CARR CENTER FOR HUMAN RIGHTS POLICY
HARVARD KENNEDY SCHOOL

Provocations for Human Rights & Technology

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Carr Center
Discussion Paper

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ABSTRACT

Breaking from big tech, civic activists, and human rights advocates working with technology are envisioning data, platforms and intelligent systems aligned with pluralism and solidarity. These experiences are inspiring valuable reflections not only for those working at the intersection of technology and human rights but also for anyone who wants to challenge the technological status quo. In this set of six provocations, projects carried out by the Centre of Governance and Human Rights (CGHR) at the University of Cambridge provide valuable insights. An examination of concrete examples, such as an anti-racism witnessing platform and a public health citizen data initiative in Eastern Africa, surfaces seemingly mundane issues involved in technology design that connect with longstanding concerns for the human rights movement. Such reflections become especially provocative when combined with deep insights stemming from critical race, feminist, and decolonial approaches to digital design, data, and AI. More specifically, these provocations suggest the urgency of: (1) resisting the frenetic pace of technology development through slow tech; (2) favoring communicative instead of extractive approaches to data creation; (3) acknowledging the ambiguity of voice in data interpretation; (4) designing platforms that enable bottom-up critiques; (5) embracing the burden and privilege of data creation and interpretation; and (6) creating data with care, i.e., in a way that nurtures the communities and territories that make data possible in the first place.
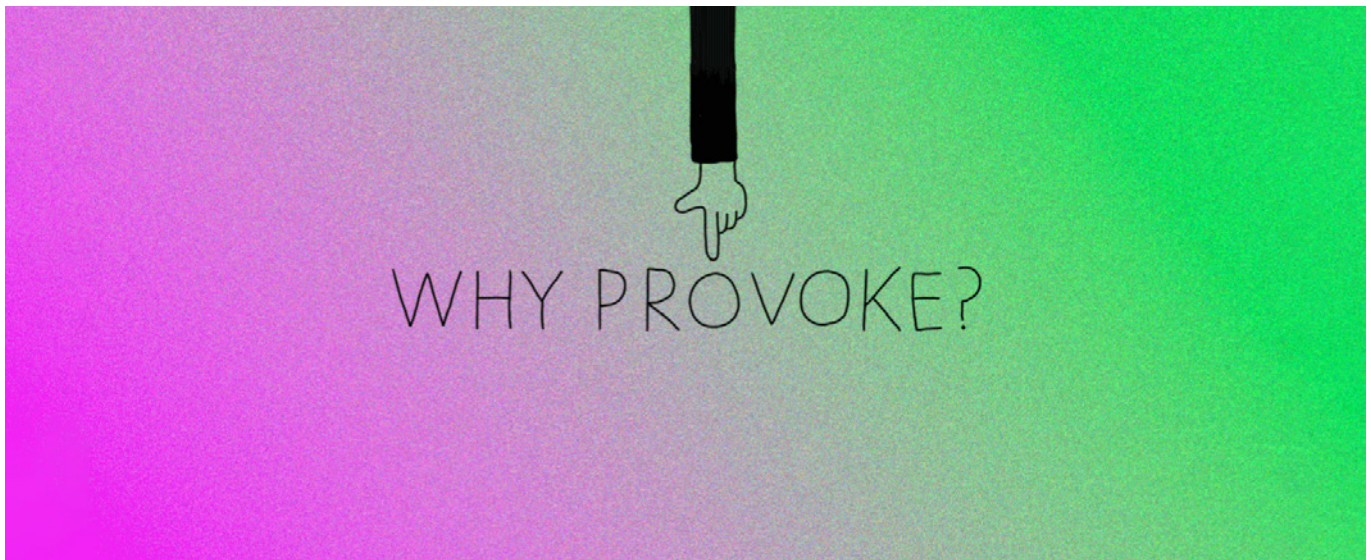
Illustrations by Tomás Gianelli O'Ryan

I. Introduction: Why Provoke? Let's Unsettle Technology and Human Rights

Our lives are interwoven with fast-changing digital technologies. After so many scandals and exposés, we all know that we must keep abreast of the dangers and dilemmas technology poses for human rights and humanity.

Yet, every day, rights practitioners and civic activists must work with digital technology. Communication technologies are increasingly key to human rights fact-finding and advocacy, and civic activists rely heavily on digitally-mediated public spheres. Big tech, however, has a woeful reputation with respect to making space for human rights practices and principles in the design and implementation of their technologies.

That is why we at the University of Cambridge's Centre of Governance and Human Rights (CGHR)[2] embarked on this project: a series of provocations for practitioners at the intersection of human rights and technology. We wrote these provocations to help unsettle what has become sedimented at this intersection, either because it has become naturalized as "how things are" or because it has been begrudgingly accepted as "how things have to be." With a nod to Boyd and Crawford's "Six Provocations for Big Data,"[3] our aim is to spark opportunities for reflection and equal collaboration in the co-construction of technologies and knowledge among human rights practitioners, civic activists, and technologists.

Ultimately, we hope to make more space in digital public spheres for voices from the grassroots to speak and to be visible on their own terms. In an age of pervasive digital technologies, having a voice also involves being able to remain silent or invisible.

HOW THESE PROVOCATIONS CAME ABOUT

We recently set out a new mission statement at CGHR, one which reflects our years of work as well as our aims for the future. We wrote, in part:

> We have learnt that the crucial spaces for new thinking and action on justice, well-being, and citizen voice challenges lie at intersections and in interactions between practice and scholarship, between disciplines, and between individuals and institutions across the world.

For CGHR Co-Directors Ella and Sharath, these experiences forged our Center's identity and purpose in its first decade. In shaping a fresh strategy for CGHR's second decade, we sought to distill the most essential insights from our Center's extensive praxis research.

For us, praxis research is about co-designing research in collaboration with the practitioners, activists, and citizens whose worlds we study, supporting mutual understandings of a better future. It is about design and research moving forwards in a dialectic, where research informs design and design informs research. It is about making interventions that advance scholarship, make spaces for conversations, and address problems. At CGHR, we have come to appreciate praxis research as a rich, ongoing, collaborative learning journey grounded in the aim of meaningful action in the world.

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[2] Centre of Governance and Human Rights, "Home," University of Cambridge, last accessed October 27, 2023, www.cghr.polis.cam.ac.uk/.

[3] Danah Boyd and Kate Crawford, "Six Provocations for Big Data," *A Decade in Internet Time: Symposium on the Dynamics of the Internet and Society*, 2011, http://dx.doi.org/10.2139/ssrn.1926431.

Much of our praxis research revolves around CGHR's academic tech start-ups: Africa's Voices,[4] Katikati,[5] and The Whistle.[6] In conversations with our start-up partners, we realized the insights we uncovered in our reflections on CGHR's first decade were striking a chord with their experiences, so we hatched a plan to circulate them more widely in the hopes of sparking new conversations, collaborations, and change.

This plan sprang to life when Sebastián joined CGHR as our Post-Doctoral Scholar. We set aside research time to think and draft together, folding Sebastián's complementary research into the mix.

These resulting six provocations, which can also be found in a blog format[7] and in a multi-player card game, reflect CGHR's priorities from the near past and for the future, and they also resonate with our individual research and project work. That we share these insights across our separate and collective work is one of the most rewarding discoveries of the process, as well as indicative of a broader need to rethink the intersections of technology and human rights. Writing these provocations was a collaborative, exciting, and generative process, and next we are turning our provocations into interventions—stay tuned!

OUR INTENDED AUDIENCES AND OUR HOPES

These provocations are addressed towards human rights activists, technology designers, and researchers who are interested in developing technologies that align with the values inspiring the global human rights movement.

Human rights advocates and civic activists working with technology will find a reflection of their concerns and interests within these provocations. At the same time, we hope they will encounter some space for reflection on the development of technologies that uphold the principles and values they defend.

We also hope that technology designers, including developers and business managers, will enjoy engaging with some cutting-edge discussions in academic research and activism. This engagement may shed light on how their work can align with the human rights movement and contribute to its goals.

Our aim is also that researchers will find it interesting to explore how debates about platforms and data can contribute to real human rights projects. They may gain insights into how these discussions can inform concrete human rights initiatives and, following our praxis research approach, may be encouraged to examine such technologies beyond a purely critical lens.

In a broader sense, anyone engaged in discussions about communication technologies will, we hope, appreciate the existence of an alternative way of designing, building, and implementing them. Our intention is that they will also find it reassuring to be reminded that activists and researchers are already actively involved in this transformative endeavor.

OUR COLLABORATORS

These provocations are co-authored by Sebastián, Ella, and Sharath, but a much wider group of people and organizations played crucial roles in shaping them.

Foremost is everyone involved in the academic tech start-ups connected to CGHR. The team at The Whistle have developed and lived the values of slow tech and the methodology of solidarity. The researchers and team involved in Africa's Voices have foregrounded pluralism and tolerance for ambiguity in their unique socio-technical designs. Our colleagues at Katikati are wrestling with the tension between open-endedness and boundedness in how communication technology sustains communicative spaces over time. Most recently, Sebastián's collaboration with digital and environmental rights groups in Latin America made evident the relevance of community-building and solidarity to invent and implement alternative imaginaries.

We are thankful to Tomás Gianelli O'Ryan[8] for the design and incredible animations developed for this project, as well as to Holly Sheridan, our CGHR intern in summer 2023, for creative and technical support.

We are also indebted to the leadership of Harvard University's Carr Center for Human Rights Policy, as well as the Carr Center's 2022 cohort of Technology and Human Rights Fellows, who provided us with insights and support for this project, from inception to realization.

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[4] Africa's Voices, "Home," last accessed October 27, 2023, www.africasvoices.org/.

[5] Katikati, "Home," last accessed October 27, 2023, www.katikati.world/.

[6] The Whistle, "Home," last accessed October 27, 2023, www.thewhistle.org.

[7] Centre of Governance and Human Rights, "Provocations: Tech Design & Human Rights," Medium, https://medium.com/@cghr, last accessed Oct. 27, 2023.

