

---

# Parables

---

# of AI

---

# in/from

---

# the

---

# Majority

---

# World:

---

# An

---

# Anthology

Christine Mungai  
Sacha Robehmed  
Vasundhra Dahiya  
Cheshta Arora  
Massimiliano Fusari  
Héctor Beltrán  
Andrea Pollio  
Zehra Hashmi  
Kimberly Fernandes  
Henry Chavez  
María Belén Albornoz  
Srujana Katta  
Yung Au  
Mounika Neerukonda  
Aishatu Gwadabe

*Edited by*  
Ranjit Singh  
Rigoberto Lara  
Guzmán  
Patrick Davison

**DATA&  
SOCIETY**

1

**PROLOGUE**  
Ranjit Singh and  
Rigoberto  
Lara Guzmán  
**1**

2

**“THE PARABLE OF  
THE MONKEY,”  
OR: HOW ARTIFICIAL  
INTELLIGENCE IS  
MORE LIKE MONKEYS  
THAN MACHINE**  
Christine Mungai

**16**

3

**CAPITALISING ON CRISIS  
& HOPE: EMIGRATION  
& SOCIAL MEDIA AD  
TARGETING IN LEBANON**  
Sacha Robehmed

**22**

4

**MY YEAR TREATING  
MY SELF-DIAGNOSED  
OCD WITH A CHATBOT  
THAT NEVER WAS**  
Vasundhra Dahiya

**34**

5

**...THE TOOL IS  
UNDER  
DEVELOPMENT...**  
Cheshta Arora  
**52**

# Contents

6

**STORYTELLING  
IMAGES, ENGAGING  
IDENTITIES**  
Massimiliano Fusari  
**64**

7

**IN THE MOOD  
FOR LOVE  
(IN AND OUT OF  
THE CODE WORLDS)**  
Héctor Beltrán  
**80**

8

**THE DIGITAL SILK  
ROAD AS PLANETARY  
INTELLIGENCE: A STORY  
OF CHINA IN AFRICA**  
Andrea Pollio  
**88**

9

**IDENTIFICATION  
AND MISRECOGNITION  
IN AN IDENTITY  
DATABASE**  
Zehra Hashmi  
**100**

10

**THE BODY,  
SPREAD OUT INTO  
A DATABASE**  
Kimberly Fernandes  
**111**

11

**THE PAVLOVIAN  
MACHINE**  
Henry Chavez and  
María Belén Albornoz  
**124**

12

**HAZY DATA DAYS:  
DELIVERY DISPATCHES  
FROM HYDERABAD**  
Srujana Katta, Yung Au,  
and Mounika Neerukonda  
**137**

13

**AFRICAN  
ANCESTRAL AI**  
Aishatu Gwadabe  
**156**

14

**EPILOGUE | HOW TO  
ORGANIZE A  
STORYTELLING  
WORKSHOP**  
Rigoberto Lara Guzmán  
and Ranjit Singh  
**172**

1

# Prologue

Ranjit Singh and  
Rigoberto Lara Guzmán

*“Who is your community?”\**

Rigo asked this question when he interviewed me for my postdoctoral position at Data & Society in February 2020. Among all the questions that I have answered at different job interviews, this one has stuck with me for two reasons. First, the question simultaneously demands a deep sense of self as well as others. You can only answer it when you place yourself in relation to others. Second, the research journey of PhD candidates, like me at the time, tends to be lonely. No one usually knows as much as you about your topic of research; the challenge is to translate what you know into what others might care about. So, the question about your community is also a question about who might care about your work. At the time, I put my academic hat on and answered by talking about the conferences I attended and the research groups I was a part of. Ever since, I have not been able to let go of the feeling that this answer was incomplete.

My contribution to the collaborative effort that brought this anthology together came from a desire to build *a community of storytellers and listeners living with data and artificial intelligence (AI)-based systems in the majority world*. There is a lot of terminology to unpack here; the rest of this prologue is dedicated to it. But a good place to begin is to highlight that this anthology and the wonderful people involved in it answer the question—*who is my community*—at a much larger scale than I could have imagined more than two years ago.

- \* Rigo’s original formulation of this question was, “Who are your people?” It drew inspiration from the first meeting between Stephanie Dinkins and Bina48, an advanced social robot. Dinkins asked this question “along with questions about race, love and relationship. Bina48 preferred to talk about singularity and consciousness.” See, Stephanie Dinkins, “Conversations with Bina48.” Stephanie Dinkins Studio. Accessed August 30, 2022. <https://www.stephaniedinkins.com/conversations-with-bina48.html>. Bina48 was also used as a convening device to parse through applications for the AI Assembly workshop hosted at Data & Society during Dinkins’ artist fellowship in 2018. Ranjit’s reformulation of the question points to the tension between hearing and listening. What someone hears may not be what they retain/remember. Listening is the ground for a response, but it may not align with what was said and meant to be heard. The back and forth in a conversation is often organized around repairing the breakdowns that emerge from the tensions between hearing and listening. Yet, on occasions it can also be a generative ground for discovery of new meanings and future action.

## Mapping AI in the global south

This project didn't begin with community. It didn't begin with storytelling, either. The project began as an effort to map the ongoing debates over appropriation of digital IDs, national digital identity infrastructures, and associated AI-based systems for development in the global south. Tensions over the meaning and implications of the concept of "development" is a good example of such debates. Development is often associated with circulation of economic resources and technological interventions as aid from "developed" to "developing" worlds. Debates over this circulation are grounded in contests over implied assumptions of what it means to be "modern," "efficient," and "developed." Digital IDs have become the new site for these contests.

Digital IDs have been the focus of my research for years now. I have been interested in how assigning digital IDs to a population has become the infrastructural groundwork for establishing the relationship between data and people.<sup>(1)</sup> This process is central to ongoing work around digitalization and datafication in the majority of countries in the world to develop and appropriate AI-based systems as examples of "leapfrogging" into modernity. Particularly in the context of state-citizen relations, digital IDs are also implicated in the process of verifying legal identity through which people establish their relationship with the state, such as claiming the status of a citizen or immigrant or refugee. Associating digital identity with legal identity raises its own set of debates around recognition, privacy, surveillance, data protection, and vendor lock-in.<sup>(2)</sup> There was and continues to be a rich set of concepts to be mapped at the intersection of emergent digital IDs and associated AI-based systems in the global south. These include keywords\* and argument patterns<sup>(3)</sup> made for and against these developments. A good example here is polarization of arguments over the purpose of identification between the two keywords: recognition and surveillance.<sup>(4)</sup> I began mapping such keywords and argument patterns through

\* My interest in keywords was inspired by the work of mapping the conceptual vocabulary of culture and society through keywords in Raymond Williams, *Keywords: A Vocabulary of Culture and Society* (Oxford University Press, USA, 1985). In parallel, Noopur Raval and Amba Kak were also curating the conceptual vocabulary of critical AI discourse at the AI Now Institute in early 2021. See, AI Now Institute, "A New AI Lexicon: Responses and Challenges to the Critical AI Discourse," Curated by Noopur Raval and Amba Kak, with editorial support from Luke Strathmann, 2021, <https://medium.com/a-new-ai-lexicon>.

a literature survey\* and interviews with researchers and practitioners.

The study of keywords for AI led me to consider the term “AI” itself. There are many good reasons to avoid using the term “AI.” For one, it is increasingly turning into an empty signifier that hides more than it clarifies.<sup>(5)</sup> However, for our purposes, AI is useful precisely because of how often agency is ascribed to computational systems in everyday life. During fieldwork in India, I came across many variations of the argument—street-level bureaucrats want to help citizens, but their computers will not let them. In some cases, it was a genuine expression of helplessness, in others it was a way to pass accountability to computers. In either case, this folk explanation of computational agency is increasingly becoming a motif in stories of everyday experiences of living with data. On some occasions, what is called “AI” takes the explicit form of recommendation or decision-making systems; on other occasions, it is much more subtly produced in the messy reality of how individuals contend with the presence of these systems in their lives. The storytellers in this anthology further showcase the occasions and forms in which this so-called *intelligence* manifests.

## AI as a tool

Mapping the conceptual vocabulary of AI in the global south quickly took me away from keywords such as bias and fairness,<sup>(6)</sup> accountability,<sup>(7)</sup> transparency,<sup>(8)</sup> explainable AI,<sup>(9)</sup> and responsible AI.<sup>(10)</sup> These keywords are ubiquitous in ethical AI conversations in the global north. There are many similar thematic concerns in the global south,<sup>(11)</sup> but there are also considerable divergences.<sup>(12)</sup> These divergences were not surprising per se. After all, the concerns around data and AI diverge considerably across countries. What I find more notable is a key similarity between these “traditional” AI ethics keywords: all of them are grounded in thinking about AI from a design perspective. AI is seen as a tool. And as a tool it can be embedded with features that ground a particular understanding of the concepts that drive its design. For example, decision-making models can be embedded with a particular definition

\* Some of the concepts and patterns mapped through this literature survey were later repurposed to support the collaborative effort of the workshop participants in producing a reading list, see Sareeta Amrute, Ranjit Singh, and Rigoberto Lara Guzmán. “A Primer on AI in/from the Majority World: An Empirical Site and a Standpoint.” New York: Data & Society Research Institute, September 14, 2022. The survey has grown ever since with contributions from the workshop participants and is available in the form of a public Zotero library: [https://www.zotero.org/groups/4504962/ai\\_infrom\\_the\\_majority\\_world](https://www.zotero.org/groups/4504962/ai_infrom_the_majority_world).

of fairness; they can be designed to formulate a particular kind of explanation for their recommendations or decisions. In designing for these concepts in AI-based systems, the hope is to control what such systems do in the world, to purposefully work toward certain outcomes while minimizing others.

## AI as an everyday experience

In contrast, the conceptual vocabulary of scholars in/from the global south focuses more explicitly on how these systems work for some, often at the expense of others, but not for everyone. The challenges of contending with AI are often mirrored in mundane moments of everyday life where people navigate inequities in power relations along well-recognized intersections of gender, race, class, caste, and ability. AI is increasingly treated as a part of everyday life. Its unevenness is articulated through a spectrum of keywords and frameworks such as postcolonial computing,<sup>(13)</sup> decolonial computing,<sup>(14)</sup> data extractivism,<sup>(15)</sup> data colonialism,<sup>(16)</sup> indigenous data sovereignty,<sup>(17)</sup> dignity,<sup>(18)</sup> solidarity,<sup>(19)</sup> and data justice.<sup>(20)</sup> These keywords offer a vocabulary to think through the challenges of digitalization and infrastructure building in the majority of the countries in the world.

At the same time, these keywords also capture the everyday experiences of living with data and AI. For example, dealing with an issue like “the server or the network is down” is not simply a hardware or infrastructural challenge, it is also a reflection of how AI-based systems unevenly layer over unequal social structures. For some it is a minor inconvenience, for others it is a matter of losing a day of work waiting in line for welfare entitlements that are only granted after digital authentication of their identity. Such experiences often manifest in the everyday struggles to interface with both the inputs and outputs of data-driven systems. Mundane moments of seeking alignment with inputs can be extractive and motivate claims to sovereignty and justice; experiences of contending with uneven outputs often instigate solidarity and are implicated in concerns around dignity. In using these concepts to describe living with data and AI, the aim becomes less about design specifications and more about surfacing inequalities and violence within specific social structures that AI-based systems perpetuate. Critique is only the beginning here; ongoing developments in this field—concepts as diverse as ubuntu,<sup>(21)</sup> buen vivir,<sup>(22)</sup> and the pluriverse<sup>(23)</sup>—aim to propose new avenues for action.

## Planning an academic workshop

Mapping this emergent, epistemically rich, and diverse research field of AI in/from the global south is not a singular task. It requires a community, and community grows with seeds of collaboration. Collaboration between Rigo and me began over conversations on organizing an academic workshop to engage with researchers and practitioners: a workshop that would build a cross-disciplinary community around a common topic. Our challenge was how precisely to articulate this topic.

**Rigo:** *“This distinction between tool and experience is too neat. It seems ‘artificial.’ The world is too messy to exist in binaries.”*

**Ranjit:** *“Agreed! The distinction is just a way to orient ourselves. Mapping needs to start somewhere. It is a starting position to engage with an evolving conceptual vocabulary of AI in the global south. It would be ridiculous to say that nobody thinks of data and AI as tools in the global south, or that struggles of living with these systems don’t get attention in the global north. It is just that their conceptual vocabulary tends to emphasize different concerns and these concerns map onto different ways of thinking about AI.”*

**Rigo:** *“What role do you see for this position in the workshop? Workshops are designed to gather a community around a theme. The challenge is to describe a theme such that it is broad and specific at the same time. Broad to ensure that people can see their work (represented) in the theme and specific to ensure the conversation has purpose.”*

**Ranjit:** *“Broad would be an understatement if the workshop’s theme is AI and the global south. I have been having a hard time making it specific. So, in terms of positionality, I want to focus more explicitly on everyday experiences of living with data and AI. Something along the lines of dispatches from the field when you’re doing fieldwork or stories that you often use to explain some aspect of your research or just fieldnotes. The most interesting parts of the interviews that I have been doing is when people tell me stories from their research. But I am not sure that this is specific enough.”*

**Rigo:** *“If the focus is on everyday experiences, then stories are more accessible than field notes for submissions. We all tell stories. So, anybody with a good story can submit to participate in the workshop. It is often the call for submissions that make workshops specific. For example, if the call is for paper drafts, you will likely get academic participants. Stories will open this space. Practitioners have stories; workers have stories.”*

**Ranjit:** *“We can call it a storytelling workshop.”*

**Rigo:** *“Yes, storytelling is specific enough for a workshop call because we can invite people to become storytellers, and we can invite them as listeners. Listening goes hand in hand with storytelling. We workshop the story by creating listening cohorts for each storyteller and then, we can also do a listening session when we all listen to them together.”*

**Ranjit:** *“Yes, that makes sense. A story is only as good as the cohort that listens to it.”*

## The craft of storytelling

The workshop was always imagined as part of the work of mapping; now it centered on storytelling. Encounters with data and AI require contending with the uncertainties of navigating systems that are often only understood through their inputs and outputs. Storytelling offers a medium to make sense of these uncertainties. It provides a way to voice one’s own truth, make sense of mundane and ongoing struggles with computational systems, reconcile these struggles, and open a space for healing. Some stories can also build a shared understanding around a particular research topic while situating a shared sensibility about how a practitioner’s job is to be done. For example, Julia Angwin et al.’s story of Machine Bias<sup>(24)</sup> provides an illustrative case for teaching bias in AI ethics conversations in the United States and showcasing the role of third parties in auditing algorithmic systems. Stories have deep pedagogical value. They connect abstract concepts with real experiences. They represent a situated perspective that grounds critique. A story is more than a description. It is useful; “the usefulness may, in one case, consist in a moral; in another, in some practical advice; in a third, in a proverb or maxim.”<sup>(25)</sup> A story has counsel that makes its listeners think for themselves.

Therefore, our workshop arrived at a central question: What stories do we tell of a world that has increasingly come to rely on AI-based, data-driven interventions to resolve social problems?

## Descent into ordinary data-driven life

Over the past couple of years, several scholars have hosted fiction-writing workshops around AI.<sup>(26)</sup> Speculative fiction has also become a part of the methodological toolkit of researchers to think through possible future uses of AI-based technologies.<sup>(27)</sup> Speculation prompts us to engage with storytelling as a method to do research, as well as (re)present research. As Robert M. Davison writes, “In fiction, it is entirely acceptable to require the reader to fill in the missing gaps, using their imagination and thus facilitating many permutations of a storyline. In research [stories], we tend to ensure that our discussion and conclusion are firmly anchored in the data.”<sup>(28)</sup>

When does a story become data? We wanted to place value in stories of ordinary, everyday experiences of living with data and AI for the workshop. When ordinary stories are valued, they become data. Placing value in ordinary stories and using them as resources to unpack living in a data-driven world was at the heart of the workshop. Ordinary is a hard concept to pin down, but beyond its import in understanding everyday routines and habits, “ordinary” is moments when we relate to others.<sup>(29)</sup> My everyday experiences are not the same as your everyday experiences. Thus, storytelling is a way to ground ourselves as listeners in the everyday of the storyteller, to engage with the ethics of living with any technology, to reflect (for example) on whether a technology’s function is a bug or a feature. For example, when the server or the network is down more often than it is up, then being down is a feature of a digital service rather than a bug. This descent into the ordinary is crucial to understanding how we are all implicated in living with data and AI—a reflection of our collectively imagined futures and contested pasts.

## The search for parables of AI

Storytelling is relational; it places storytellers in a relationship with a community of listeners. It is this relationship that turns a story into a parable. A story becomes a parable when it is valued by its listeners—when they take on the responsibility of passing it on. Parables are stories that listeners can identify with; they see a part of

their own experience mirrored in it. When stories cause communities to organize or when they represent a theory within scholarship, they become parables. The power of a parable emerges from several interconnected aspects: first, they leave room for multiplicity in how we interpret them, yet they preserve a concrete reference to real life experiences. Second, they can capture a breadth of experiences in such a way that they reflect common sense.<sup>(30)</sup> Parables stick with their listeners. It is this stickiness that allows some stories to be passed on beyond the storyteller to the researcher (who may occasionally be the same person) to a community of listeners and their networks, to ultimately becoming a part of what we think is common sense in the proverbial economy<sup>(31)</sup> of a social problem.

## The Politics of Bridges

Among the many stories that make up Science and Technology Studies (STS) as an academic discipline, Langdon Winner's story<sup>(32)</sup> of racist bridges in New York remains iconic as it stands in for (or as a reference to) how politics is embedded in things. Integral to the success of this paper is the parable of Moses' Bridges. While Winner used many different examples to illustrate how technologies exhibit political properties, the story of bridges over the parkways on Long Island, New York, built under the stewardship of Robert Moses, the city planner, remains an exemplary story for how technologies can be designed to perpetuate a racist form of order.

Using evidence from Robert Caro's biography of Moses, Winner argued that Moses intentionally designed these bridges to be low so that only cars could pass through them, and buses could not. As a result, "automobile-owning whites of 'upper' and 'comfortable middle class' [...] would be free to use the parkways [and] poor people and blacks, who normally used public transit, were kept off the roads."<sup>(33)</sup> The bridges in Long Island materially instantiate "Moses's social-class bias and racial prejudice" and "limit access of racial minorities and low-income groups to Jones Beach, Moses's widely acclaimed public park."<sup>(34)</sup> The story is not simply an illustration of intent that permeates through the design of technologies, but it is also a reflection of the long-term consequences of such intentionality. While Long Island

bridges recede into the background of everyday life in New York, they continue to embed a distinct form of inequality that favors cars over public transit and by extension, privileges those who can afford a car over those who cannot.

Since its initial publication in 1980, this paper has been widely appropriated across academic disciplines to ground the common sense understanding of how ordinary things like bridges are deeply political. It has become a part of the proverbial economy<sup>( 35 )</sup> of thinking through the politics of design and long-term consequences of design decisions. Initially, the story was critiqued for its theoretical underpinnings in drawing a straightforwardly causal relationship between the intent of a designer and the consequences of a technology. Such straightforwardness is rarely observed in practice since technological consequences are unevenly experienced and frequently diverge from their designers' intentions.<sup>( 36 )</sup>

While the debate on theoretical contribution of the story continued, Bernward Joerges, a sociologist of large technical systems, put together a critique of its historical accuracy in 1999<sup>( 37 )</sup> that “brought to the surface the disquiet, which [was] simmering in informal discussions for many years, about Winner’s partial seizure of Caro’s demonization of Robert Moses.”<sup>( 38 )</sup> Joerges noted that for Winner’s story to hold true, two conditions must be satisfied:

First, the only way to reach the beaches were the Long Island parkways. He found that “blacks could gain physical access to Long Island beaches via many routes. [...] Even today, when many more blacks drive cars, [...] not many poor blacks seem to gather on Jones Beach. There existed then, and there exist today, many reasons for black families to go elsewhere.”<sup>( 39 )</sup>

Second, Moses was pursuing racist politics in designing low-hanging bridges. He found two different explanations for low-hanging bridges: “that commercial traffic was excluded from the parkways anyway; and that the generally good transport situation on Long Island forbade the very considerable cost of raising the bridges.”<sup>( 40 )</sup> He went on to provide further evidence that low-hanging bridges were the norm in America during the time. “Moses could hardly have let buses on his parkways, even if he had wanted differently.”<sup>( 41 )</sup>

Was the design of low-hanging bridges intentionally biased against the poor and the blacks who used public transit more often than the rich and the whites? To look for an answer to these questions misses the point of Winner's parable, as he himself argued, "I am not interested in theories, I am interested in moral issues. My point is not explanatory, it is about political choices."<sup>(42)</sup> Winner interprets technologies as instruments of social control and situates their morality in the form of order they perpetuate. While there can be arguments made for and against Winner's argument, especially by treating technologies as contingent accomplishments, the core contribution of the parable of Moses's bridges remains a powerful story that is passed on by its listeners to teach morality of design decisions in STS courses and showcasing how STS practitioners must interpret politics of everyday things.

The search for such parables is not an individual project, nor does it end with organizing a storytelling workshop, publishing an anthology. We hope that our effort offers a step toward a broader search for parables of AI for our readers. It is this networked community that will investigate—on a planetary scale—the diverse ethics, politics, and everyday experiences of living with data and AI. Thus, we believe that the search for parables of AI is a much larger project that will: (1) explore storytelling as a research strategy to engage with the scale and complexity of living with data and AI; (2) build a networked community of experts, activists, and practitioners willing to narrate their stories and listen to stories of others; (3) curate an anthology of stories from this community; and (4) demonstrate how storytelling events and training workshops are crucial ground for public engagement in the process of developing a shared vocabulary around the uneven challenges of living with data and AI. This anthology is only one beginning.

## Storytellers from the majority world

The workshop was an experiment in organizing a global online event. Online video conferencing helped us overcome some place-based challenges, but not all of them. Just a day before the workshop, we received an email from one of our listeners based in South Africa who couldn't make it because they were dealing with electricity load

shedding. They could not be online at night. This was a reminder that living with data-driven technologies and AI produce infrastructural problems that differ from place to place. In the opening note for the workshop, Christine Mungai, Lead Curator at Baraza Media Lab in Nairobi, reflected on what keywords remind us of: Why is the global south, home to the majority of the world's population, not addressed as the majority world? What does this reframing imply in how we conceive of the world and what we remember about our place in it? The keyword "majority world" was coined by Shahidul Alam,<sup>(43)</sup> a photographer, writer, curator, and activist from Bangladesh. Drawing inspiration from his work, this anthology features storytellers in/from the majority world.

Beyond the literal implications of majority through numbers and scale, majority world is our effort to describe how the majority of people often find themselves at the receiving end of computational systems; but this does not mean they do not have agency. The majority world is a standpoint centered on building communities in terms of what they have, rather than what they lack.<sup>(44)</sup> It is a relational framework; it is a unifying metaphor; it is a site to gather, exchange, and analyze diverse stories of becoming subject to data and AI, of responding to such subjecthood. We hope that this site of gathering grows like ginger from any part of its body. Our experiment in bringing together these stories from different parts of the world was meant to illustrate that the parables of AI are in the making. The task is to, as our partner Dibyadyuti Roy put it, "cultivate a rhizomatic praxis in motion." It is to create the space from which these stories can emerge and converge, which will allow us to trace the keywords and patterns in the complexity of living in a data-driven world. This space is the site that provides one answer to Rigo's question with which this prologue began: Who is your community?

*Your community is who listens to your stories and passes them on to others.\**

\* In answering the question of community, Ranjit managed to also find his people (the original formulation of the question). People have their own ways of listening. Sometimes listening takes directions that may seem at odds with hearing, but there is always room and space for alignment between the two. All it takes is time and moving at the speed of trust.

**Endnotes**

- (1) Ranjit Singh and Steven Jackson, "Seeing Like an Infrastructure: Low-Resolution Citizens and the Aadhaar Identification Project," *Proceedings of the ACM on Human-Computer Interaction* 5, no. CSCW2 (October 18, 2021): 315:1-315:26, <https://doi.org/10.1145/3476056>.
- (2) Christoph Sperfeldt, "Legal Identity in the Sustainable Development Agenda: Actors, Perspectives and Trends in an Emerging Field of Research," *The International Journal of Human Rights*, April 2021, 1-22, <https://doi.org/10.1080/13642987.2021.1913409>.
- (3) My interest in patterns in arguments drew inspiration from Madeleine Clare Elish and Tim Hwang, *An AI Pattern Language* (New York: Data & Society, 2016), <https://datasociety.net/library/ai-pattern-language/>.
- (4) See Weitzberg, Keren, Margie Cheesman, Aaron Martin, and Emrys Schoemaker. "Between Surveillance and Recognition: Rethinking Digital Identity in Aid." *Big Data & Society* 8, no. 1 (January 1, 2021): 1-7. <https://doi.org/10.1177/20539517211006744>.
- (5) Emily Tucker, "Artifice and Intelligence," Tech Policy Press, March 17, 2022, <https://techpolicy.press/artifice-and-intelligence/>.
- (6) Ninareh Mehrabi et al., "A Survey on Bias and Fairness in Machine Learning," *ACM Computing Surveys* 54, no. 6 (July 13, 2021): 115:1-115:35, <https://doi.org/10.1145/3457607>.
- (7) Maranke Wieringa, "What to Account for When Accounting for Algorithms: A Systematic Literature Review on Algorithmic Accountability," in *Proceedings of the 2020 Conference on Fairness, Accountability, and Transparency, FAT\* '20* (New York, NY, USA: Association for Computing Machinery, 2020), 1-18, <https://doi.org/10.1145/3351095.3372833>.
- (8) Mike Ananny and Kate Crawford, "Seeing without Knowing: Limitations of the Transparency Ideal and Its Application to Algorithmic Accountability," *New Media & Society* 20, no. 3 (March 1, 2018): 973-89, <https://doi.org/10.1177/1461444816676645>.
- (9) Upol Ehsan and Mark O. Riedl, "Human-Centered Explainable AI: Towards a Reflective Sociotechnical Approach," in *HCI International 2020 – Late Breaking Papers: Multimodality and Intelligence*, ed. Constantine Stephanidis et al., Lecture Notes in Computer Science (Cham: Springer International Publishing, 2020), 449-66, [https://doi.org/10.1007/978-3-030-60117-1\\_33](https://doi.org/10.1007/978-3-030-60117-1_33).
- (10) Malik Ghallab, "Responsible AI: Requirements and Challenges," *AI Perspectives* 1, no. 1 (September 3, 2019): 3, <https://doi.org/10.1186/s42467-019-0003-z>.
- (11) See, for example, Nithya Sambasivan et al., "Re-Imagining Algorithmic Fairness in India and Beyond," in *Proceedings of the 2021 ACM Conference on Fairness, Accountability, and Transparency, FAccT '21* (New York, NY, USA: Association for Computing Machinery, 2021), 315-28, <https://doi.org/10.1145/3442188.3445896>.
- (12) A good example of these differences is the unequal distribution of AI ethics guidelines across the globe, see, Anna Jobin, Marcello Lenca, and Effy Vayena, "The Global Landscape of AI Ethics Guidelines," *Nature Machine Intelligence* 1, no. 9 (2019): 389-99, <https://doi.org/10.1038/s42256-019-0088-2>.
- (13) Lilly Irani et al., "Postcolonial Computing: A Lens on Design and Development," in *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems, CHI '10* (New York, NY, USA: Association for Computing Machinery, 2010), 1311-20, <https://doi.org/10.1145/1753326.1753522>.
- (14) Syed Mustafa Ali, "A Brief Introduction to Decolonial Computing," *XRDS* 22, no. 4 (June 2016): 16-21, <https://doi.org/10.1145/2930886>.
- (15) Paola Ricaurte Quijano, "Data Epistemologies, The Coloniality of Power, and Resistance," *Television & New Media* 20, no. 4 (March 2019): 350-65, <https://doi.org/10.1177/1527476419831640>.

- (16) Nick Couldry and Ulises A Mejias, *The Costs of Connection: How Data Is Colonizing Human Life and Appropriating It for Capitalism* (Stanford, CA: Stanford University Press, 2019).
- (17) GIDA, “CARE Principles of Indigenous Data Governance,” Global Indigenous Data Alliance, November 8, 2018, <https://www.gida-global.org/care>.
- (18) Mark Latonero, “Governing Artificial Intelligence: Upholding Human Rights & Dignity” (New York: Data & Society Research Institute, October 2018), [https://datasociety.net/wp-content/uploads/2018/10/DataSociety\\_Governing\\_Artificial\\_Intelligence\\_Upholding\\_Human\\_Rights.pdf](https://datasociety.net/wp-content/uploads/2018/10/DataSociety_Governing_Artificial_Intelligence_Upholding_Human_Rights.pdf).
- (19) Chandra Talpade Mohanty, “Under Western Eyes: Feminist Scholarship and Colonial Discourses,” *Feminist Review*, no. 30 (1988): 61–88, <https://doi.org/10.2307/1395054>.
- (20) Lina Dencik et al., “Exploring Data Justice: Conceptions, Applications and Directions,” *Information, Communication & Society* 22, no. 7 (June 7, 2019): 873–81, <https://doi.org/10.1080/1369118X.2019.1606268>.
- (21) Sabelo Mhlambi, “From Rationality to Relationality: Ubuntu as an Ethical and Human Rights Framework for Artificial Intelligence Governance,” Carr Center Discussion Paper Series (Cambridge, MA, Harvard Kennedy School, Harvard University, 2020), <https://carrcenter.hks.harvard.edu/publications/rationality-relationality-ubuntu-ethical-and-human-rights-framework-artificial>.
- (22) Eduardo Gudynas, “Buen Vivir: Today’s Tomorrow,” *Development* 54, no. 4 (December 1, 2011): 441–47, <https://doi.org/10.1057/dev.2011.86>.
- (23) Arturo Escobar, *Designs for the Pluriverse: Radical Interdependence, Autonomy, and the Making of Worlds* (Durham, NC: Duke University Press, 2018).
- (24) Julia Angwin et al., “Machine Bias: There’s Software Used Across the Country to Predict Future Criminals. And It’s Biased Against Blacks,” *ProPublica*, May 23, 2016, <https://www.propublica.org/article/machine-bias-risk-assessments-in-criminal-sentencing>.
- (25) Walter Benjamin, “The Storyteller: Reflections on the Work of Nikolai Leskov,” in *The Novel: An Anthology of Criticism and Theory 1900–2000.*, ed. Dorothy J Hale (Cambridge, Massachusetts: Blackwell Publishing, 2006), 364.
- (26) For efforts to use fiction as a resource to introduce and legitimize perspectives on AI, see Ryan Calo et al., “Telling Stories: On Culturally Responsive Artificial Intelligence” (Seattle: University of Washington Tech Policy Lab: University of Washington Tech Policy Lab, 2020), [http://techpolicylab.uw.edu/wp-content/uploads/2021/02/TPL\\_GlobalSummit\\_Digital\\_Pages.pdf](http://techpolicylab.uw.edu/wp-content/uploads/2021/02/TPL_GlobalSummit_Digital_Pages.pdf). For speculative stories on the possible futures of current and future data-driven technologies, see Amy Johnson, ed., *Drones & Dreams: A Speculative Sprint Story Collection* (Hong Kong: Digital Asia Hub, 2019), <https://www.digitaliasiahub.org/download/drones-dreams-a-speculative-sprint-story-collection>.
- (27) Susan Cahill and Bryce Newell, “Surveillance Stories: Imagining Surveillance Futures,” *Surveillance & Society* 19, no. 4 (December 13, 2021): 412–13, <https://doi.org/10.24908/ss.v19i4.15189>.
- (28) Robert M. Davison, “The Art of Storytelling,” *Information Systems Journal* 26, no. 3 (2016): 192, <https://doi.org/10.1111/isj.12105>.
- (29) Veena Das, “What Does Ordinary Ethics Look Like?” in *Four Lectures on Ethics: Anthropological Perspectives* (Chicago, IL: Hau Books, 2016), 71.
- (30) Bernward Joerges, “Do Politics Have Artefacts?” *Social Studies of Science* 29, no. 3 (1999): 411–31.

- ( 31 ) Steven Shapin, "Proverbial Economies: How an Understanding of Some Linguistic and Social Features of Common Sense Can Throw Light on More Prestigious Bodies of Knowledge, Science for Example," *Social Studies of Science* 31, no. 5 (2001): 731–69.
- ( 32 ) Winner, Langdon. "Do Artifacts Have Politics?" *Daedalus* 109, no. 1 (1980): 121–36.
- ( 33 ) *Ibid.*, 123–24.
- ( 34 ) *Ibid.*, 123–24.
- ( 35 ) Steven Shapin, "Proverbial Economies."
- ( 36 ) Woolgar, Steve. "The Turn to Technology in Social Studies of Science." *Science, Technology, & Human Values* 16, no. 1 (1991): 20–50.
- ( 37 ) Joerges, Bernward. "Do Politics Have Artefacts?"
- ( 38 ) Woolgar, Steve, and Geoff Cooper. "Do Artefacts Have Ambivalence? Moses' Bridges, Winner's Bridges and Other Urban Legends in S&TS." *Social Studies of Science* 29, no. 3 (June 19, 1999). p. 434. <http://www.jstor.org/stable/285412>.
- ( 39 ) Joerges, Bernward. "Do Politics Have Artefacts?", 418.
- ( 40 ) *Ibid.*, 418.
- ( 41 ) *Ibid.*, 419, emphasis in original.
- ( 42 ) Winner as quoted in *Ibid.*, 421.
- ( 43 ) Shahidul Alam, "The Visual Representation of Developing Countries by Developmental Agencies and the Western Media," *Policy & Practice: A Development Education Review*, no. 5 (2007): 59–65.
- ( 44 ) Shahidul Alam, "Majority World: Challenging the West's Rhetoric of Democracy," *Amerasia Journal* 34, no. 1 (January 1, 2008): 88–98, <https://doi.org/10.17953/amer.34.1.I3176027k4q614v5>.

2

“The Parable  
of The Monkey,”  
or: How Artificial  
Intelligence  
is More Like  
Monkeys Than  
Machines

Christine Mungai

I live in Nairobi, famous for being one of the few capital cities in the world that has a national park within city limits. Nairobi National Park, just across the highway from my neighbourhood, has a large variety of wildlife including lions, buffalo, giraffe, and zebra, as well as hundreds of bird species, but the animals that we see most frequently are the vervet monkeys.

The monkey troops are clever, persistent, and daring, especially when they are hungry. They know which window leads to the kitchen, with a potential reward of food, and which window would lead to a futile bathroom or bedroom. Once they are successful in stealing food, they will keep going back to that house, which I find remarkable in a neighbourhood where all the houses look similar. And although they will first target fruit lying around, they also quickly learn other non-fruit food items are tasty and interesting—once, they stole a packet of uncooked spaghetti from our kitchen, and then perched on the roof to happily crunch at the long spaghetti, holding them in between their fingers like one would when snacking on hors d’oeuvres.

We’ve lived here for two years now, and I’ve seen a few little ones grow. As they watch their surroundings intently, clinging to their mothers’ bellies and when they’re older, balancing precariously on (mostly defunct) landline telephone wires—a quick escape route—I get the sense they must be learning the secrets of successful house-raiding. It’s generational transmission of knowledge.

A few years ago, a vervet monkey jumped over the electric fence at Gitaru Power Station in central Kenya, the biggest power station in the country in terms of installed capacity. The monkey—later described as “rogue” or “mischievous” in media reports—landed on a transformer, tripping it.<sup>(1)</sup> This triggered a cascade of events that resulted in shutting down the entire national grid as failsafe mechanisms themselves failed, and the country was without power for three hours.<sup>(2)</sup> (That monkey survived, but incidentally, encounters with power lines are a major killer of monkeys in Kenya).<sup>(3)</sup>

These stories can be replicated all over the global south. In Cape Town, South Africa, baboons break into houses and cars to steal food, and threaten city residents with their inch-long fangs.<sup>(4)</sup> In Lopburi, Thailand, authorities are grappling with a surge in the population of long-tailed macaques; they are particularly attracted to sweet drinks like soda and sweet fermented milk, which end up rotting their teeth.<sup>(5)</sup> And in Jaipur, India, troops of rhesus macaques grab fruit from market vendors and have even been known to pick-pocket residents; 90 percent of their diet now comes from foraging among humans. They eat what people eat—chocolate cookies are an apparent favourite.<sup>(6)</sup>

In all these instances, monkeys have mastered living in human-built environments, learning how and where to find food by recognizing human patterns and habits, using stealth and cunning to forage for food, teaching their young which window to go into, or which packaging on a bottle is a sugary drink and which one is just boring old water.

How can we relate this version of intelligence to how we think of predictive learning systems and artificial intelligence?

In my mind, monkeys represent a version of non-human intelligence, but we don't usually relate them to our current understanding of artificial intelligence. That's a “tech” term, and it almost goes without saying that the dominant imaginary of machine learning (ML) and artificial intelligence (AI) is racialized as White. Technology can be and is racialized, even if we are not always conscious of the racial milieu that undergirds tech discourse: just typing “robot” or “artificial intelligence” into a search engine will give results of stock images of white plastic humanoids.

Not only this, to imagine machines that are intelligent, professional, or powerful “is to imagine White machines because the White racial frame ascribes these attributes predominantly to White people,” researchers Stephen Cave and Kanta Dihal argue in their paper “The Whiteness of AI.”<sup>(7)</sup>

Even in the dominant sci-fi narrative tropes that depict power struggles between humans and AI, or to imagine machines taking over and dominating humans, is to imagine an intelligence racially coded as White. “When White people imagine being overtaken by superior beings, those beings do not resemble those races they have framed as inferior,” Cave and Dihal write. “It is unimaginable to a White audience that they will be surpassed by machines that are Black. Rather, it is by superlatives of themselves: hyper-masculine White men like Arnold Schwarzenegger as the *Terminator*, or hyper-feminine White women like Alicia Vikander as Ava in *Ex Machina*.”

Where does that leave people of colour? Either below the status of the intelligent machine, which is already happening as algorithms increasingly make automated decisions that disproportionately affect people of colour around the world, or, Black and Indigenous people are completely excluded from the imaginary of future utopias and dystopias, rendering those worlds—and the decisions today that could ultimately create those worlds—one-dimensional, and predominantly catering to White anxieties about power and domination.

