethnography to explore what a socio-economic turn towards capitalization means when viewed as a practice and a culture. Discussions throughout the workshop critically engaged with the human practices and macro institutions that contribute to assetization and capitalization. Participants went beyond critique to investigate the ways that financial technologies are not merely confined to specialist financial spaces but contribute to a philosophy of contemporary everyday life. This was especially prominent in Paul Langley's distinction between financialization in general from Venture Capital (VC) financialization; a broader socioeconomic phenomenon that extends beyond the activities of VC firms. This prompted questions about the durability of financialization as an object of research, and "financial sector" as an analytical category. By critically investigating assetization within concrete pockets of the contemporary economy through empirical, conceptual, and normative inquiry, the discussions questioned the seeming inescapability of the increasing financialization of contemporary societies.

Exploring these questions from an empirical angle, some researchers followed the ways in which different actors participate in assetization and financialization.

¹ The workshop was a collaboration between the STS Lab of University of Lausanne and

Human-Centered Innovation Section of Technical University of Denmark. It was supported by STS-CH (The Swiss association of the study of Science, Technology and Society), the SNF and the Swiss Academy of Humanities and Social Sciences.

Although Langley highlighted the analytical importance of separating different types of financial actor, David Kampmann implored attendees to explore structures of continuity in the startup economy. Indeed, capitalization cannot be studied without rigorous attention to institutional powers and their development over time. In her keynote, Liliana Doganova engaged with capitalization as obscurement of temporalities. That is, as a way of crafting a dangerous relationship between the priorities of today and those of the uncertain tomorrow. She presented her study of the way systems of financial valuation appraise the future in an age of urgent environmental and socio-political problems, recounted in her book *Discounting the Future: The Ascendancy of a Political Technology* (2024). There, she shows how the financial valuation practice of discounting (understood as a method of valuation valuing projects through likely future, which dis-counts their negative effects on the world in the present) has become an essential political technology, used to create market systems where the future is worth less than the present. What is the role of capitalization in the collective creation of better futures if the value of the future is discounted by capitalization?

Taking up the call for attention to infrastructure and public systems, Akshaya Kumar investigated new forms of value in digital education, opening an inquiry into the relationship between capitalization and the public sector. He stressed the importance of researching capitalization's interactions with social networks, the public, and the state. Questions of locality and the production of social boundaries were also explored by Sandra Faustino and Jonna Antonia Josties. Jacob Hellman examined social belonging by tracing the construction of quantitative evaluation practices various actors in the startup economy, and how those same actors cope with uncertainty through performative acts. Janja Komljenovic drew attention to the structural transformation of education wrought by the involvement of Big Tech, and the challenges this poses to the sector. What kinds of collective values are being constructed through the increasing capitalization of public sectors in the digital, assetized economy?

Tanja Schneider and Lena Rethel's study of capitalization of trade returned the workshop from questions of the economy to questions of the human. Drawing attention to the actualization of markets under digital capitalization, Schneider and Rethel's talk inspired workshop participants to ask, what is really being constructed through assetization and capitalization? If it is not (necessarily) new financial technology, nor the solution to climate change or financial freedom, then what novelty is capitalization really creating? The group wondered about the constitution of the human who is at once a consumer, producer, investor, creator, and participant in the capitalization process. Capitalization, ultimately, is about identity making. Before adjourning, the workshop probed the new imaginary of workers in a financializing world, and considered the political, institutional, normative, and social stakes of this collective identity.

Next, a panel of empirical researchers examined collectivity by exploring the role of (micro)politics in systems of collective valuation. Julien Migozzi interrogated financial subordination in Cape Town housing markets, and the intertwining of datafication and capitalization in the production of discriminative systems. Ulises Navarro Aguiar discussed the prioritization of design in the startup economy, which claims to make technology more inclusive for users but risks depoliticizing innovation. Franziska Cooiman further interrogated the political language of transformation, suggesting that economic concerns reproduce and redistribute value in the climatetech startup economy. While actual ecological transformation is not happening through technological entrepreneurship, she argued, something is happening. People do invest, create, and transact. They are doing something, and that "something" constructs shared political futures.

Cornelius Heimstädt's participant-centered research interrogated the ways that actors give meaning and value to entrepreneurship and capital. Mylène Tanferri's work on agriculture startups sparked a discussion of narratives about sustainable

practices, and their potential to transform the environment of assetization. Probing the insider-outsider boundary of startup economies, Manon Piazza drew on a niche community of cryptocurrency participants to trace how financialization and venture capital enter technological spaces specifically designed to resist them.

STS is a fitting analytical space in which to explore these questions of identity, participation, and collective action. While investigating the systemic, institutional forces that drive capitalization, this group of researchers also took seriously the human practices that real people perform in, with, and against macro forces. In his keynote, Kean Birch articulated the need for “mid-level” STS work. His is a vision for STS research that goes beyond the case studies that the field often prioritizes. While not advocating for large-scale theory building, Birch does call for more attention to be given to political economy. A “constructivist political economy” is one that allows researchers to interact with the reflexive social actors who perform the economy, investigate the occasionally eerie, hard-to-track character of power in a global economy, and all while engaging seriously with private science and technology markets, where money (and capitalization) is integral to our collective reality.