[8] "Home," http://www.tomasgianellioryan.com, last accessed October 27, 2023.

Returning to CGHR's Mission Statement, at its core is this commitment: "Thinking with practitioners, at CGHR we are reimagining how justice, solidarity and citizen voice can flourish with or against technology." We hope these provocations are one such reimagining.
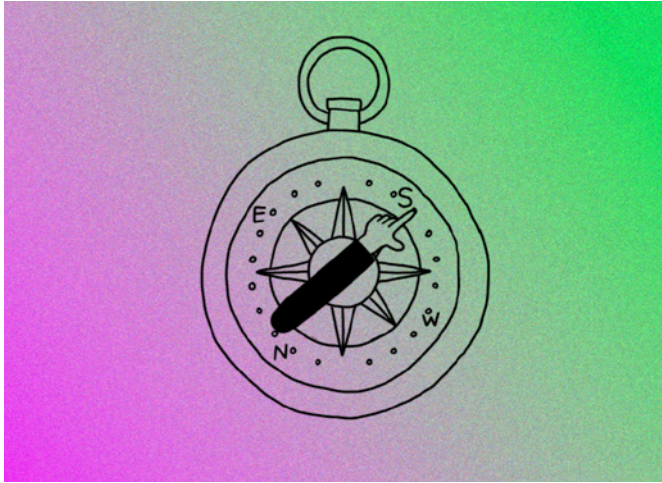
Our Praxis Principles: Pluralism and Solidarity

There are ideals, and then there is what is possible. For us at CGHR, practicing praxis research has been revelatory in terms of the transformations that occur in the design process between ideals and their application. These transformations result from *reflexivity* and *creativity* as well as *negotiation* and *resignation*; priorities must be assigned, trade-offs must be made, and new ideas bubble up in the face of constraints.

We almost never can do quite what we set out to do. *Pragmatism* should thus be both a feature of praxis and a focus of critique, and pragmatism runs like a thread through our provocations. But what does pragmatism mean? For us, as praxis researchers, pragmatism sees the value of research in what good it can do in the world, and thus pragmatism requires sets of values against which to evaluate the "goodness" of practice and to make decisions in the face of limited resources.

In our provocations, we are guided by two core values, which surface and complexi-fy through our own work, through listening to our collaborators and through a deep engagement with the literature: *pluralism* and *solidarity*. As outlined below, we have an evolving understanding of these concepts and are fully open to their renegotiation, to their varied understandings, and to the emergence of new priority values. What we note as a constant, however, is that these values, in all their dimensions, tend to stand in stark contrast to those animating big tech and much of mainstream technology design.

PLURALISM

One of the main challenges faced by civil society organizations working with digital technologies is making space for diverse—and sometimes conflicting—voices to flourish on the speakers' own terms. Pluralism recognizes and celebrates diversity, insisting that, beyond a liberal emphasis on the individual's freedom to be different, society as a whole thrives when the pluralism of difference among us encounters itself.

This understanding of pluralism is important, but so too is challenging it. The freedom of expression, for example, can also be about the freedom to be silent, to refuse to participate in voice projects, which, as Gangadharan points out, is also a political act.[9] Strategic silence has many motivations. It can be a position taken up against discriminatory technologies, the communicative capitalism model[10] that commodifies our voices, or the irony that pluralism can destroy pluralism when our previous words are used against us—a problem many activists in hostile regimes have encountered. Sometimes the silence of some makes space for the pluralism of others, so we need to—empirically and politically—*include silence in the* spectrum of pluralism.

We often think about pluralism as a means to an end, the middle part of an information politics formula in which naming and shaming leads to social change. Powers that be, however, increasingly seem impervious to this formula; there is no guarantee that the formula will work.[11]

Rather than focusing on what pluralism *can do*, then, we refocus the lens to think about what pluralism *can be*—namely, pluralism as communicative practices.

> "**We are interested in what these communicative practices can provide individuals and communities, such as the solidarity and care that can flourish in dialogue.**"

[9] Seeta Gangadharan, "Digital Exclusion: A Politics of Refusal," in *Digital Technology and Democratic Theory*, ed. by Lucy Bernholz, Hélène Landemore, and Rob Reich, 113–40 (Chicago and London: University Chicago Press, 2021).

[10] Jodi Dean, *Democracy and Other Neoliberal Fantasies: Communicative Capitalism and Left Politics* (Durham and London: Duke University Press, 2009).

[11] Ella McPherson, "Witnessing: Iteration and Social Change," *AI & Society* 38, no. 2 (2022). doi:10.1007/s00146-022-01508-w.

We are interested in what these communicative practices can provide individuals and communities, such as the solidarity and care that can flourish in dialogue.

Our understanding of pluralism also extends beyond narrower interpretations, prevalent in contemporary thinking, that see it as the exchange of different "worldviews." What if differences are so considerable that the actors involved cannot even be assumed to inhabit the same world? For example, not all individuals and groups live in a modern world where nature and land are considered the passive background of history.[12] While for some a mountain constitutes a source of mineral extraction, others can conceive of it as an active agent in the life of the community.

Because of this, our approach to pluralism speaks to the notion of the pluriverse in which the horizon is the creation and sustainment of multiple worlds.[13] As the Zapatistas from Chiapas, Mexico, would say, the aim is to construct "a world in which multiple worlds fit." This sensitivity allows us to pay attention to aspects such as how mainstream digital technologies impose a particular *world* (one that is often modern, capitalist, patriarchal, and racist), as well as how the design of digital infrastructure can and should pay attention to the way local communities interact with the environment.

"Practices of building solidarity include making communicative spaces for the exchange of ideas and emotions, values and goals, and trust and credibility towards a shared commitment to each other."

SOLIDARITY

Solidarity is a core grassroots value, not only of communities but also of collaborative projects. Practices of building solidarity include making communicative spaces for the exchange of ideas and emotions, values and goals, and trust and credibility towards a shared commitment to each other. Solidarity is *care* at the community level, and neither tends to be efficient nor easily scalable. Designing with solidarity means supporting these communicative spaces, but it also impels particular relationships of care with our collaborators, as well as with those we critique and with our wider communities.

In terms of our collaborators and those we critique, solidarity is about stepping back from our own agendas and being as open as possible to understanding the aims and values of others with whom we interact. It is about making room for something completely different to emerge from the dialogue between us, as praxis researchers, and those we are working with—and even against. As we live in a pluriverse and are committed to pluralism, this solidarity can never valorize consensus. Our solidarity is *agonistic*; we appreciate the foundational importance to democratic life of agonistic confrontation, and our provocations emphasize adversarial respect.[14]

In terms of our wider communities, our solidarity is also about doing critique with care, which connects with transforming ideals into praxis.[15] In other words, it's about avoiding the orthodox "mic drop" of critical scholarship and saying instead, "this situation might not be good, but here are some things we can do about it."

Solidarity, then, is about critiquing earnestly, but moving from the dejection of critique towards agential hope by reimagining from new vantage points and planning pathways out of critique. This is what each of our provocations intends to do.

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[12] Sebastián Lehuedé, "Territories of Data: Ontological Divergences in the Growth of Data Infrastructure," *Tapuya: Latin American Science, Technology and Society* 5, no. 1 (2022), https://doi.org/10.1080/25729861.2022.2035936.

[13] Arturo Escobar, *Designs for the Pluriverse: Radical Interdependence, Autonomy, and the Making of Worlds* (Durham and London: Duke University Press, 2018).

[14] William E. Connolly, *Identity/Difference: Democratic Negotiations of Political Paradox* (Minneapolis, MN: University of Minnesota Press, 2002); Chantal Mouffe, "Deliberative Democracy or Agonistic Pluralism?," *Social Research* 66, no. 3 (1999): 745–58.

[15] María Puig de la Bellacasa, *Matters of Care: Speculative Ethics in More Than Human Worlds* (Minneapolis, MN: University of Minnesota Press, 2017).
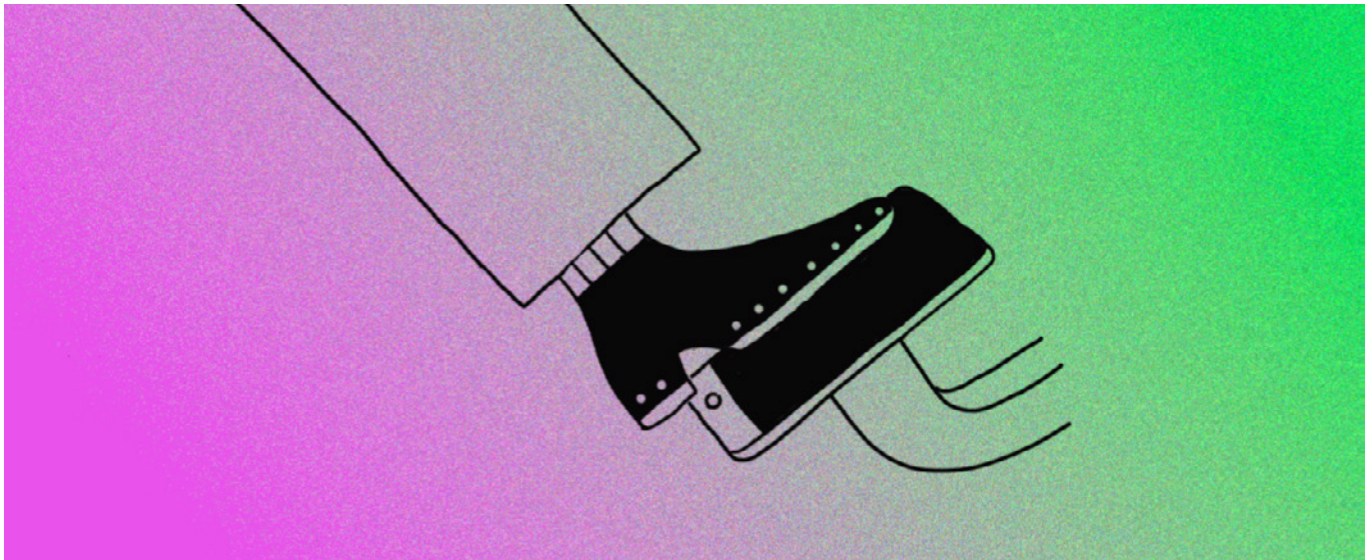
Provocation #1:
Slowing Tech Down, Letting Solidarity In

Slow tech design, the way we practice it at CGHR, is about making time and space for solidarity. Indeed, slow tech turns tech design into an *act of solidarity.*

As we explained in the introduction, solidarity is about the communicative exchange of ideas and emotions, values and goals, and trust and credibility, towards a shared commitment to each other. Solidarity is care at the community level and tends to be neither efficient nor easily scalable. Solidarity in tech design is fundamentally about collaboration with constituencies who interact with the technologies, both as users and because the technologies have implications for their contexts.