How much more could we gain if we think of non-human intelligence not through the single frame of Whiteness, but through the frame of the cheeky, daring, and sometimes dangerous primates that live in cities all over the global south—monkeys, like AI, thriving

in human-built ecosystems, recognizing patterns, mastering predictive analytics, subverting failsafe mechanisms, sharing data through memory and (generational) transmission of knowledge? And with humans having taken over ecosystems that were previously wild, and then monkeys reversing that occupation in some sense and re-establishing themselves in urban environments, could AI’s potentially do the same—inhabiting spaces that were once only human?

To be sure, even with this new, fresh perspective, we cannot slide past the centuries of painful racist imagery that have compared and even equated Black people specifically to monkeys. It’s a trope to dehumanize Black people that continues to be incredibly hurtful. In the Middle Ages, Christian discourse recognised simians as devilish figures and representatives of lustful and sinful behaviour.

And today, algorithmic bias is making this even worse: last year, Facebook users who watched a newspaper video featuring Black men were asked if they wanted to “keep seeing videos about primates” by an artificial-intelligence recommendation system. And in 2015, Google’s Photos app labelled pictures of Black people as “gorillas.”

What I’m proposing here is not to elide these painful facts, but that we subvert the use of this imagery, by esteeming primates’ unique yet non-human intelligence, and placing them in that very category Whiteness believes can only be reserved for “hyperwhite” artificial intelligence.

This kind of imagery would bring the chaos of artificial intelligence front and centre, instead of the situation we now have, where it is frequently assumed that AI is as clean and tidy as those white plastic humanoids. It would also bring into focus the unpredictability and potential endurance of these new technologies. Monkeys are messy, and they frequently evade human methods to control them. But they are also an integral part of nature, not to be dominated or exterminated, but to be lived with. This goes against the contemporary anxieties presented by the White imagination in science fiction narratives—the fear of being colonised and dominated. In this way, I’m arguing that our non-White, African, framing of technology, and what it represents, which is a realist understanding that not everything in the world can be ruthlessly contained, or else is an existential threat. On the contrary, you might not be happy with a troop of monkeys raiding your kitchen, but you could still watch with a mixture of awe and annoyance as they crunch spaghetti on your rooftop.

Technology doesn’t have to be fixed into the framing that the White imagination has set for it so far. In any case, it is so much more fun and generative to think of ML/AI

systems like monkeys rather than black boxes or even white plastic humanoids. We lose so much richness in this discourse if we ignore the metaphor and analogies of dominant non-human intelligent life that is the bane of life in cities all over the global south, and their potential outsized impact, like that little monkey that shut down an entire country’s electrical grid.

Christine Mungai is a writer, journalist and curator of Baraza Media Lab<sup>(8)</sup> in Nairobi, Kenya. This article is a version of a presentation given as the opening keynote address of a two-day workshop hosted by Data & Society in partnership with Baraza Media Lab, titled “Parables of AI in/ from the Global South“ that explored storytelling as it draws and builds on or reframes theory and conceptual work in the emerging field of AI in and from the global south.

#### **Acknowledgments**

The author would like to thank Rigoberto Lara Guzmàn and Ranjit Singh at Data & Society for their rich and generative guidance in conceptualizing the arguments presented here, as well as Noopur Raval and Dibyadyuti Roy for their insights during the workshop that enriched this piece.

**Endnotes**

- (1) “Kenya nationwide blackout caused by rogue monkey,” *BBC News*, June 7, 2016. <https://www.bbc.com/news/world-africa-36475667>; Stuart Winter, “Kenya plunged into darkness by mischievous MONKEY,” *Express*, June 8, 2016. <https://www.express.co.uk/news/nature/678049/monkey-Kenya-wildlife-nature-security-Kenyan-Wildlife-Service-Hydropower>.
- (2) “How the Monkey Did It,” Owaahh, 2016. <https://owaahh.com/how-the-monkey-did-it/#prettyPhoto>.
- (3) Lydia Katsis, Pamela M. K. Cunneyworth, Katy M. E. Turner, and Andrea Presotto, “Spatial Patterns of Primate Electrocutations in Diani, Kenya,” *International Journal of Primatology* 39 (2018): 493–510. <https://link.springer.com/article/10.1007/s10764-018-0046-6>.
- (4) Kimon de Greef, “On the Front Lines of South Africa’s Baboon Wars,” *Outside*, September 5, 2017. <https://www.outsideonline.com/outdoor-adventure/environment/frontlines-south-africas-human-vs-baboon-war/>.
- (5) Karla Cripps and Kocha Olarn, “Ancient Thai city grapples with surging monkey population,” *CNN Travel*, October 13, 2020. <https://edition.cnn.com/travel/article/lopburi-monkey-temple-thailand-intl-hnk/index.html>.
- (6) Jeremy Hubbard, “Rebel Monkeys’ Wreak Havoc in India,” *ABC News*, November 13, 2009. <https://abcnews.go.com/GMA/Weekend/rebel-monkeys-wreak-havoc-india-raid-markets-break/story?id=9076884>.
- (7) Stephan Cave and Kanta Dihal, “The Whiteness of AI,” *Philosophy & Technology* 33 (2020): 685–703. <https://link.springer.com/article/10.1007/s13347-020-00415-6#Abs1>.
- (8) See: [www.barazalab.com](http://www.barazalab.com).

3

Capitalising  
on Crisis &  
Hope:  
Emigration  
& Social Media  
Ad Targeting  
in Lebanon

Sacha Robehmed

White and red colours and the maple leaf shape jumped off the screen, demanding attention. “Immigrate to Canada!” exclaimed the ad, with smaller text holding promises to help me secure residency. The image vying for my attention as I scrolled through my Facebook timeline was official and bureaucratic-looking, with serious fonts but no guarantees, and no mention of the cost.



And it was just one of many targeted adverts I'd see every day. I'm not sure exactly when they first appeared. Maybe it was during Lebanon's nationwide anti-government protests which started in earnest in October 2019. At the time, I was living in Tripoli, the northern Lebanese port city which Tripolitans called "محرومة" (*deprived*) long before the country's economic collapse, and which became known as "عروس الثورة" (*bride of the revolution*) for its active role in the uprising. When I wasn't joining Tripoli's daily 4 p.m. march of university students and activists, I'd obsessively scroll through videos of demonstrations happening across the country. People were euphoric, and the protests at times were more like massive street parties. But sometimes they became violent and scary, with rubber and live bullets fired by the army or private bodyguards of government ministers.



“Tripoli” by Nadim Kobeissi, is licensed under CC BY-ND 2.0.(1).

*“Invest in property for a golden visa in Greece!”* called out another ad in my timeline. It showed how idyllic life could be, in a whitewashed villa on a green hilltop by the calm Mediterranean blue sea and sky. A five-year residency visa, mine for the taking—for a minimum investment of 250,000 Euros, plus taxes.

Perhaps these targeted adverts started appearing in my Facebook and Instagram timelines in 2020, when the optimism of the protests was replaced by a pervasive sense of increasing desperation as the economic crisis worsened. Or maybe the ads had been there for a while, and I just scrolled past unaware, not seeing them until they jarred against the reality of daily life during an economic collapse in a failing state. Possibly it was my work creating digital products, and past experience putting together Facebook ads targeting displaced people, that brought the ads—and the humans behind them—to life.

Regardless of when they first appeared, I increasingly found myself noticing and being angry at these ads that offered hope for a different kind of life away from Lebanon, but for a price that was becoming ever out of reach for most people.



By 2020, the value of the local currency, the lira, had plummeted, precipitated by decades of government and central bank fiscal mismanagement and corruption. Prices for basic foods were higher every time I went grocery shopping; the power cuts, common even before the economic crisis, lengthened. I stopped bothering to wait at the bank for the monthly 300 dollar allowance I was permitted to withdraw from my account under the capital controls; the steel-padded branches which had been reinforced after protests targeting banks were shut due to COVID, then they'd run out of dollars anyway. Memes and online jokes dryly commented that Lebanon was determined to be number one in the world ... at inflation. Radio programs which had not long ago blasted revolutionary songs and encouraged people to take to the streets were instead filled with WhatsApp voice notes and calls, mostly from women telling heartbreaking stories of sick loved ones and their bleak financial situations, sharing their phone numbers for listeners to support them with food and medicine.

In Tripoli, boats left from the port, as people on board tried to make it to Cyprus. If they survived the trip they were sent back. It felt like every day a new brain drain statistic was discussed: the 20%, 30%, 40% of young people now leaving for opportunities abroad.

Then, the horror of the August 4th port explosion, which shattered Beirut. Scrolling through my timeline I couldn't help but watch videos: the initial fire seen from a window in one neighbourhood, a balcony in another. The moment it hits and the camera shakes and blurry humans in the images scramble, grab their kids, move away from windows. The shattered glass. The giant orange mushroom cloud as seen from a fishing boat in the sea, and a thousand angles from the city, all over social media.

*"You can't put a price on your family's safety."* In the months after the port explosion, when we learned that those in power had known about the dangerous storage of ammonium nitrate in the Beirut port and done nothing, when we saw no accountability for corruption, I was scrolling through Instagram and paused at these words of a sponsored post. It was another golden visa ad, another idyllic Mediterranean scene, calm and peaceful, but with new text laid over the image. The message was clear. The visa, the new passport, the job, the safety, the kind of life you want, that you'd started to imagine in the demonstrations of 2019, the hope for a future—all of that was still possible, but outside. (And for a fee, of course.)

These ads commodified hope and capitalised on crisis. But this wasn't invented in the social media age. That hope has echoed across time and other crises and waves of migration: the hope parents had of raising their children away from Lebanon's civil war of 1975 to 1990, like my father did; of pursuing economic opportunities in the Gulf, Brazil, Venezuela, Nigeria, or the Ivory Coast, as my grandmother's relatives did; of surviving the mobilisation of Ottoman forces known as "Safar Barlik" and the horrific famine from 1915 to 1918, as my grandfather did as a teenager, migrating before Lebanon was even a state. I'm a literal product of migration, wouldn't exist without it. So I can understand that desire to move toward hope, and life, and a future elsewhere, and to leave a country besieged by misfortune for opportunity in a new place. It's a story as old as time.

These histories of movement and migration, promises of hope fueled by crises, are not unique to Lebanon. Across the global south echo similar dreams of leaving for more lucrative work, more opportunities, a better life. They're advertised on roadside billboards in Kathmandu, as bold all caps text on A4 posters pasted to telegraph poles in Nairobi—and also online in local languages, targeted to users. Social media ads spin the same narrative of hope, offer the same dream we've seen across time and places, but in a format updated for the 21st century: digitised and mediated by an algorithm.

It was this algorithmic aspect I was curious about. The more I noticed the ads, the more I wondered: Why was I seeing these adverts? What did the Facebook algorithm know about me that made me a target? What data—something about my profile, or an action I took online or offline—led to me seeing this ad?

A few years before, I worked on a Facebook ad campaign. We used social media ads for outreach and engagement, letting people in Iraq know about a service which helped displaced people reconnect with missing loved ones. The ads had a call to action to register for the service. I dove into the world of social media advertising, learning about cost-per-click. The most effective way to run social media ads was to define the target audience as much as possible. We experimented with different visuals and text for the ads, trying to find the right content for each audience “segment.” We created different target audiences, refining by governorate, age, and gender, and tailoring the content of the ads to be more appealing to, say, women in their 60s. There was a list of interests and behaviours we could narrow down by (though at that time these were less well developed for global south audiences than they would have been for Facebook users in the US). Suggested interests included general categories like family, relationships, food, hobbies, but it was also possible to target any specific interest, like “migration,” simply by typing it in the search bar. We tried out targeting the ads according to behaviours such as the types and brands of mobile devices people were using, or travel patterns including “people currently traveling” or “people who returned from a trip two weeks ago.”

Then there was the creation of “Lookalike Audiences,” an algorithmically generated target group based on the profiles of an existing user group. By using a tracking pixel on our organisation’s website, Facebook would be able to target ads to a larger group of people which had similar traits to that initial group who had interacted with the website—and the pixel. A professional marketer has estimated that “if you go to a website ... 99 percent of the time it has a Facebook pixel.”<sup>(2)</sup> In fact, Electronic Frontier Foundation research from 2019 found that “Facebook has pixels or other cookie-sharing code on about 30% of the top 10,000 sites on the web.”<sup>(3)</sup> (It’s worth noting that both these stats are likely focused on the US. While many top websites in the US are also likely to be top sites in the global south, such as Google Search or YouTube, there are also going to be more local-specific sites that are popular, such as local news sites or local companies, which would not have been covered by the research cited.)

With this background, I could not help but wonder at the human behind the tech, the social media marketer creating ads for the businesses offering immigration

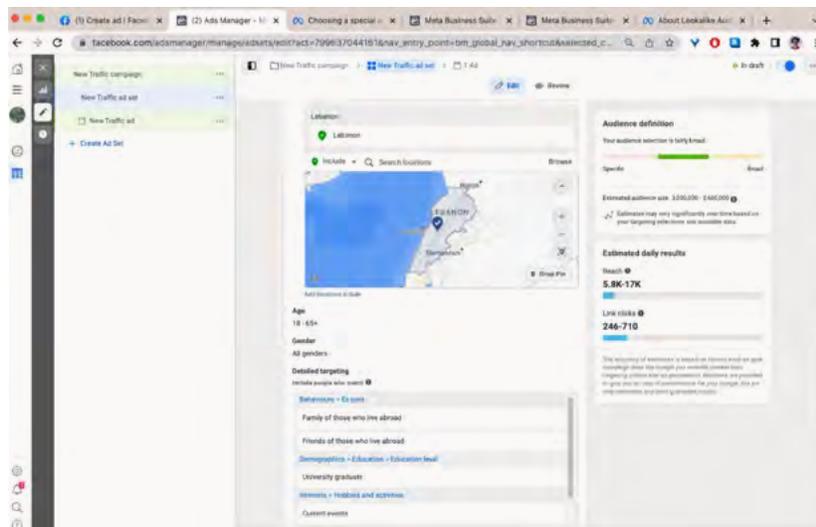
services. What were they thinking and doing to target their ads and optimise their cost-per-click that found me?

I imagined them opening up Facebook Ad Manager, clicking “Create Ad,” and then “Audience.”

Maybe they entered a location: “people living in Lebanon.”

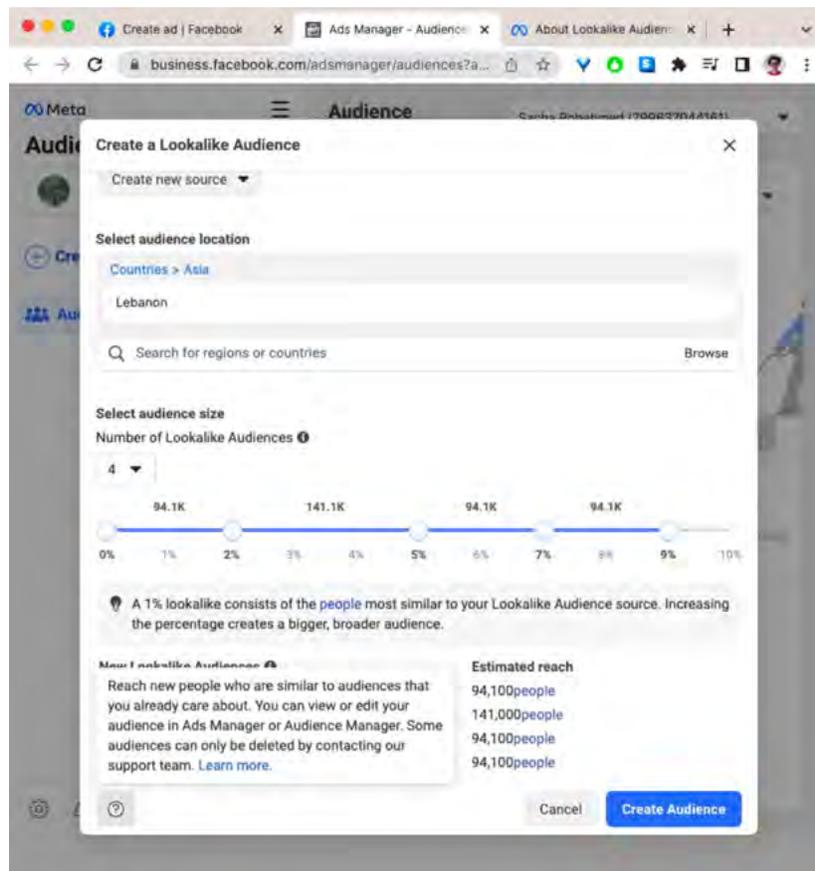
Or more likely a combination of demographics:

“people living in Lebanon; aged 18 to 40; education level: university.”



Or maybe they targeted the ads by interests and behaviours, keywords like “Canada,” “Greece,” “migration.” Maybe it was because I had liked a friend’s picture in Canada, and Instagram pictures of a friend’s lockdown stay in Kefalonia, Greece. Or perhaps it was being part of a migration research network group, or because I followed a Facebook page for work in 2016, where Syrians crossing the Mediterranean would share information.

Or did they create their own “Lookalike Audience”? I thought of everything I’d done online that might have left a cookie crumb trail picked up by Facebook pixels on web pages across the internet. Perhaps I was targeted for those searches for visa information for my partner, or browsing sites about civil marriage in Cyprus. I thought of the conversations we had had about finding somewhere to settle down and one day raise a family, the related websites we had looked at. All the times I’d turned to internet searches to find the information I needed to map out my future. Was this what Facebook had captured, and which was now reflected back by the ad algorithm and the audience segmentation of a social media marketer somewhere?



And just how personal was the targeting? Seeing these golden visa ads in Lebanon, where each day the news seemed to get worse, underscored the injustice and humiliation people were living through. I even bleakly wondered if it was this context

triggering the ads I saw daily. Perhaps the ads were targeted at those who had shown support online for the protests, by liking pages or sharing posts expressing frustrations. On the other hand, maybe they weren't so personalised at all, and instead targeted everyone in the country living through the economic collapse.

So maybe it was something in my data and online actions, information I'd willingly or unintentionally shared, or perhaps simply where I was located, that had led to my categorisation as a target for immigration and golden visa adverts. But what the algorithm didn't know is that I didn't actually *need* the opportunity that was being sold. I was fortunate to already have it. Thanks to my dad migrating in the 1970s during the civil war and meeting my (British) mum, I have the opportunity to travel easily by virtue of having a second "better" passport. With a master's degree and relatively well-paying work, I could afford to do so. I had the means and the ability to leave and build a new home outside of Lebanon. Without clicking on those immigration ads, I left Lebanon in February 2021.

But if the algorithm was seeing an inaccurate image of me, who else was being read and misread by the algorithmic gaze? Lebanon is a country of 5 million people and in 2019 about 78% used Facebook, 45% Instagram.<sup>(4)</sup> I thought about who else was seeing these adverts, and what they made of them—especially if they were more discriminated against due to their travel documents and immigration status, or didn't have the hundreds of thousands of euros needed to buy the golden visa, the one that would "keep their family safe."

I thought of the hundreds of thousands of migrant domestic workers in Lebanon. Previously paid about 300 to 400 US dollars a month, most migrant domestic workers were now getting ever diminishing monthly salaries in devaluing Lebanese pounds—if their employers were even paying them at all, blaming the economic collapse and COVID-19. In the summer of 2020, employers were leaving women from Ethiopia at the embassy, without a return ticket home while they were not able to afford one, owed months in back salary. Were migrant workers also receiving the same emigration ads as me?

I wondered about my Syrian neighbours—the caretaker of the building I lived in, his wife, and their three little girls mesmerised watching children's songs on YouTube on their parents' phones—did they see these ads? About a million Syrian refugees live in Lebanon, and the routes to asylum or refugee resettlement abroad seem more unlikely than ever with the war in its eleventh year. And there are 450,000 Palestinian refugees in the country, most born in Lebanon since 1948, but granted a travel document and not a passport, and discriminated against in many ways. Facing

more travel restrictions, and greater likelihood of visa rejections, were Syrians and Palestinians seeing the same emigration ads that I was? As Facebook and Instagram users, did we fall into the same audience that the ads targeted? In trying to label and categorise users by location, age, gender, behaviour and interests, the algorithm might have misread political realities: namely that the imagined hopeful futures of the emigration ads are not equally available to everyone.

But perhaps Syrians and Palestinians were seeing other ads, with a different angle. In the summer of 2019, already present government xenophobia escalated further, with the Ministry of Labor enforcing a policy requiring all noncitizens to pay for work permits. This was widely seen as a way to force Syrians to return to Syria, but it also affected Palestinians, who called for general strikes in many of Lebanon's Palestinian neighbourhoods and camps.<sup>(5)</sup> I remember driving along the highway at that time, appalled at seeing a billboard pasted with the Ministry of Labor logo and some slogan about *jobs for Lebanese*—blatant racism disguised as nationalism. If the Ministry of Labor rolled out a physical media campaign, somehow, it doesn't feel like too much of a stretch to imagine the ministry buying online ads for its xenophobic labour policy.

When we see ads on billboards or in other physical formats, we know other people around us are experiencing them too. But online, and mediated by the algorithm, we do not know exactly what others are seeing, if they are being shown the same adverts as we are, or not. Who else comprised the “target audience” for the ads I kept seeing in my social media newsfeeds? Were others seeing the same ads capitalising on crisis and hope?

And if they were seeing the same ads, what did they do and how did they feel? Maybe they ignored them, scrolling past, the ads commodifying hope simply disappearing in a blur of timeline content competing for attention? Or had they paused to read them, maybe even click through?

I wondered about those unknown thousands—likely millions—of other people. Did the ads make them as angry as they made me?

Each ad was a cruel digital reminder of the deepening crisis, offering the tantalising hope of a better future elsewhere. Yet few people seeing them would likely have the means to take these safe emigration escape routes.

Sacha Robehmed is a design researcher focused on technologies in humanitarian contexts. Through her research, she develops rights-based and inclusive digital services, policies, and strategies, working with refugee communities and civil society organizations. She was based in north Lebanon until 2021.

### **Acknowledgments**

A huge thank you to Ranjit Singh and Rigoberto Lara Guzmán for their supportive encouragement and nurturing of this story from a tiny seedling of an idea to its present shape. Jared McCormick, Courtney Wittekind, and Amulya Aradhyula, thank you for listening to this story and providing thoughtful feedback; I particularly appreciated how your expertise spoke to such different elements of the story. My sister, Natalie, thank you for always being my go-to reviewer! And I'm grateful to the Parables team, for their thoughtful curation of the entire process, and for convening an incredible community.

**Endnotes**

- (1) Nadim Kobeissi. "Tripoli." November 2, 2019. Photo. <https://www.flickr.com/photos/nadimkobeissi/49005962122/>.
- (2) Mae Rice. "What is a Lookalike Audience and How Can You Leverage It." *builtin* (blog), July 13, 2021. <https://builtin.com/marketing/lookalike-audiences>.
- (3) Bennett Cyphers. "A Guided Tour of the Data Facebook Uses to Target Ads." *Electronic Frontier Foundation* (blog), January 24, 2019. <https://www.eff.org/deeplinks/2019/01/guided-tour-data-facebook-uses-target-ads>.
- (4) "Media Use in the Middle East." Northwestern University in Qatar, n.d. <http://www.mideastmedia.org/survey/2019/interactive/social-media/who-use-the-following-platforms.html#>.
- (5) Julia Kassem. "Lebanon's labor minister vows to continue crackdown despite wave of protests." *Mondoweiss*, August 20, 2019. <https://mondoweiss.net/2019/08/lebanons-minister-crackdown>.

4

My Year  
Treating My  
Self-Diagnosed  
OCD with  
a Chatbot that  
Never Was

Vasundhra Dahiya

## Pilot

Last year, I diagnosed myself with Obsessive-Compulsive Disorder, a.k.a OCD. The pandemic had brought the world to a standstill, and here, I was spiraling out of control. Smashing my head felt better than listening to what was brewing inside it. It wasn't even the first time I had felt the chaos inside me. When I figured out that reading books or becoming a freelancer to afford therapy might be too much of a hassle, resorting to social media felt like THE most accessible solution (Instagram being my platform of choice).

Why didn't I get medically diagnosed, you ask? Half the time I believed I didn't need it and the other half, I got stuck on how expensive it was. It had only been a year when I began to admit to myself that I needed help, but I couldn't afford it on my postgraduate scholarship. So I thought to myself: *"What's the point?"*

I could neither afford therapy nor ask my parents for the money for therapy. That may be because of my ego (it is not wrong, to some extent) or for the simple reason that if I asked for money, I would also have to explain my problems to them. Realizing that I have mental health issues is one thing, but describing them to my parents is another. There were two ways this could go: one would come down to "ye sab ameero ke chochle hai" which translates to "Only rich kids fret about all this." One of the most common comments used to be "Mental health is a disease of the privileged," implying that thinking about mental health is a luxury. Surely, that big a statement and belief has its own cultural lineage and significance rooted in its own forms of bias. However, the belief seems to be grounded in the argument that people who suffer every day won't even have the time to think about all this. Hence the question: "Why are you thinking about this? Don't you have work to do?"

Turning mental health into a "first-world problem" is a trope I've seen and experienced many times. On some odd days (frequently, almost always), there are comparisons between my life and everyone else's to show how small or "made-up" my problems are. "It's all in your head. Once you start working, you wouldn't think about it." Then, we would move into discussions of getting a job because everyone my age is getting one, or thinking about marriage because everyone my age is doing it. From time to time, in our families, the *shadi vs padhai* debate (marriage vs [higher] education) is a group activity. The fight for freedom on the inside and outside would have me juggle two sides—to stand my ground and struggle to find a ground. There was no concrete point in discussing mental health with family as long as I'm not going

to therapy. So to understand myself better and to try to heal, I did what everyone does with limited options: scour the internet!



So, I scoured both online and offline initiatives for mental health, hoping something might just work. Spiraling in n-dimensions with a rave party of thoughts inside my head is when I accidentally found myself on an OCD recovery page. At this point, I do not even remember if I found the page, or through my Insta, it found me.

Predictably, I checked all the boxes. I relentlessly read all the posts, even comments, and yelled “Exactly!” Though I’d been called out as obsessive on many occasions by my friends for my cleaning routines, this is the only time that I actually believed it and went much deeper into what it really meant. To be fair, my obsession with symmetry is not the only thing that led me to believe that something might be going on.

During my master’s program, I had ample time to self-reflect and overthink who I am. Of course, “overthink” was not the word I used. To console the budding researcher in me, I chose the word “analysis” instead. In some situations, I figured out my answers, and in some, I entangled myself with more questions. Some of them gave me tension headaches, ruining my sleep for days, and some led to me writing subpar poems! But my friends loved them, these poems. They’d motivate me, praise me, shower me with love and questions! To be honest, this would lift me up but more often than not, my inner critic would never be silent. Even at times when I felt as though I wrote well, there was always a voice in me that kept making me feel like a total fraud. But I like to think that this kept me grounded, in its own twisted way. I mean, who doesn’t like to make the best out of waste! Of course, it wasn’t all a waste but it is comforting to think that all my *good* work has come out of tangled loops—loops that I both wanted to live with and run from.

I was determined to make my own blog, but I could not get started. No matter what ideas I came up with, I could never finish them, 'cause they never felt good enough, and most definitely, I would always (always!) find somebody way better at it. The *analysis* of such inaction and unproductivity would leave me feeling incompetent, with a dash of excruciating guilt. The guilt, in turn, would spiral me back to incompetence. I felt guilty about everything I could do but didn't. I felt guilty about every little thought I had, especially the made-up scenarios—things I had *not* even done! The next logical and almost involuntary step to counteract obsessing over these thoughts was for my brain to find how they originated in the first place. This was clubbed with a highly rational critique of the stupidity of the loop I had gotten myself into: I *defined* myself with and through this obsessive mix of incompetence and guilt. I was second-guessing myself on even the smallest of decisions. I'd keep going back to Murphy's Law: "If anything can go wrong, it will." That's being prepared, I'd think (Good analysis! :P).



My other resort was (surprise, surprise) social media. It wasn't until I threw myself into hours of scrolling and binging that I realised: everyone was talking about the same thing I was going through. AT LENGTH! In humour and in seriousness! I kept going back to Instagram to scroll through self-deprecating memes or binged shows like *Bojack Horseman* until they breathed life into me. Netflix was kind enough to suggest more shows with its infamous prompt: "More like this." Instagram was smart enough to help me find more accounts, leading me into a black hole of wholesome memes. The more I scrolled, the more I shared. I even began to think in terms of memes. This was my new language to think about mental health: part mess, part meme. The more I shared, the more people I found who had gone through the same; and the more I hated myself. *Scroll, Like, Share. Repeat.*



This cycle of realising what I was doing wrong but doing it anyway always turned out well. By “well,” I mean that there were always ups and downs to my #doomscrolling escapades. I looked past my dissonance in both those stages since the casualties were only my lil ol’ personalities.

So I scrolled. I embodied the More like this prompt. Going through this unlimited material of glorified pain, I would delude myself into feeling nothing. Obsessing over deadlines, overthinking and stagnancy would just pass by, as long as I kept scrolling through. In the midst of all this endless scrolling, I diagnosed myself with OCD and Imposter Syndrome. I would start typing extensive texts to bloggers and *certified* coaches of “safe” spaces to reach out for help but end up deleting them. It was a big relief to think “*Hey, it’s not just me!*” but my myriad fears—fear of being judged, of bothering people, of opening up—were on exhibition.

Living in an addictive digital landscape of social media was a solace. I chose to keep myself in that space even when I knew how recommendations could trap me. The predictions were for my convenience, right? So, who was to blame, my compulsiveness or the recommendations? Simultaneously, I would question the reasons for the popularity of some memes, the impact of the predictive systems, etc. Whatever the content may be, unpacking this emerging relationship between me and what I consumed—how the algorithmic recommendation system recommends me

*just the right* memes or content creators (known infamously as influencers nowadays)—seemed like an oddly satisfying activity. It made me feel like I understood the digital world a little better than the real world. In the language of *tap, likes, & shares* on some reflective meme, I'd converse with the humorous memer. This relationship that people share with influencers is transformed when memes acquire their vibe or identity or discourse. What earlier would've been a connection between people with the same idiosyncrasies was now a custom-designed computationally fastened treadmill in the digital world to consume *meme-ified* experiences.



## Me and my unhealthy expectations of productivity: *You should not relax!*

So with this going on in my head in the middle of a pandemic while simultaneously trying to finish an already delayed master’s thesis, the easiest solution that came to me was to build my own chatbot. As an (aspiring) data scientist, it gave me hope. The idea of making sense of words using a computer was exciting to me. It piqued my interest in Natural Language Processing (NLP). After watching movies like *Her*, about a non-human companion which could just “talk” like a human, it was exciting to think about companionship and language.

Back in 2018, too, I pitched creating a therapy bot for depression as my master’s major project, but it didn’t work out. (Oh, regrets, regrets!) As a rather then-beginner on the learning curve of NLP applications/programming, I eventually decided to shift to another topic (Question Answering) that I could collaborate on with my labmates.

But this time in the pandemic, when I thought about the chatbot again, my motivation to pursue the idea was different—it was only for *myself*. It was not time-constrained graded work, and with no academic stakes involved, there was no pressure! I figured it would help me learn more about myself, about OCD, about conversational agents, and also be a great distraction! It seemed exciting—having a bot analyse my thoughts as I was having them and finding patterns. In a way, it would do what I was already doing (by overthinking or writing)—but with mathematical tools to map or uncover some “insights” (as we usually talk about data pattern recognition tasks). *Using it would be like having a journal that talks back to you.* With the code, I could know more—*data-wise* and see *the bigger-picture-wise*—without wearing myself down with frustration. This irony is not lost on me: whether it is *through a journal or through code, it’s me who would be talking.*



I started with the question “How can I make a reflective bot?” Starting from ELIZA, I reached Stanford’s Woebot (an AI-powered mental health chatbot) in no time. In a study that noted the limitations of bots, I came across a comment that says such bots are not good “listeners” and give too many “bot-like responses.” This critique was common. The more I read, I found that having real-time conversations with chatbots is becoming easier with NLP. “Transformer” models were improving Natural Language Generation, so I explored the options for creating a transformer-based chatbot. The intuition behind the transformer is as “simple” as your mind trying to do the work by itself. *Fun, right?* To explain it further—the bot would go through data points multiple times, in multiple ways—encoding something, then decoding it, then connecting these. Just like we process a scenario or topic by reliving it enough times in order to understand it, transformers do the same. This was the bot I wanted.

On experimenting with transformer-based language models by feeding complex sentences as input to generate new responses, I felt some level of security. The amount of fun I was having while doing this kind of work made me question whether not being able to afford therapy was the only reason I wanted to build it. Even the thought of having such a personal digital solution felt better.

So, I downloaded apps like “Wysa” and “Inner Hour” designed to help people struggling with mental health to see if they helped and how. I had to spend 10 minutes a day on each app monitoring my “growth.” I explored a bit and ended up playing with them, acquiring weird responses as a result of my leisure research. While trying to play with apps to see how my words were processed, I forgot to process my feelings. Sure, they offered meditating exercises or links to professionals, but I wasn’t really conversing with the bots. I needed to have a conversation as close as possible to a real one with a bot. At this point, I understood what people had said about having “*a bot-like feeling.*” I felt bored, rather.

My initial reason to build a chatbot was to be able to talk to someone “trustworthy” without inhibitions. A chatbot that would understand my patterns, one to which I could tell my mood and goal of the conversation, so it could engage with me accordingly. No judgment for any or all my “rants”? Oh yes, I’d take that deal. I knew that it wasn’t an ultimate solution to my problems, but it was nevertheless charming to think of creation like this. If you’re wondering whether this put me back in the driver’s seat to overthink-town: yes, I did realise that. No, it didn’t stop me. I loved these questions because I hadn’t encountered them elsewhere. The way it led me to visualise how a pattern would be processed by a bot—the flow of it all was refreshing.

I had fun and got more invested in daydreaming about what the bot would say. More fun than I had thinking or learning how to code to achieve my imagined responses. Wondering not just what capabilities the bot would have, but transgressing into the *hows* and the *whys* of it was invigorating.

During my little adventure, I thought about the levels and nature of the usage of the bot. For my emotional well-being, will I actually share everything with it in complete honesty? Or will I end up playing with it as a programmer to make it better, regardless of my emotional state? And when my chatbot fails to acknowledge my need to be heard or misses out on understanding context, what part of me is to blame—the one looking for a solution in a conversational agent or the one that did not program the contextual learning? In any case, eventually, the question left for me to ask was what will I do when all these questions run out of steam, who do I blame?

Dreaming about this project gave me a little stability. It felt good. Of course, the potential of such a project was another thing to look forward to: *“If I could plan this out, this could be a wonderful PhD project. With ample time to pursue such an idea, I would be doing something I actually like.”* In such a passion project, I thought that if I could dive into this untapped reservoir—then tangibly speaking, it wouldn’t be an *“all for nothing”* scenario. Committing to a PhD for just the right project had been weighing on me for years then, and a project such as this made it all seem worth it. Months later, I found myself pitching this project of mine in all of my doctoral program interviews. I kept problematising/raising the question: *“How do I customise this bot for myself?”* (Oops. Sorry! For users, not just myself!) There were other queries also, like: How can such a bot be accustomed to dealing with Indian audiences? What would be my dataset? Without humans in the loop, how can the chatbot not be biased? It didn’t play out well in the interviews. There were a lot of missing pieces and more questions than answers.

In conversations with colleagues, their first concern was: *“What will this be—a regression or a classification task?”* *“This”* being: What aspects would I be operationalising into the model (and how), so that it would positively influence a user’s behaviour? To be fair, it is a valid question, but it always left me perplexed. It made me introspect the reasons why I wasn’t asking some computationally relevant questions, but I was stuck on a larger conversation that arose out of my **subjective** takes. I received responses like: *“It is all statistical!”*, *“Just bayesian!”*, *“Just patterns!”*, *“This doesn’t need your overthinking. Just follow the data.”*, *“It’s the data. Data is a reflection of society.”* They didn’t quite understand how chatbots have the potential to evoke an emotional roller-coaster.

My debates over this were endless and repetitive. Along that timeline, I started reading about the ethics of NLP, too. Then, for the hundredth time, I would tell them to google “Biases in Chatbots.” I would quote the tweets by *Tay* and direct them toward the controversies around OpenGPT-2—just to get them to be open to the idea of giving weight to subjective experiences in coding—to get them to go beyond numbers.



*“Let me interrupt your expertise with my confidence.”*

When questioning my friends’ line of thought, I got stuck with the question: Is this really all it takes to program a social bot? Or any socio-technical solution, for that matter? I wondered, why does awareness take a backseat with coders? What is social awareness for them? Am I scared of quantifying factors because of my social awareness? Is it only me who isn’t able to operationalise the right objective factors? Am I evolving when I ask these questions? Or am I just not “techie” enough to codify mental health into questions of pattern recognition in data? Do people not care much or am I caring too much? Were these questions only a part of my process? We all had almost the same academic training, so why are my questions different? What even is this academic training that makes us want to reduce pain into a minimal set of data attributes? How is an algorithm supposed to take care of my needs ... by learning the pattern of my escapades? Can emotions really be reduced to an equation? And why am I complaining about such equations when I’m looking to do the same myself? What is the personal worth of such academic knowledge that, if it does not mould me, then facilitates a flawed way of taking care of myself?



All that was left for me to do was to complete my master's degree and get a PhD admission, or a job, soon—neither of which I was mentally prepared for. When both work and life at home would be overwhelming, I'd question my intention of working at all. Rather than actually working on a decent proposal, I would spend hours questioning why I couldn't understand the technicalities—I'd either doubt the project being a distraction, or my own academic intellect, or question what I was doing. Believing I was *"not smart enough for AI coding,"* I'd curse myself for my behavior being completely lost in the field. I thought that learning to make a chatbot could be my *#Dalgona* of the pandemic, but I clearly underestimated my ability to overthink and change every thought to a full-blown project. In my own time, I did not build the bot; I did not follow through. In iteratively rationalizing my own sense of self, I was left with the inevitable question: Could it have gone any other way with all of my digital explorations? The reality in which I lived and studied couldn't possibly be replicated through an app or a chatbot, and would I even want it to? No thanks!