When workshop participants engaged with questions of legitimacy and valuation, they did not speak of financial systems alone. They also addressed the ways that networks are changed, questioned, and institutionalized. These were networks of capital, but also of technology, politics, markets, and ultimately human actors. The deeply empirical, boundary-questioning work of these researchers shed much needed light on the networks of humans, technology, money, and politics that are constantly (re)created by capitalization.

During the informal part of the event, one attendee wondered why a workshop on capitalization seemed to have happened rather late – almost a decade after all the startup economy boom. It is the piercing relevance of what is at stake in such phenomena – that “something” of human practice - that retains tremendous relevance in today’s world. The questions that apply to the startup ecosystem in which music concerts and vertical farms are produced in techno-financialized frameworks are not just questions of the economy of the last few decades, but of a broader assetization of life that has come to shape human activity. Beyond description and critique, the workshop asked how financialization and assetization intersect with new technology in the creation of political economy, human collectivity and daily practice.

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Creating an Irish Science, Technology, and Society (STS) Community: an Unconference?

Kalpana Shankar

Summary

On 25 June 2024, with the support of the EASST Network Fund and the [University College Dublin Centre for Digital Policy](#), scholars from Ireland and elsewhere participated in a day-long hybrid (un)conference: **Creating an Irish Science, Technology, and Society (STS) Community**. This event, the first of its kind to take place in Ireland, brought together researchers from across the island and two keynote speakers, Professor Cassidy Sugimoto of the Georgia Institute of Technology (Georgia Tech, USA) and Professor Rob Kitchin of Maynooth University (Ireland) while also welcoming other scholars who are interested in the Irish STS context. The objective was to bring together researchers in Ireland who use critical and interpretive approaches to science, technology, and society.

Origins of the Event

When Kalpana interviewed at University College Dublin in 2011, one of her questions to the interview panel was to ask where the STS researchers were. One of the interviewers said they were all over – in the business schools, sociology, geography, and elsewhere. This turned out to be the case. Over time, she met many other researchers with interests in STS, including Christo Jacob, a PhD student in the School of Information and Communication Studies at University College Dublin and co-organizer of the event. While Christo is new to STS and STS literature, he recognized that his PhD research on LGBTQ+ communities in South India and online communication and hate speech would benefit from being more familiar with STS literature and methodologies and thus wanted to learn more.

And why an unconference? After some discussion, we decided that it would be preferable, given the newness of this event, to give our participants more opportunity to discuss and reflect, and to figure out what to talk about. To anchor the event, we invited two keynote speakers to help us set the stage – one from Ireland (a geographer who did not see himself as “doing STS” and one speaker from the United States who sees her work as drawing on and contributing to STS, but also other areas such as science policy).

We had to be somewhat creative in our approach to spreading the word of our event and interest since we had no listserv or other way to advertise. We relied on social media, personal contacts, and colleagues to spread the word of our event. We drew scientists, sociologists, media and communication researchers, information studies scholars, researchers from business schools. The event was held on June 25 at the Museum of Literature of Ireland, a beautiful Georgian era building in the heart of Dublin. We had thirty attendees in person and eight online. We asked registrants to indicate areas of interest in STS and their knowledge of STS literature to help us organize the event.

We structured the event to have opening remarks by Kalpana, our two keynotes, a panel consisting of the keynote speakers and Kalpana, and self-organized breakout sections with a final wrap-up. The breakout sections were loosely organized around themes of interest that researchers indicated in their registration,

including but not limited to STS collaboration with other disciplines, science communication, methods for STS, feminist and decolonial STS, building community, and creating an STS identity in Ireland.

The first keynote speaker, Professor Rob Kitchin, is a professor at Maynooth University's Social Sciences Institute. His research interests encompass a wide range of topics, including software, big data, smart cities, Internet and cyberspace, cartographic theory, mapping and dashboards, data infrastructures and practices, as well as spatial theory and geographic methods. Professor Kitchin spoke about his own experiences in Ireland and elsewhere as an urban geographer and advisor to funding agencies and policymakers. The second speaker, Professor Cassidy Sugimoto, holds the position of Professor and is the Tom and Marie Patton School Chair in the School of Public Policy at Georgia Institute of Technology. Her research interests encompass Ethics and Philosophy of Science and Technology, History of Technology/Engineering and Society, Science and Engineering Organisations, Education, Careers and Workforce, and Science and Technology Studies. Her research covers themes related to gender, education policy, inequality, inequity, social justice, and policy analysis. Her talk focused on how and where STS diverges, historically and disciplinarily, from cognate disciplines (such as science studies and science policy) and what the implications of those divergences and convergences are for current topics like disinformation, artificial intelligence, and inequality in science and technology.