The profit-centered values of mainstream technology design stand in stark contrast to solidarity. The philosophies of agile methodologies, and the mottos of "move fast and break things" and "scale or die" have little patience for the slow practices that underpin solidarity in the design process.[16] So—to provoke—how can we make room for solidarity in tech design?

A METHODOLOGY AND A HORIZON

In CGHR's vision, slow tech design is both a methodology and a horizon. As a methodology, it represents ways of thinking, creating, repairing, and using technology that enable thick and sustained communication. It departs from methodologies aimed at adapting human interactions to the pace of technology and looks toward developing technology based on human needs and visions. Slow tech design understands the frictions that emerge in technology design and use them not as obstacles but rather as opportunities to engage with others, to explain, to listen, to reflect, to negotiate, and to collaborate.[17]

As a *horizon*, slow tech design aligns with calls for degrowth rather than endless growth; for repair and maintenance, rather than innovation and endless product development; and, more broadly, for what Ivan Illich called "conviviality" and the re-tooling of society rather than "growth mania" and "imperative to scale."[18] It goes without saying that slow tech design is ethical design, particularly in the context of the Anthropocene.[19]

SLOW TECH DESIGN IN PRAXIS

Our interest in slow tech design grows out of our side-by-side work with practitioners, activists, and community organizers. Whether we are talking to community radio practitioners, hu-

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[16] Sebastián Lehuedé, "Can Start-Ups Fix the Ethical Problems of Technology?," Media@LSE Blog, March 3, 2020, https://blogs.lse.ac.uk/medialse/2020/03/03/can-start-ups-fix-the-ethical-problems-of-technology/; Phoebe V. Moore, "Tracking Affective Labour for Agility in the Quantified Workplace," Body & Society 24, no. 3 (2018): 39–67. https://doi.org/10.1177/1357034X18775203; Ashlee Vance, "Facebook: The Making of 1 Billion Users," Bloomberg, October 4, 2012, https://www.bloomberg.com/news/articles/2012-10-04/facebook-the-making-of-1-billion-users.

[17] Alison B. Powell, *Undoing Optimization: Civic Action in Smart Cities* (New Haven, CT: Yale University Press, 2021).

[18] Ivan Illich, *Tools for Conviviality* (New York: Harper & Row, 1973).

[19] Donna J. Haraway, *Staying with the Trouble: Making Kin in the Chthulucene* (Durham and London: Duke University Press, 2016).

man rights factfinders, or digital rights advocates, we hear the shared frustration that dominant digital platforms do not help them to advance meaningful dialogue.

We also witness a shared appetite for new and radical approaches to technology design for mediated communication.

THE WHISTLE

Slow tech design has been a core principle in our work at The Whistle, an academic tech start-up that supports social change organizations in their collection and analysis of digital evidence from the grassroots. We founded The Whistle in part because our team members and partner organizations felt ambivalent about existing technologies. For example, a recurring question of ours is how to reduce extractiveness and increase opportunities for solidarity when gathering data from digital witnesses.

Partner organizations did not share the enthusiasm of "high tech" optimists, but neither did they embrace the view of "no tech" pessimists. Instead, they wanted to de-center technology from the design process and, after having identified their own concerns and priorities, find out whether and how technology could help achieve their goals. Slow tech design, which shifts the emphasis from product to people, provides an excellent framework for putting such an approach into practice.

AFRICA'S VOICES

We realized in our discussions that led to this provocation that Africa's Voices, a CGHR spin-out non-profit based in Nairobi, Kenya, had also adopted a slow tech approach to address similar concerns when designing tools to facilitate, understand, and amplify audience participation in interactive radio shows. Our goal was to envisage technologies capable of including citizen voices in all their complexity, including expressed in local languages and SMS "text-speak." Placing value on open communication necessarily entails enabling human interpretation, i.e., the active process in which parties express their subjectivity as speakers and as listeners or researchers.

Africa's Voices's design team worked closely with those most intimately involved in the interpretive process in order to build tools to enable their valuable interpretive work. This approach differs wildly from big data solutionism, which deploys automated systems in the name of real-time and actionable insights from "processing" or "parsing" raw data. In contrast to this mathematical pattern-matching from aggregated abstractions of actual lived expressions, the time-consuming

and cognitive-intensive processes of human interpretation, facilitated by slow tech design, made space for pluralism in the co-construction of knowledge.

DIGITAL RIGHTS ACTIVISM

Slow tech design provokes attention to a bigger horizon. In contrast, rapid technological change can immediately and continuously disrupt and affect the wellbeing and agency of activists and human rights advocates working in the field of technology.

For example,some digital rights activists in Latin America have realized that the effort required to evaluate and catch up with a rapidly evolving industry is hindering their capacities to sustain what is in reality a long-term fight for autonomy over the production and use of their data. The constant launch of new products and features, and the subsequent constant revelations that these products and features often involve problematic practices (recently seen with ChatGPT's reliance on the moderation of traumatic content by minimally paid workers), is highly distracting.[20]

Playing the catch-up game and navigating ethical mazes can preempt defining and enacting long-term goals, as well as the pursuit of other key priorities such as strengthening community ties and addressing internal power dynamics.

DESIGNING TECH, SLOWLY

We conceive of slow tech design as a condition for the deliberate embedding of local values into technology, especially ones that challenge the dominant epistemological, political, and profit norms underpinning data-intensive technologies.

By slowing down technology design, citizens' voices can emerge, political pluralism can flourish, and community ties can be cultivated. Slow tech is about caring for communities, including the wider communities and environments in which the technologies will be deployed.

Slow tech design is particularly well-suited to grassroots communities and organizations for whom advancing just and inclusive worlds requires sustained engagement with other individuals and groups. Moreover, slow tech design can profoundly transform both the process of technology design and the resulting technologies, opening up possibilities for envisioning organizational and governance models based on pluralism and solidarity rather than competition, efficiency, and exploitation.

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[20] Billy Perrigo, "Exclusive: OpenAI Used Kenyan Workers on Less Than $2 Per Hour to Make ChatGPT Less Toxic," *Time*, January 18, 2023, https://time.com/6247678/openai-chatgpt-kenya-workers/.

Provocation #2:
Data Creation as Communication, Not Extraction

A few years ago, pundits promoted the idea that "data is the new oil."[21] This metaphor mobilized an epistemology that portrayed data production as a one-way transmission of information from grassroots to big tech—a new resource captured to extract value and profit.

This extractive imaginary contrasts with the experiences of many grassroots groups who deal with data in working towards social justice. Social movements and local communities are embarking on their own journeys to produce data, charting alternative horizons and methods. Whether in the cases of documenting systemic feminicides in Mexico or citizen-gathered air quality data, turning our focus to grassroots data production shows that extraction is not the only possible data plot.[22]

So how else might we imagine digital data creation to open up new practices and possibilities? We provoke by shifting decisively away from the extraction model to a model of *data creation as communication.* In proposing communication as an alternative data epistemology, we advocate for approaching data creation not as a monological interaction, as the extraction model does, but as a dialogue and as a ritual— i.e., the sharing of meaning as well as a means of participating in society.[23]

Data creation as communication highlights that data-gathering and analysis are both *subjective* and *communicative* practices. This communication, at its best, strives for greater egalitarianism between interlocutors in terms of norms, epistemologies, and control over representation. Data creation is about *process* as well as *product.* It is iterative, and it is fluid. In this provocation, we propose three epistemic shifts concerning how we understand data and explain how imagining and practicing data as communication makes space for pluralism and solidarity.

SHIFT ONE:
GRASSROOTS DATA WITHOUT ROMANTICIZATION

Looking at grassroots data practices provides an excellent vantage point from which to put into practice non-extractive approaches to data creation. Whereas big tech companies are motivated by profit-making, grassroots organizations obtain inspiration from a broader range of horizons and tend to orient their work in solidarity with other groups, leaving space for communicative approaches to flourish.[24]

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21 The Economist, "The World's Most Valuable Resource Is No Longer Oil, But Data," *The Economist*, May 6, 2017, https://www.economist.com/leaders/2017/05/06/the-worlds-most-valuable-resource-is-no-longer-oil-but-data.

22 Jennifer Gabrys, Helen Pritchard, and Benjamin Barratt, "Just Good Enough Data: Figuring Data Citizenships Through Air Pollution Sensing and Data Stories," *Big Data & Society* 3, no. 2 (2016), https://doi.org/10.1177/2053951716679677; Paola Ricaurte, "Data Epistemologies, the Coloniality of Power, and Resistance," *Television & New Media* 20, no. 4 (2019): 350–65, https://doi.org/10.1177/1527476419831640.

23 James W. Carey, *Communication as Culture, Revised Edition: Essays on Media and Society* (New York and London: Routledge, 2009); John B. Thompson, "Mediated Interaction in the Digital Age," *Theory, Culture & Society* 37, no. 1 (2020): 3–28, https://doi.org/10.1177/0263276418808592.