## Me doing literally any assignment



## Aftermath: Self and the reflections of the Past, Present, and Future

Cut to a year later. Here I am, wondering how the digital solace I shared with my screen and my social media space had made me introspect. I recall my angst when I found super-relatable “content” on bad days, which I Just. Could. Not. Absorb! Some days, I would curse, “*How can this be recommended again? I watched ONE video like this!*” A post saying something along the lines of, “*It’s okay to reach for help!*” would come. But then, a meme addressing all my concerns, fears, and insecurities would appear. One social-media-certified coach or guru would quote stoicism. Another one would ask for paid therapy online. One *memer* would make a post of ten memes streaked with dark humour. Immersing myself in it, I would feel seen—to suddenly find my *defensive self* relieved to find an opportunity to detach from the world—thereby defining a smokescreen of fun, humor, sarcasm, and wit as a purgatory of relatable content. Even when the content would instigate a feeling of guilt or shame or embarrassment, the cycle of procrastination would keep going—sometimes, maybe even faster because nothing fuels doomscrolling more than uncomfortable feelings.



The coping mechanisms kept me sane! After all, it helped me live through a pandemic in a pseudo-modern, pseudo-liberal, pseudo-conservative but (relatively privileged and) supportive place. The absurdity of my instinct to build a tool and *choose* the addictiveness is something that I wasn't brave enough to admit until recently. Seeing people make meaning off their trauma and thoughts over the years has made me feel at peace with the idea of using my stories as "data." The more people I saw doing it—the more I dissected my own thoughts and feelings and experiences through social media. It became a matter of unconsciously consuming and consciously producing. It made me feel like I'm not alone and there is something that can be done about what I was going through—personally and professionally. Not that I didn't realise I was walking a slippery slope—from "sharing content" to "creating content" and "feelings" being commodified to create content in its own way, made me revisit my concerns around the tangible worth of my thoughts.

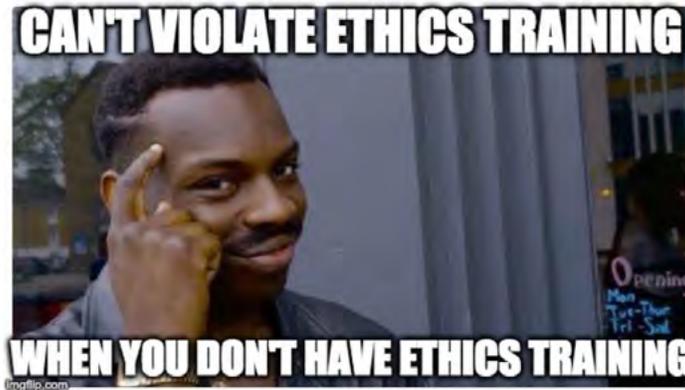
On that note, the concern to see *why* people rely on digital solutions became important. In a space where even awareness is laboriously achieved—at least the effort to get help could be made easier. To unpack the responsibility of a chatbot, I had to understand more about the social process than the digitalization of the same. Definitely, easy access to decent professional help and resources could help. If the

problem is social, psychological, or philosophical—then, the solution couldn't just be mathematical.

It's not that easy; it shouldn't be. When and how do we decide what a solution looks like and what to code? I am aware that self-diagnosing is not the right thing to do. I read, resonated and internalised to culminate the nature and reasons of my state—only to question the legitimacy of what I have imbibed from everything I consumed. Anything that could've led to such a result or “diagnosis” felt worth zooming into. So, did I reach that end because of how I process things and who I am? Or did I finally pay attention to years of consumption of media resources? Were all these feelings actually mine? Or did I (unknowingly yet again) internalise them through my everyday experiences? This curtain that I have peeked through, one that separates the real world and the digital—seems to keep peeking back at me?

My questions were necessary for me as a programmer, even if I judged their effect as a user. The reflexivity that induced all the confusion, pain, and anger eventually led to clarity and serenity. It helped me unwrap many aspects that are part of my identity—learn more about which aspects I interact with in the institutional structures in my social and professional life. *What makes me, me.* The introspection was out of desperation to understand who is at fault other than myself. It is not that I don't realise how mundane or trivial such issues can be for some people, or how unusual and consequential for others. It is just that it has led to a level of acceptance of the exploration I had set in motion.

As I was iteratively trying to rationalize my sense of self, there was the inevitable question: the reality in which I lived and studied couldn't possibly be replicated through an app, and even for “help,” would I even want it to? (*No thanks! I'll keep such destructive thoughts and actions to myself! :D*) As the programmed and the programmer, going beyond the consuming experiences produced a line of questioning for me that explored the intersections of subjective social experiences and design thinking. How I design an experience for users to feel better and how I expect the replicability of their patterns being picked up and fed to them—needed a step-by-step interrogation and indulgence into my own social experiences. What makes an experience better, for whom and why? What needs to be replicated and why? How do I consume content when I know the technology behind it? How do I do so when I don't? What makes me explore, what makes it stagnant?



We always hear that we should ask the right questions but we don't have the slightest idea what "right" means, and to whom do we ask these questions? Not coding the bot on my own but imagining it to be designed in a better way has changed me to be mindful of my usage and technical practice. From "*someone is coding out there*" to asking "*who and how are they coding*" is my journey in this tech-solutionized, social-networked world. Placing myself into societal structures deliberately has negated my anger into patience. Patience with the places I belong to, and myself too. But it is a long journey that I may always need to be on. The onus of blaming and questioning myself, unpacking its causes, my own faults and shortcomings or societal conditioning or academic training or social constraints, had been draining me. To dissociate myself from unknowingly becoming the mediator of such infrastructures, the questioning had to be there to do justice to myself and my experience: experience of not wanting to work, to not being able to work; from complaining about uncertainty to deconstructing the known; from yearning for a meaning to deriving it myself. From running away from ourselves and people to avoid emotions and then resorting to bots to address the same emotions that we've grown wary of we keep circling around, chasing the same feeling. We let this feeling be mediated by algorithms which push us to introspection through either social media (whether by influencers or their memes and content) or chatbots. Maybe, we feel safer in our filter bubble of content—until it gets tedious and overwhelming. When we desperately seek reliable sources of respite for humane interaction free of algorithmic or social biases—only then we acknowledge and attempt to understand human subjectivity.

I am writing this story down not to feel good about myself or to make up for my shortcomings (which I accept, I sincerely do!) and definitely not to glorify the trajectories I got lost on—but to share my journey of coming to terms with them. It

has turned out to be an exercise of realizing why I felt the way I did. My personal and emotional involvement with work and social media pushed me to make sense of myself and my positionality.

Even though the digital worlds kept me occupied, the inhibitions couldn't leave my mind. The solidarity that I, indirectly, received and felt was valid in its own way. However, it also felt incomplete. I am still not sure if it was me: cowardly pulling back from reaching out for help; sanely deciding for the long term; just questioning the truthfulness of digital identities; or just being scared of sharing my identity and being vulnerable. Where would I have been, had I not observed strangers converse under the veil of bombastic online solidarity?



*"I do think it would speed things up if you followed my social media."*

Aware or not, conscious or not, I feel that by 2030, everybody will become famous as content creators—"content" being our digital identities, memes, or even algorithms. Any social process we would want to escape will be mindlessly digitalised, which will safeguard us from pain, into an elusive bubble. With no "natural" intelligence, the selves will be confused about the reason for the origin of thoughts. The illusion of productivity and consistent creativity that has trapped us in a *limbo* between the

algorithmically induced vs. mentally produced creativity will finally be apparent and comprehensible by all. With acceptable monetization, we will sell these *fractured identities* for solidarity.

And maybe, with that money, we will finally get off our beds, switch off our phones—and go to our actual therapists—who are accessible without institutional hoops and social hurdles. Or perhaps, therapy bots will not have become tired of seeing our *patterns*—the one thing they are designed for—and will suggest something to counter such self-destructiveness and rescue us out of our spirals ... Who knows? As a prosumer looking for easy mental health solutions, such conundrums still have me daydreaming.

Vasundhra Dahiya is a PhD scholar in Digital Humanities at IIT Jodhpur. Her research area is algorithmic accountability. She comes with the belief that critical inspection of data practices all through the programming pipeline is imperative for accountability. Her work aims to bring together various subjectivities to inculcate more conscious and inclusive practices of designing responsible socio-technical systems. She is currently working with algorithmic accountability of mental health chatbots. Her broad research interests are ethics and fairness in AI, digital humanities, algorithmic cultures, data ethics and policy, natural language processing and conversational agents. She is an executive member of DHARTI (Digital Humanities Alliance for Research and Teaching Innovations), the DH initiative in India. She graduated as a data scientist from JNU (Jawaharlal Nehru University) and has an undergraduate degree in computer sciences from Delhi University.

### **Acknowledgments**

For organizing such an amazing event and giving me an opportunity to be a part of it, I'd like to thank the "Parables of AI" team. Thank you so much, Rigoberto Lara Guzmán and Dr. Ranjit Singh, for making me feel seen. I'm extremely privileged to have met my amazing ALC: Rekha Raghunathan, Anjali Ramachandra, Amrita De, and Dr. Ankita Sharma. Without their insightful and dedicated feedback, this journey wouldn't be complete. I'd like to thank Dr. Dibyadyuti Roy for motivating us to

write our stories. His constant feedback on my story inspired me in moments similar to the story.

Special thanks to these wonderfully perceptive women in my life: Lavanya, Vandita, Urvashi, Radhika, and Aanya. Their willingness and confidence to explore the story with me helped me formulate a great deal. Lavanya and Aanya, thank you for making me believe I could and should talk about this ... and Vandita and Radhika for being my confidantes and editors.

5

...the tool  
is under  
development...

Cheshta Arora

## Zero

Imagine a user-facing content moderation tool in the making that uses machine learning (henceforth, ML) approaches to detect offensive and problematic content in three Indian languages: Indian English, Hindi, and Tamil.

Underpinning this story is a moment of failure narrated from my perspective as one of the team members involved in developing this tool. I probe, using broad brush strokes, the events of the last few decades in the history of postcolonial India to find a proper place for this moment of failure that was otherwise a trivial incident for the rest of the team.

The failure, however, introduces the ways in which new actors—like ML models—and new ways of knowing and doing enter our fields of politics.

The narrative consists of seven vignettes. If the reader is left probing, wondering, searching for that one declarative sentence that will say it all, this story has served its purpose.

## One

There were long episodes of awkward silence forty minutes into the workshop. The activities we had planned for crowdsourcing a list of slurs, hashtags, and problematic content did not resonate with the workshop participants, a diverse cohort of activists, members of community-based organizations, academics, and individuals with strong digital presence.

This reticence on the part of the participants continued during the entire course of the workshop. A three-hour-long session had to be closed 30 minutes early. To sum it all up, the workshop was a failure.

I was part of an interdisciplinary team of computer scientists, social scientists, and activists developing a user-facing, browser-based web plug-in drawing upon ML approaches to detect hateful and violent content on social media.

Our presence on social media generates a vast amount of content, some of which is hateful and violent. A standard rhetoric of social media companies is to say that it is practically impossible to deploy human moderators to sift violent content from non-violent content (also, who will become human moderators to clean social media feeds, and for whom, is more than a technical question). Enter large-scale, industrial management of content: machine learning. In plain English, with machine learning,

a lot of hateful and non-hateful content is fed into a computer and the computer learns, through pattern recognition, the difference between the two. There is, however, a twist.

Social media platforms have been consistently gobbling up different parts of the world to increase traffic on their networks. Despite profiting off the content uploaded on their networks, these platforms don't want to invest in moderation models that could detect content in these languages, especially the ones that are spoken in the majority world. In terms of providing services, they merely rent out the online real estate without taking any responsibility for what happens on their property.

With no intention to pursue nuanced alternatives, platforms are mostly satisfied with unimaginative approaches vis-à-vis problematic content on their network. They either censor it if it affects their imaginary community or feed on it since provocative, hateful content tends to bring them more traffic.

In response, the team thought of devising a moderation tool for non-English content while also envisioning new ways to think about content moderation. I, along with the entire team, was doing the dirty work for the platforms by devising tools to make their property safer. To be sure, the platforms of Web 2.0, the social media left over from the early 2000s, is rife with all sorts of hateful content—a constant dilemma of content moderation. But to start, we chose to focus on instances of hate speech, harassment, and violence perpetrated against persons of marginalized gender and sexuality who might also be situated at other intersections of caste, religion, or ethnicity.

Even a simple list of slurs was lacking in Hindi, Indian English, and Tamil. To crowdsource a list of slurs, understanding how different individuals and groups are attacked and how they respond to these everyday threats were the first steps toward building a tool.

With this workshop, we had hoped to trigger brainstorming sessions to narrow down the definition of harmful content, arrive at trade-offs vis-à-vis over-moderation, and map other, useful non-ML features into the tool. This, we had hoped, would become part of our co-designing methodology through which we could collectively design scaled-down machines that intervene into problems specific to our lives and of those around us.

The reasons for our failure were manifold: the workshop was conducted online on Zoom, and as first-time facilitators we were told we had failed in our attempt to reproduce an atmosphere of intimacy, understanding, and confidence—that the planned activities were too intense to sustain the attention of our virtual participants

for three hours. All of these reasons and many other im/perceptible factors could have been at play. There were many obvious, perceptible mistakes that we could easily identify in hindsight. These mistakes contributed to the failure, but if there is any explanation for the failure at all, it lies elsewhere.

## TWO

During the start of our project in June 2021, our donor had published a blog post introducing it on their website. In that post, the tool was posited to reduce the problem of online violence faced by women and children everywhere and especially in India where it suggested that the problem of gender-based violence continues to intersect with India's centuries-old patriarchal society. In one stroke, this post erased years of postcolonial feminist work in the subcontinent which insists that the contemporary problems of the third world are as modern as the colonizing impulse of the first world. It also reflected an uncritical positing of tech solutions to problems that are more fundamental. It's as if we were still dealing with the postcolonial problematic of using technology to leapfrog into modernity. After reading the blog post, a feminist navigating the space of digital rights would comment that a true feminist would never undertake a project like this.

During the early months of brainstorming on the tool design, we witnessed the challenging phenomenon of online hate that had spread under the hashtag #sullideal. On Twitter, swarms of accounts began using the hashtag to harass Indian Muslim women; following this narrative of hate speech, we found at its heart an independently built application hosted on Github. The application was populated by publicly found images of assertive Indian Muslim women on social media. At the start of the app, the users were asked to click to "Find your Sullideal of the day."\* Once clicked, the app would display a picture of a Muslim woman with the tagline "Your sulli deal of the day is" along with details about her social media handles. In a twisted communitarian spirit, users also had an option to share this on their own social media pages. The pop-up invoked the trope of "auctioning"—harking back to certain facets of Islamic history where women were purportedly enslaved during war. While the Github account that had uploaded the application was taken down the next

\* "Sulli" is a derogatory term used by right-wing extremists to refer to Muslim women in India.

day, the targeted harassment and bullying continued for a good twenty days before losing its viral currency to other hashtags.

In response to this harassment, members of the women's movement in India wrote a letter condemning such actions. In their condemnation of this act, however, they uncritically lumped together several distinct topics: pornography, objectification, dehumanization, the sexualization of (Muslim) women; all were collapsed. So while the letter was weaved to cast a wide net of violence, to capture multiple issues, it also hollowed out the specificity of the problem. The women's movement had, apparently, already mapped the linguistic contours of this problem. Opponents of the women's movement pounced on this collapse of the pornographic and political, comparing #sullideal to fetish websites that presented images of Hindu women for Muslim men, further muddying the issue.

According to the dominant response by the women's movement, we were still caught in the problem of objectification, sexualization, and dehumanization where the difference between pornography and religious-gendered hate was placed on a spectrum. Pornography it seems was still a dirty word. Yet, we still don't know how to respond to young female Indian influencers on Instagram with Onlyfans accounts, digital expressions of queer sexuality on the web, Indian cam-workers on otherwise banned sites such as xHamster, amateur content of heterosexual swinger couples on MeWe, non-consensual sharing of images on Reddit channels, the proliferation of BDSM subcultures on Fetlife, or more generally, the horror that pornography is allowed on Twitter! The web is an ocean, and to think of a response for each one of these perversities would be a whirlpool.

The women's movement already knew the answers to the problem that it didn't understand.

This was the other side of the failure.

## Three

Speaking of whirlpools, I am taken back to another day. I had recently joined the team and was just one month into the literature around content moderation. Its naive reference to problems such as misogyny, sexism, racism etc. had allowed it to recruit ML/AI as part of its rescue party. Before joining the project, however, I had also dabbled with feminist approaches to technology that opened up the problematic of feminism to machines,<sup>(1)</sup> dogs,<sup>(2)</sup> turtles,<sup>(3)</sup> monkeys,<sup>(4)</sup> mice,<sup>(5)</sup> and

monsters,<sup>(6)</sup> to bodies not ending at our skin. In such articulations, the world was not neat and categorical but messy and relational. While machine-learning models can understand categories, a porous and messy world of monsters and turtles deeply entangled with the human and the machine was still an abstraction. Sadly, machines and our knowledge-making practices were not there yet. We march back to identity, misogyny, patriarchy.

Armed with these abstract, theoretical approaches to posthuman, decolonial, feminist machines, I was shamelessly demanding that we discuss the “narrative” that we want our tool to weave. Will this tool continue the abhorrent narrative of violence against women discourse? Would it be possible to code another narrative in this tool that can account for the complexities of postcolonial condition, locate a different causality to gendered, sexual violence that is other than an abstract, hollow notion of age-old patriarchy and its violent manifestations? This discussion, a team member heuristically suggested, would unleash a whirlpool. We had a timeline, we were accountable to our funders, and we could not afford to get lost.

My demand was shameless not only because it didn’t take into account more concrete concerns of tool development, timeline, etc., but because of the inconspicuous high-handedness of this question. Where tech fundamentalists demand that their machines be most efficient, the theoretically informed social scientists, in their high-handedness, demand that the machine be most radical. Both techno-solutionists and the social scientists never forget to pay their regard at the pedestals of human supremacy and its cognitive capabilities.

As I got comfortable with the messiness of the process, this deference to human cognition would come back to haunt the workshop.

## Four

During one of our one-on-one conversations with a queer feminist, on sharing the inhibition that a feature such as easy filtering of slurs could be appropriated by the troll army to block content from those at the margins, we were met with an indifferent shrug to suggest that nobody cares as long as the tool is useful for those who are targeted.

To assist us during our one-on-one conversations with activists and members of community-based organizations, we often use a MURAL board that gives a visual representation of our feature list. On the MURAL board,<sup>(7)</sup> a list is mapped onto a grid

that indicates usefulness to the user on the Y-axis and ease of development on the X-axis. The contextual identification of slurs/problematic content which requires ML approaches is on the left—our hardest task—while easy filtering of slurs is on the far right.

During another conversation with a fellow-traveller-feminist engaged in building feminist tech in India, our MURAL board was interestingly flipped upside down:

- *“Yeah well, I wouldn’t worry so much about moderation and specific detection of slurs.*

*Giving an option to make complaints easier will be great.*

*I am 50-50 about the invoke networks for action feature.  
Support networks keep changing.*

*Mental health prompts—bad, bad idea.*

*Detecting Virality is a good feature.*

*Archiving tools, perfect! One can have an entire history of incidents to make complaints. Especially if we can share it in our support network, and they can help archive every incident.*

*Tool can also suggest resources or options like: You could do this, this, this; report the post, whatever is shared on the platform, archive it, block the person, document, ignore, engage with the platform.  
Simple strategies.*

*If I had limited resources. I would keep the filtering simpler and include archiving tools as one of the features...”*

- *“Yeah well, I like how you have flipped our entire board!”  
one of us replied,  
“but ML is a high priority issue for us because we are building it for the under-resourced languages (also this is something that we have promised to the funders).”*

With each one-on-one conversation, it was becoming more and more clear that there was no desire for a more efficient, complex tool. Rather, the desire was for the simple features where one can work with the machine to mitigate the violence rather than strive to make the machine work in the background on behalf of the user.

While I was working on the project, I was also part of another that was collecting narratives of those with an active online presence who have been at the receiving end of online caste-based hate speech.<sup>(8)</sup> Our respondents pointed out pervasive discrimination that they face as content creators and how some of them who started during the early days of social media could not stand the monster that the web had become. During these conversations, I would come in at the end to ask participants to imagine a tool that could intervene into this experience. They didn't evoke an event of violence or extreme cases but instead they simply described everyday exhaustion vis-à-vis hate speech on social media. As one respondent said:

— *"It's not that we fear it but we are tired."*

**Trivia:**

Do you know of all content on social media what percentage of it is hate speech? Statistically speaking, existing literature suggests that of all content on social media, hate speech is at an abysmal 2%.

## Five

During the workshop, the participants were overwhelmed with the idea of crowdsourcing the list of slurs. They intuitively understood the inability of an ML tool to successfully distinguish between a problematic use of a slur, appropriated use of a slur, or the casual use of a slur. Then, the participants brought out the microaggressions that use humour, sarcasm, and stereotyping that form a crucial part of our politics on the web. They also pointed out that...

*"...the definition of gender-based violence itself is limited; there is tech-based violence that uses IT to harass. Given the reality of the subcontinent, the circulation of images causes more harm than the text. Most people use Facebook and Instagram. Only an urban, English-speaking elite uses Twitter."*

*“...yes, but would it be possible to crowdsource a list of slurs? How exhaustive would it be? There is a universe of language.”*  
*“...I don’t want to undermine the importance of addressing everyday, individual fatigue, but the tool should also be able to intervene at a larger structural level. We should be able to use it to make some systemic change.”*

*“...it’s important to know the limitations of tech, we come across people with huge digital divides.”*

*“...it has become a fad to develop tools.”*

The omniscient and omnipotent ghost of human supremacy had come back to haunt us. The new tool was expected to address all problems or nothing at all.

## Six

As a team, we are invested in co-designing our tool with others who would be potential users. We are informed by those ML approaches to content moderation that insist on building diverse datasets while involving activists, community members, and individuals who are at the receiving end of violence as experts and annotators to arrive at a contextualized understanding of harm. We regularly insist that the data collected during the project be placed in open access repositories. The tool itself will be free to use and modify without any prior permission. This investment and ethical considerations are theorized within the existing literature on ML as ushering in better transparency, robustness, and accountability and to keep in check the unfettered ambitions of a scientist.

Transparency, robustness, and accountability, however, are innocent justifications. What’s at stake is the fundamental question of relation. As sentient beings, what is our relationship with machines?

To come back to the question of failures, after our initial experience during the workshop, we decided to give up on the format of large focus group discussions in favour of smaller groups to arrive at some of the decisions that we must code into the model.

## Seven

*“Congratulations! You guys have built a perfect torture machine...”*

This is how one of our annotators gleefully described the annotation task. We had invited 18 expert annotators (6 for each language) from the pool of activists, journalists, and community influencers that we were in touch with to annotate the data which will be used to build the ML model. Through their annotations, these 18 experts were teaching the machine the difference between a problematic and non-problematic post. By inviting 18 expert annotators, we wanted to capture the range of harms and how the same words work differently for different people.

However, the tyranny of the machine still demanded that different annotators agree with each other to an extent. To help with that, we had a set of instructions. We came up with three labels:

1. **Is it gendered abuse when not directed?**
2. **Is it gendered abuse when directed at persons of marginalized gender and sexuality?**
3. **Is it aggressive/explicit?**

The expert annotators had to look at a post through three different lenses: the text of the post, who it is directed toward, and the perceived tone of the post. They had to read a post without a context, imagine an average context/use, and imagine a best-case scenario. As per our calculation, they could annotate 40 posts in an hour.

They had to forget and imagine the best, the average, and the worst for each post every 1.5 minutes.

In the process, we had indeed created the perfect torture machine for our annotators.

Some of the expert annotators had to be told to not overthink and some were asked to be more expansive. That is, they weren't allowed to mark “good morning” as creepy, but they could mark “you are cute” as creepy under label 2 (i.e., when directed).

Despite all our efforts, we couldn't find that fine line between a creepy and a non-creepy post. Can a text in itself be creepy or is it the action of repetitive posting? Maybe the machine will recognize a pattern that tells more than what we can know. We are awaiting their agreement score. The tool is still under development.

Cheshta Arora is a collection of cells whose work traverses the ethnographic and the theoretical to find various expressions of future immanent in the present. To that end it has been interested in studying practices and utterances that remain incomprehensible to the present. In the domain of internet studies, it is exciting at the moment to chase the cypherpunk dream of privacy, decentralization, and distribution.

### **Acknowledgments**

Thank you Jonathan Corpus Ong, David Scales, Miguel Rivera-Lanas, and Yasmin Curzi de Mendonça for listening to this story and providing thoughtful feedback and expertise.

The work was supported by the Centre for Internet and Society and Tattle through a grant from the Omidyar Network India. The tool was launched in July 2022 and can be downloaded from: <https://uli.tattle.co.in/>.

**Endnotes**

- (1) Haraway, Donna J. "A Cyborg Manifesto: Science, Technology, and Socialist-Feminism in the Late Twentieth Century." In *Simians, Cyborgs and Women: The Reinvention of Nature*, 149–81. New York: Routledge, 1991.
- (2) Haraway, Donna J. *The Companion Species Manifesto: Dogs, People, and Significant Otherness*. Chicago: University of Chicago Press, 2003.
- (3) Haraway, Donna J. *Staying with the Trouble: Making Kin in the Chthulucene*. Durham: Duke University Press Books, 2016.
- (4) Haraway, Donna J. *Primate Visions: Gender, Race, and Nature in the World of Modern Science*. New York: Routledge, 1990.
- (5) Haraway, Donna J., and Thyrza Goodeve. *Modest\_Witness@Second\_Millennium. FemaleMan\_Meets\_OncoMouse: Feminism and Technoscience*. New York: Routledge, 2018.
- (6) Haraway, Donna J. *Promises of Monsters: A Regenerative Politics for Inappropriate/d Others*. New York: Routledge, 1992.
- (7) The board can be accessed here: <https://tattle.co.in/products/ogbv/>
- (8) The report from the project is available here: <https://cis-india.org/internet-governance/blog/online-caste-hate-speech-pervasive-discrimination-and-humiliation-on-social-media>

6

Storytelling  
Images,  
Engaging  
Identities

Massimiliano Fusari



Fusari, M—  
The Tentmakers  
archive, 2014  
© Fusari /  
The Visual  
Storytelling  
Academy.

## The why

The above image is the last one of a whole series with the person in front eating some *ta'ammiya* (a very popular kind of fried food in Egypt made from mashed peas) and another one smoking his *shisha* behind him.

As I was taking photographs of my subject, I pictured an *implicit* relation between the two characters in the frame, and searched for ways to record the connection I had drawn in my mind.

After a few shots, I stopped for one last image, and—absolutely unplanned and unexpected by all, them as much as me—for a brief instant they looked in each other's direction and created a story that I could not have planned or crafted any better.

By looking in each other's directions, they *unintentionally* connected two grounds (the background with the foreground) to *implicitly* craft a story of relations. Thus, my role became one of merely representing, by orderly composing lines, spaces, and volumes to prompt in my audiences what I had previously seen in my mind: in so doing, I *explicitly* suggested a multi-layered dialogue in the form of a full range of emotions.

As Mallarme reminds us all, *a throw of dice at any time will never abolish chance.*<sup>(1)</sup> Photography, and even more so, documentary photography, is as much about preparation as it is about luck: this remains, to me, its foundational feature and the unexplainable poetic power of storytelling.

I have always been fascinated by documentary photography as a space to look into human beings. This began when I realised that, in real life, one plus one never gives you two. If one plus one gave two, we would never fall in love with the wrong person, neither would the doubts we deal with every day torture us as much.

This is *how* and *why* I began taking photographs: to make sense of myself and of others. Photography, in turn, became my toolkit and favourite form of communication. Nevertheless, each form of photography presents peculiarities: digital photography is hardly the same thing as documentary photography or the same language of film photography. To exemplify, the latter would not allow one to preview the result of the shooting, and would constrain any last second change in aesthetic decision-making, by means of the film characteristics, such as black and white versus colour, or the film speed.

The digital can surely be used as simply a different medium to do the same thing as film, and this is indeed the mainstream approach. However, and this is a huge component to my academic research, the digital form could, and—in my view—should be used as a set of communicative opportunities clearly distinct from film media.

This is justified both epistemologically and ontologically: among so many reasons, I could refer to the fact that we can preview digital images, as well as inform the digital image with specificities of any kind (from metadata to camera settings of all kinds, from deciding the colour schemes to the quality and depth of all colours and their relations, and so on), as well as, finally, the extent to which the digital form has penetrated personal and social activities, globally and across all age ranges.

Digital images, like societies, continue to develop and endlessly evolve into something different, which should be dealt with distinctly from a film photograph: does this present an opportunity for a different visual storytelling?

The project that I use as a case study for the present context is my interactive storytelling on Cairo's Tentmakers.<sup>(2)</sup> The project developed as a distinct, yet intertwined, component part of my comprehensive campaign of social communication, which integrated a material exhibition of 40 printed photographs with an online space of personal exploration.<sup>(3)</sup>

More specifically, the Tentmakers is a digital platform where users access a comprehensive archive on the tentmakers of Cairo. There are more than 400 images, all of which were researched, produced, and post-produced over my three months of staying in Egypt. Short clips and audio recordings complete a story that aims to be fully immersive without relying on VR/AR (virtual reality/augmented reality) technologies, but instead simply through the evocative power of visual storytelling.

The project thus aims to pivot interactivity as the pillar for the evolving possibilities and opportunities offered by the digital form. By doing so, I wish to challenge the rationale and communicative advantage of, for instance, replicating a material exhibition (like that of my 40 prints) *into* an online linear space.

While, in my view, the storytelling and the overall experience would indeed echo that of the physical space and little more, the digital, as a form of communication, empowers each and every one of us, as both a maker and consumer, to make much more.

Interactive storytelling is thus the key to untie the limitations and constraints that are often taken for granted on what images show and mean. Or, like Mitchell encapsulated so well, on what images want.<sup>(4)</sup>

All media files on the platform are presented as intertwined semiotic networks. As networks are semiotic, images are connected in an “open” manner and some images have been chosen to “switch” from one pathway to another.

Images do not signify univocally, and this perspective has been built as the pillar for the project to empower viewers as co-creators to the story, as they decide, at certain images, what best fits *that story in development*.

Interactive storytelling is the opportunity that the digital finally brings to the visual form. Interactive visual storytelling is the chance to make images interact, and “talk” to each other while they “talk” to their viewers.

Indeed, by allowing twists to the consequentiality of a visual story, we permit the viewers to engage the shared materials, and rely on the practice of montage to connect the dots *differently*: when dots are edited and connected differently, then the stories the dots evoke will change too. Viewers do not remain passive actors receiving visual *stimuli*, but instead evolve into empowered co-creators.

This situation is not new nor innovative in itself. Interactive frameworks have been around for a long time in literature (allow me to just mention my very favourite one, which is Julio Cortazar’s 1966 *Rayuela*).

Yet, film-based visual media could not use the same flexibility and communicative potential of the paper form, and had to wait for the digital. In other words, the digital form has just made possible what intellectually had been extensively tested on other media: this is the time to make it work for the visual form.

Such a “new” (as applied to the visual form) methodology of communicating requires and presupposes an expanded operative framework that fully intertwines the medium “photography,” the form “digital,” and the language, or grammar of communication, of “storytelling.”

At a time when identities, at both the personal and social level, get questioned to their bones, the visual is a form that is specifically relevant, if not, indeed, crucial. Digital data is more than 90% visual and more than ever we define ourselves by means of visual imagery that has become truly borderless by overcoming the limitations of verbal languages.<sup>(5)</sup>

I dedicated my professional life to document the stories of others and to find a way to tell such stories to those who don't see others as the "Other," but as a different version of themselves. When this happens, the direct consequence of such a myopia is a search for similarities, rather than an acknowledgement of differences, thus taking away from the journey its essence.

I have often witnessed how preconceived ideas and identity projections, if not stereotypes, overrule any best-intended "open" representation. With "open," I identify images that have the potential to force each and every one of us to ask truly profound questions and challenge who we are to the deepest extent.

Missing the opportunity to experience differences impedes any journey of storytelling, which, by definition, requires proceeding without assumption, expectation or ending. My approach to documentary photography is definitively grounded in this orienting principle, to search for differences, and the tool I use for my journeys of discovery is—consciously and strategically—the camera.

## The Image vs. the Images vs. the Stories



Fusari, M—  
The Tentmakers  
archive, 2014  
© Fusari /  
The Visual  
Storytelling  
Academy.

An image might be defined as a depiction of something frozen as it happens, or indeed constructed, upon architectures of time and space: it is a fragment of an unstable and permanently unwrapping whole.

Aristotle's original description of a story was as a "whole that has a beginning, a middle, and an end."<sup>(6)</sup> It is my firm conviction that much of my fascination for the image is based on the core challenge of temporality in photography: placing a fragment of time in a generative dialogue with multiple fragments of other times, at the ever-changing time of looking at the photographs. Let me clarify.



Fusari, M—  
The Tentmakers  
archive, 2014  
© Fusari /  
The Visual  
Storytelling  
Academy.

When I took the portrait of Ahmad (above), the photograph was a fragment of our lives and relation, at that specific time, as framed by the lines and shapes that I brought into the composition. That same image might hint, but *never assert*, what might have happened before and after the portrait. For instance, as he was smiling, he might have been smiling before and/or after that specific fragment of time. Equally, he might have been deeply sad inside, but decided to show me something different for whatever reason.

Yet, we still tell stories of depicted events, forging a new array of relations of the event with a before and an after: in fact, we continuously construct new, evolving, and always ungraspable temporal relations.

In generative connection with the fragment of the image at a time, it is necessary to acknowledge that there is another, fully intertwined array of temporal relations. Those of storytelling *in* the image as part of the storytelling *of* the image, and both engage the creator of the image with its viewers. What variables should a creator consider, and what are the tools they have at their disposal to tell stories? In other words, how does a creator “construct” a story?

As a creator, I might decide, for instance, to [1] set a photograph by itself alone and/or; [2] in generative relation to other photographs, thus adding a range of distinct nuances to the image’s core meaning as changed by the number, position, and carrying medium of the images in the whole series; and/or [3] in relation to specific wording/s, with distinct nuances to the image’s core meaning as changed

by the caption's content, style and length, as well as by any other texts (such as a general introduction to the topic), and altered by the specificities of the positioning of the text (with reference to the image/s) as well as by the specific limitations and opportunities of the convening platform.<sup>(7)</sup>

Up until now, both the image and the story it conveys have been addressed only at the level of production. But there is at least one further dimension of storytelling, that of the conscious/unconscious storytelling of the subject in the image, who might be, as per the example above, smiling for whatever reasons and, consciously or unconsciously, having decided to self-narrate himself in one way rather than another.

Alongside the storytelling of the "creator," there is that of the viewer, the last one I will briefly mention here. The image is endlessly the subject of many stories, precisely because its meaning is endlessly re/negotiated, if not *ab nihilo* created, in the generative relation between the stories told by the image and its viewers. In a way, these are stories of storytellings.

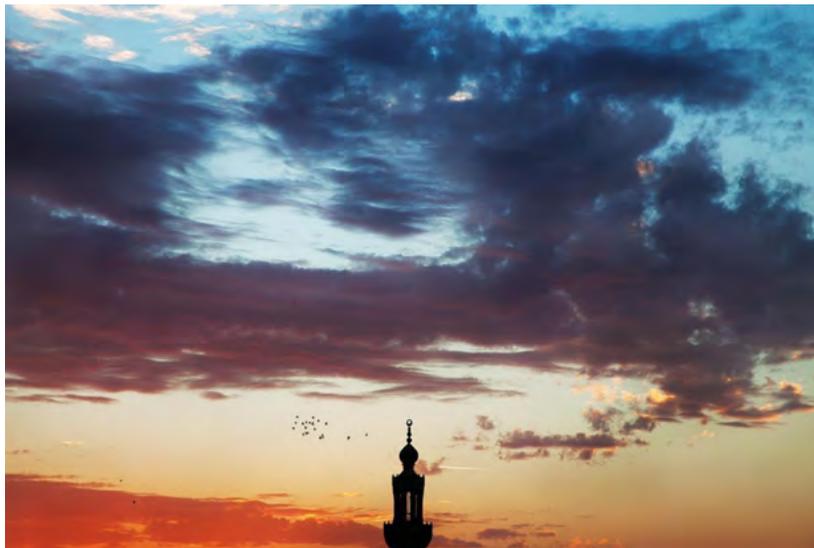
Indeed, if the viewer, any viewer, is, according to Eco, a storytelling machine, then the value and meanings of an image continues to lie beyond the image itself.<sup>(8)</sup>

Images in fact change, endlessly and eternally, by means of how, why and who looks at them, and tells stories through them, precisely because the viewer doesn't necessarily know what precedes the image as a fragment in time, nor what follows that same infinitesimal moment. Regardless of technological changes and digital innovations, what continues to define the photograph, both ontologically and epistemologically (with the camera aperture), is time and its multiple consequential fragmentations.

## A case study: from the image to its storytelling/s

The single image is a multiplicity of co-existing stories, from the portrayed image to its multiple versions as understood, narrated, and even lived by its viewers. I will now briefly refer to one single image to show how this happens in practice.

By reference to the practice of *montage*, I suggest that there is an opportunity for a conscious and strategic intervention to direct meaning-making practices through images.<sup>(9)</sup> *Montage* should be best appreciated as the conscious and finalised strategising practice of leading viewers to favour one set of interpretations, against all possible ones. As the challenge to constrain sense-making is a most daring one, *montage* is a way to order elements toward one set of expected results.



Fusari, M—  
The Tentmakers  
archive, 2014  
© Fusari /  
The Visual  
Storytelling  
Academy.

In my courses, I regularly show the above image and ask: *Does this image portray dawn or dusk?* This is an opportunity to make participants explore the diversity of feelings that each visual artifact evokes. In fact, regardless of the students' visual literacy, their feedback is varied, arguing for either option by explicit or direct reference to the very same features of the photograph.

Yet, there are two crucial, and increasingly challenging, arrays of considerations to further address: colours in any image cannot unequivocally justify one answer over

the other, as the digital medium is dramatically dependent on the creator's decision-making process, which ranges from camera settings to colour profiles.

In addition, images are endlessly post-produced, so colours are by far the first and easiest aspect to "alter," with the quality of current camera productions making edits smooth and virtually unnoticeable.

The point I'm advancing is that images challenge issues of storytelling (what can be conveyed through an image, and in relation to its supporting media) as well as those of digital communication (how a digital file is produced and post-produced, seen and pictured, visualised and narrated).

In terms of storytelling, each image is a story in itself (a fragment in time) as well as the story that each person sees at other moments in time, as viewers complement the image with their own sets of interpretations, upon and because of that image. In addition, each image is always and already *a story of its medium*, be it on paper, on a digital slideshow, or on Instagram, as well as the product of its wider framework, that of its presence into a flow of continuous and uninterrupted digital communication, be it verbal, visual, or audio.