The conversations were wide-ranging. While many of the early career researchers wanted to network to learn more about STS methods, literature, topics, and conferences, more senior researchers spoke about the strategic directions STS would need to take in the Irish context and potential integration with science policy, research funding, and international collaborations. At the end of the day, the participants came back together to reflect on how such a network could be continued, where resources could be found, and expanding the scope and reach.

Ireland, STS, and the (Un) Conference

Research in Ireland is not new (it has often been nicknamed the land of "saints and scholars"), but institutionalized research and funding policy is. Until the late 1990s, Ireland did not have a research funding body. In 1998, the introduction of the Programme for Research in Third Level Institutions (PRTLTI) was established, followed by the Irish Research Council for Humanities and Social Sciences (IRCHSS). In 2001, the Irish Research Council for Science, Engineering and Technology (IRCSET) was established, along with Science Foundation Ireland (SFI), which arose out of a Technology Foresight exercise in the 1990s designed to predict the needs of industrial development (O'Foghlu, 2010). SFI supported basic research, particularly in the areas of information and communication technology and biotechnology.

The Expert Group on Future Skills Needs (EGFSN) in its report published in July 2001 commended the establishment of these sources of research funding. They recommended that Ireland's national research policy should orient itself towards achieving a substantial increase in the output of doctorates, particularly in science, engineering and technology, and facilitating the movement of international researchers into Ireland. Research policy and strategy documents during the 1990s and 2000s speak to the role of research and innovation in contributing to the Knowledge Economy or Knowledge Society as well as Ireland's economic boom, known as the "Celtic Tiger". However, the year 2008, with the worldwide global financial crash and dramatic reversal of growth in Ireland, saw massive impacts for all sectors of the economy – including the first public sector pay cuts

in the Eurozone (O’Foghlu, 2010).

Since then, Ireland has regained many of its former wins with respect to higher education and research funding, as well as other sectors of the economy. The entrenchment of pharmaceutical and Big Tech companies (headquartered in Ireland for its favorable tax status), Foreign Direct Investment, a massive increase in international students, the influx of European research funding, and other factors have significantly reshaped the scientific and research landscape of Ireland.

This brief history of research policy in Ireland suggests that while Ireland has often looked to science and technology innovation to spur investment and growth (and continues to do so), there has been less space for critical evaluation and engagement – in other words, the very things that STS does well.

To be sure, there have been sociologists, geographers, media scholars, economists, and others who have examined the many intersections of research policy with other dimensions of society. However, the depth and breadth of approaches that STS internationally has given us over the last decades remain scattered across institutions, disciplines, and research centers. Often such work is at odds with Irish research policy (and the funding that flows from it) which still promotes an approach that does not critique too closely the technologically deterministic, and neoliberal narrative of scientific and technological progress extant in Ireland. Even as Ireland has turned to science and technology to develop its economic base, there has been little space for critical engagement. While resources are available towards public understanding of science, STEAM initiatives, and similar projects, they remain embedded in a pre-determined linear narrative of progress.

In short, while there are many researchers doing STS work, there is no collective STS identity, no STS undergraduate or graduate training schools or formal programs, or an Irish national society. Researchers are dispersed in numerous disciplines: information studies, business, law, computer science, sociology, geography, and education, to name a few. Some affiliate their work with STS, many do not. As a result, these individuals have no opportunity to form new collaborations that can be leveraged to participate in broader research conversations in Europe and elsewhere. The trend throughout Europe has been to develop similar regional or national networks of STS scholars that can leverage international funding and other schemes (Italy, Spain, and Belgium have all developed similar networks). Furthermore, the future of Irish research policy and funding is in flux as the two main funding agencies, Science Foundation Ireland and the Irish Research Council, are on track to be merged into one. The details of that merger are likely to have significant import for social science and humanistic research. And of course, as everywhere, the permeation of the digital into our work, organizations, and lives calls for new interventions.

Conclusion

Since the 1960s, there has been interest in seeing science (then technology, broadly writ) as a social phenomenon, situated in historical and social contexts. Many of these interests were found in schools of history, anthropology, politics, sociology then later in the arts, humanities, geography, computing, and information studies. Methodological and theoretical approaches are also drawn from these and other fields. STS could help build bridges among and between disciplines and sectors. However, several attendees suggested that there may be other ways to draw researchers and allies together.

STS approaches science and technology not as arising from “nature” but as complex interactions of power, political forces, history, institutions, and beyond. Wicked problems demand complex solutions and STS researchers and practitioners have brought their tools to help us explore and solve them.

Ireland is an old country but a young nation. As Professor Kitchin noted, it was the poorest country in Europe and now is one of the wealthiest. It has a highly educated workforce, technological ambitions, a geographical location that straddles Europe and North America, and has experienced net immigration over the last decade. It provides an interesting “laboratory” for the STS researcher and educator for these and other reasons, and with time and effort and resources, we will see STS emerging as a community and network.

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