24 Stefania Milan and Emiliano Treré, "Big Data from the South(s): Beyond Data Universalism," *Television & New Media* 20, no. 4 (2019): 319–35,

However, the romanticization of grassroots data practices is not the way forward either. Orthodox binary frameworks tend to posit big tech and the grassroots respectively as malevolent and pure, as powerful and powerless. Before rushing into assuming that grassroots data creation always challenges the extractive imperative, praxis suggests that there are important nuances to consider.

Grassroots data should not be romanticized, as grassroots actors might purposely adopt dominant frameworks and practices to achieve their goals. Conversely, outside actors should not rush to label this data as obedient without considering the needs and visions underpinning the data's generation.[25] Suaréz, a feminist scholar and activist, has described *strategic datafication*, a position that allows activists to benefit from the dominant epistemological position of quantitative data in order to advance social justice.[26] In some cases, actors might have to bracket off relevant questions in order to comply with the data producers' expectations. Benjamin and Ristovska have respectively explored *strategic exposure* and *strategic witnessing*, both of which speak to the adoption of pragmatic stances vis-á-vis a "datafied" world.[27]

In sum, grassroots data creation offers a unique inspiration to reject extraction and embrace communication. In practice, however, data is not necessarily communicative *because* it is grassroots. Strategic forms of obedience and disobedience can be put into play in the search for social justice.

SHIFT TWO: EPISTEMIC PLURALISM, NOT ERASURE

Epistemic pluralism is the way of the world—but so, unfortunately, is epistemic injustice. The eclipse of many ways of knowing by a dominant way of knowing is characteristic of extractive, monological data production.

This erasure may be collateral damage, as it is when it arrives alongside the promises of science and progress. It may also be purposive, serving the expansion of neo-colonialism, surveillance capitalism, and patriarchy, in which case we can call it epistemicide.[28] One area in which this really matters is data collaborations between grassroots and institutions working together towards social and political change. Data extraction can lead to epistemic erasure when the only grassroots data that gets attention is the data that fits the epistemology of the institutional collaborator, and all other forms of knowledge are ignored.

A communication model of data creation, however, builds bridges between epistemologies that value both grassroots and institutions' ways of knowing. These bridges, of course, acknowledge the power asymmetries between the actors involved. For example, we can think of the data collaboration of human rights reporting, in which evidence from the grassroots is essential for institutional advocacy against human rights violations. The institutional epistemology here is often about establishing the who, what, where, when, and why, and placing these facts in relation to the legal framework of human rights—privileged information not available to all.[29] Traditional human rights reporting practices—on-the-ground and face-to-face—connect civilian witnesses and human rights factfinders through communication that recognizes there are many ways of knowing about the same thing and that allows for the exchange of solidarity and care.

As we mentioned, however, building pluralism and solidarity is neither fast nor efficient—which begins to matter when big data is posing a volume challenge for the human rights sector, as for so many others. As a result, we are seeing the rise of potentially more extractive practices in the human rights sector, like the use of computer vision and machine learning to parse the big data of digital videos of conflicts filmed and shared by civilian witnesses.[30] The Trojan horse of efficiency gains brings epistemic losses as these machine interventions cut out opportunities for human interaction. Practitioners have to be wary of committing epistemic erasure by mistake.

https://doi.org/10.1177/1527476419837739.

[25] Sebastián Lehuedé, "The Coloniality of Collaboration: Sources of Epistemic Obedience in Data-Intensive Astronomy in Chile," *Information, Communication & Society* 26, no. 2 (2023): 425–40, https://doi.org/10.1080/1369118X.2021.1954229.

[26] Helena Suárez, "Datos Faltantes y Oportunidades para la Investigación y el Activismo [Missing Data and Opportunities for Research and Activism]," Alberto Hurtado University, September 29, 2021.

[27] Ruha Benjamin, *Race After Technology: Abolitionist Tools for the New Jim Code* (Cambridge, UK: Polity, 2019); Sandra Ristovska, "Strategic Witnessing in an Age of Video Activism," *Media, Culture & Society* 38, no. 7 (2016): 1034–47, https://doi.org/10.1177/0163443716635866.

[28] Beth Patin, et al., "Toward Epistemic Justice: An Approach for Conceptualizing Epistemicide in the Information Professions," *Proceedings of the Association for Information Science and Technology*, October 2020, https://doi.org/10.1002/pra2.242.

29 Ella McPherson, "Source Credibility as 'Information Subsidy': Strategies for Successful NGO Journalism at Mexican Human Rights NGOs," Journal of Human Rights 15, no. 3 (2016): 330–46, https://doi.org/10.1080/14754835.2016.1176522.

30 Jay D. Aronson, "Computer Vision and Machine Learning for Human Rights Video Analysis: Case Studies, Possibilities, Concerns, and Limita-

SHIFT THREE: REPRESENTATION FROM THE BOTTOM UP

Too often we think of data as self-evident, transparent, accurate, and objective—facts or evidence ready for analyzing and mining. However, data stands in for something else out there: it isn't that thing. Data *re-presents* phenomena, packaged in crunchable bits and bytes.

Challenging data extraction requires attending to the politics of representation rather than shying away from them. A question arises on how to represent *in* communication, allowing those represented to have a voice and to challenge data about them. Grassroots data work is about engaging the politics of representation with related people and organizations. It is about recognition or being represented on your own terms, rather than detection, namely being represented on the terms of the representer.[31] In other words, data creation as communication starts with addressing representation from the bottom up.[32]

"**Is there anything worth retaining from the overused and harmful extractive imaginary of data as the new oil? Perhaps one thing: the way this metaphor draws attention to the environmental consequences of data creation.**"

One particularly worrying trend in the civic action and human rights space is that data often displaces human voices in the name of amplifying them. As we learnt from the need to be attentive and patient in designing tech to value human voices in the work of Africa's Voices, bracketing off questions regarding agency, context, and empowerment constitutes the first step for failure.

However, following the communication path is not the easiest one due to a tension at its core. Existing discourses, technologies, and business models favour aggregation, automation,

and the pursuit of scale as ends in and of themselves. As we unpack in provocation #3, ambiguities are elided and choices about representation are hidden; large-scale patterns, probabilities, and speed are privileged. Many tech tools available to activists are embedded with these extractive logics. Acknowledging this tension is a way of addressing the politics of representation in data creation.

Seeking to overcome the biases and distortions of dominant technology in data creation becomes *a call to communicative action.*[33] We start by creating communicative space for questions such as who is involved in this data, how these groups' voices are represented, and what channels these groups have for contestation. These questions should be central for designers and programmers involved in data projects. Due to the tension between representation and programmability, keeping these questions in mind will involve compromise and frustration. And compromise and frustration are part of praxis, which requires making pragmatic choices in a structurally unjust world precisely in order to change it.

FROM EXTRACTION TO COMMUNICATION

By taking the novel approach of thinking of data creation as communication, this provocation has shown ways that data creation can make spaces for epistemological pluralism. Many have argued that the extraction model is detrimental due to the exploitative political economy of power and profit behind it. We have shown that the extraction model's deficits are multiplied by how it engenders epistemic erasure and quashes human interaction.

In arguing for a new model designing technologies for data creation as communication, we are making a discursive deviation to unsettle the orthodox understanding of data. Beyond making space for pluralism by focusing on data *practices* (communication) rather than *products* (oil), we also make space for solidarity and care in data creation, as we explore in provocation #6.

Is there anything worth retaining from the overused and harmful extractive imaginary of data as the new oil? Perhaps one thing: the way this metaphor draws attention to the environmental consequences of data creation.

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tions," *Law & Social Inquiry* 43, no. 4 (2018): 1188–1209, https://doi.org/10.1111/lsi.12353.

[31] Benjamin, *Race After Technology.*

[32] Nick Couldry and Alison Powell, "Big Data from the Bottom Up," *Big Data & Society* 1, no. 2 (2014), https://doi.org/10.1177/2053951714539277.

[33] Jürgen Habermas, *The Theory of Communicative Action* (Boston: Beacon Press, 1984).

Provocation #3:
There Is No Pluralism Without Ambiguity

Data-intensive systems such as machine learning and artificial intelligence are often portrayed as having univocal architectures and binary (namely, yes/no) reasoning. For example, the metaphorical discourses of code as law and algorithms as recipes depict digital technologies as rigid, and incapable of encouraging nuance and dialogue. However, the work we have been doing at CGHR suggests that communication technology design can—and must—embrace ambiguity in the encoding and decoding of data.[34] Just like law and recipes, code affords ambiguity, even if dominant discourses about all three intimate the opposite.[35]

In our experience, ambiguity can be a generative force when approaching data creation and interpretation. Ambiguity makes space for us to think up and create technologies that, rather than transforming public voices into mere inputs for pre-programmed or hermetically sealed tasks, align with interpretive openness and pluralism. In this case, pluralism means that no machine has the last word; instead, different and diverging meanings and interpretations coexist—namely, pluralism makes ambiguity. Though there is always power in technology, its flow is less fixed the more ambiguity is afforded.

BALANCING CATEGORIZATION AND INTERPRETATION

Designing for ambiguity involves achieving a healthy tension between categorization and interpretation in technology-building. Data-intensive technologies require a certain degree of *categorical abstraction*, in which they remove some layers of complexity to collect and aggregate data points, identify patterns, and feed algorithms to support analysts in turning data into knowledge.[36] Such processes often follow the logic of classification (or coding), which means developing variable categories that inevitably simplify humans and their experiences, render homogeneous what is different, and privilege some worldviews over others.[37]

However, this is not an all-or-nothing dynamic. It is also possible to purposely imbue technologies with tolerance for ambiguity. This is about coding (in the computing sense), but it is also about allowing for nuance in the encoding and decoding of data (in the communications sense). Encoding is about shaping the meaning of the message, while decoding is about interpreting that meaning (Hall 1984).

The more freedom the encoder is given in making their message on their own terms, including through embedding interpretation cues, the better the decoder can understand the encoder, but also the messier the data and the more heteron-

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[34] Stuart Hall, "Encoding and Decoding in the Television Discourse," ePaper Repository, University of Birmingham, 1973, http://epapers.bham.ac.uk/2962/.