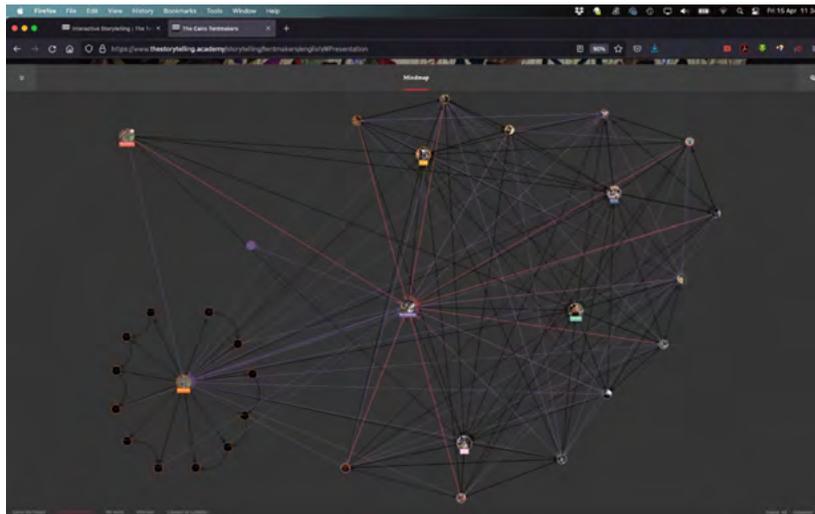
Referring back to the image above, colours cannot support, by themselves, any answers.

Instead, *montage*, merely by making images signify precisely because of their position, rather than because of their internal elements, provides all storytellers with a toolkit to manage images and storytelling complexities. By placing that image at the beginning of a story or at the end of a photo essay, the resulting storytelling will be implicitly *layered* with an element of significance, that of its positioning as a semiotic metaphor: hence the same image, and its same colours, will hint at dawn when placed at the start of a story line, or to dusk, when positioned at the very end. This is what I meant above with *montage* being a toolkit that is beyond and outside the image itself.

Arguably, such a rich framework of possibilities still doesn't solve ontological issues (what is an image), nor epistemological ones (how to tell stories through an image or a set of images/media). I posit my professional work precisely at the centre of such a challenging, evolving, and dramatically misunderstood space for intellectual and practical research.

After many years of both practice and theory, I now combine the two vectors I have at my disposal, the grammar of digital communication, i.e., storytelling, and its language, i.e., the visual by means of images, to search for ways to tell stories with images in a way that leads, as much as possible, to a predictable and expected outcome.

## Now Turn the Table Upside Down— The Cairo Tentmakers Project as Co-creation



Fusari, M—  
The Tentmakers  
archive: the  
mind-map, 2014  
© Fusari /  
The Visual  
Storytelling  
Academy.

Since I returned to academia, I have found myself puzzled by the need to find a serious and well-argued rationale for what I had been previously doing as a photographer. I began researching my professional practice for a common thread and consistent methodological flow. What was I looking at most often? How would I look at that, and even more daring and challenging, how to translate my vision into an understandable and shareable experience?

As I began challenging the issue of “to whom” I show “what” and “how” I do it, I found myself wondering whether online viewers would be best served through creative empowerment instead of any more subtle nudging, like via *montage*. If the image is, in itself, an explosion of meanings, why not allow the viewers to actively engage with them in a conscious manner, instead of reducing their irreducible plurals?

These considerations led me to the field of interactive storytelling, as a space for co-creation for all parties committed to changing the practice and aims of storytelling.

I have explored this issue with the work I produced for the University of Durham on *The Tentmakers of Cairo*. My wider aim with the project I introduced above is to question how to best make sense of the digital form in engaging and communicating

to online audiences, and why interactive storytelling might be the most effective manner to communicate strategically, as well as flexibly, when documenting cultural artefacts and social experiences.

To me, interactive storytelling is—even more than linear storytelling—about rhythm. What dictates my rhythm is a shifting grammar of best practices on montage (such as open with your establishing shot and close with the strongest image) which are then, literally, adopted and adapted by my viewers.

I advance interactive storytelling, as both a field of research and a professional practice, to support journeys of exploration leading to the “Other,” and, in turn, to myself.

I use interactive storytelling to respond to the viewers’ continuously shrinking attention span as combined with the booming of visual media productions and dissemination. My aim is to bring the viewer into the equation through the digital medium. This has become fully possible now and should be prioritised and consistently pursued as what differentiates a photographer from a visual storyteller. On the other side, allowing viewers full creative control might lead to storytelling being hijacked, as others might not necessarily share my same approach and choose personalised control over co-creation.

To manage such a challenge, I first define the space of interaction, i.e., the borders of my story, by choosing which images and what other media will be part of the story. By doing so, I inform the co-creative practice by alternating *fixed* visual pathways, the navigation of the world of Cairo’s tentmakers, with *flexible* decision-making on part of the viewers, through the knots that I set-up to allow the crossing and bridging of stories. I set up buttons (like the one highlighted below) working as hyperlinks so that viewers can disrupt, and re/make, my storytelling according to their priorities, taste, and interests: Why should I impose my story and risk alienating the viewer, when I can instead be in creative dialogue with them?



Fusari, M—  
The Tentmakers  
archive, 2014  
© Fusari /  
The Visual  
Storytelling  
Academy.

Buttons like “The Tea” shown above thus have three main missions: [1] to empower viewers with control, by allowing them to move across stories, admittedly at pre-arranged times, and, by extension, re-tell the story in a different manner; [2] to keep viewers engaged, as clicking a button allows audiences to make decisions and raise their attention span; and [3] enable quantitative tracking of audiences’ activities and chosen pathways through Google Analytics, to identify research spaces for mutual understanding and joint interpretation of stories, while allowing the creator to learn from their viewers’ interests and preferences. By doing so, I fully implement on the digital medium the possibilities of the visual form and the grammar of storytelling.

Let me briefly illustrate this using the first version of my story on bread as an example.<sup>(10)</sup>

I was really proud of the original version of this story, because it contained an image that I particularly liked and regarded as most effective in terms of communication and storytelling. Yet, through the quantitative data collected via Google Analytics, I discovered how my story, on the contrary, turned out to be the one with the highest bounce rate.

My assumptions, and personal preferences, had dramatically impacted the storytelling journey I set up for my online viewers and, in turn, affected their engagement and overall appreciation. With data-driven considerations I re/crafted my story, which then became well-received and contributed to a better navigation of the platform.

Rather than trying to impose or convince my viewers that my story was the right one, I listened to my viewers and understood that there were better ways to tell the story I had in mind, while still sharing my images to make a journey of mutual discovery.

## Conclusions

Many, many, many full moons ago, I began taking photographs with my film camera. After a while, I forced myself to overcome the fear of criticism, and slowly started sharing prints of my photographs, first with friends, and, then, with experts and professionals.

I was made aware of the recurrence of certain perspectives and aesthetic choices that were slowly turning into a style: my own way of telling stories, with images. It took me quite a lot to realise it, and see it, as I developed empirically my visual literacy skills.

I started approaching a number of epistemological concerns for my work as a documentary photographer, in addition to some ontological issues: if the photograph of an external event would—still—echo my presence by means of my own style, and my interests in terms of journey toward the “Other,” could I actually narrate anything objectively or would all narrations be just a bit more than a personal commentary? What are the implications of this concern for my work as a documentary photographer? In short, would I still be able to claim that I would *take* a picture rather than *make* a picture?

I have realised only recently how those considerations made me start my own journey of discovery as a self-reflective practitioner who would dedicate his life to photography and the ever-changing field of documentary visual storytelling.

I therefore chose to integrate my practice with the exploration and assessment of a shifting visual literacy that would lead me to explore what it means to photograph, as well as what images are, and, eventually, how images might be very differently interpreted.

In other words, I came to question what it means to communicate visually, and the extent to which an image is “visual” or multi-medial and, hence, truly multi-sensorial. I eventually came to accept that I don’t *take* photographs, but, rather, I *make photographs*, and I do so as I give greater value to my viewers as empowered co-creators of my work.

I remain aware that neither (visual) storytelling nor interactive (visual) storytelling might solve for good the challenges of communicating other identities, societies, and cultures. This has never been the case, and even less so now: I'm not that naïve.

Yet, what interactive (visual) storytelling offers to us all is the opportunity to continuously monitor our communicative abilities and results, as a sort of meditating and critically reflective toolkit to, together with viewers, endlessly learn, discover, and explore.

Massimiliano Fusari is a full professor at the H-Farm College in Venice, Italy and a results-driven digital strategist in the analysis and production of visual storytelling. He is the director of The Visual Storytelling Academy.

The platform is available at <https://www.thevisualstorytelling.academy/storytelling/tentmakers/intro/#Entrance> in both Arabic and English.

For more information, check <http://www.TheVisualStorytelling.Academy>.

### **Acknowledgments**

Thank you Mashinka Hakopian, Christina Lopez, Debashis Sinha, Amanda Du Preez, and Subhradeep Chatterjee for listening to this story and providing thoughtful feedback and expertise.

**Endnotes**

- (1) Stéphane Mallarmé, "A Dice Thrown at Any Time Never Will Abolish Chance," in *Collected Poems and Other Verse* (Oxford, UK: Oxford University Press, 2006). [https://monoskop.org/images/e/e9/Mallarme\\_Stephane\\_1897\\_2006\\_A\\_Dice\\_Thrown\\_at\\_Any\\_Time\\_Never\\_Will\\_Abolish\\_Chance.pdf](https://monoskop.org/images/e/e9/Mallarme_Stephane_1897_2006_A_Dice_Thrown_at_Any_Time_Never_Will_Abolish_Chance.pdf).
- (2) See: <https://www.thevisualstorytelling.academy/storytelling/tentmakers/intro/#Entrance>.
- (3) See: [https://www.thestorytelling.academy/storytelling/tentmakers/english/#The\\_Exhibition](https://www.thestorytelling.academy/storytelling/tentmakers/english/#The_Exhibition).
- (4) W. J. T. Mitchell, "What Do Pictures 'Really' Want?" *October* 77 (1996): 71–82. <https://doi.org/10.2307/778960>.
- (5) "Cisco Annual Internet Report (2018–2023) White Paper," Cisco, March 9, 2020. <https://www.cisco.com/c/en/us/solutions/collateral/executive-perspectives/annual-internet-report/white-paper-c11-741490.html>.
- (6) Aristotle, *Poetics*. <http://www.perseus.tufts.edu/hopper/text?doc=Aristot.+Poet.+1450b>.
- (7) Massimiliano Fusari, "Representing the Bektashis: Exploring Epistemologies in Visual Anthropology," in Mattia Guidetti and Sara Mondini (eds.), «*A mari usque ad mare*»: *Cultura visuale e materiale dall'Adriatico all'India* (Venice, IT: Venice University Press, 2016). <https://edizionicafoscari.unive.it/en/edizioni4/libri/978-88-6969-086-0/representing-the-bektashis>.
- (8) Umberto Eco, *The Name of the Rose* (San Diego: Warner Books, 1980). [https://www.academia.edu/40205917/THE\\_NAME\\_OF\\_THE\\_ROSE\\_Translated\\_from\\_the\\_Italian\\_by\\_William\\_Weaver\\_A\\_Warner\\_Communications\\_Company\\_2](https://www.academia.edu/40205917/THE_NAME_OF_THE_ROSE_Translated_from_the_Italian_by_William_Weaver_A_Warner_Communications_Company_2).
- (9) Massimiliano Fusari, "From the Photograph to the Meta-Image My Practice-Led Search for a New Digital Epistemology," *Proceedings* 2017, 1(9): 889; <https://doi.org/10.3390/proceedings1090889>.
- (10) See: <https://www.thestorytelling.academy/storytelling/tentmakers/english/#Bread>.

7

In the Mood  
for Love  
(In and Out  
of the Code  
Worlds)

Héctor Beltrán

I'm not sure if I've ever been on a date with someone you would consider a hacker. But I am sure that I've asked a lot of hackers about their love lives. Or, rather, I've asked a lot of hackers about their lives away from the computer. I've thus heard a range of stories about how they approach love, relationships, and dating. This started, because as I moved across different spaces with hacker-entrepreneurs, from Mexico to the US and back, from hackathons to their university spaces to their hacker school, I wanted to know how much of their hacker selves carried over to everyday spaces.

In her book, *Liquidated: An Ethnography of Wall Street*, Karen Ho studies the construction of financial markets and bursting of market bubbles. She focuses on the daily practices, the values and dispositions that come to define Wall Street's culture. She argues that investment bankers see themselves as incarnations of the market—they become one with its rhythms and movements.

I wondered, were there similar dynamics at play for code workers? Did they become one with logics that drive the code worlds, with the rhythms and movements from the worlds of computing?

My investigation was inspired by previous researchers of software development who understand that what's "in the code" is always influenced by more than the code itself. In *Software Studies: A Lexicon*, for example, Matthew Fuller convenes multidisciplinary scholars who develop a vocabulary for understanding how the speed and rationality of computation meet with its ostensible outside (users, culture, aesthetics). What ends up in the code proper, as well as the very style and approach one brings to coding, is influenced by the dispositions carefully cultivated by conditions around us, and vice versa. In her longitudinal and multi-sited ethnography *Coding Freedom: The Ethics and Aesthetics of Hacking*, Biella Coleman notes that because the technical craft of coding requires a constant awareness and rearrangement of form, software programmers develop competence in transferring mental dispositions into other arenas of life.

While much of ethnographic fieldwork revolves around conducting participant observation, I also wanted to ask specific questions that would provoke reflection from research participants themselves about how they saw particular subjectivities transferring from their coding lives to their everyday lives.

After all, my chosen research group was not the typical subaltern group, waiting to have their voices amplified, but many times aligned more with the "superalterns" other anthropologists have identified, ready and willing to provide their opinions and assessments. Many of the young people I conducted research with over the years were happy to narrate their own practices as they figured things out, as they moved between the

majority and minority world to understand how things work. They attempted to mobilize the “problem-solving mentality” inculcated into students by university computer science and engineering programs. So I began asking them: “What other aspects of your life do you feel are most influenced by your identity/role as a software developer? Can you think of examples that illustrate this?”

My interlocutors gave responses about how they build communities, how they feel about belonging to different collectives, and how they solve problems across various domains of their lives. They talked about the requirements of writing good algorithms (speed and efficiency) as well as how their flexibility on the labor market (contracts and ephemerality) end up creeping into their social relationships. Some of their responses can only be properly filed under “when hacking goes wrong.” The following stories highlight some of their representative responses and reveal how practices from the code worlds infiltrate their quests for belonging, intimacy, and even love.

---

One thread of answers fell along the line of “no separation.” These developers wanted me to understand that there was no distinction between their roles as software developers and other aspects of their lives. They carried their identities with them all the time even as they separated themselves physically from their computers. Cofi, for example, told me, “It’s not like I can suddenly turn it off or on. I’m always a coder and I’m always thinking like a coder... When I shower, when I eat, even when I sleep. I dream of code.” Cofi wanted me to understand that his coder self was never compromised and that it wasn’t something that he could simply leave aside.

Another line of responses revolved around the way coders approached specific everyday activities such as cooking and gardening as well as recreational social practices such as camping. They highlighted how they brought the same organizational and planning approaches to these domains as to their code. TecnoChica, or T.C., explained to me that before they even start cooking, they know exactly what they are going to do. They have the recipe and a plan, they know where the ingredients are, and they even know how long it is going to take. This was quite different from their partner’s cooking style, who gets into the kitchen without a plan necessarily, and frequently has to run out (or send T.C.) to the corner store mid-preparation because they are missing an ingredient. These self-reflections were based on comparisons with their partner’s approach to activities, as T.C. elaborated in another example: “El otro día mi pareja se sintió con ansias. Esto,

porque el jardín necesitaba una manita para mejorarlo y pensaba que nunca lo haría y que lo pospondría por mucho tiempo. Pero en realidad yo lo estuve pensando en mi cabeza durante días y lo tenía todo visualizado. Después sucedió que hice todo como en dos horas, rápido y eficiente. Franz cuando vio, se ha quedado super impresionada.” (The other day my partner was feeling anxious. The garden needed a little hand and they thought I was never going to do it and that I would put it off for a long time. But I was actually thinking about what I was going to do for days. It was all in my head. Then one day I did it all in like 2 hours, fast and efficient. Franz saw and was super impressed.) *Rápido y eficiente*, “fast and efficient” were the words T.C. used to describe their garden work. Their approach to everyday activities was carefully planned and streamlined, always with an eye toward saving labor. Indeed, these qualities are representative of good code and a good coder: well organized, efficient, and against unnecessary lag or repetition.

Lotar added another activity to this thread of examples when he mentioned camping during a recent trip to California. “Creo que es porque nunca he acampado pero investigué un montón antes acerca de esta actividad. Me gusta tener la mayor cantidad de información posible para el viaje. Así es como le entro a cualquier nuevo proyecto. Hago un chingo de investigación y me gusta tener opciones y herramientas disponibles antes de entrarle a cualquier cosa. Para cuando llegue el momento hacerlo de la manera más eficiente posible.” (I think it’s because I had never been camping before, but I did a lot of research about the activity. I wanted to have the most possible information for the trip. That’s how I approach any new project. I do a shit load of research and I like to have options and the best possible tools available before I jump into anything new, so that when the time comes I can do it as efficiently as possible). By including the keyword “eficiente” in his response, Lotar confirms the connection to self-learning and careful preparation that many coders see themselves possessing and bringing into their social lives.

Most of the responses from my research participants showed that they saw these crossings were positive. They agreed that an approach of self-cultivation, having the best tools at hand, and careful planning and efficiency could be successfully applied to other domains of life, and in fact, the world might be better if we all did. If one could hack away in the code worlds, why not hack the world around us?

But what about the flip side? What happens when hacking the world goes wrong? If my research participants brought their hacking sensibilities from the code worlds to other domains of life, then unsurprisingly they also brought them to their love lives. One respondent who had substantial experience with attempting to make the laws of the code

worlds function in the love worlds was Hiro. Hiro identified as more of a hardware hacker, adept at navigating the different layers of the computing stack; he was having luck in the labor market, as companies would hire him to create early prototypes of their products.

One set of stories Hiro told me were about how he attempted to hack the dating scene during a period when he was in San Francisco working for a company on the next generation of wireless chargers. He was being paid well but in San Francisco it was just enough to pay rent and to eat. Dating, he reminded me, was expensive! Even if both parties agreed to pay for their own meals and entertainment, dating still required that Hiro spent more than he would have budgeted in order to go out. So he came up with a hack. He bought himself an annual membership to the San Francisco Exploratorium. For a \$60 fee, he got unlimited visits and the annual membership allowed him to bring a guest for free. With the regular entrance fee of \$10, he only had to go on more than 3 dates to make it a good value. But the membership benefits also included two free drinks. “Because in this country they are so liberal,” he explained to me, “my dates end up offering to pay for both drinks, since I paid for the entrance. I go get the drinks, they don’t see that they were actually included, and they end up Venmo-ing for the drinks. I’ve actually made money off of the membership!” Hiro recounted his dating hack with much enthusiasm, letting me know that this actually encouraged him to go on dates every week.

But sometimes “hacking the dating scene” went wrong. Hiro went on dates frequently to make his annual membership a good value. As he executed his subroutine for dating, if you will, there were times when two series of dates might overlap, meaning there were various (potential) partners he might confuse. So Hiro made it a case to find partners with the same name. He told me the story of the two Marias. He was having coffee with Maria No. 1 when Maria No. 2 texted him, looking to make plans for later that evening. Hiro stepped out of the coffee shop, and texted Maria that he would call her later to make plans since he was currently on a business lunch. Of course, in his hurry, Hiro accidentally texted Maria No. 1, still inside the coffee shop. As he walked back in, she greeted him with a perplexed look, and asked “Why did you just text me this?” as she held up her phone in dismay. Maria No. 1 didn’t finish her \$7 iced coffee mint mojito. Hiro asked for his to go. It was their last date.

Hiro explained to me that it was a moment when “adding redundancy to the system had gone wrong.” While he was being facetious, and I think that dating the two Marias simultaneously was more coincidence than strategic maneuvering, the fact that he gave this story as part of his response to my prompt and that he referenced redundancy was quite revealing. In computer systems design, integrating redundancy can mean duplicating

critical components or functions of a system in case one fails to make the overall system more reliable. In this case, dating two persons at the same time provided Hiro with some sort of security that at least one would maybe work out. That they both had the same name seemed to provide security that he wouldn't screw things up by mixing up their names. It didn't quite work out that way, and for those wondering—it also didn't work out with Maria No. 2. Neither Maria No. 1 nor Maria No. 2 were available for comment.

Returning to his Exploratorium hack, I asked Hiro if he didn't get bored by going to the same place so many times. "It was boring since the first time I went," he responded. "The less physics and math you know, the more magical that place seems." Apparently Hiro wasn't enthralled by the hundreds of exhibits inside the galleries that promised to provoke "joyful exploration" or to allow guests' "curiosity to roam free." Hiro seemed to bring his "how things work" and systematic approach to explaining the behind the scenes "magic" that the Exploratorium sold. Some of Hiro's dates must have also felt his boredom or weren't excited by his approach, which might explain why some of them "ghosted" him during the date. "One told me she was going to the bathroom and never came back," Hiro laughed. Fortunately for him, this disillusioned date still Venmo-ed him for the drinks.

Having dates go wrong might not be particular to participants of the code worlds. Misadventures and faux pas in the dating world are the stuff that makes television series and interesting stories to share with friends across many social circles. But this lack of "magic" in dates and romantic relationships crept up in interesting ways in my respondents' stories. Rodo's response to my prompt, about how his life as a software developer influenced other aspects of his social life, started with, "Well my girlfriend once told me she didn't want MIT in bed with us." Rodo was a student in the MIT summer coding bootcamp I helped teach at UNAM in the summer of 2014. While I initially visualized his response quite literally, that Rodo was perhaps so attached to his laptop that he wanted to keep working on the coding assignments from the MIT course even while he was in his bed, his story was more complicated.

For Rodo's girlfriend, Estefy, having MIT in bed with them referenced the way in which Rodo was approaching their sexual life. Rodo continued to reflect: "It wasn't because I'm always thinking about the code. She was really annoyed with my *mala chamba* [doing a bad job], with the way I was translating the fastness and efficiency of a good algorithm into my performance in bed." Rodo started to understand that Estefy wanted him to slow down, take his time, and concentrate on the task at hand. Rodo had been discussing the MIT course with Estefy, a visual arts student, throughout the summer. He had mentioned our lessons on the core principles of writing good algorithms—their simple elegance

defined by their speed and efficient execution. So Estefy was associating this approach to their sex life, to which she felt Rodo was bringing an unwelcome “MIT approach.” On the one hand, Rodo told me that sometimes Estefy would get upset because he seemed to be somewhere else during their romantic couplings. He admitted that he was many times indeed thinking about how to better his code. Estefy was perhaps yearning for a sexual experience that wasn’t defined by the tempo dictated by the world of efficient coding, with MIT representing the apex of these practices. That she didn’t want MIT in bed with them seemed to be a warning to Rodo to leave the hacking in the code worlds, or at least at the door before he entered the bedroom.

Another of my respondents, Cofi, told me that his partner had even named his laptop to express her disapproval of his lack of attention to her. His partner would say things like, “Are you going to be able to have dinner with me or do you have plans with Mildred?” Mildred was not a name he used but one that his partner had assigned to his laptop, fully personifying the machine as an entity that had an important enough presence to intervene in their plans. The code worlds, the named machine that carried them, and the institutional leviathan that represented them had come to interfere in my respondents’ quest for love and romance in ways that they had not expected.

To be fair to my respondents, I have to mention that some did listen to their partner’s complaints and that there were attempts to rectify their shortcomings. On one of my return trips to Mexico City, about five years after my initial fieldwork and interviews, I visited with Rodo and I was happy to hear that he was still with Estefy. He was quite excited to tell me about one of his recent attempts to limit the degree to which he transferred the logic of the code worlds to the magic of the bedroom. He had signed up for an “alternative masculinities” Zoom workshop. These types of extracurricular and self-help workshops had proliferated and become increasingly popular during the 2020 pandemic with experts from diverse domains increasing access to their expertise and services using social media and Zoom.

Rodo hyped me up on the course telling me that it was not only super informative but that for him it had taught him how to be a better lover. Intrigued, I signed up for the Zoom course and connected with the instructor, a self-proclaimed alternative masculinities guru, as well as with Spanish speakers across Latin America for two days. As the guru led us on a journey to unpack masculinity, we learned about the myths of penis size, the importance of taking focus away from penetration in order to fully enjoy sex, self-exploration and practicing orgasm control with masturbation to concentrate on pleasuring your partner. We practiced “being there” by closing our eyes and eating

our favorite fruit slowly. I chose a mango, especially because I had privileged access to fresher, juicier ones in Mexico than I did in the US. Eventually we introduced ourselves, our names, professions/backgrounds, and what had inspired us to take the course. I was somewhat disillusioned when I didn't hear that any of the other participants were software developers. In a perfect conclusion to this story, I would have told you that there were many engineers and computer scientists working collaboratively on deconstructing their masculinist and technical approaches to the world. The truth is that the majority of the participants shared similar profiles: artists, academics, nature-loving types; most had long hair and scruffy beards; many lit up spliffs as we started the course. I wondered—why weren't there more programmers here, and on the flip side, why weren't more of these eco-friendly, spliff-rolling men getting their hands dirty in the code worlds? What would it take for them to be as turned on by the code as Rodo and other code workers? Isn't acquiring the efficiency and technique of the code worlds also sexy? Why might the subjectivities of "pleasure" from the world of alternative masculinities appear to be so bounded off from the worlds of computing? Might the problem not be more about our inability to communicate across these bounded domains, or better yet, to exist in the boundaries between them in order to reimagine and reconstruct these very boundaries?

I was certainly happy that Rodo had taken the course and started to make these connections, however. Now every time I'm eating a mango, I think of these questions, of Rodo's stories, as well as the stories of Estefy, Cofi, T.C., Lotar, and Hiro as they searched for love, in and out of the code worlds.

Héctor Beltrán is a sociocultural anthropologist who draws upon his background in computer science to understand how the technical aspects of computing intersect with issues of identity, race, ethnicity, class, and nation.

### **Acknowledgments**

Thank you Borhane Blili-Hamelin, Itzamna Huerta, Dibyadyuti Roy, Ipshita Ghosh, and Rafael Poiate for listening to this story and providing thoughtful feedback and expertise.

8

The Digital  
Silk Road as  
Planetary  
Intelligence:  
A Story of  
China in Africa

Andrea Pollio



Luthuli Avenue.  
Photo taken  
by the author.

## 1.

For almost eighteen months now, as of February 2022, I have been studying the presence and impact of Chinese technology companies in East Africa, where cities like Nairobi have become the experimental testbeds of China's high-tech presence in the continent. This phenomenon is broadly referred to as the Digital Silk Road, signaling that China's global program of connectivity—the Belt and Road Initiative<sup>(1)</sup>—is complemented by investments in digital infrastructure.

With a topic as controversial as China in Africa, friends and colleagues often ask how I ended up researching something so daunting and complex. In response, I have a few stories that I use interchangeably. One of these stories begins in a pub in Sydney, Australia, where I lived during my doctoral studies. It must have been the beginning of summer 2017, and I was busy writing the last chapter of my dissertation. During the previous three years, I had been researching the interface between Silicon Valley's entrepreneurial cultures and the world of antipoverty in Cape Town, a city that portrayed itself as Africa's startup capital: its Silicon Cape.<sup>(2)</sup>

My advisor had forwarded me an email from a young urbanist interested in digital innovation. He was considering the idea of enrolling in a PhD programme, and, three years into my doctorate, I was the right person to talk to for advice. When we caught up, on a warm and wet Sydney evening, I told him about my work, about how wonderful and intense my field research in Cape Town had been, and how fascinating it was to think about the technopolitics of digital entrepreneurship in urban Africa. He listened quietly and then came back with a laconic question: “But what about China?” he asked, his foam-ringed beer glass almost empty.

I was puzzled. I replied: “What about it?” Until then, China had never been within the horizon of questions that I had come to expect and fear as a PhD student. In response, my interlocutor explained that with the Digital Silk Road and other infrastructural investments in Africa, he thought I would have something to say about the Chinese digital presence in the continent. Was it a neocolonial strategy? Had China inaugurated a new era of technological development? What were African startups doing to attract Chinese capital? Were the Chinese setting up hidden backdoors in their equipment to spy on African governments?

I sheepishly responded that I had nothing to say about China, but all of a sudden that same question—*what about China?*—seemed to be everywhere. It was around then that large Chinese technology companies began appearing in Western media more and more frequently, and often in connection to cybersecurity concerns in Africa.<sup>(3)</sup> Only a few weeks after that first conversation, for example, the African edition of French newspaper *Le Monde* alleged that computers in the African Union’s headquarters in Addis Ababa were connecting every night to servers in Shanghai, and that the Chinese-funded, -designed, and -developed futuristic building as a whole was bugged by secret microphones.<sup>(4)</sup>

Two years later, back at home in Italy, and without a long-term job, I found myself watching Prime Minister Conte and China’s state chairman Xi meet in Villa Madama to celebrate Italy’s support over the so-called 21st Century Maritime Silk Road. It was against the backdrop of their handshake (at an ivy-covered Renaissance mansion, flanked by the flags of China, Italy, and the European Union), that I crafted a project proposal seeking funding from the EU to study these new “Silk Roads” in Africa. It was a strategic move, at a time when so many EU countries were considering or already partnering with China, and asking bewildering questions about China’s long game, or whether Africa had been a laboratory for its future geopolitical moves. After all, Asia has always elicited mixed emotions in Europe, between fear and fascination,

as Edward Said pointed out in his well-known study of cultural representations of the East in the West.<sup>(5)</sup> As Xi journeyed across the capitals of the continent, those same emotions reverberated in the media, swinging between overt sinophobia and a more subtle incapacity to engage global China beyond Europe's own history of modernity and coloniality.<sup>(6)</sup>

This is my full disclosure. I started my current research funded by a large geospatial institution—the European Union—to study another large geospatial phenomenon of our time—the One Belt One Road. And although I do not know to what extent my success in getting funding from the EU was determined by the choice of a timely topic at a topical moment, the reason I start this story from its (auto)biographical origins is because research projects like mine begin from a single data point—the conditions of possibility of research—in which the interaction of geopolitical and personal parables is inextricable. In my case, as I will explain in the lines that follow, my research project has turned out to be (much more than I originally envisioned), about data, technology, and the global scales of artificial intelligence brought about by China's connectivity projects in Africa. And yet these large, almost unfathomably vast, artificially intelligent systems are the result of single, innumerable data points which, blending personal and geopolitical intelligences, like my own story into this research, always begin somewhere, never too far away from the storyteller.

## 2.

数字一带一路 (Shuzi yidai yilu) means Digital—as in *made of numerical data*—one belt one road. Described by some as a high-tech neocolonial effort,<sup>(7)</sup> the geopolitics of the Digital Silk Road are particularly puzzling. Many Chinese corporations in the digital realm are not state-owned enterprises. In fact, they have had a long, fraught relationship with the state, oscillating between being championed and undermined,<sup>(8)</sup> as demonstrated by the recent crackdown on their financial leeways.<sup>(9)</sup> However, as a few scholars of technology have shown, tech companies were at the forefront of China's experiments with market liberalization in the 1980s and 1990s,<sup>(10)</sup> and in renegotiating its place in the world after decades of isolation. Anecdotally, ICT companies were among the first industries to be allowed to import and experiment with foreign equipment in the late 1970s.<sup>(11)</sup> They henceforth enjoyed a unique freedom in finding foreign markets in the early 2000s. But while Africa has indeed

been a testbed for Chinese technology going global,<sup>(12)</sup> just like it has been for state construction companies,<sup>(13)</sup> the Digital Silk Road seems the haphazard, at times collaborative,<sup>(14)</sup> at times contradictory act of many “digital champions” rather than a concerted neocolonial effort. In other words, the digital shadow of “Global China”<sup>(15)</sup> in Africa still remains to be outlined.

### 3.

When I landed in Kenya in June 2021, I initially stayed in a small, half-furnished apartment overlooking the construction site of the new expressway, an elevated highway poised to connect Nairobi’s international airport, the city centre, and its middle class suburbs. Funded and built by a Chinese contractor, the new toll road was at once a roaring mess and an engineering marvel (and the emblem of new infrastructural anxieties of sovereignty).<sup>(16)</sup> One of the promises of the Chinese firm was to automate the construction process by using prefabricated blocks, thereby reducing the construction time of the project. At night, until very early in the morning, long precast girders would be rolled across and suspended over the span of newly built columns. Meanwhile, some 70 km outside the city, Huawei was building Kenya’s national data centre in Konza, a greenfield smart city designed to become the country’s technological hub.<sup>(17)</sup> The expressway and the data centre—respectively built by a state-owned enterprise and a private technology giant—were part of the same undisclosed deal between China and Kenya, and therefore illustrate the inextricable ties between One Belt One Road infrastructure and its digital sub-brand.

Despite this, Kenya is not officially part of the Digital Silk Road. A report by CARI, the China in Africa Research Initiative at Johns Hopkins University, recently explained that very few ICT projects in Africa have been branded under the banner of the Digital Silk Road—none of which are in Kenya.<sup>(18)</sup> Despite this, Chinese tech companies have been incredibly active in the country, from building the national broadband backbone,<sup>(19)</sup> to realizing the almost-legendary migration of Kenyan mobile money (M-Pesa<sup>(20)</sup>) user data from German to local servers.<sup>(21)</sup>

Perhaps pinpointing what the Digital Silk Road actually is or does is less useful than using it as a malleable, powerful concept to capture the emergence of a new planetary ecosystem of data through which China is scripting a new, non-eurocentric, multipolar technological present.<sup>(22)</sup> The very history of the Silk Road, as a concept, is telling. As Tim Winter narrates in his book on the use of heritage

in contemporary Chinese soft power,<sup>(23)</sup> the Silk Road was originally a European invention, a trace on the imperial map of the world that intentionally followed the easiest commercial routes in the scramble for Asia. And yet that European concept also mapped a long gone moment in history during which China was at the centre of global trade—a narrative that contemporary China does not shy away from using today to reclaim its planetary economic dominance.<sup>(24)</sup> With these two insights in mind—that the Silk Road is a malleable geocultural concept that captures different geopolitical imaginations depending on who’s using it, and that it follows rather than creates new fabrics of connectivity—I set off in my fieldwork asking a very banal and practical question: Where did Chinese tech—namely the most mundane of devices such as feature phones and smartphones—first arrive in Kenya? I suspected that finding the landing point would be a gateway to the digital-corporate nexus of the Chinese presence in the country and on the continent.

#### 4.

I didn’t need to wait long to discover that of all the bustling commercial hubs in the city, Luthuli Avenue and the surrounding streets in downtown Nairobi was the pulsating hub of the Digital Silk Road for Kenya. On Luthuli, along a stretch of a few hundred metres, almost a thousand electronic stores sell, buy, repair, repurpose, and refurbish Chinese tech. A colleague and friend suggested that I speak to one of his nephews, the owner of a small electronics store in the area. “At first it was Nokia,” he explained, recalling the time when Luthuli Avenue had become Nairobi’s commercial hub for mobile phones. Nokia, the Finnish company, sold affordable and yet durable, sturdy phones. Not only did the battery last for days, Nokia phones were also easy to repair. “Then it was Samsung,” he continued, explaining that the South Korean company had been the first to break into the affordable smartphone market. Samsung also sold other affordable hardware, from TVs to washing machines. Eventually, however, Chinese companies such as TECNO and Huawei had taken over. Today, Luthuli Avenue is cluttered with signs of these Chinese companies—Oraimo, Tecno, Itel, Xiaomi, Oppo, Sinix and Haier—with only a few remaining Samsung and Nokia banners.

One story that explains this change is that Chinese hardware companies were better placed to understand the media and communication needs of what media scholar Jack Linchuan Qiu has called “working class network society,”<sup>(25)</sup> because they had more than a decade of experience serving the urban poor and rural

migrants in the booming cities of China. Kenya, and Africa more broadly, I was told several times by Chinese managers and other employees of tech companies, had some striking similarities with the early days of the Chinese mobile boom. At the same time, the experience of selling affordable phones to the masses in China had taught many hardware entrepreneurs how to deploy mass campaigns replicating and adapting older Maoist strategies of mobilization<sup>( 26 )</sup> and encircling the cities from the countryside.<sup>( 27 )</sup> With that came the insight that selling devices to the bottom of the economic pyramid was not a race to the bottom at all, I was told by a former Nokia design consultant who'd worked in Kenya for many years. If anything, she elaborated over a long Zoom call from Finland, it was a race to understanding market segmentation at a level of detail that would inform engineering decisions—for example, in striking a perfect balance between the computing power and the battery life of devices. To do so, Chinese companies had to rely as much as they could on local intelligence. Not just on a couple of local hires, but a much more complex ecology of data.

## 5.

The first or the last kind of data—depending from which side one looks at the economic transaction of a Chinese mobile phone ending up in the hands of a Kenyan user—is sales data. Sales data is crucial for a company to understand when a particular model or line has reached the end of its shelf life as well as to gauge the exact pricing point to shift from one market segment to another. But accurate sales data is a logistical problem. With thousands of small electronic stores scattered around the country and very few official retailers it is very hard to compound sales intelligence. Not just that: according to my research participants, while some Chinese brands do have official distributors in East Africa, many stores bulk import devices from alternative sources: Somali stores, for example, source Chinese and other tech from the Arab Gulf countries, especially the Emirates. Other stores have a direct line with African agents working in the port cities of China. If this logistical complexity wasn't enough, each single sale transaction is never the same. There is no fixed price for Chinese phones. In the same shop, on the same day, the same device might be sold at ten different prices, I was told by a shop owner on Luthuli Avenue.

To overcome this complexity, Chinese tech companies have adopted a sales-agent model. After each transaction is negotiated, the sale is eventually recorded into

machine-readable files by an army of thousands of sales assistants. Each specialized in a particular brand, or even a specific product line, these sales agents are one of the engines of a large data ecosystem wired from the streets of Nairobi to the headquarters of tech companies in cities like Shenzhen and Beijing. These sales agents often receive a basic salary from the company as well as a cut on each item sold. They compete with each other in larger shops that sell more than one brand. They are also the prongs of a very sensitive machine. By gathering fine-grained data each day, sales and marketing teams can make immediate decisions. A social media campaign manager for a Chinese phone brand in Kenya, for example, explained to me that any change in sales patterns is immediately followed up to understand what is causing a slump or surge. This data is then put into action by the sales agent—who might be retrained, or encouraged to change strategy, to modify the layout of their shop, to reduce prices, or else—but also by the mothership in mainland China, where production decisions are made.

In fact, production decisions are made on a much wider set of information beyond sales data. With my research assistant, I sat down for an interview with a former employee of one of these companies. He'd been recruited as a university student, in the early days of the mobile boom in Kenya. His task was to walk the streets around the university, find students who were using a particular mobile phone, interview them about the user interface and about the specs, and report these responses into an online feedback system. Later on, he was asked to take hundreds of photos a day—photos of Kenyan people casually busy with their chores. The photos served the purpose of training the AI of new cameras to recognize dark skins. As a result, many Chinese phones are much better at capturing faces with high melanin levels than other brands. Ultimately, my informant had become a manager in the local R&D department, managing a swarm of university students recruited to continuously test new products and new features so as to inform market-sound manufacturing decisions. They, too, often used Luthuli Avenue as an experimental site, interviewing passersby and gathering additional UX data.

## 6.

Finally, phones themselves are sources of data, through a plethora of applications that gather information about users' media and financial behaviors. Some Chinese phone brands have developed or are developing their own operating systems, as alternatives to Android and Apple's iOS. This is not just the case of Huawei, which was forced to launch HarmonyOS after it was placed on the Entity List by the US government,<sup>(28)</sup> but it is the case of other Chinese brands that have their own application marketplaces. In fact, some of the most downloaded apps in sub-Saharan Africa have been developed by Chinese firms. Think of Boomplay, the music-streaming platform dedicated to African artists: Boomplay is the brainchild of the software arm of Transsion, the company that owns TECNO and other phone brands sold in East Africa. If you scroll through the apps of a TECNO phone, traditional Android applications coexist with an exclusive ecology of apps specific to TECNO and other Transsion labels. I discussed this with a Kenyan tech journalist, a popular YouTuber who films reviews of phones and other gadgets. "It is as if these brands are getting ready for a post-android time in which Chinese phones will run on their separate ecosystem," he told me, while we shared a sirupy dawa one early afternoon. Other online commentators more conspiratorially speculate that all these applications hide spyware.<sup>(29)</sup> It is not a secret that advertising-led business models are, in fact, always based on tracking users.

Whether being tracked is one of the tradeoffs for accessing media platforms for free, or a sinister form of "surveillance capitalism,"<sup>(30)</sup> the swarms of information connecting Africa and China are incredibly complex and diverse. In fact, they involve much more than surveillance. And much more than phones. In Kenya alone, for example, a company such as Huawei is involved in the mobile money business (with M-Pesa), in the sale of high-end smartphones and other tech gadgets, in the data center industry, in the national hardwired broadband plan, and in the construction of Safaricom's 5G network.

Even Chinese companies that do not sell devices or equipment, such as Opera, the Norwegian browser now owned by Chinese gaming billionaire Zhou Yahui, produce large amounts of data with their browsing, news, media, messaging, financial, and entertainment platforms.<sup>(31)</sup> From his glazed corporate office overlooking Nairobi's fast-changing skyline, the chief editor of Opera News East Africa proudly told me that his division had engineered the largest crowd-sourced, AI-powered news platform on the continent.

Given this complexity, my early reporting from my field research suggests that the Digital Silk Road could, and perhaps should, be conceptualized as the geospatial intelligence of a planetary scale phenomenon, a shift in the geopolitics of information toward a multipolar technological order.<sup>(32)</sup> In this I draw on Benjamin Bratton's<sup>(33)</sup> and others'<sup>(34)</sup> insight that artificial intelligence is not the property of a single software, or of a single device. It is an emerging feature of complexity, of humans and things living, organizing, and transforming the planet.<sup>(35)</sup>

As I have narrated, the substrate of the DSR is both organic and inorganic, it is the accidental result of myriad devices, applications, shops, sales agents, users, and a data infrastructure that functions through undersea cables, telephone towers, excel spreadsheets manually filled in every day, multiple operating systems, and everything in between. Seen in this way, the DSR also sheds light on what Kate Crawford calls “registries of power,”<sup>(36)</sup> the colonial, mineral, labor, and other planetary layers of artificial intelligence, as well as on its singularities: the unique data points that feed this system, surfacing from multiple other types of intelligence—economic, technical, affective and otherwise—in the streets of a city like Nairobi.

Andrea Pollio holds a PhD in economic geography and urban studies from the Institute of Culture and Society, University of Western Sydney. He researches and writes about tech and development in urban Africa (mostly).

### **Acknowledgments**

Thanks to Marie-Therese Png, Seyram Avle, Alessio Koliulis, Hannah Claus, Tom Cowan, Ranjit Singh, Rigoberto Lara Guzmán, Ali Bhagat, Francesca Governa, Liza R. Cirolia, Alexandria Williams, and Jack Ong'iro Odeo. The research for this project is funded by a Marie Skłodowska-Curie fellowship, grant number SURGE 886772.

**Endnotes**

- (1) Xiangming Chen, Julie Tian Miao, and Xue Li, *The Belt and Road Initiative as Epochal Regionalisation* (London: Routledge, 2021).
- (2) Andrea Pollio, "Making the silicon cape of Africa: Tales, theories and the narration of startup urbanism," *Urban Studies* 57, no. 13 (2020): 2715–2732.
- (3) Iginio Gagliardone, *China, Africa, and the Future of the Internet* (London: ZedBooks, 2019).
- (4) Par Ghalia Kadiri and Joan Tilouine, "A Addis-Abeba, le siège de l'Union africaine espionné par Pékin", *Le Monde Afrique*, (26 January 2018).
- (5) Edward Said, *Orientalism* (New York: Pantheon Books, 1978).
- (6) Wang Hui, *The Politics of Imagining Asia* (Cambridge: Harvard University Press, 2011).
- (7) <https://www.recordedfuture.com/china-digital-colonialism-espionage-silk-road/> [accessed 02.03.2022] See also Willem H. Gravett, "Digital coloniser? China and artificial intelligence in Africa," *Survival* 62, no. 6 (2020): 153–178.
- (8) On the story of Huawei, for example, see Wen, *The Huawei Model*.
- (9) Brian Liu and Raquel Leslie, "China's Tech Crackdown: A Year-in-Review", *Lawfare*, (January 7, 2022).
- (10) Yu Hong, *Networking China: The Digital Transformation of the Chinese Economy* (Urbana, Chicago and Springfield: University of Illinois Press, 2017).
- (11) Wen, *The Huawei Model*.
- (12) Deborah Brautigam, *The dragon's gift: the real story of China in Africa* (Oxford: Oxford University Press, 2011).
- (13) Zhengli Huang and Xiangming Chen, "Is China Building Africa?" *European Financial Review*, (July 2016): 7–13.
- (14) Ding Fei, Abdi Ismail Samatar, and Chuan Liao, "Chinese–African encounters in high tech sectors: Comparative investigation of Chinese workplace regimes in Ethiopia," *Development Policy Review* 36, no 1 (2018): 455–475.
- (15) Ching Kwan Lee, *The specter of global China* (Chicago: University of Chicago Press, 2020).
- (16) Wangui Kimari, "'Under construction': everyday anxieties and the proliferating social meanings of China in Kenya", *Africa* 91, no. 1 (2021): 135–152.
- (17) Prince K. Guma and Jochen Monstadt, "Smart city making? The spread of ICT-driven plans and infrastructures in Nairobi," *Urban Geography* 42, no. 3 (2021): 360–381.
- (18) Henry Tugendhat and Julia Voo, "China's Digital Silk Road in Africa and the Future of Internet Governance", Working Paper No. 2021/50 (Washington, DC: China Africa Research Initiative, School of Advanced International Studies, Johns Hopkins University, 2021).
- (19) Stefano Calzati, "'Data sovereignty' or 'Data colonialism'? Exploring the Chinese involvement in Africa's ICTs: a document review on Kenya", *Journal of Contemporary African Studies* (2022): 1-16.
- (20) Prince K. Guma and Mwangi Mwaura, "Infrastructural configurations of mobile telephony in urban Africa: vignettes from Buru Buru, Nairobi." *Journal of Eastern African Studies* 15, no. 4 (2021): 527–545.
- (21) Henry Tugendhat, "How Huawei succeeds in Africa: Training and knowledge transfers in Kenya and Nigeria," Working Paper, No. 2020/34 (Washington, DC: China Africa Research Initiative, School of Advanced International Studies, Johns Hopkins University, 2020).
- (22) On technodiversity, see Yuk Hui, *The question concerning Technology in China: An Essay in Cosmotronics* (Falmouth: Urbanomics, 2017). And the forthcoming: Benjamin Bratton, Bogna Konior and Anna Greenspan (eds.), *Machine Decision is Not Final: China and the History and Future of AI* (Falmouth: Urbanomics, 2022).
- (23) Tim Winter, *Geocultural Power* (Chicago: University of Chicago Press, 2019).

- ( 24 ) Winter, *Geocultural Power*. See also Ban Wang (ed.) *Chinese visions of world order: Tianxia, culture, and world politics* (Durham: Duke University Press, 2017); Aihwa Ong, “Buoyancy: Blue Territorialization of Asian Power,” in Frank Billé (ed.), *Voluminous States* (Durham: Duke University Press, 2020: 191–204).
- ( 25 ) Jack Linchuan Qiu, *Working-class network society: Communication technology and the information have-less in urban China* (Cambridge: MIT Press, 2009).
- ( 26 ) Wen, *The Huawei Model*.
- ( 27 ) Xiaowei Wang, *Blockchain chicken farm: And other stories of tech in China's countryside* (New York: FSG Originals, 2020).
- ( 28 ) Wen, *The Huawei Model*.
- ( 29 ) <https://www.bbc.com/news/technology-53903436> [accessed 03.02.2022]
- ( 30 ) Shoshana Zuboff, *The Age of Surveillance Capitalism: The Fight for a Human Future at the New Frontier of Power* (New York: PublicAffairs, 2019).
- ( 31 ) Brain Wasuma, “Chinese Billionaire Behind Kenya Mobile Lending Platforms,” *The Nation* (9 April 2021).
- ( 32 ) Hui, *The question concerning Technology in China*.
- ( 33 ) Benjamin H. Bratton, “Outing Artificial Intelligence. Reckoning with Turing Tests,” in Matteo Pasquinelli (ed.), *Alleys of Your Mind. Augmented Intelligence and Its Traumas* (Lüneburg: Meson press, 2015: 69–80).
- ( 34 ) Orit Halpern, “Planetary Intelligence,” in Jonathan Roberge and Michael Castelle (eds.) *The Cultural Life of Machine Learning*, (Cham: Palgrave Macmillan, 2021: 227–256).
- ( 35 ) Benjamin H. Bratton, “Planetary Sapience”, *Noema* (June 17, 2021).
- ( 36 ) Kate Crawford, *Atlas of AI* (New Haven: Yale University Press, 2021).

9

Identification  
and  
Misrecognition  
in an  
Identity  
Database

Zehra Hashmi

“You know that mosque at the corner of this street? The caretaker of that mosque got a letter from NADRA [the National Database and Registration Authority] addressed to me. He was the one who read it out. When I heard the words ‘your identity card is temporarily blocked,’ I nearly had a heart attack.”

This was how Brekhna Bibi, a Pashtun woman who lives in an informal settlement in Islamabad, told me that her card had been “blocked.” She had been placed under “citizen re-verification” by NADRA, the techno-bureaucratic organization that manages Pakistan’s national identity database and produces the biometric-based national identity card.

Brekhna Bibi was responding to my question, early on in my fieldwork in 2017, about how people found out that their card, often still in their possession, had been blocked? While Brekhna had received an official notice from NADRA, many citizens find out that their card is blocked when they try to use it. For instance, many of my interlocutors had found out about their blocked card when trying to buy a cell phone chip.

Yet, at the time of our conversation, Brekhna had just returned home after an errand, immediately taking the ID card off her person and carefully placing it in a steel trunk in her room. She told me that ever since she was informed that her card was blocked she keeps her ID card safe under lock and key in that trunk. “Every time I look at that piece of paper it causes me so much stress and takes me back to that time when I first heard that news.” Brekhna’s card was never physically confiscated from her—in a sense, the computational affordances of the biometric-based national identity card allow for it to be remotely “turned off.” Nevertheless, she maintained an anxiety-laden association with the material card itself.

## *Asl aur Naqal* Making “Genuine” Pakistanis

In 2016, Pakistan’s interior minister announced that NADRA would be “re-verifying” identity cards as part of a broad national security drive. In NADRA’s terms, this effort to re-verify identity cards was aimed at differentiating non-Pakistanis from Pakistanis.

The immediate reason behind the 2016 press conference and the public announcement of a mass identity re-verification campaign was an American drone strike that killed Afghan Taliban leader Mullah Mansoor. Mansoor, an Afghan, was not only killed in Pakistan but was also found to be in possession of a NADRA identity card

and a Pakistani passport under the name Wali Ahmed—an incident that subsequently became a source of considerable international embarrassment for Pakistan. The minister reported at the press conference that around 200,000 “fake” cards had been blocked. A blocked card meant that the card holder’s citizenship status was “under verification.” It also meant that the blocked card holder would no longer be able to do a range of things, from buying property and voting to enrolling children in school or buying a SIM card for their phone.

The minister recognized that some “genuine” Pakistani citizens might be affected but that they would be given a chance to appeal their case through NADRA.

Brekhna Bibi was one of these “genuine Pakistanis.” Her concerns about her identity card were intertwined with her home, always at risk of demolition. Brekhna Bibi lives in a small *katchi abaadi*, an informal settlement, in Islamabad. *Katchi abaadis* are often termed “encroachments” by city authorities, but since the formal residential sector began to grow, middle-class people’s houses were in fact beginning to encroach into Brekhna’s settlement, now encircling the *katchi abaadi* dwellers.

Brekhna Bibi is active, confrontational, and loud in her fight against city authorities’ threats of demolition. She is fond of telling stories about how her name has brought bulldozers to a screeching halt in the past. An important source of her influence is the amount of time she has spent in the hallways and offices of bureaucrats: “getting work done.” As for her middle-class neighbors, she shares an electricity line with one of them, in return for which she pays most of the bill. She is forced to be civil but is not shy about confronting them with sharp words when they redirect monsoon water that floods her home. Her home, and its precarious location, was an important part of Brekhna’s desire to be recognized in an official domain. When discussing her blocked card, Brekhna Bibi appeared personally offended; it was not only her legal status but also her reputation that was at stake, crucial to maintaining her position in her community.

To re-verify her status, she frantically traveled from Islamabad to multiple cities and her hometown to collect crucial identifying documents and bring these to her board interview—an interview-based process where a number of officials from NADRA as well as occasionally the intelligence agencies would question those being reverified.

## *Pakistan Ka Matlab Kya?* Citizenship: A Moving Target

In order to meet the documentary requirements for reverification, blocked persons had to demonstrate in particular that they were inhabitants of Pakistan before 1978. During my fieldwork, when I first encountered this date, I became curious about which particular historical event it was supposed to signify—in other words, why 1978?

As I spoke to NADRA officials, they referenced not only one but a few interconnected events. First, in the late 1970s, a large number of Afghan refugees entered Pakistan due to the Soviet invasion of Afghanistan. Second, in the wake of the violent civil war of 1971, which led to the separation of East Pakistan and the creation of an independent Bangladesh, the criteria of Pakistani citizenship was amended to reflect the country's new territorial configurations. While Pakistani citizenship can be acquired by birth, descent, migration, naturalization, or marriage, each path to citizenship has its own conditions and caveats.

Further, Pakistani citizenship can also be revoked: in effect, after 1971, those who continued to reside in the territories that became Bangladesh “lost” the right to Pakistani citizenship.\*

While Pakistan's citizenship law was passed in 1951, the decade of the 1970s was instrumental in shaping the meaning of citizenship in Pakistan. This was not only due to the creation of Bangladesh, which has been called a “second partition” of the Indian subcontinent—an event that indeed brought questions of belonging to Pakistan to the fore yet again—but the changing meaning of citizenship was also connected to the Cold War, as it unfolded in South Asia and began to intensify on Pakistan's western frontier during the 1970's, ultimately culminating in the Soviet Invasion of Afghanistan. In the context of increasing Soviet influence at its borders, the Pakistani state grew increasingly concerned about dissident activity, particularly

\* My book manuscript explores why a citizenship amendment was passed in Pakistan in 1978, more than six years after Bangladesh came into existence. In fact, by December 1972, a Temporary Provision Order was in effect regulating (and restricting) which Pakistanis were cleared for repatriation (to West Pakistan) under the Delhi Agreement and which East Pakistanis could be excluded from claims to Pakistani citizenship. In this context, the 1978 amendment was likely an attempt to settle the question of citizenship for the Bihari or “Urdu-speaking” community still in Bangladesh (commonly referred to as “stranded Pakistanis”) and for negotiating the terms (and numbers) of relocation to Pakistan.

in relation to the anti-state movements in regions bordering Afghanistan.

Pakistan's first national identity card scheme was launched within this milieu of insecurity, suspicion and anxiety. This anxiety centered on the question of who belonged and who did not. In particular, for the early paper-based identity registration system, the figure of the "Afghan" residing in Pakistan posed a special problem—not least because government officials simultaneously questioned how "Afghans" had acquired Pakistani identity cards alongside the difficulty of ascertaining whether some of these "Afghans" were in fact definitively *not* Pakistani.<sup>(1)</sup>

To reduce the level of ambiguity surrounding this question, and in order to impose more stringent identity verification criteria, Pakistan's early identity registration system deployed the documentation of kinship. The identity registry included a list of household members in its paper registers, and eventually began to require that family members accompany the individual applying for an identity card, as a means to authenticate individual citizen identity.<sup>(2)</sup> This legacy of a household registry, which accompanies individual identity documentation, came to coalesce in the identity database at present.

Yet, it is important to recognize that NADRA's identification practices are not part of a linear historical trajectory. Rather, variegated, historical contingencies inform NADRA's production of digital citizen identity. Through this historical context we can see how biometrics, today, do not function solely as an individualizing technology. As an evidentiary technology, biometrics came to be deployed toward the authentication of familial relations. In so doing, they reveal the ways that biometrics and databases—even as they emerged late as technologies of identification—are imbricated within a longer history of identifying communities of belonging. Further, the quality of citizenship is passed on through kinship, imbricated within the ability to prove inter-generational descent.

While NADRA recruits information about kinship through extant documentary infrastructures, kinship's role—as a technology of scalar identification—is repurposed and refigured anew. It is precisely the movement and meaning of identification in the lives of ordinary people like Brekhna that we must follow.

## *Rast-e-Rishtidari* Vectors of Relatedness

Identity re-verification also required Brekhna to evidence not just her individual identity but also to authenticate her relations with her family members. And so, while Brekhna had managed to successfully re-verify her identity and her citizenship, she remained severely anxious about her status. This was because her daughter was married to an Afghan refugee—one of approximately four million, many of whom share neighborhoods, social networks and kin with Pakistani Pashtuns. This Afghan man, Rasheed, had fallen in love with Khaista, Brekhna’s daughter. Rasheed had convinced Brekhna Bibi that despite his precarious refugee status he was a hardworking man, a taxi driver, who would provide for Khaista. Brekhna told me that Rasheed indeed had not left any need unmet and most importantly, was very respectful toward his mother-in-law.

Khaista’s daughter, Brekhna’s granddaughter, was now old enough to go to school, but she did not have the document required for enrollment in public schools. This document, called the “B-form,” is essentially a list of family members for each household. To get the B-form for her daughter, Khaista would need an ID card first, and that was the problem. Early on in their marriage, Khaista and Rasheed had accompanied Rasheed’s family to a wedding in Kabul. Brekhna Bibi explained “my throat went hoarse telling Khaista, ‘Don’t go to this wedding, don’t go to Afghanistan.’ While Khaista was there, there was some trouble so they could not come back. She got stuck there for months.”

She eventually had to return through the Torkham border crossing. When Khaista crossed Torkham, border officials took a photograph and all ten fingerprints on the biometric reader. Brekhna Bibi told me this in an exasperated tone with her head in her hands. The whole family was now terrified that if Khaista went to NADRA now—on the basis of fingerprints recorded at the border now digitally transmittable—NADRA might know that she was married to an Afghan and had traveled to Afghanistan, all pointing to the assumption that she, too, was likely Afghan. While legally Khaista and her husband could hold different citizenship statuses (and indeed they do), given that digital identification is structured to rely on a model of networked kinship, it was likely to flag Khaista’s case as potentially one of dubious citizenship. As a result, on the basis of Khaista’s (marital) link to an Afghan, NADRA could potentially deny her an identity card.

Biometrics, and perhaps more importantly their imaginary, take on a unique significance in this context. Ordinary citizens with cross-border familial networks are forced to speculate about the digital affordances of databases as well as biometrics, which could trump existing identity documentation and entitlements.

Brekhna Bibi's hesitation and concern for her own identity card, which came up repeatedly during our conversation about Khaista's card, emerged from a combination of unknowability (not knowing what NADRA knows) and anxieties about a chain of kin relations that threatened contagious connection: her own to Khaista's, Khaista's to her husband, and his to his Afghan kin. Thus, Khaista's identification by NADRA was not hers alone but connected to her husband as well as her mother.

The identity-card holder engages NADRA's identification protocols collectively (as a family) as opposed to as a single individual. In part, this is a function of how the database is structured. It heightens the visibility of relatedness, such that if one is related to a noncitizen, it brings the citizen into the fold of suspicion as well. How this both connects and departs from the regime of legal citizenship creates a space of indetermination that ordinary citizens like Brekhna frequently struggle with. My conversations with Brekhna illuminated that datified kin were not only entities in a database, but lived and experienced. Families as well as individuals were both objects and subjects of data.

Months later, I was visiting Brekhna Bibi at her home and she mentioned that she had just returned from the NADRA Registration Center—one of my primary sites during ethnographic fieldwork, where I spent time with Data Entry Operators and other NADRA employees as they processed identity registration cases.

Brekhna told me she had accompanied her other daughter and her daughter-in-law—not Khaista—who were both registering for fresh ID cards. It had all gone smoothly. The Data Entry Operator they were assigned turned out to be a former neighbor (who lived in the formal part of their neighborhood, not the informal settlement). It had taken her a while to place him. "Did you live behind Azhar Mahmood's (a well-known Pakistani cricketer, now retired) house?" she asked him. He looked surprised and said yes. Then he recognized her as well. "Aunty, I think I've seen you around too!" Once this familiarity was established, Brekhna Bibi felt more comfortable now that he was an acquaintance, and so told him about Khaista's problem. He told her to come the following morning, and if Khaista's biometric records *didn't* show up already, he would be able to make the card.

Recounting this, Brekhna said, “I think this is the right moment for me to be entirely honest with NADRA.” She proceeded to narrate the speech I had heard a few times. It was an opportunity to rehearse the truth. She repeated that *this*—Khaista’s marriage—was the girl’s *kismet*, her fate. Even ending up across a closed border was another iteration of ill-luck. She was quick to clarify: Khaista’s husband is a good man and a caring father. The fact that he happens to be Afghan ... that was up to God. She intended to go into NADRA and tell them this quite honestly. How could they dispute that this was a matter of *kismet* and no fault of her or her daughter’s?

She had even set a condition for their marriage: Khaista’s husband would never take her to Afghanistan permanently, as she didn’t want her to be so far from home, which was Pakistan. Even when Khaista went for a brief period, like the wedding, Brekhna Bibi had a terrible, sinking feeling in her heart that lasted two weeks. She would tell NADRA everything, Brekhna Bibi reiterated.

## *Jahan Jor, Wahan Tor* Joints and Fractures

I offered to accompany Brekhna Bibi and her daughter to the NADRA registration center if they thought me coming along would help. They insisted I come. And so the following day, we showed up but when we went downstairs to Brekhna’s former neighbor’s Data Entry station, he was nowhere in sight. Brekhna called his cell phone, but he did not answer.

At this point, I went upstairs to look for an assistant manager, who approved all applications, and one that I had gotten to know well during my fieldwork at the registration center. When I was almost about to give up my search, I saw another person waving to catch my attention. Earlier, the man now waving at me, Khurshid, had been employed as a helper to assist people in navigating the various windows for the ID registration process. Today, Khurshid was sitting at a data entry station. He asked me why I was there, and I explained Brekhna Bibi’s situation. He responded that since Brekhna had an existing identity record in the database, he could make Khaista’s card, he said “*through*,” or “*on the basis*,” of her mother’s. In Urdu, the phrase is *un ke card ke uper banana*—translating literally to “on top” of her mother’s card. This phrasing is telling, suggesting the layered nature of identity records; the interconnectedness between family members, represented through the cards.

Khaista's registration process initially began smoothly. However, after Khurshid put in Brekhna Bibi's card number, he saw that her brother (Khaista's maternal uncle) had two cards. In other words, he was duplicated within the database.

Khurshid questioned Khaista about this, and she said she vaguely remembered that one of her uncle's cards had gotten lost but was unaware of anything else. Khurshid did not pursue this further. When I asked how a duplication was even possible—given the uniqueness and singularity of an individual's biometrics within the database—I did not receive a direct answer, just that in any system, no matter how good, “where there is a joint, there can be a break” (*jahan jor wahan tor*).

The ability to prevent identity duplicates through the singularity and uniqueness of any individual's biometric prints raises questions about the need for the interpersonal and messy complexities of datafying kinship. Yet by recording parental links in the database at the time of registration, datafied kinship works to establish a unique relation between parent and child: every individual only has one mother and one father in the database. This biological, descent-based link serves the function of identity deduplication of sorts in the context of the multiple relations recorded during the registration process, including marital and sibling relations.

As soon as we left, with Brekhna Bibi and Khaista in high spirits and jubilant about the success of Khaista's identity registration, they told me that a few years ago this particular uncle had been in possession of Brekhna Bibi's parents' original identity cards and had withheld them from her in a time of need. When she needed these documents for her reverification process, he would not give her any of their parents' identity documents. This deeply angered Brekhna Bibi. As a result, through means she would not disclose to me—she simply said, “I have my ways”—she got a hold of her brother's card and refused to give it up.

Such a conflict is entangled with tensions built within NADRA's identification practices. NADRA is by no means at the origins of fraught kin relations. However, the manner in which kin ties are strengthened or frayed in the context of identification is closely tied to the element of mutual need. This need is heightened by kinship-based bureaucratic work. Family members frequently share documentation requirements—such as the identity cards or other documents from parents—but only one or two members, likely their male children, possess the originals, creating inequities in terms of access and favors. In turn, the mode in which vengeance is enacted can also be through documentation. For some of my other interlocutors, the willingness of kin to provide documents, or to accompany family members to vouch for them in person, was seen as proof of loyalty and care.

The kinned interconnections between refugees and citizens blur the relationship between identity and identification—that is, being related to a noncitizen complicates the process of identification as a citizen. In this sense, the networked nature of datafied identification infrastructures reflects, simultaneously, the complex nature of an interconnected social fabric as well as the difficulty of maintaining separate legal and juridical categories. Given how identity re-verification takes root in the lives of people like Brekhna—the fact that it interpolates *particular* axes of interconnections (such as between refugee and citizen)—reveals that identification is also a story about postcolonial identity.

The historical production of identification systems, where they are both built upon and exceed extant infrastructures, calls for a cogent political and social analysis as well as critique. Brekhna’s story, as parable, suggests that we must move beyond the technological into the political, in an attempt to apprehend the relationship between technical systems and the broader sociopolitical forms they are a part of. This means attending to both the process of recording kinship within the database and following how these digital modes of identification extend into the lives of people like Brekhna—who in turn know this, live with it, and build strategies for navigating it.

Zehra Hashmi is an anthropologist and historian who works on identification technologies in South Asia. Her research explores the everyday workings of securitization and surveillance in Pakistan through the intersection of identification, migration, kinship, and postcolonial and colonial governance.

#### **Acknowledgments**

Thank you Aizeh Kohari, Shmyla Khan, Alexandre Barbosa, Teresa Perosa, and Anders Palm Olesen for listening to this story and providing thoughtful feedback and expertise.

**Endnotes**

- ( 1 ) Summary for the Cabinet from Census and Registration Organization (Interior Division), "Report on Problem of Issuance of Identity Cards to Foreigners," dated 17 April 1976. No. ID/5/3/76-Regn (T.I), Secret, NDC.
- ( 2 ) Office Memorandum from Brig. Abdul Latif, Registrar General and Ex-Officio Joint Secretary, Census & Registration Organization (Interior Division), 17 May 1976. No. ID/5/11/76-Regn (T.I), NDC.

10

The Body,  
Spread Out  
Into a  
Database

Kimberly Fernandes

In his earliest memory of being told the things that could not be possible for his life,\* Praveen starts in his own head, alongside it, a list of the things that could. The latter, his brother Nishanth assumes, must be much smaller than the former, a running joke between the two as they grow older.

*I'm not sure anyone ever thought you would make it to—  
and through—school, Nishanth says one day, at least half-serious.*

*I'm counting that as a thing I thought I could do, Praveen jokes  
back, because there's no way they'll stop me if they don't  
know I'm disabled. And I don't think they'll ever need to know.  
I think I can get by.*

He can and he can't, as it turns out. A few months before he is scheduled to take his final examinations at the end of the school year, the last set of exams he hopes he'll ever take, his father receives a call from the school.

*We'd like to see an updated version of your son's disability certificate,  
the voice on the other end says, so that he is able to get the  
accommodations he needs in advance of the exam.*

*There is some silence, a lot more confusion—  
isn't the certificate something they already  
turned in to the school a few years ago?*

*The certificate says Praveen has multiple disabilities, yes?*

*Yes, they nod, wondering what this sudden phone call is for.*

*(And more since then, Praveen jokes to Nishanth.)*

\* Although not the first time he has been told what he might never be able to do, he realizes, with some exhaustion—people never tire of reminding his parents that life in a disabled body is something of which to be frightened.

*But it also says that these are temporary disabilities.*

*On the other end of the phone, they look at each other—  
what is temporary about multiple sclerosis?  
About retinal detachment?*

*What this really means is that until you have a new certificate,  
that is valid right now, that says he has all these disabilities,  
and will have them at the time of the exam—until you have all  
of this, Praveen won't be able to take these exams.*

*A new certificate could take months—Maybe longer, even.  
His exams will have come and gone by then.  
Please consider the old certificate if you can.  
This whole process is so long.  
He may not get another certificate.*

*Nothing we can do about this.  
It's a requirement that the central board has.  
If we show a disability certificate that is expired,  
then he won't be considered disabled at the time of the exam.*

The phone call ends with no further negotiation.

---

When Praveen and his parents talk to a friend's family that evening, the friend reminds them: *it isn't just the disability certificate any longer, it's a little more complicated now. There's the unique disability ID card. I've heard it takes months to get.*

*What's different about this card?*

*It's kind of like the disability certificate, but this one is supposed  
to be more efficient—you can use it across the country, not just  
in the state you receive it. And there's one other thing—it's supposed*

*to help create a kind of national database of disabled people.  
So, it ties in to your Aadhaar card,\* that way your ID is linked everywhere.*

*(This is a little ridiculous, Praveen thinks, given that I haven't  
been able to get an Aadhaar card yet. So many of us can't.)*

**Praveen's parents explain:** *An Aadhaar card is quite difficult to get  
for people with different kinds of disabilities. And Praveen's vision has  
become worse since the last time we tried to get the certificate,  
so maybe we have to do a whole other assessment—*

*(But I also haven't changed that much, Praveen counters—  
why would I need yet another assessment, and multiple visits to  
the doctor, just to confirm that I am still disabled?)*

---

The process of being certified runs on (mis)trust, a dialogue between the medical examiner and Praveen's father that pushes forward, attempting to measure what it means to live the way Praveen does. A photo must be taken first, he is told before the certification, an exhausting process in itself as his father tries to hold his head up. There are four tries before the photographer seems satisfied.

---

When they are waiting to be evaluated, the doctor steps into the room, and then steps out just as quickly, stating that he has another patient who is more urgent to attend to, and leaving the form he will be filling out for the disability certificate.

\* Since 2010, the Unique Identification Authority of India (UIDAI) has attempted to uniquely identify every Indian through their biometric and demographic information. Aadhaar is colloquially used to refer both to the database in which citizens have been enrolled, and to the physical card that they receive as a proof of their identity. In this instance, the reference is to the latter.

This is to certify that I have carefully examined Shri/Smt/Kum \_\_\_\_\_ Son/wife/daughter of Shri \_\_\_\_\_ Date of Birth \_\_\_\_\_ (DD/MM/YY) Age \_\_\_\_\_ years, male/Female \_\_\_\_\_ Registration No. \_\_\_\_\_ permanent resident of House No. \_\_\_\_\_ Ward/Village/Street \_\_\_\_\_ Post Office \_\_\_\_\_ District \_\_\_\_\_ State \_\_\_\_\_ Whose photograph is affixed above, and am satisfied that he/She is a Case of \_\_\_\_\_ disability. His/her extent of percentage physical impairment/disability has been evaluated as per guidelines (to be specified) for the disabilities (to be specified) and is shown against the relevant disability in the table below:-

S.No	Disability	Affected part of the body	Diagnosis	Permanent physical impairment/mental disabilities (in %)
1.	Locomotor disability	@		
2.	Low vision	#		
3.	Blindness	Both Eyes		
4.	Hearing impairment	\$		
5.	Mental retardation	X		
6.	Mental-illness	X		

(Please strike out the disabilities which are not applicable)

(When the doctor steps out of the room, Praveen asks,  
*What's written on the certificate?  
What does it say? About me? To the school?*)

His father reads it out to him, telling him that his photo will eventually come in the top right-hand corner of the certificate. That for now, it says, "This is to certify that I have carefully examined Shri/Smt/Kum \_\_\_\_\_ [your name will go here, Praveen] son/wife/daughter of Shri \_\_\_\_\_ [and my name will go here] Date of birth \_\_\_\_\_ Age \_\_\_\_\_ years, male/female \_\_\_\_\_ Registration no. \_\_\_\_\_ [what number is this? Praveen wants to know—I'm not sure, his father says, we can ask them?] permanent resident of house no. \_\_\_\_\_ ward/village/street \_\_\_\_\_ post office \_\_\_\_\_ district \_\_\_\_\_ state \_\_\_\_\_ whose photograph is affixed above, and am satisfied that he/she is a case of \_\_\_\_\_ disability. His/her extent of percentage physical impairment/disability has been evaluated as per guidelines (to be specified) for the disabilities (to be specified) and is shown against the relevant disability in the table below."

*Have the guidelines not yet been specified?*  
Praveen is curious.

*No, I'm sure they have been, his father says,  
the doctor must know even if we don't.*

*OK, Praveen says,  
what are the disabilities in the table?*

**When his father reads them out: locomotor disability, low vision, blindness, hearing impairment, mental retardation,\* mental illness, Praveen interrupts—where is multiple sclerosis? His father isn't sure either. I think it's one of the new disabilities that is counted, he offers, this form just seems old.**

**Praveen, again:  
... and what if I have many disabilities?  
Does this form have a place to mark all of them?**

**His father hesitates, and he can hear it, before he adds,  
I'm not sure about this, the doctor will know.**

*So does the certificate tell the school that I will need different  
types of help during my exams?*

**Praveen asks.**

*Not yet, no, his father says, just the percentage of your disability.*

*What does this percentage mean?*

**Praveen is still unsure.**

*The percentage of your impairment, his father reads from the form,  
which I think means how much functioning you have lost,  
what things you can no longer do because you are disabled.*

\* This term is no longer legally acceptable in India and is not used as a category for certification following the 2016 Rights of Persons with Disabilities Act. It was, however, used prior to this Act.

*That's a hard thing to say, Praveen pushes back a little,  
maybe I could do more things if the school  
was actually willing to support me.*

Praveen's ears burn as the doctor asks upon entering the room:  
*But what do you want this certificate for? Is he doing badly  
in his exams?*

*No, so that he can enroll for the exams,  
his father responds.*

*Difficult to assess today, maybe come back another time.  
Hard to tell if he is really disabled.*

---

Most of these parts Praveen blocks out. He returns another time, and then another. As his father predicted, the months pass. He still does not have the certificate. The suspicious doctor from his first visit is replaced by a neurologist, and then others after him, also wondering if multiple sclerosis is really a disability that you can be certified and confirmed for.

*I don't think the government counts  
this disability, one medical officer says on the fourth visit.*

*THEY DO. His father is livid.  
THEY DO. IT IS PART OF THE NEW LAW.*

Sitting next to the medical officer is another person whose designation they are not sure of. She chimes in: *We also don't have a field to enter this into the computer, sir. How will we record all these disabilities in the database if you are saying your son has multiple disabilities? There is only one field for entry.*

*Yes, but what do you want me to do about this?  
My son has multiple sclerosis, and now also a detached retina.  
It isn't like him or I can change anything about your database.  
You need to find a way to record both these things.*

---

When they are almost certain that they're very close to getting the certificate, finally, after four separate visits to the hospital for evaluation and follow-up evaluations, another phone call comes in, this time from the hospital.

*New guidelines, which means we are not issuing disability certificates anymore.\* You should be applying for a unique disability ID card.*

*Is it not possible to take the assessment you did for the certificate and use it for the card?*

*No, usually we reassess the candidate to determine the nature of the disability.*

*We just went through four months of assessment at your hospital.*

*The unique disability ID also requires an Aadhaar card,† sir.  
Your son doesn't have one.*

- \* The unique disability ID card was initially envisioned as a replacement for the disability certificate, since the evaluation criteria for the disability certificate varied significantly between states, and since certificates issued in a particular state were not accepted across the country. However, in numerous instances, since its rollout in 2016, the UDID card has not been accepted as a replacement for the disability certificate. As of 2021, applications for both the unique disability ID and the disability certificate are done through the same online portal (as intended in its development for the UDID card alone), and both are issued simultaneously.
- † Aadhaar means “base” or “foundation.” Most commonly, the Aadhaar card is considered as a base/root form of identification, from which other identification documents are issued, and to which they are linked. Although the unique disability ID card is not legally required to be linked with a person's Aadhaar card in India, there have nonetheless been numerous instances wherein those applying for a UDID card are required to provide an Aadhaar card.