[35] Lawrence Lessig, *Code and Other Laws of Cyberspace* (New York, NY: Basic Books, 1999); Cathy O'Neil, "The Truth About Algorithms," Royal Society for Arts, Manufactures and Commerce, October 17, 2018, https://www.youtube.com/watch?v=heQzqX35c9A.

[36] Rob Kitchin, *The Data Revolution: Big Data, Open Data, Data Infrastructures & Their Consequences* (London: Sage, 2014).

[37] Geoffrey C. Bowker and Susan Leigh Star, *Sorting Things Out: Classification and Its Consequences* (Cambridge, MA: MIT Press, 2000).

omous the work of decoding.[38] To facilitate this, technologists must be comfortable with ambiguity. Data creation should start with fundamental principles of interpretivist social science, especially that of listening.

In addition, technologies can render the processes of representation and interpretation visible as different actors (or programmed actions) make sense of data—from inception to processing to translation into outputs. When operating in this way, the idea of a closed canonical structure is replaced with an open process that makes room for contestation and re-interpretation. This can include creating channels for those represented by data to challenge this very data. For data-intensive technology, designing for ambiguity means letting go of hard and fast categorical rules and centering communication and interpretation.

AMBIGUITY IN PRACTICE

As we learnt through Africa's Voices, a good balance of classification and ambiguity allows for engaging with publics and analysts in a way that respects their agency and enables recognition. CODA, the open-source qualitative coding tool developed for this project by Cambridge computer scientists associated with CGHR, is a testament to how technology can be designed with ambiguity at the fore.[39] CODA, a shared interface for team members expert in local languages to label text message data supported by machine assistance, prioritizes their valuable interpretive skills, makes provenance of their interpretive acts legible to others, and allows for iterative reinterpretation as ambiguities are renegotiated. Along with enabling ambiguity in decoding, CODA's interface and machine assistance allows for more ambiguity in the public's encoding of messages, because the system can support a more heterogeneous variety of messages in local language and expression.

Another project of ours that prioritizes ambiguity is The Social Life of Data,[40] a web-based experience coded by CGHR intern Jamie Hancock for The Whistle. The Social Life of Data operates on the meta level, in that it is about ambiguity it-

self. Here, the user is invited on a choose-your-own-adventure journey of one bit of data as it travels between humans, machines, and contexts, revealing the interpretative nuances underpinning its decoding in different settings. Rather than strategically ignoring the always ambiguous processes of encoding and decoding data, these two projects intentionally share the decisions and nuances involved in making knowledge into data and data back into knowledge.[41]

THE VIRTUES OF AMBIGUITY

Certainly, designing for ambiguity, and openly so, will not suffice for overcoming the broad range of inequalities brought about by digital technologies. However, this principle can advance pluralism as an accepted norm—as well as pluralism in practice. First, ambiguity undermines problematic universalist paradigms that associate technology and data with neutrality and objectivity. As mentioned earlier, pluralism happens when multiple and diverging voices are allowed to coexist in digital environments. In such a case, no single voice is the center nor has privilege over the rest.

> **"Pluralism happens when multiple and diverging voices are allowed to coexist in digital environments. In such a case, no single voice is the center nor has privilege over the rest."**

Second, embracing ambiguity makes it possible to avoid the dynamic in which a rush to settle knowledge controversies ends up privileging the most powerful voices and their interpretations. This is particularly relevant in the so-called post-truth era, when demands for clear-cut certainties have become the orthodox order of the day. Prioritizing ambiguity allows us to sit in the knowledge controversy for a bit longer, and in so doing, to relish the critical spaces that the controversy opens up for us to interrogate power and knowledge.[42]

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[38] Pierre Bourdieu, *The Field of Cultural Production: Essays on Art and Literature* (Cambridge, UK: Polity, 1993); John B. Thompson, *The Media and Modernity: A Social Theory of the Media* (Stanford, CA: Stanford University Press, 1995).

[39] Alan Blackwell, "Introducing CODA: A Tool for Data Analysis," *Africa's Voices*, August 25, 2017, https://www.africasvoices.org/2017/08/25/introducing-our-latest-analysis-tool-coda/; Maja Trębacz and Luke Church, "More than a Label: Machine-Assisted Data Interpretation," *Participatory Approaches to Machine Learning ICML 2020 Workshop*, July 2020, https://participatoryml.github.io/papers/2020/15.pdf.

[40] The Whistle, "The Social Life of Data," last accessed October 28, 2023, https://sociallifeofdata.org/.

[41] Linsey McGoey, *The Unknowers: How Strategic Ignorance Rules the World* (London: Bloomsbury, 2019).

[42] Ella McPherson, Isabel Guenette Thornton, and Matt Mahmoudi, "Open Source Investigations and the Technology-Driven Knowledge Controversy in Human Rights Fact-Finding," in *Digital Witness: Using Open Source Information for Human Rights Investigation, Documentation, and Accountability*, ed. by Sam Dubberley, Alexa Koeing, and Daragh Murray (Oxford: Oxford University Press, 2019).
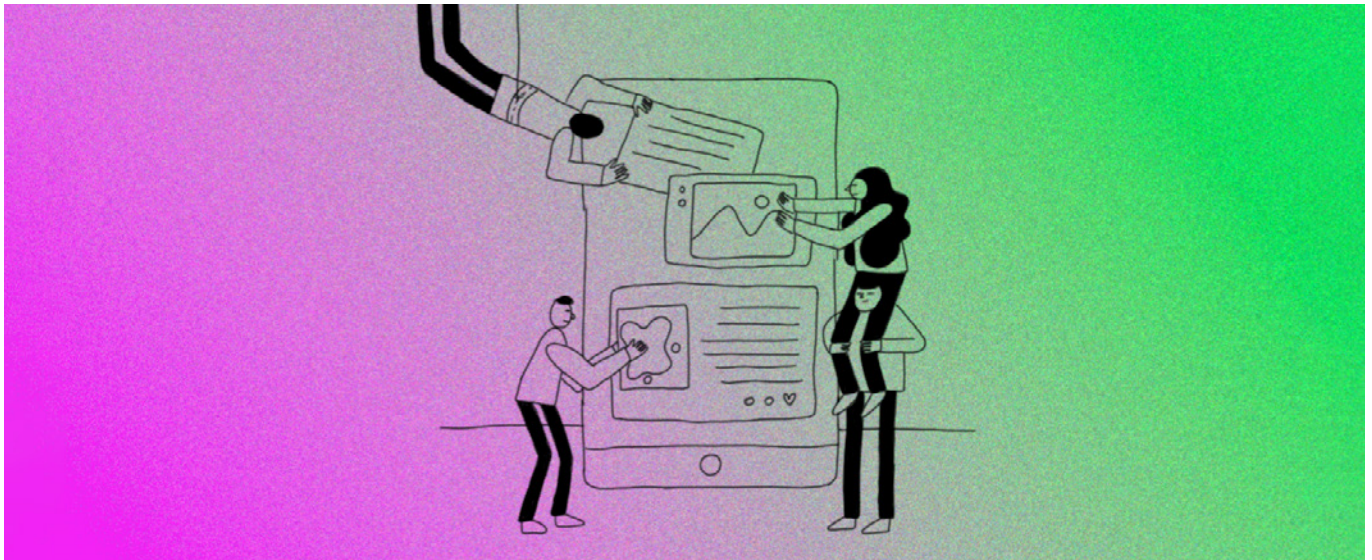
Third, we see ambiguity as linked to the principle of ambivalence that, following feminist thinking, constitutes a condition for reflexivity and inclusivity. Ambivalence is difficult to define, but it could be said that rather than seeking to "solve" contradictions, it calls for embracing discomfort, staying with the trouble, and being open to our own vulnerability.[43] Like ambivalence, ambiguity makes things slower (as the slow tech design we advocate in provocation #1 also does!), and in doing so it increases opportunities for critical awareness and reflection.

AMBIGUITY FOR VOICE

Designing for ambiguity challenges many of the dictums accompanying developments such as big data and the current wave of artificial intelligence. Indeed, it is the opposite of the machine intelligence based chatbots that converse with confidence and yet are riddled with inaccuracies dubbed "hallucinations." Whereas existing technologies and epistemologies privilege opacity and speed, ambiguity embraces openness and taking time. Like slow tech design, ambiguity goes against the tide of real-time, automated data processing occurring in obscure algorithmic black boxes. Designing for ambiguity opposes the rush to settle and categorize that is characteristic of binary and positivist epistemologies.

In sum, ambiguity makes space for us to speak and be heard on our own terms, as well as to hear other voices on their terms. It provokes questions about whose voices and views shape our knowledge, how such voices and views come to matter, and how else we might understand our world.

Provocation #4:
The Pluralism Parabola and Critique-Centered Design

Responses to global public health crises, environmental destruction, growing inequality, and a resurgent, exclusionary politics of hate require global-level discussions. Given their planetary adoption, we might imagine that social media companies such as Meta and X could provide platforms for sustaining these discussions.[44] A handful of these commercial companies enjoy a previously inconceivable power to determine who can speak and who is heard. Yet, dominant digital platforms do not afford the thoughtful and inclusive spaces for collective exchange that we need.

One reason for this is their design process, usually driven by the pursuit of profit rather than the public good, of attention rather than pluralism. As we discussed earlier, in worlds made up of diverse ways of thinking and doing, pluralism should not only tolerate but also *embrace* ambiguity and difference; should consider individual and collective voice; and should protect the right to speak and to be silent, as well as opportunities to be heard. Pluralism is not just about individuals and groups, but also about the infrastructures that enable digitally mediated publics.

However, as we unpack below, infinitely plural digital spaces are dangerous utopias. They are distracting dreams for places that can never exist. Instead, aiming to build digital platforms that are always becoming as *plural as possible*, we propose the idea of critique-centered design.