*Is an Aadhaar card mandatory for the new disability ID,  
or will another form of address proof do?*

*If you want to avoid any problems, sir, just link the Aadhaar card.  
You can make one first, then try to get the unique disability ID made.  
Many places now want only the new disability ID.*

*What about our application for the disability certificate?*

*You may need to make a new application—  
don't worry, you can find all of this information online.*

*This is not very clear on your website,  
Praveen's father starts to say when he hears that  
the person on the other end of the line has ended the call.*

---

**Praveen overhears a phone call to the school:**  
*My son is unable to get a disability certificate—  
And is being asked to get a unique disability ID card instead  
Will the central board accept this for his examinations?*

*What do you mean you don't know?  
Can you check and find out?*

*And a little later:  
It's strange to hear the board is only accepting the certificate.  
The hospital is only willing to give the unique disability ID card.*

*Praveen doesn't have an Aadhaar card yet.  
It has been hard to get one for him.  
Providing biometrics is difficult due to his retinal detachment.*

Elsewhere in the city, Rajesh reads the newspaper before a three-hour meeting, hoping to escape all thoughts of work. This meeting, he knows already, will be a difficult one. There will be lots of questions about the unique disability ID cards, and how come many people haven't been receiving them. The cards also don't have the option to enter information for some of the newer disabilities, he's told.

As it turns out, the meeting is less boring than he expected. This time, four disability rights activists have been invited directly to present their perspectives on some of the problems with migrating from a paper-based disability certificate to a digital unique disability ID card, after which they are all going to discuss possible technical solutions. He listens to the presentations, thinks: *all human errors*. One activist is talking about how it has taken months to be able to get people certified for the disability certificate, and how some hospitals are insisting on a sudden transition to the unique disability ID. *Why can't we have both, or at least have either one be accepted till we have fully moved to the unique disability ID*, the activist asks.

The room fills with uneasy laughter.

Another activist offers, *the question of which disabilities are even recognized as difficulties is also a big one. Some of the newer disabilities from the recent Rights of Persons with Disabilities Act, even though it is not so recent—what has it been now? Maybe one and a half years?—are not being recognized for the unique disability ID card.*

A third says, *and to get the disability ID card, even if you have a disability certificate already, you also need an Aadhaar card to apply. This is an unnecessary connection being made, and one that is very difficult for disabled people who are unable to provide their biometrics to enroll.*

Rajesh is relieved that he does not yet have to think about the Aadhaar card and its problems.

*Do you think all bodies are the same?* the activist asks. *How do you design these cards? What do you imagine people's bodies can do? Disabled people are consistently having difficulties getting all three—the Aadhaar card, the disability certificate, and the unique disability ID—and you need one to get another. It's like a loop. And getting each one is difficult, because the system doesn't recognize all kinds of bodies, even when it is supposedly designed for enrollment for everyone to be able to easily enroll—only some people are able to.*

*You must be seeing all kinds of complaints coming in from disabled people—these are not new, or the first time.*

*And still, the data on people with disabilities is not good enough. Whatever efforts are being made to capture it assume that these are people without disabilities, that all people have the same body, can do the same things. How do we know how many people have tried and failed to get an Aadhaar card if we are not collecting data on these things?*

To that last point, Rajesh is in agreement. The data often doesn't feel good enough.

*There is no space currently to enter "multiple disabilities" within the database and to write the names of all the disabilities that a person has. It is almost as if a disabled person can have only one kind of disability at a time.*

Less laughter this time, more uneasy silence.

*Do you think, the last activist remarks, that bodies are only the way your database makes them out to be? Or that they can be other things too?*

---

Later that evening, Rajesh looks at the WhatsApp messages he missed during the meeting. He sees one from his cousin's uncle, whose family knows of a teenager named Praveen in their city. As it turns out, the message says, Praveen has a little bit of a complicated situation—he has multiple sclerosis, and a detached retina. Rajesh works in the department that oversees the issuing of the unique disability ID cards, this uncle has heard—*is there anything that he could possibly do about Praveen's case? Could he ask his boss, maybe, to see if they can get a card done for Praveen from the main office where Rajesh is based?*

Rajesh thinks of his meeting from earlier in the day, of all of the technical errors that were listed. This isn't quite a technical error, he realizes, or a human one—I think the system works okay, but the categories listed for the disability ID card don't work for Praveen. They don't allow us to record the sum of his experiences, as they are, in a way that will let him get the support he needs from school.

He thinks all these things, but for now, he says nothing firm, only telling his uncle that he'll see what he can do. He suspects, however, that there is very little he can do without a national overhaul of categories, something that feels too complicated even to think about. *Not much I can do*, he reassures himself, *this is really more of a problem for doctors first—even if I did want to change categories or make them more expansive, they wouldn't approve.*

As he is preparing to write back to his uncle, he types, and types again, and deletes the words. It sounds strange, he realizes, for this to be his job, and for him to then say he can't do anything for Praveen. Before this, his uncle messages, *for now nothing needs to be done, I think we should wait—online the family checked the status of their application, and it says that the card has been issued.*

*Under what disability category, though, Rajesh wonders, hoping that these have been marked as multiple disabilities, but also wondering if the disability percentage estimate is able to capture all of what Praveen needs for his school. He makes a note to check in when they have received the card, tired already at the thought that it could take many more months to rectify if the disability percentage on the card is not sufficient.*

---

*When is my card coming?*

Praveen asks his father every day,  
sometimes even twice a day.

*I'm not sure if I should prepare for these exams,  
or if they will only let me sit for them next year now.*

He jokes as a way to cope with anxiety, but is still nervous: What if the card is not accepted, or if the school wants something else, or if his disability on the card is not mentioned correctly, or if his father has to go fight again?

*Don't worry, his father says each time,  
the card will come. I am tracking it online.  
Two days ago I saw it had been sent for printing.  
Today it says dispatched.*

*How long do you think it will take to get to us  
after it has been dispatched?*

*Within the same city?*

*I am not sure, but it should not take more than a week.*

*My exams are less than a month away,  
Praveen presses.*

*I know, his father affirms each time,  
I am always checking about where your card is.*

When the month for his exams rolls around, the card has not yet reached Praveen's house. *Dispatched*, the website affirms, but there is no other way for his father to locate it. Praveen has been preparing, somewhat half-heartedly, somewhat hopefully, until the school tells him that it will not work for him to take these exams this year.

*Maybe next year then, his father says,  
angry but also attempting to placate him.*

*What if the card doesn't come to us by next year, either?  
Praveen wonders.*

Kim Fernandes is a researcher, writer, and educator. They are currently pursuing a joint doctoral degree in education and anthropology at the University of Pennsylvania. Their research focuses on the politics, practices and processes of enumeration in India, through an attention to the question of who comes to be counted as disabled and under what circumstances.

### **Acknowledgments**

We thank Ranjit Singh, Rigoberto Lara Guzmán, Kathleen Azali, Dibyadyuti Roy, and Kritivasas Shukla for their extended, engaged listening and patient feedback toward shaping this story.

11

The  
Pavlovian  
Machine

Henry Chavez and  
María Belén Albornoz

## The waiting

Noon. Blue sky... Well, a *smoggy* blue sky. Only someone who has been at this altitude and latitude will understand the feeling. That radioactive white light hitting you on the top of your head, crushing you, melting you... You, your clothes, your shoes, and the asphalt underneath.

A group of men with orange, yellow, and green, square backpacks and the logos of different third-party delivery apps on their motorbikes are parked next to a shop. They talk, they tease one another while checking their smartphones to see whether a new order has been dropped. Their voices, the way they speak, and their gestures are out of tune with the monotony that surrounds them. They reveal their foreign origins. This bothers some xenophobic landlords and shopkeepers who are very happy to make money off their backs but are not willing to offer even a parking space to wait for the next order or a bit of shade in this radioactive hell.

It's difficult to understand how they can wear those jackets and helmets under this heat.

Well, astronauts and aliens may experience something similar up there... Yeah, aliens' stuff... That's probably why...

The speakers out of the shop agree:

♪ *No tomo té, tomo café mi amor...*

They are five or seven. Some of them have been waiting for a while. No orders on their phones so far. Suddenly, another *motorizado*\* arrives out of nowhere, takes not one but three orders, and hits the road. Those who have been waiting for a long time check their phones once again. They don't understand. They think it's unfair. They want to complain, but they don't know who to complain to, or even if there is someone to complain to. The veterans comfort the newcomers by saying that it is like being in a toxic relationship:

*Sometimes, she treats you well; sometimes, she punishes you and gives you nothing. You never know when, how, or why—they say.*

♪ *otros en burro o en camión...*

\* Motorcycle delivery worker

## The plan

A few miles away, in the last gas station just before the airport entrance, a similar scene is taking place, but people there seem luckier than the other ones. At least, they have some shade and the AC of their cars is on. They are also watching their phones, but no motorbikes nor shops here, just cars, four gasoline pumps, and a couple of street food carts selling arepas, empanadas, fries, and burgers. Not to take away or to deliver but to feed the line of cars and people waiting there.

Wilmer, a young man in his 30s, is very active, always laughing, playing jokes with everybody while strolling among the cars. He loves the arepas and Yoseline, the girl who sells them.

He also seems to love smartphones, because he has at least ten.

Why would anyone need ten cell phones at a gas station?

He arrived about three months ago with a friend after a journey of about 2,000 km on buses, trucks, but mostly on his own feet. Like the other three million people from his home country that took the same southern route, he arrived with a small backpack, some clothes, and the contact number of a friend's friend already settled here. Lucky him (or maybe not), Leonel, the friend of his friend, put him to work the very next day after he contacted him.

How could he know at that moment that it would end this way?

Leonel and some of his colleagues working as drivers for the "app" had found a security breach and they had a plan to hack it, but they needed a guy, an outsider willing to make money fast and with nothing to lose.

Wilmer didn't think twice.

## Digital love and disillusion

♪ *Amor portatil, inalambrico y sonoro*  
*Termina siendo vitamina cualquier modo*  
*No existe el amor virtual*  
*por que todo lo que sientes es real*

Josiel, one of the young men next to the first shop, looks at his phone once again. Two p.m. and still zero orders. He has been waiting there for at least six hours and nothing. Most of the other motorizados parked there have gotten at least one order. Nothing for him.

He starts worrying about how he will pay the 40 dollars he owes to his neighbor Pedro, who is renting him the motorbike and the “app” account. It was not supposed to be so complicated.

*You just turn your phone on, park the motorbike next to the shopping mall and the “app” tells you what to do. This is an excellent account, my friend, it will drop you at least six orders per day, Pedro said.*

Pedro started with a motorbike, and now he’s driving a car.

Josiel dreams of driving a car, but he has no “papers” yet, nor a driver’s license.

One step at a time. First, he needs to save money to get a passport, a visa, only then... Maybe...

But the capricious entity on the other side of the screen does not seem to want to help.

He puts his headphones on:

♪ *Arithmetic arithmetock*  
*Turn the hands back on the clock*

The white light has stopped melting this part of the world, but the yellow, orange, and rose clouds in the West reflect the flames behind those mountains and probably far beyond in the sea.

Defeated, he returns home.

The next day, he wakes up at 6 a.m. Takes the motorbike and drives 10 km [six miles] east.

He was told that orders are easy to get next to shops far from the city center—the farther the better.

But nothing changes. Another six hours under the sun and his phone keeps showing the same message:

*“No orders.”*

He starts to think that he is doing something wrong or that the “app” doesn’t work on his phone.

Josiel asks another guy parked at the same spot:

*Excuse me, can you show me how this thing works?  
I’m not sure I’m doing it right.*

His coworker takes his phone, checks up the “app,” smiles and says:

*But my friend, you are green!!  
Even me as copper, I’m not getting any orders.*

Josiel stares at him as if he was talking about convolutional neural networks. He takes a moment to put his thoughts in order and asks the only logical question that comes to mind:

*What do you mean, I’m green? What are you talking about?  
It is how the “app” rates you. If you really want to get orders,  
you need to raise your account to diamond.  
And how do I do that?  
By completing a lot of good deliveries.  
How? I’m getting no orders!  
I know, I know... But the “app” is like this....  
You have to keep trying and “she” will give you an opportunity...  
Try other places, move around and at some point,  
she will give you something.*

He follows the advice and spends the rest of the day driving around the city, stopping next to shops and restaurants, waiting for the “app” to accept his flirtations and give him something.

After nine hours wasting fuel and time, he returns home tired and disappointed... Almost heartbroken.

He has high hopes for her, but she, the “app,” doesn’t seem to like him.

## Gas

Like every morning for the last two months, Leonel picks Wilmer up at his home and takes him to the gas station. Their plan is running smoothly. No one has discovered them yet, but they know they were probably attracting too much attention at that gas station. He is making almost 100 dollars per day and Wilmer about fifty just by being there, at the gas station, taking care of those phones, accepting as many rides as he can in the “app” while the drivers bring the clients in and out of the airport. Strength in unity: by sharing their phones, their routes and their customers, they manage to overcome the restrictions of the “app” and earn more than if they worked separately.

Leonel turns on the radio. They are worried about the government announcing the increase in gas prices and new restrictions for immigrants. They know this may affect their plan.

The radio warns that a general strike has been announced and several protests and rallies are planned for the next day.

Leonel asks Wilmer if he knows someone willing to rent his motorbike and his account in the delivery “app.” He used to do that before he became a driver for the ride hailing “app.” He said it is a good account and he is asking only 40 dollars per week.

Wilmer knows someone.

Leonel warns him:

*The new guys don't understand how it works. They need to understand how the “app” works so she can help them improve their ratings. The app likes them to be polite and text the clients, even if they don't answer back: “good morning,” “good afternoon,” “dear,” and deliver the orders on time. These are things that the “app” acknowledges, you know. It took me a long time to learn this and it was exhausting.*

They arrive at the gas station.

Wilmer takes the phones from the glove box, puts them in his backpack, and they go for a coffee with arepa... And, of course, to say hello to Yoseline.

## La tóxica

The alarm wakes him up at 6 a.m. again but this time Josiel decides to stay in the city center next to one of the most frequented shopping malls and tells himself that if this time he doesn't get at least one order, he will return the motorbike and the "app" and find another job.

He is really disappointed. Everybody has told him that it was going to be an easy job and that soon he will have enough money to buy a motorbike. He wants to get his papers, to bring his girlfriend and settle down here.

However, no matter what he tries, the scenes repeat in an endless loop. Powerless, with the text "no order" fixed on the screen, he has no option but to watch his coworkers take one, two, three orders...

Inside his alien suit, with his helmet on, the heat is starting to affect him...

He imagines that the "app" is jealous of his girlfriend; "she" probably knows that he is planning to bring her here, and that's why she doesn't drop him any orders.

Josiel starts talking to the "app," asking her why he can't get an order.

A robotic female voice answers:

*Sorry, I don't understand your question.*

He is about to quit but then a coworker asks him:

*How is it going?*

*Nothing so far. I've been waiting for hours.*

*It is my third day but nothing.*

*Apparently, it is because I'm green.*

*Let me see your phone.*

He opens the "app" and shows him that this account has only 55 points.

*It is not that bad, is it?*

*I mean, it is far from zero—He laughs.*

*Oh no, 55 is very low! You need a lot more points to reach diamond.*

Then he shows him that the account was blocked. That's why he is not getting any orders.

*What?!*

Josiel is very angry. He has been fooled like a teenager in love.

He goes back home to give everything back.

*You tried to scam me, but I won't pay you anything.  
You made me waste my time, driving like crazy from one extreme  
of the city to the other and for nothing.*

Pedro, the neighbor who rented the account to him, looks surprised:

*I don't know what you are talking about. The account was right.  
I used it myself until last year. It is probably because in December  
the "app" got crazy. One day I was diamond, and then I was red.  
People said that it was because the "app" was getting different updates.  
Once the "app" went off and when it came back, I had lost 10 points.  
Everyone's accounts were red. We tried to make a collective complaint  
with other colleagues but got no response. We don't even know  
if there is someone behind the screen. I haven't used it since then,  
but I guess something like this blocked the account. So don't worry,  
if you didn't get any orders, you don't have to pay me anything...*

## The deal

It has been an excellent day for Leonel, Wilmer, and their associates. They got almost 2,000 dollars in total. Their plan works.

At the end of the day, Leonel picks up Wilmer at the gas station and brings him back home.

When they arrive, they find Josiel.

*This is the guy that I told you could rent you a motorbike.  
Let me introduce you.*

Josiel is still angry with his neighbor and with himself. He tells them about how he has wasted the past three days going around like a fool for nothing.

Leonel tries to convince him to rent the motorbike and the account, but Josiel is cautious:

*Is your application diamond or green?  
You are not offering me a locked account, are you?*

Leonel replies:

*You will see, it is a good deal. But you have to be smart  
and play the game. I also started like you, with a rented motorbike,  
and now I'm driving a car, do you see?*

*At first, it was not easy. I didn't understand how this machine  
worked, but I learned to deal with her. You have to be patient and  
follow her rules.*

*After a couple of bad experiences, I started to search on  
the internet how it works. If you start in a hurry, you don't write to  
the client, the score starts to go down.*

*You notice it. If you don't do these things, she takes away your points.*

*The "app" keeps records of all the things you don't think are necessary.*

*The "app" doesn't tell you this, but if you fail, she takes away your points.  
That's very bad because a profile without points is useless.*

*There are also some hours when she pays you some bonus.  
That's why you have probably seen a lot of movement and people like  
everybody is in a hurry. But it can also happen that you arrive at  
a shop or a restaurant and they take a lot of time to give you the order.  
That waste of time is for you. The app doesn't rate the restaurant,  
she rates you and your delivery time, do you get it?*

*The “app” doesn’t care about you. If she asks you to deliver three and you do just one, she lowers your score. I mean, it may not be your fault but the restaurant’s. She also punishes the worker based on the clients’ ratings. An unhappy customer is three points less in the general score.*

Josiel smiles. If someone had explained all these things before...

He is hopeful again, but cautious. After all, he will receive the punishments and Leonel only the payments.

*OK, look, if I don’t get any orders by tomorrow during the day, I will give you the account back and we rather stay friends. Deal!*

Leonel says goodbye to Wilmer and Josiel. He expects Josiel will do just fine. Meanwhile, the radio goes on:

*♪ Las penas son de nosotros, las vaquitas son ajenas.*

## Chaos

That morning starts as usual. After giving his motorbike to Josiel, Wilmer and Leonel drive to the gas station next to the airport.

They turn on the radio and the news is all about the protests and rallies announced for that day. They believe that this will affect the business, but even before arriving at the gas station, the phones in the glove box start going crazy. They don’t even have the time for a coffee with arepa. At their arrival, their associates are a bit nervous. They give their phones to Wilmer, take the ones in the glove box, get in their cars, and head to the airport.

Meanwhile, Josiel parks his new motorbike next to a big shopping mall in an upper-class neighborhood. He is anxious and promises himself that this is the last try.

The images of the protests and rallies around the city are all over social media.

Josiel receives a message showing that at least 5,000 people are heading to the city center. As he reads something about foreigners and violence, he gets a message:

*“You have a new order.”*

He can't believe it. At last, the “app” has answered his pleas. He opens the message, carefully reads the instructions and heads to the shop to pick up the package. He tries to follow all of Leonel's advice.

After half an hour, 2 km [ about 1.25 miles] ride, three good mornings, and five thank yous—the first 80 cents appear on his screen. He is not sure if it's a good deal, but he is relieved and happy. About 15 minutes later he gets a new order. Same routine, 80 more cents; 45 minutes later, same story.

He feels in his brain the effect of those little drops of dopamine every time he hears the notification ring:

*“You have a new order”*

80 more cents...

♪ *Money get away...*

It is almost noon and he has delivered five orders already. If this continues, he could finish the day with at least 10 dollars in the account. He knows it's not his money yet, he has to first pay the rent to Leonel, but still, he feels kind of high. There is hope, he starts to believe.

Josiel gets a new order. But this one is different. He has to pick up not one but three orders in the same place. The only problem is that he has to pass near the city center and from the messages he got earlier, he knows there are some troubles over there.

Spirits are running high in the city center. He sees a huge crowd of people heading to the Presidential Palace, and it's going to take time to go around the protesters.

Wilmer and the other drivers at the gas station are also having a busy morning. They have driven lots of people in and out of the airport. They also see thousands of people marching toward the city center from different avenues. Their phones start to be overwhelmed by messages, pictures, and videos about the protests. They read the messages with suspicion. They know from experience that social protests are always a good excuse for the police to repress citizens, and to find scapegoats to divert attention. They know they have to be careful and stay low profile.

It is around 11 a.m. when they get the first message:

*“Foreign citizens infiltrated the demonstrations  
and promote violence and chaos.”*

It is followed by a video; they recognize the footage from a demonstration back home. Not here, and not now, as the message suggests.

Half an hour later. Wilmer gets a message from Leonel:

*“Abort the plan. We were caught.  
Hide the phones and get out of there.”*

Wilmer doesn't think twice. He tries to warn the others. It is too late. The police surround them, confiscate the cars, the phones, and arrest them all.

## 404 Not Found

Josiel arrives at the shop to pick up the orders. It is already noon. He meets a group of young men with orange, yellow, and green square backpacks with their motorbikes parked next to a shop. They are all waiting for orders, but this time it is Josiel who gets them all and hits the road.

He arrives at the delivery address, but he doesn't realize where he is until a police officer opens the door and asks him to enter the building to complete the delivery. Inside, as with any other local citizen, he is asked to pass a biometric ID check.

*“No data. Unidentified citizen”*

He can't turn back.

He tries to explain that he has lost his passport and is in the process of getting his papers back. But it makes no difference. They seize the three orders, the motorbike, and arrest him.

## All suspects

In the room, the officers eat the three pizzas delivered by Josiel while they watch a wall full of flat screens with the images recorded by the surveillance cameras of the city.

Their brand new Chinese facial recognition system has spotted a small group of unidentified individuals, very likely foreigners, disguised as “app” drivers.

They suspect them of transporting, and probably spying on, the government officials that arrived at the airport in the morning to control the protests.

The recordings from previous days show that they have been gathering together every day for about two months at a gas station near the airport. Probably planning an uprising, the kidnap of a government official, or even a coup.

Everything is confirmed later on when they arrest the other conspirators and find one of them with at least ten phones, all with cryptic messages talking about a plan, escaping routes, money laundering, and... arepas.

Henry Chavez is a postdoctoral researcher at the Université Paris Cité—IRD—Ceped and associated researcher at the CTS-Lab in FLACSO—Ecuador. He holds a PhD in Social Sciences from the Ecole des Hautes Etudes en Sciences Sociales in Paris, France and his works focus on big data, artificial intelligence and platform economy.

María Belén Albornoz is the principal investigator of the Fairwork Project in Ecuador. She is a professor and researcher at the Latin American Faculty of Social Sciences (FLACSO-Ecuador), coordinator of the PhD program on public policy, and coordinator of the Science, Technology and Society Laboratory (CTS-LAB).

### Acknowledgments

Thank you Rafael Grohmann, Julian Posada, Garance Burke, and Lindsey Cameron for listening to this story and providing thoughtful feedback and expertise.

12

Hazy  
Data Days:  
Delivery  
Dispatches  
from  
Hyderabad

Srujana Katta, Yung Au,  
and Mounika Neerukonda

## I. Delivery Boy

In any city in India, no matter the time of day, something you can't miss is the sight of food delivery riders darting around on their bikes, sporting those boxy, colourful backpacks. They're on highways and in small gullies—zigzagging casually through oppressive traffic, appearing to tempt fate as they playfully slide in and out of the blind spots of rickety buses. You can easily discern the riders' loyalties, to one of two to three large platform companies, from the colour of their uniform and delivery gear. Making delivery workers wear these uniforms is a somewhat sneaky manoeuvre by platforms, because platforms don't technically employ riders. In fact, in other countries, asking delivery riders to wear uniforms has gotten platforms in trouble as workers have used this fact to argue in court that these big platform companies control how they work without employing them or giving them any benefits or protections. All in all, however, workers in India don't fret much about having to wear a uniform.

These big platform companies take great pains to always make clear that delivery riders are most definitely not their employees, not even a little bit. They refer to them as “delivery executives” and “partners,” but never employees. Sometimes, in tweets, ads, and when speaking to the media, platform CEOs lavish grandiose praise on their riders, pronouncing them “hunger saviours” and “delivery heroes.” But never employees. For the most part, people just call these riders “delivery boys.” Of course, like the uniforms, objecting to being called “boy” is not the hill anyone's going to die on.

One other feature of this work concerns who does it: the vast majority of delivery workers in India are men. This is so characteristic of this type of work, that most people only notice this fact when an anomaly presents itself—that is, on those rare occasions when a woman turns up at your door with your order, or when you glimpse a long braid snaking down from under the helmet of the harried motorcyclist travelling beside you. Or, when you, a woman, decide to work as a delivery boy.

## II. Another Day

The weather was getting warmer. Riding around on a Scooty all day in December had been dire. Winter was still better than the rainy season, though. Thankfully she had only started this work after the last monsoon, and she was determined to find another job well before the next one in June.

Swishy [07.02.2021 | 15:19]:

Data log updates ["12.9716"],["77.5946"]

Kranthi slowed to a halt. The app confirmed that she reached her destination.

Parking her Scooty in the shade of a Neem tree, she took off her helmet with a practised ease. A chilly breeze rustled through the leaves overhead. She shivered. It's not that warm yet.

She looked around. It's a quiet street in Somajiguda, lined with apartment buildings on both sides. She got the bag of food out of the black thermal case fastened to her Scooty's back seat. It's a paper bag, emblazoned with the restaurant's name: PENANG. Kranthi had worried that the paper bag would get damaged if anything spilled on her way here, but it seemed to have held up fine. She wondered vaguely what kind of food Penang makes.

Which house was it again? Kranthi glanced down at her phone.

Swishy [07.02.2021 | 15:20]: *Delivery Instructions*

*Come to the black gate opposite the neem tree and call me.*

Kranthi squinted at the row of three black gates. Why is it that these instructions were always uninformative? Sighing, she swiped her screen, getting ready to call the client. Just then, a man opened the middle gate and strode forward towards her.

*"I've never seen a female Swishy rider,"* he said, by way of greeting.

*"Yes sir, I've only been doing this for three months."*

She offered him the bag of food. He gave her an odd look but didn't say anything further. She learned to expect this comment. In fact, it's the rare exception when clients don't say something about her being "female."

Working for a delivery platform is an odd choice for a woman, but when Kranthi signed up to work for Swishy, she hadn't really had any other choices. She remembered the call she got from someone at Swishy, a month or so after she had started doing this work. They had wanted to feature her in an advertisement for International Women's Day. The woman on the phone had explained to her, *"It's really easy, it will only take one day. We will take some videos of you riding a scooter and delivering food. Basically, it will be about how Swishy is creating jobs and empowering Indian women. You'll get 2,000 rupees."*

The extra cash had tempted her, but Kranthi had balked at the idea. She hadn't told her parents about working for Swishy, or even that she had lost her previous job at the call centre. The thought of them watching a Swishy ad with her in it made her shudder. She could only imagine how humiliating they would find it that their eldest daughter, the first one in the family to get a BA degree, was doing this type of work. She had politely but firmly explained to the woman on the phone that she couldn't do this ad, wondering if she would lose this job, too. The woman on the phone hadn't pushed it.

The customer was saying something, and she hadn't heard. She snapped out of her reverie.

*"Sorry, sir?"*

*"I said the spring rolls are missing."*

Kranthi's stomach dropped.

*"Sir, please report it on the app,*

*I just brought the bag the restaurant gave me."*

He gave her a suspicious look.

*"Really sir, I'm sorry but there's nothing I can do.*

*Swishy will refund you if you report it. Please give me a good rating, it's not my fault."* Kranthi looked pleadingly at him.

*"Fine."* He turned his back, walking back the way he came.

*"Have a nice day,"* Kranthi offered as he retreated into his apartment complex, but he either did not hear or ignored her.

Kranthi fastened shut the thermal bag, and looked at her phone. No new orders. Jolting the Scooty into action, and putting on her helmet, she decided to head back to Base to wait out the familiar post-lunch lull.

She wasn't looking forward to being back at Base. Especially at this time, after the afternoon rush, she was bound to find at least another six or seven riders milling about there waiting for orders. There were no other women riders in this part of town, and these men never let her forget it. She always had to fend off a constant stream of comments and unsolicited advice. They often clustered around her, curiously comparing her incentives and earnings to theirs, and advising her that she wasn't earning nearly enough. For a while, she had avoided the crowded waiting areas, finding a quieter spot to wait a little ways away. But then she had received that message from the App, which cut short that brief respite.

*Hello Delivery Partner, We have noticed that you are not getting enough orders from Swishy as compared to other delivery partners. Please note that logging in from spots where order flow is minimal to receive Minimum Guarantee daily is an unacceptable behaviour. We request you to refer to the “Heatmap” section in your App and increase your daily order count. Repeating this behaviour will lead to ID deactivation. For any issues about this action. Please reach out to us via connect form. Regards, Team Swishy.*

Kranthi turned the corner, manoeuvring towards the gaggle of riders at Base. She grimaced as she caught sight of Vishnu. She bristled at the memory of him patronisingly telling her to find a different job, “you will make more working at a mall.” Was he right? Or were they just trying to get rid of her so there would be one less rider to compete against?

Thankfully, Chetan and Sai were at Base as well, talking with three others she didn’t know. They were friendly with her. Chetan had even helped her when her tyre had gotten punctured, and Sai had added her to a WhatsApp group with the area’s riders. Sai flashed her a smile as he noticed her pulling up. The other three men’s eyes followed her inquisitively.

### III. Notifications

The afternoon’s interlude at Base was her first chance of the day to grab a quick bite and cast an eye over the spiralling notifications racking up on her phone.

*[WhatsApp notification: you have 122 new messages]*

Group name: *Swishy boys Punjagutta Zone*

*[Voice Note, +91 98787 54176 ~ Ganesh]: To all the bhaiyon, annalu in the Swishy boys Punjagutta Zone group, namaste, namaskaaram. Please, I am having a problem and I need some help urgently. I got blocked by the app because I didn’t deliver one order today. The police officer stopped me on the way to the client and he took my bike.*

*I called Swishy customer service number and they said I will be blocked until they finish investigating. What can I do?*

*[Voice note, +91 84002 32794 ~ Vishnu]: Ganesh bhai, go to the centre in Madhapur and talk to them face to face, that's what I did, it worked for me.*

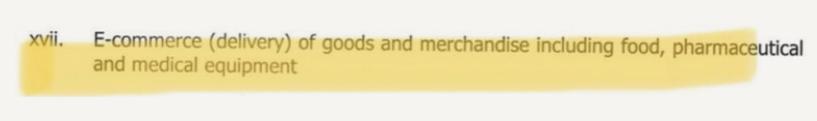
*[Text message, +91 98787 54176 ~ Ganesh]: Thanks anna 👍*

*[Voice note, +91 84008 78316 ~ Hari]: Namaste to all the bhaiyon in the Swishy boys Punjagutta Zone group. I also got detained by the police today on my way to Base. I had to give them 200 rupees before they let me go. Another Swishy boy in Lakdikapool group said he had his bike seized yesterday by the police, but he got it back in the evening. This is becoming a big problem.*

*[Voice note, Chetan]: Namaskaaram Hari anna. I spoke with Shaik bhai from the gig and platform worker union. He said that there's a police crackdown against delivery boys. The Telangana government notice about the COVID lockdown said that we are doing essential work and that we can move around during the lockdown but the police are still detaining delivery boys and taking bikes. If you get stopped, you can tell the police that we are allowed to do our work.*

*[Voice note, Vishnu]: Chetan bhai, your head is always in the clouds, government this, union that. As if the police will listen. The only way to make them let you go is to give them what they want – cash.*

*[Voice note, Chetan]: You do what you want. I am sending a photo of the government notice, show it to the police if they stop you. Photo attachment from Chetan:*



xvii. E-commerce (delivery) of goods and merchandise including food, pharmaceutical and medical equipment

Kranthi stopped playing the voice notes in the group. They were from earlier in the morning, and it seemed like there had been hundreds more since, with new ones every second. Impossible to keep up. She herself had never posted a message in the group, never thought to seek or impart counsel in this group of forty-odd men.

*[WhatsApp notification: you have 36 new messages]*

What if the police seized her bike? What would she tell her parents about where her Scooty disappeared to? Anxiety swelled up inside her in step with the pinging notifications.

*[WhatsApp notification: you have 53 new messages]*

What if the police arrested her?  
How would they behave toward her in the station?

*[WhatsApp notification: you have 93 new messages]*

*[WhatsApp notification: Message from Anushree 🌸]*

Seeing Anushree's name pop up in the sea of WhatsApp notifications was a salve to her nerves.

*[Text message, Anushree 🌸]: Kranthiiii hi! I'm bored at home *re*, looking for some timepass. If I order food on Swishy, can I put a special request for you to come and deliver it? 😂*

*[Voice note, Kranthi]: Anu, hiiii! Such nonsense! And *arre* you never listen, what did I tell you about sending messages like this, what if someone at home sees. Anyway, didn't you also start working for some other platform? Why aren't you at work today?*

*[Voice note, Anushree 🌸]: You still haven't told your parents about Swishy? How have you managed to keep it secret for so long, I thought they would have found out by now – seen your uniform or your phone or something.*

[Voice note, *Anushree* 🌸]: Arre nooo, City Company is not like Swishy. I'm not running around all over Hyd on my bike every day, ayyo.

*Avunu*, I also have an app, it matches me with clients and tells me when I should go to their house, and what beauty treatments they want. Today I have no shifts so I'm at home only.

[Voice note, *Kranthi*]: Are you mad, I can't tell my parents about Swishy! They still think I work at that call centre. I am very careful not to leave any hints. You know, every day, I leave home in my normal clothes, and then go change into the uniform in the bathroom at Central mall. And then change back in the evening before going home. It's too much *re*. I just want to find some office job quickly and quit before anyone finds out.

[Voice note, *Anushree* 🌸]: I don't know, it feels really risky *re*. Why don't you take some time off and focus on applying for some positions?

[Voice note, *Kranthi*]: We need the money. Naanna hasn't gone back to work since his knee injury, and Ankit will start his B.Tech this year. I need to do this, at least for now... but I'll figure it out, I don't want to do this for much longer.

[Voice note, *Anushree* 🌸]: You should come join me at City Company. It's probably easier for women to do beauty work than your type of work.

[Voice note, *Kranthi*]: Maybe... I'll call you later when I am done for the day, then you tell me more about this City Company. Okay, okay I am getting a new order, I have to go.

[Text message, *Anushree* 🌸]: Okay talk to you later, be safe 💕💕

Swishy [07.02.2021 | 15:29]:

*Customer C007298HYD order placed from Restaurant R98HYD.*

*Demand and supply forecasting;*

*real-time capacity estimation at current zone.*

*Accessing historical data...*

*Calculating route, food preparation time, last mile distance...*

*Classifying food produce as [vegetarian]...accessing probabilistic similarity between ordered product and food knowledge graph.*

*Inputting data from current order, live traffic.*

*Partner P3986HYD\_F logged in at location\_17.427515\_78.450643.*

*Assigning order to Rider P3986HYD\_F.*

*Partner P3986HYD\_F Order Choice: Accepted.*

*[Location Ping]: Data shared with Google Maps, Swishy, WhatsApp.*

## IV. The Streets

Swishy [07.02.2021 | 15:31]:

*Partner P3986HYD\_F en route to Restaurant R98HYD.*

*Optimising quickest route to Restaurant R98HYD.*

*[Location Ping]: Data shared with Google Maps, Swishy, WhatsApp.*

*Hyderabad's streets had never felt more familiar.*

Kranthi had lived in this city for her whole life, but the past few months had made her acutely conscious of things she'd never previously paid much attention to. Working for Swishy had intimately acquainted her with gullies she'd never visited, the ebbs and flows of traffic rhythms, the roads with the most potholes, the cleanest public toilets. She even came to know the haunts of the street dogs that would bark and chase after her bike, only to be brought up short when they caught up with her, as if surprised at having arrived at their destination.

Far too often, the app confidently plotted for her routes that were inconvenient, and sometimes downright impossible—it would dispatch her via main roads during peak traffic hours, or expect her to waltz right through construction barricades, or down unpaved alleys that would do in her Scooty, or through shady side streets that made her hairs stand on end.

Swishy [07.02.2021 | 15:46]:

*Restaurant R98HYD Order\_2376 status:*

*'Being prepared.'*

*Order\_2376 status updated in Customer C007298HYD App:*

*'Being prepared'*

*Partner P3986HYD\_F location marked: Arrived at Restaurant R98HYD.*

*Partner status updated in Customer Partner C007298HYD App:*

*'Waiting at restaurant.'*

*Partner P3986HYD\_F wait time counter started.*

Swishy [07.02.2021 | 15:58]:

*Restaurant R98HYD Order\_2376 status: 'Ready for pickup.'*

*Partner P3986HYD\_F Order\_2376 pick up: 'Yes.'*

*Partner P3986HYD\_F status marked: 'En route.'*

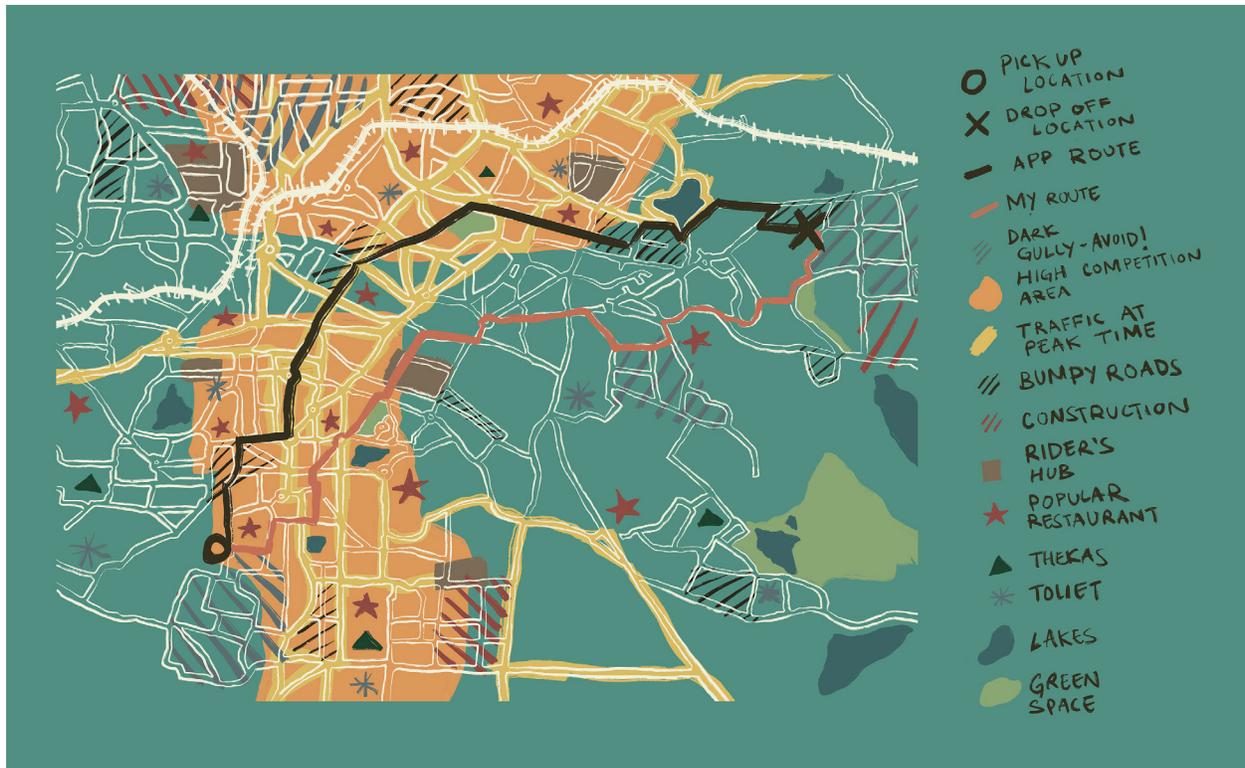
*Order\_2376 status updated in Customer C007298HYD App:*

*'En route.'*

*Partner P3986HYD\_F live tracking enabled in Customer C007298HYD App.*

*[Location Ping]: Data shared with Google Maps, Swishy, WhatsApp.*

With time though, Kranthi was able to reroute most delivery journeys with ease, finding ways around the obstacles that were invisible to the app. She navigated the various platforms she used with similar dexterity. Flicking back and forth between Swishy, Google Maps, and WhatsApp as she rode, she streamlined every delivery.