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[43] Haraway, *Staying with the Trouble*; Tiffany Page, "Vulnerable Writing as a Feminist Methodological Practice," *Feminist Review* 155, no. 1 (2017): 13–29, https://doi.org/10.1057/s41305-017-0028-0; Wanda S. Pillow, "Confession, Catharsis, or Cure?: Rethinking the Uses of Reflexivity as Methodological Power in Qualitative Research," *International Journal of Qualitative Studies in Education* 16, no. 2 (2003): 175–96.

[44] Navneet Alang, "Planet Facebook," *New York Magazine*, October 3, 2021, https://nymag.com/intelligencer/2021/10/planet-facebook.html.

THE PLURALISM PARABOLA

An intuitive way of pursuing pluralism would be to design digital spaces to be as open to people and to forms of expression as possible. Yet, in our work building digital platforms at CGHR, we have come to appreciate how, in pursuing pluralism in practice, designers encounter a pluralism paradox that takes the shape of a *parabola*.

An absolute commitment to pluralism would involve designing *unbounded spaces*, namely a world of infinite possibilities of communication. Yet, the risk of such utopianism is that it reduces coherence, confounds tangible means of relating, and weakens capacities for generating shared and new meanings. Designing for infinite pluralism can, paradoxically, design it out. In other words, there is a turning point on the parabola of pluralism. Too much structure stifles pluralism, and too little obliterates common ground, while, at the parabola's turning point, boundedness in design actually produces as much pluralism as is possible.

"Too much structure stifles pluralism, and too little obliterates common ground, while, at the parabola's turning point, boundedness in design actually produces as much pluralism as is possible."

We encountered this parabola in one project grown out of CGHR, Katikati, conceived to create a communications platform for organizations to converse one-to-one and open-endedly with counterparts at scale. Rejecting one-way bulk-messaging, two-way communications that use pre-decided closed-choice extraction formats (such as the ones we criticized in provocation #2), and dehumanized chatbots, Katikati rather sought to equip organizations to better engage with publics, to traverse uncertain conversational directions, and to allow interlocutors to speak on their own terms.

However, as we moved forward with the project, working with social change partners in Kenya, Ghana, Somalia, Malawi, and the UK, we saw the need to build a degree of structure into our

socio-technical solution so these organizations could sustain meaningful exchanges over time.[45] Sufficient "boundedness" had to be designed into the platform for free-flowing discussion to be mutually valuable and generative of new possibilities.

Drawing on reflexive critique with partners, the team behind Katikati designed various solutions, including the concept of semi-structured "turnlines" to support conversational journeys.[46] In contrast to automated surveys, turnlines allow analyst interlocutors to interpret and label a message, which then either unlocks the next step in a planned conversational journey or allows them to follow counterpart-led detours and exchanges before returning to the original plan.

Likewise, in the early days of co-designing the End Everyday Racism project, powered by The Whistle, we debated the mismatch between the free text data we wanted to collect, allowing witnesses of everyday racism to communicate testimonies in their own words, and the quantitative data we knew was "seductive"—in Sally Engle Merry's words[47]—to audiences accustomed to objectivity.[48]

Alongside our free text boxes, then, we included multiple choice options in the testimony form, in which witnesses could choose, for example, from a list of emotions or embodied experiences they felt as a result of everyday racism.[49] Following extensive discussions with anti-racism Cambridge community groups, we agreed to bound the pluralism of the project according to an epistemology that would "make sense" to accountability institutions, and thus make the testimonies audible to them.

These examples demonstrate how we grappled with the problem that, in designing for pluralism, the "all" approach can lead to "nothing." But how do we design a design process that lets us balance at the turning point of the pluralism parabola? We are convinced that the design process itself should be pragmatically oriented around the principle of pluralism. What we call critique-centered design keeps the design structure open for reflection and transformation by all participants and contributors.

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[45] Katikati, "Use Cases," accessed August 3, 2023, https://www.katikati.world/use-case.

[46] Katikati, "Product," accessed August 3, 2023, https://www.katikati.world/product.

[47] Sally Engle Merry, *The Seductions of Quantification: Measuring Human Rights, Gender Violence, and Sex Trafficking* (Chicago and London: Chicago University Press, 2016).

[48] Catherine D'Ignazio and Lauren F. Klein, *Data Feminism* (Cambridge, MA: MIT Press, 2020).

[49] End Everyday Racism, "First Report Launch," October 2020, https://racismatcambridge.org/report-launch/.

CRITIQUE-CENTERED DESIGN

Designing for pluralism requires pluralism in design—it requires us to make the very process of designing as plural as possible. To achieve this, communication platforms need to allow all participants to challenge and contest design, whether thinking about the pluralism parabola or any other norm driving the platform. In other words, communication platforms need to be designed to embrace critique.

Here we move decisively up the 'ladder of participation' from the passive engagement of user-centered design towards what we are calling critique-centered design.[50] We are inspired by academics and practitioners who understand design as happening through collective worlds rather than individual genius.[51] These include Escobar who focuses on *ontological design*;[52] Costanza-Chock who writes about *design justice* and community-controlled design;[53] and Dunne and Raby who advocate for *speculative design*.[54] We also build on Malpass' idea of *critical design* (2017), where the design product itself provokes reflection and imagination, to argue for a design *process* that centers on critique not only of the surrounding worlds, but also of the design itself.[55]

In developing our idea of critique-centered design, we also draw on scholarship about the nature of critique. By critique, we mean the capacity to interpret or reflect on a given design in a way that opens opportunities for imagining and making something completely different. As Butler explains, critique is not just a judgment of something in relation to a norm.[56] Critique is a practice of reimagining, not just of reimagining the something in relation to the world, but of reimagining the world as well. We can look to the practices of Black feminist futurism, which, in Campt's words, include "attachment to a belief in what should be true, which impels us to realize that aspiration."[57] We also can consider *immanent* critique,

where reflecting on our practices and norms collectively and communicatively allows us to move together towards better practices and better norms for our community.[58]

While some understand "critique" and "practice" in binary terms, we thus consider them dialectically: critique is a practice, just as practices require critique. Without real critique there would only be reproduction of the same thing: superfluous technical improvements rather than digital platforms designed under completely different principles. Critique-centered design can bring about platforms whose design choices, protocols, and norms are not written in stone nor defined by an elite but instead questioned and re-constructed on the basis of bottom-up assessments, complaints, and judgments.

Ada Lovelace believed documentation allows users to understand how machines work and to propose improvements.

Another process supporting critique-centered design is documenting the design choices that gave form to the platform, as well as the reasons behind them. In this way, users can appreciate the *contingent,* and therefore not *given*, character of such decisions. Open source advocates have long underlined the relevance of documentation; nineteenth-century programmer Ada Lovelace believed documentation allows users to understand how ma-

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[50] Sherry R. Arnstein, "A Ladder of Citizen Participation," *Journal of the American Institute of Planners* 35, no. 4 (2007): 216–24, https://doi.org/10.1080/01944366908977225.

[51] Howard S. Becker, *Art Worlds, 25th Anniversary Edition* (Berkeley, CA: University of California Press, 2008).

[52] Escobar, *Designs for the Pluriverse.*

[53] Sasha Costanza-Chock, *Design Justice: Community-Led Practices to Build the Worlds We Need* (Cambridge, MA: MIT Press, 2020).

[54] Anthony Dunne and Fiona Raby, *Speculative Everything: Design, Fiction, and Social Dreaming* (Cambridge, MA: MIT Press, 2013).

[55] Matt Malpass, *Critical Design in Context: History, Theory, and Practice* (London: Bloomsbury, 2017).

56 Judith Butler, "What Is Critique? An Essay on Foucault's Virtue," *Transversal Texts*, May 2001, https://transversal.at/transversal/0806/butler/en.

[57] Tina M. Campt, *Listening to Images (*Durham and London: Duke University Press, 2017), 17.

[58] Titus Stahl, "What Is Immanent Critique?," *SSRN Working Papers*, November 2013, http://dx.doi.org/10.2139/ssrn.2357957.
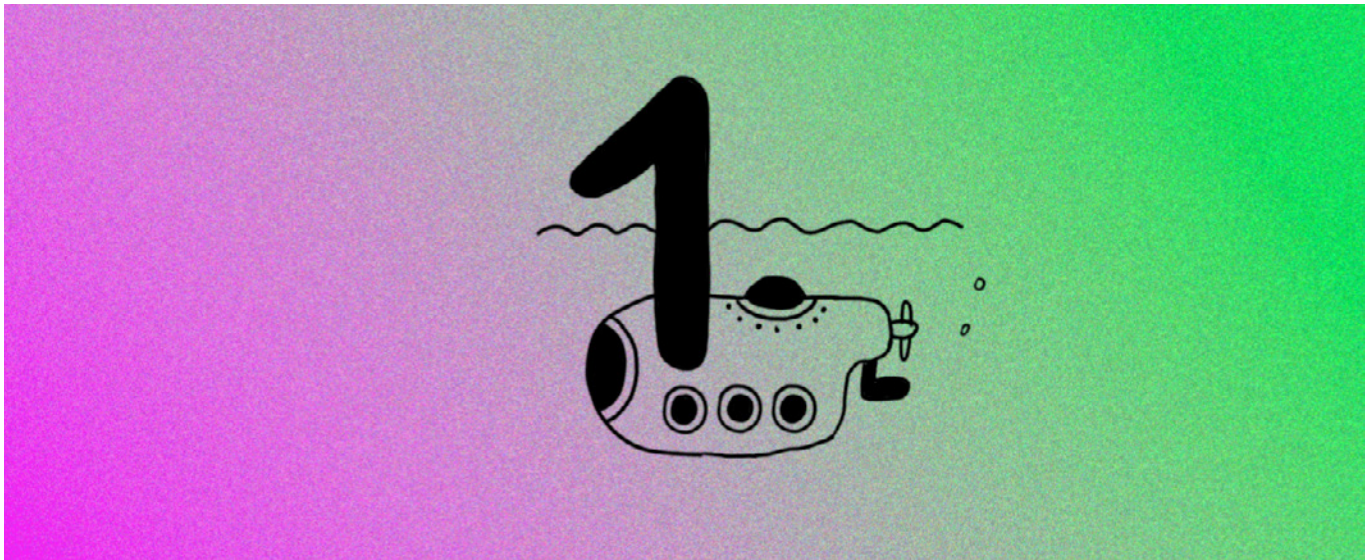
chines work and to propose improvements.⁵⁹ We have plans to include information buttons on The Whistle's testimony platform that inform witnesses why they are being asked particular questions, and how these relate to target audience epistemologies.