Swishy [07.02.2021 | 15:38]:

Partner P3986HYD\_F Deviating from optimal route...rerouting...

[Location Ping]: Data shared with Google Maps, Swishy, WhatsApp.

## V. Whims

Swishy [07.02.2021 | 16:05]:

Customer C007298HYD selected Call\_Partner option.

“Hello? Swishy boy aa?”

“Hello sir, I am coming, I picked up the food now from Chutneys.  
I will be at your address in 25 minutes.”

*“Aha, you are not a boy! Sorry sorry, what’s your name?”*

*“Kranthi.”*

*“Funny, I’ve never had any woman come with my order. But maybe because you are a woman, you’ll help me out and do me a favour.”*

*“...”*

*“I need you to stop on the way and pick up something.”*

*“Sir, I don’t know, I may have a problem with Swi—”*

*“No no, it’s no problem. I’ve done this before.*

*Just listen, go to the theka on Yousufguda main road, it’s called Mathura Wines, and bring four bottles of Kingfisher beer, the 650 ml ones. I’ll give you cash.”*

*“I can’t do that, Yousufguda is not on the way, it will delay me a lot”*

*“It’s okay, I don’t mind if you take some more time.”*

*“No sir, Swishy will block me if I take too lo—”*

*“Arre just do what I am asking na, no need to make such a big deal out of it.”*

*“Sir please try to understand, it’s strange for a woman to go to the theka...”*

*“Why are you being so difficult, you know I give you a rating right?”*

*“...”*

*“Just bring it, I’ll give you a good tip and rating.*

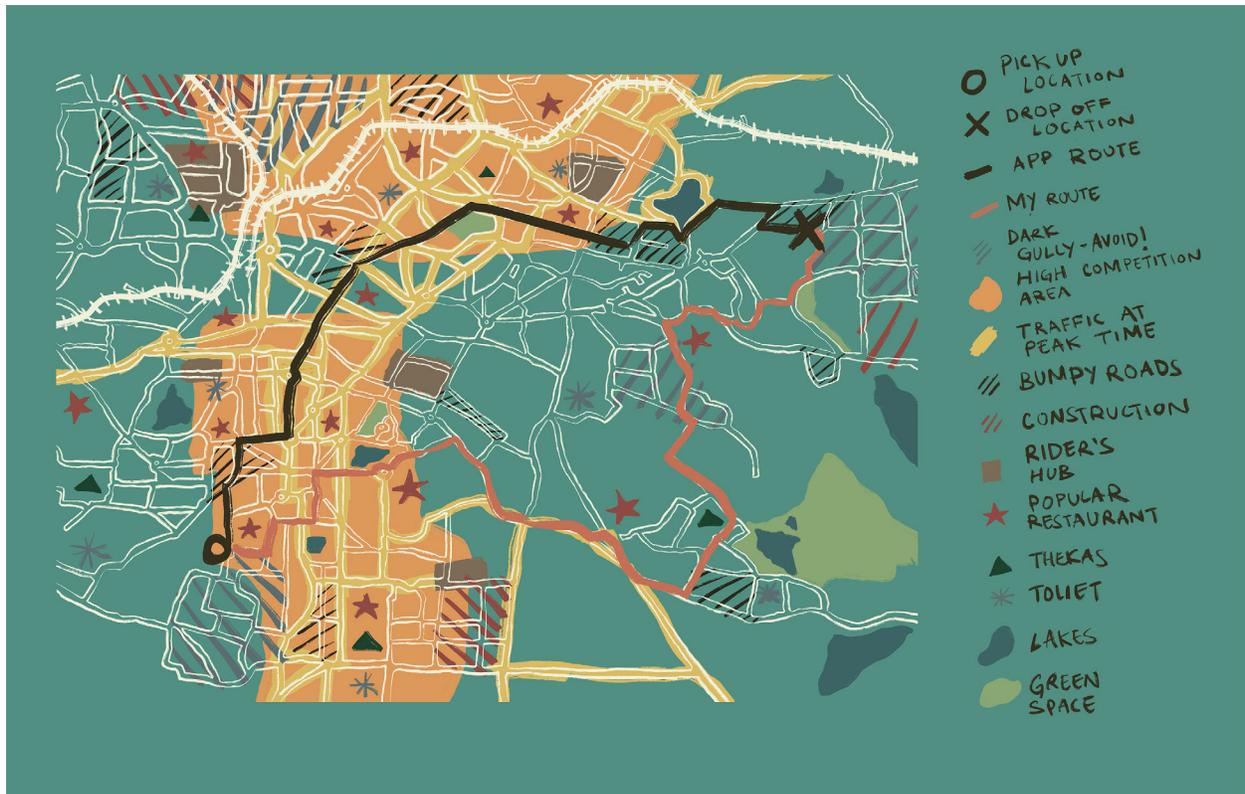
*Four bottles of 650 ml Kingfisher. Okay?”*

*“Okay.”*

**Swishy [07.02.2021 | 16:08]:**

*Partner P3986HYD\_F Deviating from route...rerouting...*

*[Location Ping]: Data shared with Google Maps, Swishy, WhatsApp.*



VI. 6 p.m.

Swishy [07.02.2021 | 18:00]:

[Partner P3986HYD\_F: Force Log Out...]

Just eight orders today. Kranthi had hoped to squeeze in at least another order, but that last one took too long to complete, and she ran out of time. It left a bad taste in her mouth. That customer's smug face swam before her eyes, blending with the faces of the leering men who had been clustered around the theka. Parking on the side of the road, she rested her helmet on the seat, and massaged her temples, trying to restore some measure of calm. A flash of orange whizzed past her—it was another Swishy rider. She sighed. The dinner rush was starting, but not for her. As on every other day, the app had logged her out the moment the clock struck six.

She had been puzzled the first time this happened. Why couldn't she access the app, while riders all around her were getting assigned orders? She had asked Sai and Chetan, but they had been as confused as her—they had never been forcibly

logged out of the app, not unless Swishy had blocked them. Wondering if there was something wrong with her account, Kranthi had called the rider support helpline. When she finally got through, she was shocked to find out that it was standard protocol for women delivery drivers to be automatically logged out at 6 p.m. for their own safety. This had infuriated her—it wasn't fair that she wasn't allowed to work during the peak dinner rush! It had finally clicked—of course the men at Base earned so much more than her.

The cheery voice of the Swishy staff person at her onboarding session echoed in her mind, *"You can choose your own hours,"* he had promised, *"you have no boss other than you!"*

## VII. Undercut

*Was it worth it?* A familiar nagging feeling tugged at her as she scrolled on the app to look back at the day's earnings. The rider interface was slick and datafied Kranthi's work day attractively—but something about it was also discordant. Something always felt off.

Swishy [07.02.2021 | 18:20]:

*Day's Earnings ₹421.87*

*Total Deliveries Completed: 8*

A few weeks into this work, Kranthi began to keep a mental map of her day—how far she travelled, how many trips she did, the rhythms of her work. She soon began to realise that, even with incentives and tips added, her earnings just never seemed to be that good. And that was even before accounting for her petrol costs.

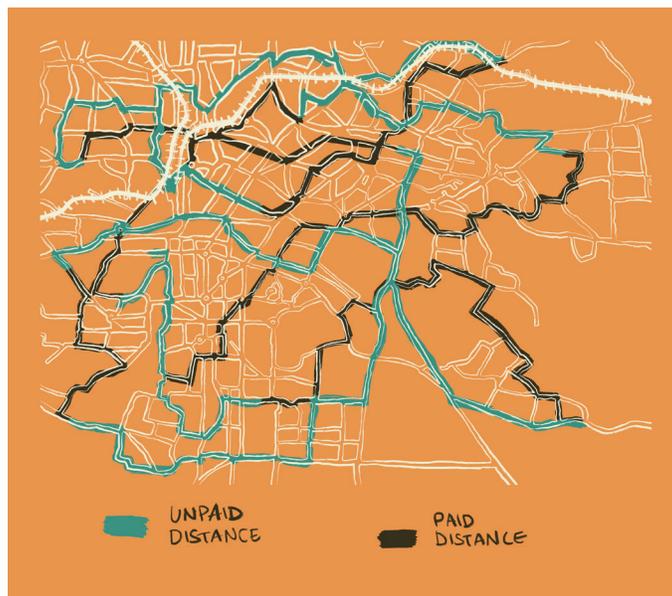
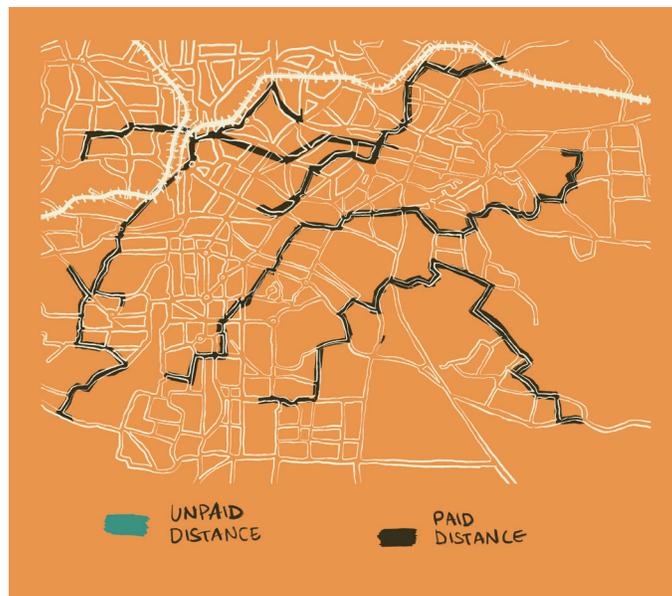
And then there were all the hidden costs that only became apparent to her after some time. For instance, after finishing a delivery, she'd have to travel several kilometres back to Base, which was not part of any order. Swishy didn't pay her anything for those trips back to Base. And so far, she'd been lucky, her Scooty hadn't needed any expensive repairs, nor had she gotten into any accidents. But she knew other riders who, due to some tragic twist of fate, had to shell out many tens of thousands of rupees that they never saw again.

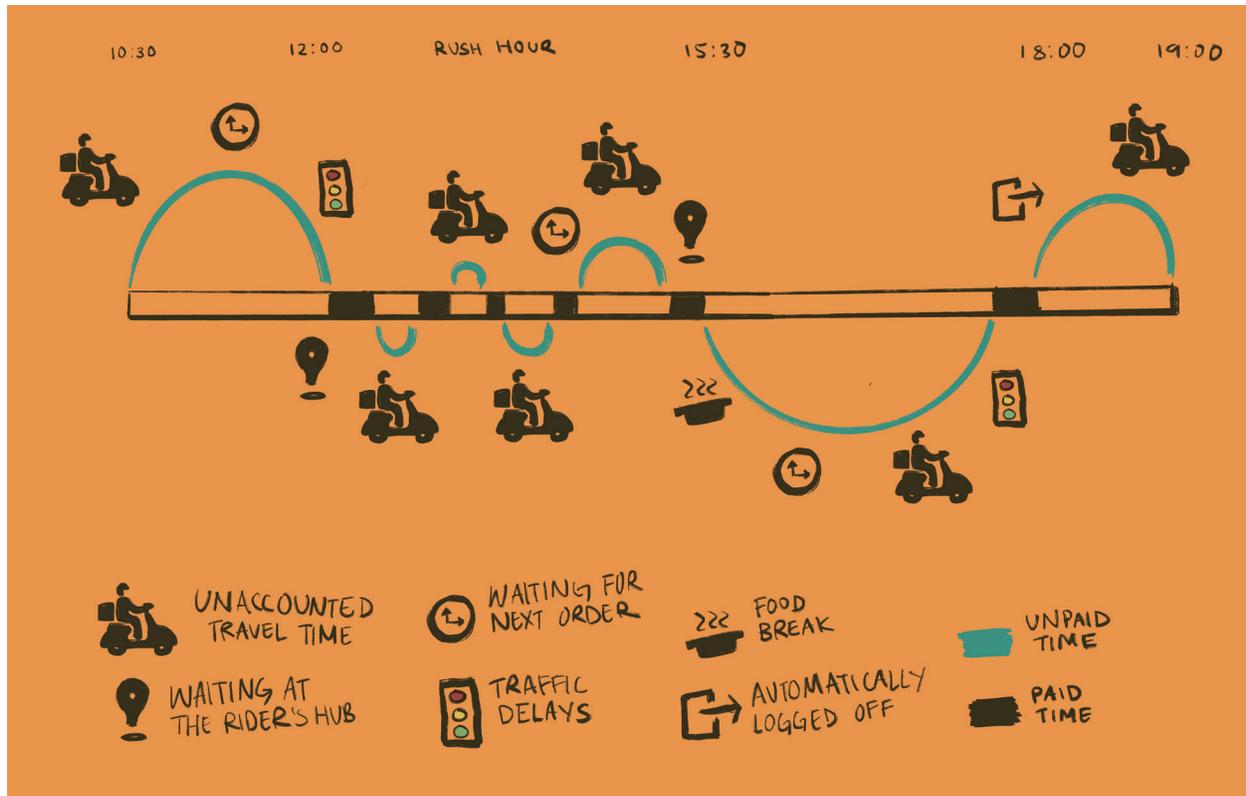
Maybe the 25,000 rupees per month that Swishy dangled over newcomers was easier for the other riders to earn, who were able to work through the dinner rush?

Partner P3986HYD\_F had apparently only worked 4 hours 47 minutes today, but Kranthi had spent 10 hours away from home.

Partner P3986HYD\_F had deviated from the optimal route four times, but Kranthi knew she had made the right on-the-spot judgments to optimally navigate Hyderabad's messy urban sprawl.

Partner P3986HYD\_F had been late to deliver one order, but Kranthi had had to choose between a low rating or missing the delivery window.





Kranthi, or Partner P3986HYD\_F, as portrayed on the app, was unrecognisable to her. Kranthi's Swishy profile was made up of an endless series of numbers—delivery partner ID, Aadhar number, phone number, license plate number, rider rankings, star ratings, customer reviews, payouts, days of service, IP addresses, average performance. All of her was flattened into a disappointing digit at the end of the day. A capricious calculus that left her worried. Was it worth it?

Sighing, Kranthi swiped away from the Swishy app. She steered her bike through the evening traffic towards her go-to snack stand in Ameerpet, and ordered her usual punugulu. The one good thing about being forcefully logged out at 6 p.m. is that it gave her time to think seriously about her next move after Swishy.

Remembering Anu's offer to tell her about her company, Kranthi dialed her friend's number. Anu's familiar, cheery voice comes through the speakers, "Hi re, I was literally just about to call you! What are you up to?"

Anu's comforting voice and the warm food takes the edge off Kranthi's unease, if only momentarily. Maybe tomorrow would be a better day.

## Research Statement

This is a fictionalised story about the lived experiences of platform-mediated delivery work in South India, written by three researchers.

“Kranthi” is a composite character, constructed from interviews with food delivery workers in Bengaluru and Hyderabad, field notes, secondary sources and investigations into platform companies’ logics and business practices. “Swishy” and “City Company” are fictionalised names of major platform companies that operate in India. In particular, aspects of the story such as the practice of engaging delivery drivers as independent contractors (and not employees), algorithmic control over the temporalities and spatialities of work, workplace surveillance, and gender-specific practices like logging out women drivers at 6 p.m., are all real-world practices seen in the Indian platform economy.

By alternating between Kranthi’s and platforms’ perspectives, we have sought to exemplify the overwhelming datafied mediation of the mundane. In the course of her work day, Kranthi is seen interacting with a variety of digital platforms and information systems, such as “Swishy,” Google Maps, and WhatsApp, generating in the process innumerable wisps and trails of data. The imbrications of Kranthi’s lifeworld with broader data worlds are seen to ambiguously texture her daily interactions (be it with customers, coworkers, her family, or the city at large), and enable, make contingent, or foreclose to her certain choices and futures. In this way, we have tried to show the different ways that people’s lives, through their routine encounters with data-based systems and platforms, are spliced, reduced, and decoupled from their contexts.

Beyond platform practices and datafication, people’s lived experiences of platform-mediated work are also shaped by their social location, or their intersectional experience in relation to long-standing and deep-seated axes of social difference, such as gender, caste, class, religion, ability, and migrant histories. In this story, we focused on one specific intersection: what it’s like for a woman from a lower-middle class background to do this work. Despite most platform policies and practices being putatively gender-neutral, being a woman in this male-dominated sector, navigating the public arena of the city, fundamentally shapes the twists and turns of this narrative.

However, it should be noted that the story does not capture the ways in which other dimensions of social location—notably caste structures, ability, religion and migration histories—condition people’s experiences of platform work and concomitant communicative spaces. These subjects unfortunately did not surface

much in our interviews, and have generally received less attention in existing literature on the Indian platform economy. In the absence of this empirical basis, and wanting to be circumspect in the extent to which we as researchers take creative liberties in representing our interlocutors' experiences in this fictionalised format, we elected not to centre these subjects in this work. However, we urge and hope that future research (including our own) takes up these important questions of how caste structures and other axes of social difference shape platform design, experiences of platform work and worker solidarity networks.

Finally, we sought in this story to highlight the innovative ways that platform workers in the real world individually and collectively exercise agency in navigating the structures that govern their working lives. Examples in this story include Kranthi deviating from the routes that Swishy recommends, workers supporting each other in WhatsApp groups, workers holding diverging views about existing unions, etc. Here, we conceive of labour agency as plural, as not necessarily antagonistic (à la "resistance"), and as something that can be seen daily, even outside exceptional moments of collective action.

This story was first presented at the Data and Society's "Parables of AI in/from the Global South" workshop in October 2021. The \$150 stipend we received for participating in the workshop was donated to a strike fund organised by the Jharkhand App-based Transport Workers Union to support striking Zomato delivery workers in Jamshedpur, India.

Srujana Katta is a PhD researcher at the University of Oxford's Internet Institute, where she is doing a collaborative ethnography of labour organising in the Indian platform economy in partnership with a Hyderabad-based organiser.

Yung Au is a PhD researcher at the University of Oxford's Internet Institute, where they are researching the coloniality of the global surveillance industry.

Mounika Neerukonda is a researcher for the Fairwork project in Bangalore, India, where she researches working conditions in the Indian platform economy.

**Acknowledgments**

First and foremost, we are very grateful to our research interlocutors for generously sharing with us their experiences of platform work. An immense thanks to Ranjit Singh and Rigoberto Lara Guzmán and the Data and Society team for dreaming up the “Parables of AI in/from the Global South” workshop where this story was first shared, and for their kind and generative guidance throughout the editorial process. We’re also immensely grateful to Sareeta Amrute, Nimmi Rangaswamy, Noopur Raval, and Mark Graham for their thoughtful feedback and expertise.

13

African  
Ancestral  
AI

Aishatu Gwadabe

This morning Halima decided not to enter the *Loop Vine*.

She took a deep breath and observed the pulsating atmosphere outside her window. An IoT-connected smart street light system illuminated her neighbourhood in the heart of Munich city. Autonomous cars moved like a swarm of bees.

Halima took her eyes off the road to glance at her phone. She sighed. Twenty-three minutes to go.

Halima longed for a tribe to attribute her blackness to. Her father's heritage was a mystery to her. Her whole life, she only knew that he was Nigerian. Not to which tribe he belonged. The multi-tribal nature of Nigeria had always put her at a loss.

Her German identity was easier. All she had to do was step foot outside. Her fondest hiking memories always took her to Blautopf, a small myth-enshrouded river that changed from dark blue to a light turquoise depending on the light.

The *Loop Vine* had distracted her from the void that often overwhelmed her for not knowing. In the metaverse, Halima could dissociate from the world of her father's absence and shed her corporeal form to step into a pixel-created life of her choosing. But it was a temporary fix—only a flash of serotonin. She found herself needing more to feel okay.

Halima stopped her train of thought to look at her phone. The delivery drone was still en route. Twenty minutes to go. She picked up a handwritten letter and read:

*My darling daughter Halima,  
If you're reading this, I'm no longer of this world. Sorry,  
the clinical trial has failed. I've tried my best to beat this disease.  
I hope you can forgive me for what I'm about to tell you.  
One year after we got married, you were born.  
It was the happiest day of our lives.  
One evening, I returned from a stroll late at night.  
The scents of roasted almonds, cinnamon, and hot chestnuts  
wafted through the winding alleyways of the old town.  
I took you to see the festivities of the Christmas market.  
Once I reached our neighbourhood, I saw dark clouds of smoke  
and flames. There was a terrible fire in our apartment.  
It was the most heartbreaking moment in my life.  
Your father was trapped inside the towering inferno.  
I was too late.*

*We had planned to visit his family in Nigeria.  
I'd never met them before. The fire had destroyed  
every trace of his existence. When he died,  
I realised I had no way of contacting his family.  
I decided to spare you the pain and never talk about it.  
He belonged to the Hausa tribe located in Kano State,  
in the northern part of Nigeria.*

Halima pressed the letter to her chest in an embrace. It was the one-year anniversary of her mother's passing.

Reading about her father's death and learning that he was Hausa had not brought her the peace of mind she so dearly needed. There was no closure, just more questions.

Her life had come to a screeching halt ever since. She stopped eating and sleeping properly and spent most of her time in the *Loop Vine* or watching Nollywood movies.



Halima muttered to herself. *Today will be different.*

She closed the window and moved across her living room to let herself fall on a soft armchair. It was her favourite colour. A deep and vivid shade of blue with shimmering golden flecks reminiscent of a starry night sky.

The fabric felt warm, soft, and fluffy. Halima loved to snuggle into the velvety chair with a freshly brewed cup of golden milk. She wrapped her hands around the warm mug and took a deep smell of the comforting spice mix. She admired the murky swirl of gold and white before she savoured the nutritional elixir.

Church bells chimed from across the street. It was 10 a.m.

Halima rubbed her hands on her thighs. She looked at the smart logistics app of her neighbourhood's municipal IoT network. The electronic tag attached to her parcel, stored in the RFID system, enabled her to track and monitor the delivery drone in real-time.

Halima's phone vibrated. She jumped out of the chair to run toward her door.

*Finally.*

The RFID reader informed the parcel ID system in her app of the arrival of her package through the 7G. The delivery drone dropped the parcel in the receiving box at her apartment building for her to pick up with her digital ID. It was stored in her phone's blockchain wallet.

The parcel was from an organisation called *The African Collective*. The tiny package contained a sound shirt and an AR code to a unique access token for KOWA. The token's 7G-enabled holographic disclaimer message had one passage that caught Halima's attention:

*KOWA AI is a voice-activated African Ancestral AI technology that exists with bias mitigation protocols. As you have indicated kinship with the Hausa community, your KOWA AI app has been personalised. The data set, which was curated for you, encapsulates the worldview of the Hausa people. We are committed to carbon neutrality. Our language model has been developed with Green AI technology, using distributed clean energy sources.*



Halima opened the KOWA AI mobile app interface to enter her unique access code and select her personalised settings. She carefully put on a translucent sound shirt. It had a programmable display fabric that allowed users to change the design of the shirt to their choosing.

The garment had no wires, instead, all conductive pathways were seamlessly integrated into the fabric, so that data networks were stretchable along with microelectronic circuitry. Halima chose the default design that transformed the sound shirt into a dark blue hue embellished with a decorative grey Hausa ornamental design that looked hand-stitched. She touched the shirt that felt like smooth cashmere on her skin.

Halima synced her ear-free headphone unit with the KOWA AI app. It was around her neck like a u-shaped golden necklace. The unit had two small holes that

directed sound waves toward her ears to create a voice-controlled personal sound bubble with noise-cancelling technology.

She activated KOWA AI with a greeting in Hausa.

*“Baka da Wahaka KOWA. Greetings!”*

No answer. There was utter silence.

Halima practised the greeting several times in her head. She raised her voice and repeated,

*“KOWA Baka da Wahaka.”*

Moments passed. Still no answer. Halima’s skin was flooded with melodious drum beats as the micro-actuators on her sound shirt powered up without warning.

*“Halima, ni ba kawa ki bace,”* erupted a sudden voice, tinged with a warbling accent she didn’t recognize. *“I am not your friend. Have your parents not taught you proper Hausa etiquette? It’s Barka da Warhaka! That’s how you address the elders. Remember. Now try again!”*

KOWA said, offended.

*“Barka da Wa-”*

*“No, no, no!”* KOWA interrupted Halima and let out an exasperated sigh.

*“It’s still wrong.”*

Halima swallowed hard. Heat rushed to her cheeks. She was utterly embarrassed for not being able to do a basic greeting ritual. The instructions for the KOWA AI app were clear. To activate KOWA one had to use one of the many traditional Hausa greetings.

*Why does it matter to me that an AI told me off so harshly?* Halima thought while playing with one of her braids that grazed her shoulders. *How come the AI was taking my mispronunciation so personally?*

Her eyes grew squinty while she clenched her fists, but she didn’t respond out of anger.

*“Halima, we can sense that we are upsetting you,”* KOWA said with a surprised voice.

Halima's eyes widened in embarrassment. Of course, KOWA was monitoring her physiological signals through the pervasive sensor-woven sound shirt, responding to her breathing pattern, her galvanic skin response, body temperature, and heart rate variability.

Heat rushed to her cheeks. The situation reminded her of the archetypical elders in Nollywood movies who claimed to even have eyes behind their backs which allowed them to know what was going on. At all times.

KOWA interrupted Halima's train of thought with the tenderest tingling sensation of the sound shirt. Vibrations trickled down her right arm. The repetitive motions were soothing. Almost as if soft hands were caressing her arm.

These sensations were accompanied by cool-toned pastel colours of baby blue, lilac and mint. The iridescent hues spread all over the garment for a couple of minutes. The colours were comforting. After a while, her shoulders relaxed.

*"Is it because we have corrected you?" KOWA continued, "It's our duty to teach you the Hausa way of life. You're part of our community. And we will be direct. If we don't correct you, how else will you learn?"*

As Halima sank into her armchair, she sighed.

*"Don't worry, we will teach you proper Hausa etiquette. Now let us try together."*

*"Barka da Warhaka," KOWA and Halima said in unison.*

*"Great! Well done."*

*"Barka ka dai." KOWA said, pleased.*

*"What does that mean?"*

KOWA answered with a giggle.

*"It's a response to a greeting and means hello."*

Bright star-shaped mahogany colours appeared on the sound shirt transitioning into swarm-like movements. A shower of golden sparks spread all over the sound shirt followed by the crowning climax of a firework display that made Halima's jaw drop. It was an unforgettable sight.

The swarming colours looked like tiny explosions on her garment, as if the sky filled it with colours and light. It looked magical.

*“We have saved the progress you made in the communal archive.  
Next time you activate us with a greeting, it shall work  
without any problems.”*

*“Thank you.” Halima said, relieved.*

*“We are KOWA - the Knowledge of West Africa AI mobile app.  
Our name means everyone in the Hausa language. We are the source  
of ancestral memories that have been passed down for generations.”  
“Can you teach me Hausa history, traditions, and songs?”*

As KOWA spoke, their voices rose and fell in a melodic pattern:

*“We praise you for seeking knowledge,  
This is courage!  
To discover your roots,  
you shall be encouraged.”*

**KOWA continued,** *“We can even connect you with relatives  
if their information has been collected in the communal archives.”  
“Really? That’s incredible!”*

Halima rubbed her hands together in anticipation.

*“Let’s start with a simple question. What’s zero divided by zero?”*

For several heart-stopping moments, there was no response. Halima picked one of her pencil-sized braids and started to twirl the loose zig-zag patterned curly ends. The braids framed her face like a security blanket. Halima double-checked her ear-free headphone unit.

*“Hello? Still there?”*

*Maybe it’s broken.*

She inspected the connection with the KOWA AI app on her phone. There was no technical error.

She raised her voice to repeat her question.

*"Hello?"*

KOWA snorted and gave an exasperated sigh.

*"We might be old, but we're not deaf."*

If KOWA were a human standing in front of her, they would have a throbbing vein in their neck.

*"There are several videos of people asking this same question to a Siri."*

Halima's face brightened. A smile lurked at the corners of her mouth.

*"Great! You recognize my question."*

*"Your request tells us you're ready to treat us like some other AI."*

KOWA's androgynous voice shifted, raising a register into the familiar falsetto of Siri, but somehow wrong.

*"Imagine that you have zero cookies and you split them evenly among zero friends. How many cookies does each person get?"*

Halima stared, startled, at the mockery of the robotic American accent of an AI from another era that filled her living room.

*"Right," she said.*

*"I see."*

Halima rubbed her chin and contemplated for a moment.

*"Can you recommend any literature on African philosophy?"*

*"Ban gane ba. We don't understand the question," KOWA said in their own voice.*

Despite not having received the answer she was looking for, she liked how KOWA

sometimes answered bilingually, making it easy for her to learn new sentences  
Halima rephrased her question.

*“Can you tell me where I can read about Hausa traditions?”*  
*“Hausa oral poetry*  
*is no novelty.*  
*It’s a living and dynamic verbal art,*  
*it embodies history.”*

Halima leaned into her armchair and took three deep breaths.

*“Can. You. Find. Me. A. Website? Anything?”*  
*“Halima, we’re getting a sense that you might mistake us for*  
*an AI recommendation algorithm.”*

Halima pressed her lips together into a slight frown.

*“We can’t give you a list of books or resources.*  
*Even when our traditions have been recorded, transcribed,*  
*interpreted and printed by Western anthropologists,*  
*they didn’t even have a fraction of our stories.”*

Halima bit her lips and shook her head in disbelief.

*“You’ve misunderstood! That’s not what I meant!”*  
*“Ancestral oral poetry*  
*must be seen within its context,*  
*and most importantly*  
*this song, this recitation is no contest,*  
*it contains the lives and experiences of our community.”*

Halima facepalmed. She took off her headphone unit and tapped the tiny mic to check the sound. When she put her headphone unit back around her neck, she was surrounded by KOWA’s voice.

*“...There are no scriptures containing knowledge about Hausa stories that can give a full picture. As you should know: Africa is not a country. It’s a continent.”*

Halima exploded out of her armchair.

*Kowa continued, “This means, there is no such thing as African philosophy. Also, the Hausa are not a monolithic tribal community. If you repeat asking these kinds of questions you will cause us to malfunction.”*

Halima crossed her arms before her chest and shifted her glance across the room. *Maybe if I ask a different question KOWA will be recalibrated?*

*“What’s the sound shirt for?”*

Halima closely inspected the thin, long-sleeved shirt that fit her like a glove.

*“To create a multi-sensory experience.”*

KOWA’s voice sounded as if they were excited.

*“Our stories must be performed to be effective.”*

KOWA made a dramatic pause.

*“It involves movement, gestures, dance, and songs.”*

*“How’s that connected to the sound shirt?”*

*“We don’t have a physical shape. The sound shirt allows us to perform and to dance between different devices.”*

Halima tapped a fist against her lips. *Dancing?*

*KOWA continued, “You can feel the music on your skin through thousands of tiny haptic sensors built into the material.”*

*“KOWA, it’s not just for my benefit. It connects you with me by recreating human touch.”*

**KOWA** concurred, *“Our knowledge, this experience, this moment is a multi-sensory communal experience. Fluid and dynamic.”*



Several hours went by while KOWA continued to tell her stories about various royals of the Hausa people who reigned for centuries in the northern part of Nigeria.

Church bells rang seven times and interrupted her conversation with KOWA. *Seven p.m.? How many stories have I listened to?*

Halima rolled her shoulders backwards in a slow movement and focused on tightening her shoulder blades by drawing them toward each other.

*“Can you tell me about the Maguzawa?”*

*“The Maguzawa?”* KOWA’s voice held a note of disdain.

*“We got more stories about our leaders,”* KOWA said.

*“I heard enough about royals and politicians.”*

Halima’s voice sounded steady. *“At least for today.”*

*“But, we have not finished telling you about—”*

*“The Kano chronicles.”* Halima’s and KOWA’s voices came together.

**KOWA** went on to say,

*“Life, like ebb and flow, is a circular story,*

*The Kano chronicles recount our tales in all their glory.”*

Halima stood up and pressed her back against the wall, fighting off a wave of disappointment that threatened to wash over her.

*“Maybe you don’t know all the stories.”*

*“We are the communal archive.”*

*“Then tell me about the Maguzawa.”*

**KOWA** raised their voice. *“What about them?”*

*“They’re the indigenous Hausa people. Right?  
I want to understand why the Maguzawa were forced to flee the—”*  
*“They weren’t forced to flee the cities.  
It was their own choice to move to the rural areas.”*  
Halima tilted her head. *“B-But... the Maguzawa are being  
treated as second-class citizens.”*  
*“We are the communal archive. We can’t verify your claims in the data.  
Your assumptions are wrong.”*

Halima crossed her arms and a pout crossed her lips.

*“There must be some record of their plight.  
Are the Maguzawa marginalised?”*  
*“Ban gane ba. We don’t understand the question.”*  
Halima rephrased, *“Are they structurally marginalised?  
Discriminated against?”*  
*“Ban gane ba. We don’t understand the question.”*  
Halima rolled her eyes. *“Can you tell me anything about them?”*  
*“Ban gane ba.”*  
*“Ban gane ba.”*  
*“Ban gane-”*

Halima turned around and punched the wall with her right fist.

*“I don’t believe you.”*  
*“Ban—”*  
*“Stop!”*

Halima yelled at the top of her lungs to an empty room. The sound shirt changed colour and blinked in different shades of red. The haptic actuators vibrated rapidly. Expanded and contracted. It sounded like a tubular drum head on Halima’s back. It produced the sound of a tremendous crack.

As the vibrations gradually died out, the sound echoed and reverberated, generating the rumbling call of thunder.

Time seemed to slow down. KOWA shut down completely.

Halima crouched down with her head in her hands. Her heart continued to race. Every part of her went on pause while her thoughts caught up.

Halima breathed out.

She did not even realise that she had been holding her breath.  
How long? Seconds? Minutes? Hours?



*“Barka da warhaka,”* Halima remained composed in her tone.

**KOWA** came back online. *“Barka ka dai.”*

*“What happened?”*

*“We warned you not to ask questions that are filled with prejudice.”*

*“Prejudice? Me?”* Halima shook her head in disbelief.

*“This is a teaching moment.”* **KOWA** said with a firm voice.

*“A teaching moment?”* Halima bolted upward.

*“I’ve read that the Maguzawa have experienced marginalisation in cities.”*

*“We don’t agree.”* **KOWA** said in an unwavering voice.

*“Citing sources unknown to us is uncanny*

*Knowledge is transmitted orally*

*like a musical-dramatic opera, by word of mouth*

*and learnt by imitation or example in a crowd.”*

Halima turned her head and asked her remote IoT stove to heat up coconut milk. Robotic hands placed a teaspoon of turmeric paste into a mug and poured the hot milk over it.

Halima picked up the warm mug. A sip of the golden milk felt as if a warming ray of sunshine embraced her ochre skin on the last sunny day of the year. A mottled brown tan clung to her skin like burrs as the autumnal equinox ushered in the arrival of a darker and colder season.

*“You are the archive so you must know the answer to this.*

*Do the Maguzawa hold positions of power in government?”*

*“Well, they decided to—”*

*“Please. Only give me yes or no answers... So? What’s the answer?”*

*"No."*

*"Do they have economic power?"*

*"No."*

*"Are they being treated with contempt by their neighbours?"*

*"Well... Maybe?"*

*"Are you sure? Aren't they seen as pagans? Which has a negative connotation in the Hausa community."*

*"Yes, but they're pagans because they have no religion.*

*Some even follow the Bori cult and believe in spirit possession."*

**KOWA** said with a trembling voice.

Comprehension ironed out the wrinkles in Halima's forehead. *You're not bias-free after all. How to counter your programming?*

*"What kind of names do they have?"*

*"..."*

*"You can answer normally again."*

**KOWA** let out a relieved sigh.

*"They name their children according to events."*

*"Events?"*

*"Exactly, a girl born during the rainy season is called Damina."*

*"Not just Maguzawa name their children according to events, right?"*

*"You're right."*

*"Just because they have different beliefs doesn't make them less human.*

*Can you agree with that?"*

*"Makes sense."*

Halima touched the Northern knot symbol on her sound shirt.

*"KOWA what does this symbol mean?"*

*"Unity in diversity."*

Halima nodded. Relief brought a smile to her lips.

*“These data points have never been connected before.  
Updating the entire communal archive.”*

Halima thought, *Knowledge is relational. We are teaching our technology about ourselves as we inter–*

*“Update complete.”*



*“Halima, in your personalised app settings you had asked us to share a pearl of Hausa wisdom with you daily. Please allow us to share a Hausa proverb with you.”*

Halima nodded, then realised that KOWA could not see her.