In our own work, the critique-centered approach to design is currently more theoretical than practiced, as building in communicative mechanisms for critique goes against the orthodox grain of design. We are taking initial steps, and we want to develop a suite of processes for practicing critique-centered design. For example, the End Everyday Racism platform asks witnesses to provide feedback on the platform and project as part of their testimony. The Whistle's latest version allows users to sculpt the testimony platform simply and autonomously to meet their testimony-gathering aims.

VALUING PLURAL CRITIQUE

Rendering design choices subject to democratic deliberation can allow ordinary people and excluded groups, rather than the design elite, to take communication spaces in new directions. Without such a possibility, design would not be able to support the pluriverse.⁶⁰ As we discussed in provocation #3, our suggestion is to "stay with the trouble" and consider pluralism as an evolving target, shaped by emergent social justice claims and shifts in communication infrastructure.⁶¹ As with Mouffe's agonistic democracy, critique-centered design assumes that what exactly a plural platform is will never get

completely settled.⁶² New demands, visions, and practices will keep emerging and challenging previous design choices.

Critique-centered design makes space for emergent notions of democracy, pluralism, and social justice to shape the affordances of platforms over time. Critique-centered design also requires making difficult choices for the design to become reality; as with the turning point of the pluralism parabola, these will unfortunately but necessarily be exclusionary, but should remain contestable.

We support being open about design decisions and their consequences, as well as creating reflexive and inclusive opportunities to revisit and revise. Returning to this provocation's initial point, it is only when collective and plural critique is valued that groups holding different views and interests, and even inhabiting different worlds, can come together and address pressing global issues.

Provocation #5:
Data Interpretation as Burden and Privilege

Why does big tech do data extraction? For profit and for efficiency, of course. But also, we argue, because of a knowledge-view that sees data interpretation as a burden. Such a view pushes data interpretation out of sight and out of mind by assigning it to machines and outsourcing it to invisible people.
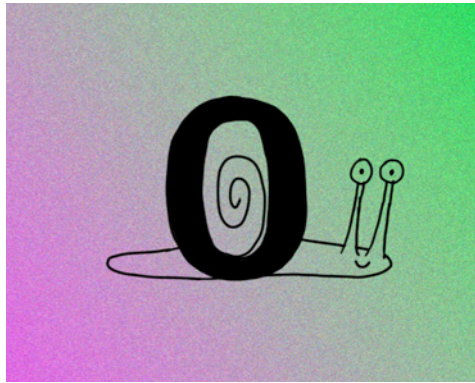
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⁵⁹ Mark Priestley, *A Science of Operations: Machines, Logic, and the Invention of Programming* (London: Springer, 2011).

⁶⁰ Costanza-Chock, *Design Justice.*

⁶¹ Haraway, *Staying with the Trouble.*

⁶² Mouffe, "Deliberative Democracy or Agonistic Pluralism?"

As a result, we often interpret AI and data-intensive technologies as automated and self-regulated technological systems. However, within such seemingly robotic systems, humans still labor, with all their subjectivities, cares, and solidarities.

Common sense might suggest the opposite, but there is no such thing as raw or pristine data.[63] Data always requires interpretation to make sense and become useful. Indeed, data first must be imagined as data *by* humans. And this data is never self-explanatory. Human interpretative judgments are essential for processes of data cleaning, categorization, hierarchization, filtering, visualization, and many other critical functions underpinning digital platforms and artificial intelligence.

In this provocation, we rethink data interpretation from a labor perspective. We suggest that the process of data interpretation involves important tensions. It can range from tedious to traumatic as well as be rewarding, just as it can be both an act of vulnerability and an act of power. As we put it, data interpretation should be acknowledged as both a *burden* and a *privilege*.

THE DATA INTERPRETATION AS BURDEN MINDSET

Many platforms are built under the assumption that interpretation is a *burden* and, therefore, that interpretive labor should be outsourced to users, machines, and workers. Shifting the burden or glossing over the impact of reductive techniques for interpretation ignores how this privileges platforms' interests and epistemologies over people.

One way to understand how interpretive burdens can be displaced to users, thinking from a context we know well, is to contrast qualitative and quantitative social research. In traditional qualitative research, part of the "burden" of interpretation falls to the researcher, who is expected to be able to analyze data in a way that acknowledges the subjectivity of participants (and, reflexively, themselves) as well as the context in which the data was generated. However, in mainstream quantitative social survey research, multiple choice questions with closed answers lift the burden of interpreting human subjectivity from researchers. In the process, the burden is out-

sourced to participants, who must simplify, categorize, and potentially distort their experiences to make them fit into a series of pre-constructed alternatives.

One of the risks of this type of research is unintentionally forcing participants into constrained possibilities of expression and making knowledge. This knowledge can have real consequences for participants when those behind the platforms mistake these data representations as objective facts. One example is a World Bank cash transfer algorithm implemented in Jordan in the attempt to make poverty targeting more efficient. Because of its reductive data collection process, however, this algorithm erroneously denied participants much-needed funds (Stauffer 2023, 20). As one Jordanian participant said, "the questions asked don't reflect the reality we exist in."

With the shifting of interpretive burden through automation and outsourcing, workers are invisibilized. To the extent that human labor is involved—such as "training" intelligent machines in supervised AI systems or engaging in content moderation work—humans are bracketed off and subordinated. In this process, technologists risk adopting a God's eye view, reducing complexity by cleaning the noise in the data, whereas other approaches would see such noise as imperative context.[64]

Certainly, data interpretation *can* be a burden. However, approaching interpretation only as a burden in platform design reduces space for critique and contestation, dehumanizes users by conceiving of them as an aggregate of fixed data points, and disincentivizes technologists from rolling up their sleeves and approaching data creation as communication in the way we advocate for in provocation #2.

INTERPRETIVE PRIVILEGES

Approaching data interpretation as *only* a burden also hides an important point, which is that interpretation can also entail forms of *privilege*. Of course, there is the privilege of power that imposes a particular interpretation on others' expression. Such a narrow understanding of interpretive privilege, however, reduces it to top-down, *power-over*, and it is the form of privilege we are working against rather than with.[65]

[63] Lisa Gitelman, ed. *'Raw Data' Is an Oxymoron* (Cambridge, MA: MIT Press, 2013); Jean-Christophe Plantin, "Data Cleaners for Pristine Datasets: Visibility and Invisibility of Data Processors in Social Science," *Science, Technology, & Human Values* 44, no. 1 (2019): 52–73, https://doi.org/10.1177/0162243918781268.

[64] Donna J. Haraway, *Simians, Cyborgs, and Women: The Reinvention of Nature* (New York: Routledge, 1991).

[65] Steven Lukes, *Power: A Radical View* (London: Bloomsbury, 2021).

Another way of understanding interpretive privilege recognizes the privilege of having access to others' data, as data is intimately connected with people as part of their *data doubles*.[66] Interpretive privilege can also involve *power with*—especially the collective power to enact mediated solidarity and secure pluralism (and the ambiguity we refer to in provocation #3) in collaboration with others, which are practices integral to human communication and meaning-making.

Furthermore, interpretive privilege can also be *power to*—in that a community's ability to interpret and use its own data allows it to pursue its aims.[67] For example, in addition to producing cumulative reports that outline a collective case against racism, the End Everyday Racism project shares collected testimonies, safeguarded for confidentiality, with affected community groups to interpret and use as they need.

To be clear, we are not advocating for interpretive privilege in a way that denies interpretive burden. Acknowledging burden matters, as it foregrounds the invisible labor involved in making sense of data, and the consequences of that labor, such as vicarious trauma.[68] In fact, enacting interpretive privilege takes significant effort. It requires engaging with human subjectivity and divergence, as well as time, resources, and uncertainty. Privileges, ethically understood, incur burdens too.

However, considering data interpretation as *also* a privilege sets a completely different precedent by opening space for pluralism and solidarity. In fact, as we discuss in provocation #6, data creation and interpretation can be done in a way that fosters collective belonging and care.

> "**Data interpretation is a labor that is centrally important in the datafication of our lives, yet it is frequently sidestepped or hidden from view.**"

BALANCING BURDEN AND PRIVILEGE

We have learnt from our praxis research at CGHR that both burden and privilege need to be taken into consideration in the design of digital platforms. In fact, keeping them in healthy tension is another example of our insistence on ethical pragmatism. The burden/privilege axis can work as a valuable tool in the design of communication platforms involving data and algorithmic systems. It has helped us balance between larger-data and qualitative, richly textured forms of analysis in the envisaging of digital communication platforms, as illustrated by the example of Katikati developed in provocation #4.

Data interpretation is a labor that is centrally important in the datafication of our lives, yet it is frequently sidestepped or hidden from view. This reluctance to address data interpretation openly in its full complexity speaks to a faulty binary understanding of technology as "all things non-human."[69] At stake in reflecting about how data interpretation is done is how we safeguard the integrity of human expression and humanize platform users by critically reflecting on who gets to or must interpret in current digital contexts.

Data-intensive communications platforms tend to approach interpretation as a burden, but we argue interpretation is also a privilege. By foregrounding the burden and privilege of interpretation in designing platforms, we can allow expression to flourish and foster solidarity in shared acts of meaning-making and recognition.

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[66] Evelyn Ruppert, "Population Objects: Interpassive Subjects," *Sociology* 54, no. 2 (2011): 218–233, https://doi.org/10.1177/0038038510394027.

[67] Des Freedman, *The Contradictions of Media Power* (London: Bloomsbury, 2014).