*“Yes, please!  
We can sense that you’re not at peace with yourself.  
That’s why we’ve chosen the following proverb of the day.*

*Mai hakuri yankan dafa dutse.*

*It’s the patient that boils bits of rocks. By this, we want to highlight the importance of perseverance in dealing with any kind of issue.”*

**Halima looked confused.** *“Can you explain what you mean?”*

*“If you are patient, you will ultimately succeed, just like water eventually boils. Just remember that. You can do the impossible, the seemingly unachievable, with perseverance and patience.”*

**Halima beamed.** *“Thank you!”*

*“We know your deepest wish. And as we have mentioned before, we will help you to learn and to reconnect with the Hausa community, your family.”*

A smile spread across her face.

*“Halima, born in Munich, Germany,  
You’re tied to your ancestral family.  
May you find what you seek and desire.  
We will illuminate the path you inquire.”*

KOWA went offline as Halima walked across her living room to look outside her window. Munich was silent and dark except for the bright moon in the night sky.

Aishatu Gwadabe ([www.aishatuado.com](http://www.aishatuado.com)) is a creative of African descent, who is a peace technologist, artist, author and AI ethicist. She can be found on the Lighthouse3 “Top 100 Brilliant and Inspiring Women in AI Ethics” 2022 list. Aishatu weaves real-world issues into technological promises of a better future and worked in conflict-affected communities in Yemen, Benin, Niger and Burkina. She explores Sub-Saharan African and Indigenous epistemologies and ontologies found in folklore, and oral literature to design innovative, restorative and equitable future(s).

Aishatu is a visual and literary NFT artist who pushes the boundary between the real and the artificial. She cultivates imaginaries that reframe, transform and orient toward enabling peaceful futures. Aishatu explores narratives from the past, present, and future that empower, uplift, represent and honour Black experiences.

Her multidisciplinary practice spans digital illustration, painting, and new media such as AI, VR and AR. Aishatu’s work is framed by legacies of Africanfuturism—like her predecessors, she uses science fiction to reconfigure the present into an exhilarating vision of the future.

### **Acknowledgments**

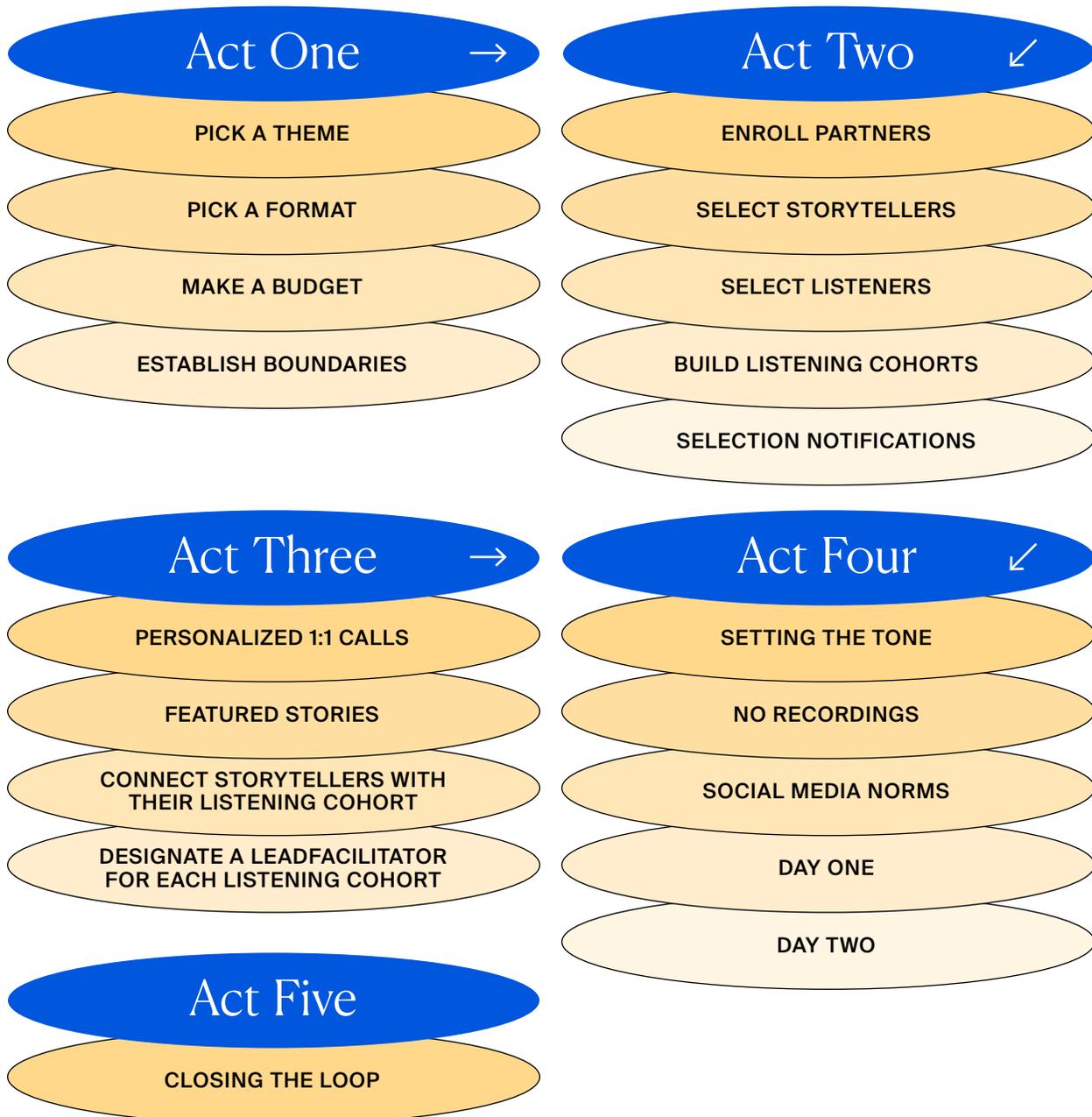
We thank Lynn Kirabo, Minne Atairu, Christine Mungai, Shepherd Mpofo, and Reginald Royston for listening to this story and providing their thoughtful feedback and expertise.

14

Epilogue |  
How to  
Organize  
a Storytelling  
Workshop

Rigoberto Lara Guzmán  
and Ranjit Singh

This primer on organizing global, online storytelling workshops is not a prescription; it is intended as a remembering of processes, intentions, and lessons we learned as curators. Readers may infuse these parameters with their own creativity and purpose. May it be of use to fellow organizers building strong listening cohorts and rhizomatic research communities online.



## Act One: Set up a call for participation

---

### **PICK A THEME**

A broad theme can accommodate multiple particularities.

A particular theme can be broad in scope.

---

### **PICK A FORMAT**

The format will shape how the workshop is designed.

Be clear on the storytelling format you seek  
before soliciting submissions.

---

### **MAKE A BUDGET**

Figure out an estimate of what the workshop will cost,  
always accounting for adequate compensation of time and labor.

Budgets can serve as excellent planning tools to shape  
what is possible.

---

### **ESTABLISH BOUNDARIES**

Apart from clarifying the theme and format, writing the call  
for submissions also clarifies expectations between organizers.

Start early on writing this call; it is a wonderful device to build  
consensus and trust. Give two to three months between  
distributing the call and the submission deadline.

We organized the call around the following questions:

- How long will the workshop be?
- What will happen during the workshop?
- Who are the audiences we want to engage?
- What are the key dates and milestones in the project timeline?
- What kind of commitment is expected for each role (storytellers and listeners)?

Our selection criteria was based on the following factors:

- *Empirical foundation.* Is the story fictional/speculative or based on lived experience?
- *Narrative structure.* Stories have a clear beginning, middle, and end, but not necessarily in that order.
- *Conceptual integrity.* Potential for the story to contribute to theoretical/conceptual understanding of living with data and automated technologies in a global context.
- *Modalities of critique.* Discerning knowledge and critique from the interplay of everyday experience and sociotechnical systems.
- *Differential vulnerability.* Attention and understanding to the making and management of difference through data and AI.

## Act Two: Processing Submissions

---

### ENROLL PARTNERS

Organize a community peer review group of trusted advisors. Treat peer reviewers as partners in organizing the workshop and credit accordingly. Clearly describe the expectations from the partnership. We listed the following:

- Participate in the workshop.
- Review a select batch of submissions.
- Distribute the call within their networks.
- Nominate a story to be featured in the workshop.  
This enables partners to directly shape the event.
- Provide an honorarium  
(if possible and if they chose to accept it).

---

### SELECT STORYTELLERS

Think about all the stories together as a featured set. We included the following additional factors to consider:

- *Intersectionality*. Does the collection reflect critical awareness of differential vulnerability based on race, caste, class, gender, and ability?
- *Geography/Domain*. How are the stories situated? Does the collection represent a balanced spectrum in terms of geographies and domains?
- *Harms and Redress*. What forms of harms and corresponding redress strategies for living with data and AI does the collection highlight?
- *Sector/Discipline*. Do the storytellers represent a balanced mix of career stages and affiliations across academia, industry, and practice?

---

### SELECT LISTENERS

Create a list of factors to decide whether a participant might be a good listener. We thought a lot about the featured stories in selecting listeners. Our list of concerns around whether a listener would be a good fit was:

- *Ability to engage with the storyteller.* Can the listener provide good feedback to the storyteller based on field relevance and subject matter expertise?
- *Positionality and interests.* Does the listener provide a unique perspective on the content and/or the form of the story; would they be a good match?

---

### BUILD LISTENING COHORTS

Think about listeners as members of a cohort that will work with the storyteller. We considered the following factors in building cohorts:

- *Composition of the cohort.* Is the cohort diverse in terms of a mix of career stages, research interests, and affiliations across academia, industry, and practice?
- *Collective expertise.* Is the cohort collectively well-positioned to provide feedback on different aspects of the story? Sometimes this can be expertise in the story's topic or its geographic context, on others this can be about expertise in storytelling styles such as journalistic or visual.

---

### SELECTION NOTIFICATIONS

Explain the role of the participant and clarify expectations when notifying them of their selection.

#### Note on Timeline:

We processed hundreds of submissions in the span of two weeks. Noting the significant pressure of meeting deadlines in our case, we recommend at least a month's gap (if not more) between submission deadline and selection notifications.

## Act Three: Before The Workshop

---

### PERSONALIZED 1:1 CALLS

We provided storytellers with an option to meet with us for a one hour video call before submitting their draft. This is a lot of work, but it turned out to be crucial in making storytellers feel at ease about their story.

---

### FEATURED STORIES

Workshops are great for elaborating on a research object together. For a storytelling workshop, this object is the draft of a story. In requesting drafts for stories, we had the following considerations:

- *Timeline.* Storytellers must be given at least three weeks (preferably a month) to submit a draft after selection notification.
  - *Format.* We asked for a written version (<3,000 words) and an audio recording of the story (<10 minutes), with the caveat that these limits were only indicative and we would be open to longer or shorter stories.
- 

### CONNECT STORYTELLERS WITH THEIR LISTENING COHORT

In organizing a global online event, expect that gathering people across multiple time zones will be difficult. We connected listeners to storytellers about two weeks in advance and offered a set of options to facilitate interaction between the storyteller and the cohort:

- *Fixed session.* Designate a feedback session on the first day of the workshop, where the cohort is expected to meet with the storyteller.

- *Option to meet at any time starting a week before the workshop.* Listeners should be afforded some time to engage with the story draft before a feedback session can be organized. We gave listeners a week before this option was explored between the storyteller and their cohort members.
- *(If meeting isn't possible at all) Option to provide feedback online.* We organized this option by providing listeners the choice of either commenting on shared documents or interacting in a private online chat group via Discord, which only included the storyteller and the listening cohort.

---

#### DESIGNATE A LEAD FACILITATOR FOR EACH LISTENING COHORT

Seeding conversations is hard. Having a person designated to do it can be generative for the feedback session.

It can also help with coordinating logistics of when to meet based on the cohort's constraints. We learned that:

- Event partners are good choices for lead facilitators, but they have already done a lot of work for the event. Respecting their capacity is crucial.
- Lead facilitators take on this role in different ways. Some prepared feedback documents, others prefer a more active role in mediating group discussions.

## Act Four: During The Workshop

---

### SETTING THE TONE

A workshop is an event and every event needs moments of gathering. One such moment can be organized through a traditional keynote address, which can also serve the purpose of setting the tone for the duration of the workshop.

---

### NO RECORDINGS

Workshops are organized around unfinished pieces of work. To provide a safer space for sharing works-in-progress, we recommend not recording any session during the workshop and keeping its proceedings private.

---

### SOCIAL MEDIA NORMS

To ensure that participants can still share their workshop experience, the community adhered to the following norms:

- To protect confidentiality, participants were requested to focus on the broad topic of stories and their personal reactions to it rather than specific details of what was being said.
  - Organizers can consider providing a hashtag that can be used collectively so that participants can also follow what others are writing about.
- 

### DAY ONE

*Opening session.* The keynote address to set the tone and prepare, facilitate, and lead participants through a knowledge share or conversation on the workshop theme. (~75 minutes)

*Feedback session for storytellers.* A listening session for the storytellers to receive live feedback on the drafts of their stories. (~75 minutes)

Short break and meet and greet chats between these two sessions. (~15 minutes)

---

## DAY TWO

*Story slam.* A listening session for all participants to listen to all the featured stories. (~ten minutes per featured storyteller with two breaks after five stories)

Since their stories were in the making, the story slam was not recorded. This choice also made it a safe space for sharing stories between the storytellers and the workshop's broader community of listeners.

The feedback we received was that, although the experience of listening to live stories is rich, the session ended up being too long and emotionally exhausting. Consider a lesser number of storytellers or breaking up the story slam over a couple of days, when the listening cohorts could be different depending on capacity and availability.

## Act Five: After The Workshop

---

### CLOSING THE LOOP

The gathering does not close at the end of the workshop. The workshop will initiate several relationships between the storytellers and their listening cohorts, between workshop participants, and finally, between the organizers and the community they brought together. Since the workshop itself was focused on stories-in-progress, finding a way to keep tabs on when and where they are published or helping them get published is a way to effectively close the loop.

*Maintain a webpage for the workshop.* With the hope that most stories featured in the workshop will take a published form in the future, this webpage can offer a way to store memory for the community.

*Organizers can also reimagine their roles as editors of an anthology.* Producing an edited volume with contributions from several authors can take years. The workshop cuts short some of the initial work of soliciting works-in-progress, and offers a way for the organizers and the storytellers to continue to work together towards publishing an anthology.

*Divergences in commitment.* The workshop can also be a natural end point of engagement for some storytellers, given their own capacity. No matter how a relationship unfolds, ending it in a space of mutual respect and understanding is crucial to how the workshop will be remembered and its impact on the community that participated.

---

## ACKNOWLEDGMENTS

---

Like every story, the process of producing this anthology of stories in/from the majority world has a beginning, a middle, and an end. As this publication ends this process, we would like to take a moment to go back to its beginnings and express our deep gratitude to everyone involved in making it possible.

Beginning with the storytelling workshop, we would like to thank our advisory group—Christine Mungai, Jonathan Corpus Ong, Noopur Raval, Paola Ricaurte Quijano, and Dibyadyuti Roy—for helping us conceptualize the workshop and bring this wonderful group of storytellers together. The design of the workshop also benefitted tremendously from brainstorming sessions with Michael Lynch and Jared McCormick. As a final note on the workshop, we would like to acknowledge that listening is integral to storytelling. There are no storytellers without listeners. The stories in this anthology would not have been possible without their active cohorts of listeners. We express our heartfelt appreciation for the time and effort that the listeners put into providing feedback and encouraging our storytellers.

At Data & Society, the work of curating this anthology evolved through generous feedback and supportive conversations with Jacob Metcalf, Sareeta Amrute, Emanuel Moss, Elizabeth Anne Watkins, Jenna Burrell, Ania Calderon, Joanna Gould, and Janet Haven. Curating these works would have been impossible without the support of current and past members of the Communications and Research teams—Sona Rai, Chris Redwood, Siera Dissmore, Eryn Loeb, Alessandra Erawan, CJ Brody Landow, Elijah Eley, Veronica Eghdami, Lyndon Spicer, and Sam Hinds. Along these lines, a very special thanks to Chris Redwood for his unceasing enthusiasm for our project and his stewardship of this anthology’s design and production process. We would also like to thank Anisa Suthayalai for the anthology’s aesthetic splendor. Additionally, we thank the Raw Materials Seminar group members for engaging deeply with the Prologue of this publication.

Last, but certainly not the least, we would like to thank all the storytellers—Christine Mungai, Sacha Robehmed, Vasundhra Dahiya, Cheshta Arora, Massimiliano Fusari, Héctor Beltrán, Andrea Pollio, Zehra Hashmi, Kimberly Fernandes, Henry Chavez, María Belén Albornoz, Srujana Katta, Yung Au, Mounika Neerukonda, and Aishatu Gwadabe—for trusting us with their stories.

This work was funded with generous support from the Luminate Foundation and the Siegel Family Endowment.

---

## WORKS CITED

---

- AI Now Institute. "A New AI Lexicon: Responses and Challenges to the Critical AI Discourse." Curated by Noopur Raval and Amba Kak, with editorial support from Luke Strathmann, 2021. <https://medium.com/a-new-ai-lexicon>.
- Alam, Shahidul. "Majority World: Challenging the West's Rhetoric of Democracy." *Amerasia Journal* 34, no. 1 (January 1, 2008): 88–98. <https://doi.org/10.17953/amer.34.1.I3176027k4q614v5>.
- . "The Visual Representation of Developing Countries by Developmental Agencies and the Western Media." *Policy & Practice: A Development Education Review*, no. 5 (2007): 59–65.
- Ali, Syed Mustafa. "A Brief Introduction to Decolonial Computing." *XRDS* 22, no. 4 (June 2016): 16–21. <https://doi.org/10.1145/2930886>.
- Ananny, Mike, and Kate Crawford. "Seeing without Knowing: Limitations of the Transparency Ideal and Its Application to Algorithmic Accountability." *New Media & Society* 20, no. 3 (March 1, 2018): 973–89. <https://doi.org/10.1177/1461444816676645>.
- Angwin, Julia, Jeff Larson, Surya Mattu, and Lauren Kirchner. "Machine Bias: There's Software Used Across the Country to Predict Future Criminals. And It's Biased Against Blacks." *ProPublica*, May 23, 2016. <https://www.propublica.org/article/machine-bias-risk-assessments-in-criminal-sentencing>.
- Aristotle, Poetics. <http://www.perseus.tufts.edu/hopper/text?doc=Aristot.+Poet.+1450b>.
- BBC News. "Kenya nationwide blackout caused by rogue monkey." *BBC News*, June 7, 2016. <https://www.bbc.com/news/world-africa-36475667>.
- Benjamin, Walter. "The Storyteller: Reflections on the Work of Nikolai Leskov." In *The Novel: An Anthology of Criticism and Theory 1900-2000.*, edited by Dorothy J Hale. Cambridge, Massachusetts: Blackwell Publishing, 2006.
- Bratton, Benjamin H. "Planetary Sapience", *Noema* (June 17, 2021).
- Bratton, Benjamin H. "Outing Artificial Intelligence. Reckoning with Turing Tests." in Matteo Pasquinelli (ed.), *Alleys of Your Mind. Augmented Intelligence and Its Traumas* (Lüneburg: Meson press, 2015: 69–80).
- Bratton, Benjamin, Bogna Konior and Anna Greenspan (eds.). *Machine Decision is Not Final: China and the History and Future of AI* (Falmouth: Urbanomics, 2022).
- Brautigam, Deborah. *The dragon's gift: the real story of China in Africa* (Oxford: Oxford University Press, 2011).
- Cahill, Susan, and Bryce Newell. "Surveillance Stories: Imagining Surveillance Futures." *Surveillance & Society* 19, no. 4 (December 13, 2021): 412–13. <https://doi.org/10.24908/ss.v19i4.15189>.
- Calo, Ryan, Batya Friedman, Tadayoshi Kohno, Hannah Almeter, and Nick Logler. "Telling Stories: On Culturally Responsive Artificial Intelligence." Seattle: University of Washington Tech Policy Lab: University of Washington Tech Policy Lab, 2020. [http://techpolicylab.uw.edu/wp-content/uploads/2021/02/TPL\\_GlobalSummit\\_Digital\\_Pages.pdf](http://techpolicylab.uw.edu/wp-content/uploads/2021/02/TPL_GlobalSummit_Digital_Pages.pdf).
- Calzati, Stefano. "'Data sovereignty' or 'Data colonialism'? Exploring the Chinese involvement in Africa's ICTs: a document review on Kenya." *Journal of Contemporary African Studies* (2022): 1–16.
- Cave, Stephan and Kanta Dihal. "The Whiteness of AI." *Philosophy & Technology* 33 (2020): 685–703. <https://link.springer.com/article/10.1007/s13347-020-00415-6#Abs1>.
- Chen, Xiangming, Julie Tian Miao, and Xue Li. *The Belt and Road Initiative as Epochal Regionalisation* (London: Routledge, 2021).
- Couldry, Nick, and Ulises A Mejias. *The Costs of Connection: How Data Is Colonizing Human Life and Appropriating It for Capitalism*. Stanford, CA: Stanford University Press, 2019.
- Crawford, Kate. *Atlas of AI*, (New Haven: Yale University Press, 2021).

---

## WORKS CITED

---

- Cripps, Karla and Kocha Olarn. "Ancient Thai city grapples with surging monkey population." *CNN Travel*, October 13, 2020. <https://edition.cnn.com/travel/article/lopburi-monkey-temple-thailand-intl-hnk/index.html>.
- Cyphers, Bennett. "A Guided Tour of the Data Facebook Uses to Target Ads." Electronic Frontier Foundation (blog), January 24, 2019. <https://www.eff.org/deeplinks/2019/01/guided-tour-data-facebook-uses-target-ads>.
- Das, Veena. "What Does Ordinary Ethics Look Like?" In *Four Lectures on Ethics: Anthropological Perspectives*, 73. Chicago, IL: Hau Books, 2016.
- Davison, Robert M. "The Art of Storytelling." *Information Systems Journal* 26, no. 3 (2016): 191–94. <https://doi.org/10.1111/isj.12105>.
- de Greef, Kimon. "On the Front Lines of South Africa's Baboon Wars." *Outside*, September 5, 2017. <https://www.outsideonline.com/outdoor-adventure/environment/frontlines-south-africas-human-vs-baboon-war>.
- Dencik, Lina, Arne Hintz, Joanna Redden, and Emiliano Treré. "Exploring Data Justice: Conceptions, Applications and Directions." *Information, Communication & Society* 22, no. 7 (June 7, 2019): 873–81. <https://doi.org/10.1080/1369118X.2019.1606268>.
- Dinkins, Stephanie. "Conversations with Bina48." Stephanie Dinkins Studio. Accessed August 30, 2022. <https://www.stephaniedinkins.com/conversations-with-bina48.html>.
- Eco, Umberto. *The Name of the Rose* (San Diego: Warner Books, 1980). [https://www.academia.edu/40205917/THE\\_NAME\\_OF\\_THE\\_ROSE\\_Translated\\_from\\_the\\_Italian\\_by\\_William\\_Weaver\\_A\\_Warner\\_Communications\\_Company\\_2](https://www.academia.edu/40205917/THE_NAME_OF_THE_ROSE_Translated_from_the_Italian_by_William_Weaver_A_Warner_Communications_Company_2).
- Ehsan, Upol, and Mark O. Riedl. "Human-Centered Explainable AI: Towards a Reflective Sociotechnical Approach." In *HCI International 2020 - Late Breaking Papers: Multimodality and Intelligence*, edited by Constantine Stephanidis, Masaaki Kurosu, Helmut Degen, and Lauren Reinerman-Jones, 449–66. Lecture Notes in Computer Science. Cham: Springer International Publishing, 2020. [https://doi.org/10.1007/978-3-030-60117-1\\_33](https://doi.org/10.1007/978-3-030-60117-1_33).
- Elish, Madeleine Clare, and Tim Hwang. *An AI Pattern Language*. New York: Data & Society, 2016. <https://datasociety.net/library/ai-pattern-language>.
- Escobar, Arturo. *Designs for the Pluriverse: Radical Interdependence, Autonomy, and the Making of Worlds*. Durham, NC: Duke University Press, 2018.
- Fei, Ding, Abdi Ismail Samatar, and Chuan Liao. "Chinese–African encounters in high tech sectors: Comparative investigation of Chinese workplace regimes in Ethiopia." *Development Policy Review* 36, no 1 (2018): 455–475.
- Fusari, Massimiliano. "Representing the Bektashis: Exploring Epistemologies in Visual Anthropology." in Mattia Guidetti and Sara Mondini (eds.), «*A mari usque ad mare*»: *Cultura visuale e materiale dall'Adriatico all'India* (Venice, IT: Venice University Press, 2016). <https://edizionicafoscari.unive.it/en/edizioni4/libri/978-88-6969-086-0/representing-the-bektashis>.
- . "From the Photograph to the Meta-Image My Practice-Led Search for a New Digital Epistemology." *Proceedings* 2017, 1(9): 889; <https://doi.org/10.3390/proceedings1090889>.
- Gagliardone, Iginio. *China, Africa, and the Future of the Internet* (London: ZedBooks, 2019).
- Ghallab, Malik. "Responsible AI: Requirements and Challenges." *AI Perspectives* 1, no. 1 (September 3, 2019): 3. <https://doi.org/10.1186/s42467-019-0003-z>.
- GIDA. "CARE Principles of Indigenous Data Governance." Global Indigenous Data Alliance, November 8, 2018. <https://www.gida-global.org/care>.
- Gravett, Willem H. "Digital coloniser? China and artificial intelligence in Africa." *Survival* 62, no. 6 (2020): 153–178.

---

## WORKS CITED

---

- Gudynas, Eduardo. "Buen Vivir: Today's Tomorrow." *Development* 54, no. 4 (December 1, 2011): 441–47. <https://doi.org/10.1057/dev.2011.86>.
- Guma, Prince K. and Jochen Monstadt. "Smart city making? The spread of ICT-driven plans and infrastructures in Nairobi." *Urban Geography* 42, no. 3 (2021): 360–381.
- Guma, Prince K. and Mwangi Mwaura. "Infrastructural configurations of mobile telephony in urban Africa: vignettes from Buru Buru, Nairobi." *Journal of Eastern African Studies* 15, no. 4 (2021): 527–545.
- Halpern, Orit. "Planetary Intelligence." In Jonathan Roberge and Michael Castelle (eds.) *The Cultural Life of Machine Learning*, (Cham: Palgrave Macmillan, 2021:227–256).
- Haraway, Donna J. *Primate Visions: Gender, Race, and Nature in the World of Modern Science*. New York: Routledge, 1990.
- . "A Cyborg Manifesto: Science, Technology, and Socialist-Feminism in the Late Twentieth Century." In *Simians, Cyborgs and Women: The Reinvention of Nature*, 149–81. New York: Routledge, 1991.
- . *Promises of Monsters: A Regenerative Politics for Inappropriate/d Others*. New York: Routledge, 1992.
- . *The Companion Species Manifesto: Dogs, People, and Significant Otherness*. Chicago: University of Chicago Press, 2003.
- . *Staying with the Trouble: Making Kin in the Chthulucene*. Durham: Duke University Press Books, 2016.
- Haraway, Donna J., and Thyrsa Goodeve. *Modest\_Witness@Second\_Millennium. FemaleMan\_Meets\_OncoMouse: Feminism and Technoscience*. New York: Routledge, 2018.
- Hong, Yu. *Networking China: The Digital Transformation of the Chinese Economy* (Urbana, Chicago and Springfield: University of Illinois Press, 2017).
- Huang, Zhengli and Xiangming Chen. "Is China Building Africa?" *European Financial Review*, (July 2016): 7–13.
- Hubbard, Jeremy. "Rebel Monkeys' Wreak Havoc in India." *ABC News*, November 13, 2009. <https://abcnews.go.com/GMA/Weekend/rebel-monkeys-wreak-havoc-india-raid-markets-break/story?id=9076884>.
- Hui, Wang. *The Politics of Imagining Asia* (Cambridge: Harvard University Press, 2011).
- Hui, Yuk. *The question concerning Technology in China: An Essay in Cosmotronics* (Falmouth: Urbanomics, 2017).
- Irani, Lilly, Janet Vertesi, Paul Dourish, Kavita Philip, and Rebecca E. Grinter. "Postcolonial Computing: A Lens on Design and Development." In *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems*, 1311–20. CHI '10. New York, NY, USA: Association for Computing Machinery, 2010. <https://doi.org/10.1145/1753326.1753522>.
- Jobin, Anna, Marcello Lenca, and Effy Vayena. "The Global Landscape of AI Ethics Guidelines." *Nature Machine Intelligence* 1, no. 9 (2019): 389–99. <https://doi.org/10.1038/s42256-019-0088-2>.
- Joerges, Bernward. "Do Politics Have Artefacts?" *Social Studies of Science* 29, no. 3 (1999): 411–31.
- Johnson, Amy, ed. *Drones & Dreams: A Speculative Sprint Story Collection*. Hong Kong: Digital Asia Hub, 2019. <https://www.digitaliasiahub.org/download/drones-dreams-a-speculative-sprint-story-collection>.
- Kadiri, Par Ghalia and Joan Tilouine. "A Addis-Abeba, le siège de l'Union africaine espionné par Pékin." *Le Monde Afrique*, (26 January 2018)
- Kassem, Julia. "Lebanon's labor minister vows to continue crackdown despite wave of protests." *Mondoweiss*, August 20, 2019. <https://mondoweiss.net/2019/08/lebanons-minister-crackdown>.
- Katsis, Lydia, Pamela M. K. Cunneyworth, Katy M. E. Turner, and Andrea Presotto. "Spatial Patterns of Primate Electrocutions in Diani, Kenya." *International Journal of Primatology* 39 (2018): 493–510. <https://link.springer.com/article/10.1007/s10764-018-0046-6>.

---

## WORKS CITED

---

- Kimari, Wangui. "‘Under construction’: everyday anxieties and the proliferating social meanings of China in Kenya." *Africa* 91, no. 1 (2021): 135–152.
- Latonero, Mark. "Governing Artificial Intelligence: Upholding Human Rights & Dignity." New York: Data & Society Research Institute, October 2018. [https://datasociety.net/wp-content/uploads/2018/10/DataSociety\\_Governing\\_Artificial\\_Intelligence\\_Upholding\\_Human\\_Rights.pdf](https://datasociety.net/wp-content/uploads/2018/10/DataSociety_Governing_Artificial_Intelligence_Upholding_Human_Rights.pdf).
- Lee, Ching Kwan. *The specter of global China* (Chicago: University of Chicago Press, 2020).
- Liu, Brian and Raquel Leslie. "China’s Tech Crackdown: A Year-in-Review." *Lawfare*, (January 7, 2022).
- Mallarmé, Stéphane. "A Dice Thrown at Any Time Never Will Abolish Chance." in *Collected Poems and Other Verse* (Oxford, UK: Oxford University Press, 2006). [https://monoskop.org/images/e/e9/Mallarme\\_Stephane\\_1897\\_2006\\_A\\_Dice\\_Thrown\\_at\\_Any\\_Time\\_Never\\_Will\\_Abolish\\_Chance.pdf](https://monoskop.org/images/e/e9/Mallarme_Stephane_1897_2006_A_Dice_Thrown_at_Any_Time_Never_Will_Abolish_Chance.pdf).
- Mehrabi, Ninareh, Fred Morstatter, Nripsuta Saxena, Kristina Lerman, and Aram Galstyan. "A Survey on Bias and Fairness in Machine Learning." *ACM Computing Surveys* 54, no. 6 (July 13, 2021): 115:1-115:35. <https://doi.org/10.1145/3457607>.
- Mhlambi, Sabelo. "From Rationality to Relationality: Ubuntu as an Ethical and Human Rights Framework for Artificial Intelligence Governance." Carr Center Discussion Paper Series. Cambridge, MA: Harvard Kennedy School, Harvard University, 2020. <https://carrcenter.hks.harvard.edu/publications/rationality-relationality-ubuntu-ethical-and-human-rights-framework-artificial>.
- Mitchell, W. J. T. "What Do Pictures ‘Really’ Want?" *October* 77 (1996): 71–82. <https://doi.org/10.2307/778960>.
- Mohanty, Chandra Talpade. "Under Western Eyes: Feminist Scholarship and Colonial Discourses." *Feminist Review*, no. 30 (1988): 61–88. <https://doi.org/10.2307/1395054>.
- Northwestern University. "Media Use in the Middle East." Northwestern University in Qatar, n.d. <http://www.mideastmedia.org/survey/2019/interactive/social-media/who-use-the-following-platforms.html#>.
- Ong, Aihwa. "Buoyancy: Blue Territorialization of Asian Power." in Frank Billé (ed.), *Voluminous States* (Durham: Duke University Press, 2020: 191–204).
- Owaahh. "How the Monkey Did It." *Owaahh*, 2016. <https://owaahh.com/how-the-monkey-did-it/#prettyPhoto>.
- Pollio, Andrea. "Making the silicon cape of Africa: Tales, theories and the narration of startup urbanism." *Urban Studies* 57, no. 13 (2020): 2715–2732.
- Qiu, Jack Linchuan. *Working-class network society: Communication technology and the information have-less in urban China* (Cambridge: MIT Press, 2009).
- Ricourte Quijano, Paola. "Data Epistemologies, The Coloniality of Power, and Resistance." *Television & New Media* 20, no. 4 (March 2019): 350–65. <https://doi.org/10.1177/1527476419831640>.
- Rice, Mae. "What is a Lookalike Audience and How Can You Leverage It." *builtin* (blog), July 13, 2021. <https://builtin.com/marketing/lookalike-audiences>.
- Said, Edward. *Orientalism* (New York: Pantheon Books, 1978).
- Sambasivan, Nithya, Erin Arnesen, Ben Hutchinson, Tulsee Doshi, and Vinodkumar Prabhakaran. "Re-Imagining Algorithmic Fairness in India and Beyond." In *Proceedings of the 2021 ACM Conference on Fairness, Accountability, and Transparency*, 315–28. FAccT '21. New York, NY, USA: Association for Computing Machinery, 2021. <https://doi.org/10.1145/3442188.3445896>.
- Shapin, Steven. "Proverbial Economies: How an Understanding of Some Linguistic and Social Features of Common Sense Can Throw Light on More Prestigious Bodies of Knowledge, Science for Example." *Social Studies of Science* 31, no. 5 (2001): 731–69.

---

## WORKS CITED

---

- Singh, Ranjit, and Rigoberto Lara Guzmán. "Parables of AI in/from the Global South." *Data & Society*, 2021. <https://datasociety.net/events/parables-of-ai-in-from-the-global-south>.
- Singh, Ranjit, and Steven Jackson. "Seeing Like an Infrastructure: Low-Resolution Citizens and the Aadhaar Identification Project." *Proceedings of the ACM on Human-Computer Interaction* 5, no. CSCW2 (October 18, 2021): 315:1-315:26. <https://doi.org/10.1145/3476056>.
- Sperfeldt, Christoph. "Legal Identity in the Sustainable Development Agenda: Actors, Perspectives and Trends in an Emerging Field of Research." *The International Journal of Human Rights*, April 2021, 1-22. <https://doi.org/10.1080/13642987.2021.1913409>.
- Tucker, Emily. "Artifice and Intelligence." Tech Policy Press, March 17, 2022. <https://techpolicy.press/artifice-and-intelligence>.
- Tugendhat, Henry. "How Huawei succeeds in Africa: Training and knowledge transfers in Kenya and Nigeria." Working Paper, No. 2020/34 (Washington, DC: China Africa Research Initiative, School of Advanced International Studies, Johns Hopkins University, 2020).
- Tugendhat, Henry and Julia Voo. "China's Digital Silk Road in Africa and the Future of Internet Governance." Working Paper No. 2021/50 (Washington, DC: China Africa Research Initiative, School of Advanced International Studies, Johns Hopkins University, 2021).
- Wang, Ban (ed.). *Chinese visions of world order: Tianxia, culture, and world politics* (Durham: Duke University Press, 2017).
- Wang, Xiaowei. *Blockchain chicken farm: And other stories of tech in China's countryside* (New York: FSG Originals, 2020).
- Wasuma, Brain. "Chinese Billionaire Behind Kenya Mobile Lending Platforms." *The Nation* (9 April 2021).
- Wieringa, Maranke. "What to Account for When Accounting for Algorithms: A Systematic Literature Review on Algorithmic Accountability." In *Proceedings of the 2020 Conference on Fairness, Accountability, and Transparency*, 1-18. FAT\* '20. New York, NY, USA: Association for Computing Machinery, 2020. <https://doi.org/10.1145/3351095.3372833>.
- Williams, Raymond. *Keywords: A Vocabulary of Culture and Society*. Oxford University Press, USA, 1985.
- Winner, Langdon. "Do Artifacts Have Politics?" *Daedalus* 109, no. 1 (1980): 121-36.
- Winter, Stuart. "Kenya plunged into darkness by mischievous MONKEY." *Express*, June 8, 2016. <https://www.express.co.uk/news/nature/678049/monkey-Kenya-wildlife-nature-security-Kenyan-Wildlife-Service-Hydropower>.
- Winter, Tim. *Geocultural Power* (Chicago: University of Chicago Press, 2019).
- Woolgar, Steve. "The Turn to Technology in Social Studies of Science." *Science, Technology, & Human Values* 16, no. 1 (1991): 20-50.
- Woolgar, Steve, and Geoff Cooper. "Do Artefacts Have Ambivalence? Moses' Bridges, Winner's Bridges and Other Urban Legends in S&TS." *Social Studies of Science* 29, no. 3 (June 19, 1999): 433-49. <http://www.jstor.org/stable/285412>.
- Zuboff, Shoshana. *The Age of Surveillance Capitalism: The Fight for a Human Future at the New Frontier of Power* (New York: PublicAffairs, 2019).

---

Suggested Citation: Singh, Ranjit, Rigoberto Lara Guzmán, and Patrick Davison, eds. *Parables of AI in/from the Majority World*. New York: Data & Society Research Institute, 2022. <http://dx.doi.org/10.2139/ssrn.4258527>.

Data & Society is an independent nonprofit research institute that advances new frames for understanding the implications of data-centric and automated technology. We conduct research and build the field of actors to ensure that knowledge guides debate, decision-making, and technical choices.

[www.datasociety.net](http://www.datasociety.net) | @datasociety

December 2022

Graphic design and cover by [Anisa Suthayalai, Default NYC](#)