[68] Sam Dubberley, "Finally Recognising Secondary Trauma as a Primary Issue," *Columbia Journalism Review*, July 15, 2020, https://www.cjr.org/analysis/finally-recognizing-secondary-trauma-as-a-primary-issue.php.

[69] Haraway, *Simians, Cyborgs, and Women*.

Provocation #6: Creating Data with Care

We don't often see the words *data* and *care* together. In fact, for many of us, the idea of creating data with care is oxymoronic. Care is about those seemingly ordinary and everyday tasks we undertake that, even if they are not valued in modern society, are fundamental for sustaining community, human wellbeing, and the planet. Care at the community level is solidarity, as reflected in our praxis principles. Extraction, however, drives much data collection. How could something associated with extraction possibly engender care?

In this final provocation, we argue for care as a principle that can re-inspire our imagination of what data is and what it can do for society. Such a shift not only encourages a more collective understanding of knowledge creation, but also gives rise to methods that support solidarity, as well as connects data to the places where humans and non-humans create, circulate, and interpret it. As we explore through some of our empirical cases, this is possible through approaching data creation as practices, not products, and as communication, not extraction (see provocation #2).

KNOWLEDGE IS COLLECTIVE

Care is based on the premise that our wellbeing and survival as humans rely on collective responsibility and interdependence.[70] Instead of the autonomous and sovereign modern subject, our existence (and that of our planet) depends on a complex web of relations. This principle also applies to data. Just like knowledge, data is never the product of a single individual.[71] Instead, it is the result of a series of human and non-human interactions that make its creation, circulation, and interpretation possible.

The idea of data as a self-standing form of evidence obscures the inherently collective process through which data is made and has meaning. The vision that technology is itself a solo data creator justifies data's commodification, falsely legitimizing its appropriation by technology companies and other data wealthy actors.

In the morass of this data-culture milieu, acknowledging the collectivity of knowledge creation and sharing its benefits can feel like swimming in a swamp. One example from CGHR's praxis research involved collaborative knowledge creation between infectious diseases researchers sitting in Cambridge and Nairobi, and internally displaced persons (IDPs) experiencing COVID-19 lockdown in war-torn Somalia. The aim was to understand how an epidemic and an emergency biomedical response to it—a harshly-policed lockdown—was being understood and experienced by vulnerable and precarious displaced communities for whom the primary impact was on livelihoods rather than epidemic safety. The IDPs and researchers communicated via free SMS over a number of months using Katikati and supported by Africa's Voices' Somali-speaking research officers and technologists in Kenya.

The IDPs contributed experiential knowledge, the researchers translated this knowledge into formats suitable for briefing policymakers and for academic dissemination, and the Africa's Voices colleagues built communicative trust between the two groups and provided interpretive insights. Despite

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[70] Joan Tronto, *Moral Boundaries: A Political Argument for an Ethic of Care* (London: Routledge, 1993).

[71] Linda Alcoff and Elizabeth Potter, eds., *Feminist Epistemologies* (New York, NY: Routledge, 2023).

this collaborative endeavor, the benefits of this knowledge creation risked accruing more to those in more powerful positions. Grant money covered Africa's Voices' labour and named authorship in a well cited journal article[72] served the academics, but all of this relied upon the data creation and experiential knowledge of the IDPs.

The project had little ability to promise IDPs any direct impact, such as the development of policies to reduce the socio-economic stresses they faced during COVID-19. Still, building trust and openness early on allowed IDPs to raise their own priorities, in some cases leading to specific referrals to service providers on the ground. Sharing early insights and inviting IDPs' reflections on these insights also helped to further collectivize knowledge creation.

A METHODOLOGY OF SOLIDARITY

In addition to recognizing and rewarding the collective nature of knowledge generation, creating data with care also involves thinking deeply about methods—in other words, about process. We understand "methods" broadly – not only as the set of techniques of data collection and analysis sanctioned by academia. Rather, we approach methods as the thinking and practice revolving around how things are and should be done. One of the characteristics of care ethics is its focus on context, as this approach requires thinking about our responsibilities and limitations as relates to our positions in a web of relations. [73]

At Cambridge's End Everyday Racism witnessing platform project, we developed our *methodology of solidarity* approach based on our experiences of creating data with our community. The penny dropped early on, when someone who had provided digital testimony recounted the loneliness she felt doing this on her own, anonymously, typing into a computer late at night. We decided at that moment that we wanted the project to do everything possible for those who participated in it to feel more solidarity as a result of their participation. We devised ways to make spaces for community and conversation all along the data-creation process, from the consultations we did in designing the research questions; to the pizza-lunch workshop we devised for side-by-side, anonymous

testimony-writing; to data-sharing with relevant groups so that they could conduct their own analysis. This is the methodology of solidarity, where solidarity supports data creation, and data creation also provides opportunities for solidarity.

End Everyday Racism's benefit to our communities, we hope, is not just from the data product (the collective case against racism) but also from the data process (the community-building and solidarity). Our methodology of solidarity lets care in and disobeys the dictum of "sharing at any cost" that creates gains for technology companies and data projects at the expense of participants' wellbeing.

A PRIDE OF PLACE

As María Puig de la Bellacasa notes, the networks sustaining human life and the planet are not only made up of humans.[74] In some cases, even technologies (and data!) can become entangled in the complex web of caring relations.

Recently, we have been thinking of the relevance of place (or land or territory) in data creation. Usually, data is presented as an abstract input or output circulating freely across the world.[75] However, Indigenous epistemologies have foregrounded the fact that knowledge cannot be dissociated from the place it is created—hence the concept of Place-Thought.[76] Thinking of data and place brings to the fore the multiple spaces, humans, technologies, and natural resources that allow such data to be created, circulated, and interpreted.

Data centers provide a good example of the type of issues that come to the surface when centering place in our understanding of, and work with, data. Data centers are buildings hosting computers that enable data management and analysis. As we learnt from the Data Territories event organized by CGHR, communities from the Global North and South are concerned about data centers' use of energy and water, as well as their pollution (Lehuedé 2022a).

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[72] Dorien H. Braam, et al., "Lockdowns, Lives, and Livelihoods: The Impact of COVID-19 and Public Health Responses to Conflict Affected Populations — A Remote Qualitative Study in Baidoa and Mogadishu, Somalia," *Conflict and Health* 15, no. 47 (2021), https://doi.org/10.1186/s13031-021-00382-5.

[73] Carol Gilligan, *In a Different Voice: Psychological Theory and Women's Development* (Cambridge, MA: Harvard University Press, 1982).

[74] Puig de la Bellacasa, *Matters of Care*.

[75]   Sebastián Lehuedé, "Big Tech's New Headache: Data Centre Activism Flourishes Across the World," *Media@LSE*, November 2, 2022, https://blogs.lse.ac.uk/medialse/2022/11/02/big-techs-new-headache-data-centre-activism-flourishes-across-the-world/.

[76] Vanessa Watts, "Indigenous Place-Thought and Agency Amongst Humans and Non Humans (First Woman and Sky Woman Go on a European World Tour!)," *Decolonization: Indigeneity, Education & Society* 2, no. 1 (2013): 20–34.

Thinking of data centers, as well as technology-fueled mineral extraction and e-waste, prompts relevant questions regarding care.[77] What can we do to support the communities affected by datafication, especially when these are in faraway locations?[78] How can we change our own data practices in a way that does not point to individual actions but rather focuses on changing deep structural problems?[79]

> "We have shown when and how data can foster care, solidarity, and pluralism rather than extraction and reductionism. Instead of reducing people to mere data inputs, we advocated approaching humans in all their humanity, i.e., as complex communicative beings holding different, and sometimes contradictory, values and interests."

DIFFERENT DATA STORIES

In this provocation, we foregrounded care as a radical alternative to the status quo. Aiming to create data with care can support collective knowledge, solidarity through methodology, and the reflexivity arising from attention to data's place in the Anthropocene.[80]

More broadly in our provocations, we have sought to tell different data stories. In these stories, data creation and interpretation are not necessarily and inherently extractive, nor merely neutral in the surrounding world. Based on our work with digital rights advocates, we have shown when and how data can foster care, solidarity, and pluralism rather than extraction and reductionism. Instead of reducing people to mere data inputs, we advocated approaching humans in all their humanity, i.e., as complex communicative beings holding different, and sometimes contradictory, values and interests.

Each of the points raised in these provocations arose from our experience working with civic activists and rights advocates from different regions of the world. This has infused this project with grounded experience and a strong sense of pragmatism. Echoing Arturo Escobar's argument,[81] we claim that, in light of the series of harms produced by mainstream digital technologies, the only realistic and sensible choice is to not keep doing more of the same. We hope to have provoked new ways of thinking and doing just that—with and against technology.[82] ■

[77]   Jennifer Gabrys, *Digital Rubbish: A Natural History of Electronics* (Ann Arbor, MI: University of Michigan Press, 2011); Danae Tapia and Paz Peña, "White Gold, Digital Destruction: Research and Awareness on the Human Rights Implications of the Extraction of Lithium Perpetrated by the Tech Industry in Latin American Ecosystems," in *Technology, the Environment and a Sustainable World*, 160–64, Global Information Society Watch, 2020, https://giswatch.org/node/6247.

[78] Patrick Brodie, "Data Infrastructure Studies on an Unequal Planet," *Big Data & Society* (2023), https://doi.org/10.1177/20539517231182402.

[79] Anne Pasek, "On Being Anxious About Digital Carbon Emissions," *Social Media + Society* 9, no. 2 (2023), https://doi.org/10.1177/20563051231177906.

[80] Haraway, *Staying with the Trouble*.

[81] Arturo Escobar, *Pluriversal Politics: The Real and the Possible* (Durham and London: Duke University Press, 2020).

[82] Mia Dand, "The AI Ethics Revolution— A Brief Timeline," *Medium*, April 4, 2023, https://medium.com/women-in-ai-ethics/the-ai-ethics-revolution-a-timeline-276593eef416.

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