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Beyond Representation

Using Infrastructure Studies to Reframe Ethnographic Agendas and Outcomes

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The ethos and methods of participatory research have been widely embraced as a powerful approach to address systemic inequity in the design of technology. While there have been many gains and developments that merit celebration, an unspoken, prevalent assumption is that inclusive forms of engagement will unequivocally result in a more inclusive product. Using the case study of an ethnographic project, this paper critically examines how the task of producing "better" (more ethical, more participatory, more statistically diverse) representations, had the unintended consequence of displacing structural outcomes to questions of aesthetics and statistical sampling. An investigation into the cause of this displacement reveals the resilience of deeper historical biases that persist from the early years of electronic computing. As a possible remedial framework, this paper introduces the field of infrastructure studies, which makes an explicit connection between the material, historical and semiotic dimensions of contextual investigations, thereby broadening the scope of ethnography from developing insights to driving systematic change. Put simply, this paper argues that to truly develop inclusive products we must find ways to expand the concerns of ethnography beyond questions of representation to strategies that can help decolonize the sites and processes of techno-production.

INTRODUCTION

The start of this narrative fits a familiar trope—after completing a bi-continental, ethnographic study with around 30 participants, our research team was working on synthesizing its findings into insights and user-centered frameworks, one of which was a set of personas. Except that in this case, the analysis phase of the project roughly coincided with a groundswell of protests after the unnecessary and violent death of George Floyd at the hands of the police. The gut-wrenching details of the fatal encounter captured on video by bystanders was a tipping point that catalyzed widespread activism and a pronounced demand for accountability and racial justice. Mass public mobilization had a far-reaching effect—US corporations across multiple sectors, including tech, made public pledges to take a more active role in the fight for racial justice. Inspired by these events and a newfound institutional commitment to equity, our stakeholders initiated several discussions about how the team might better incorporate the needs and perspectives of underrepresented user groups within our product development cycle. As one outcome from these conversations, the research group was tasked with developing more diverse representations of gender and race in the persona set that was currently under development. The underlying thought was that the set could serve as an epistemic center to shape the development cycle and serve as the basis of a more inclusive product strategy. While the support and trust of leadership was appreciated, the directive contained hidden complexities that were both an opportunity and a quandary.

Although the ethnographic study had encompassed a broad swathe of participants from diverse backgrounds, the idea of centering individual personas on a specific racial and gender identity was problematic. On the one hand, as fictionalized, grounded representations meant to build empathy, personas have the potential to serve as provocations that might play a part in rectifying a long-standing lacuna and pervasive biases. On the other hand, personas are fragile evidentiary forms that are woefully flimsy in their capacity to bear the full burden of historical and cultural difference. The team had used participatory modes of design and

exploration as a strategy to counterbalance the interests that accompany our position as investigators of cultural and social phenomenon. But by explicitly underscoring dimensions of diversity for each of the personas, we would effectively be adding a much heftier weight of "truthiness" and indexicality typically associated with documentary film.

The comparison with documentary practice here is intentional. Non-fictional filmmaking has long since grappled with the crisis of representation, simultaneously questioning and mobilizing the capacity of mediation to re-imagine forms of subjectivity, expose asymmetries of power and reformulate agency. In fact, there is much to be learned from how documentary production has made inclusivity a question of not just casting (and aesthetics/film form) but the production crew, i.e., people on both sides of the camera. Unfortunately, we were well past the point of the film shoot, i.e., the ethnographic encounter, with looming deadlines and an opportunity to make a substantial impact on the product design process. While there was no possibility of a "do-over," as Bill Nichols' (2010) seminal work on documentary practice reminds us, the narrativization of facts is always a matter of interpretive reflexivity:

> The division of documentary from fiction, like the division of historiography from fiction, rests on the degree to which the story fundamentally corresponds to actual situations, events, and people versus the degree to which it is primarily a product of the filmmaker's invention. There is always some of each. *The story a documentary tells stems from the historical world but it is still told from the filmmaker's perspective and in the filmmaker's voice* (p. 12, our italics).

After much discussion and debate, a two-pronged working strategy emerged regarding the production and subsequent evangelization and use of the diverse persona set. Firstly, we conceptualized the personas as the start of a decentering process to defamiliarize the team's assumptions about the prototypical user that would ultimately lead into a longitudinal phase of engagement with specific cohorts. I conducted dozens of workshops with multiple teams over the course of a few months in a concerted effort to propagate our ethos of designing for and with the margins. Secondly, as a complementary action, we also proposed an ambitious set of recruiting quotas to ensure the adequate representation of specific groups in subsequent ethnographies, lab-based evaluations and quantitative research. An aggregation of metrics regarding participant diversity across studies would be rolled up into a Key Performance Index (KPI) and reviewed on a quarterly basis by functional leads and the program's General Manager. The first few months of evangelizing and getting teams to incorporate the personas into their thinking was a period of intense work where progress was incremental but satisfying. The workshops gave us a palpable sense of impact in terms of a cultural shift even as we fell short of our recruiting goals. Over the course of the next year our recruiters worked hard on setting up new databases and community partnerships that helped our KPIs trend green. But by this point, several unintended consequences from our endeavor became apparent.

To our dismay, we realized that the burden of responsibility for product inclusivity was being fulfilled by a tautological system of signifiers. Much like how the narrative form of documentary films suggests a kind of closure (Godmilow, 1997), the presence of "diversity" within the persona set had turned into self-sufficient evidence of inclusivity. There was an innate belief that the product was inclusive because the teams were referencing a set of personas that represented diversity. Similarly, the diversity of the research participant pool expressed as a KPI metric became a proxy for the overall inclusivity of the product. Our emphasis on producing "better" (more ethical, more participatory, more holistic, more statistically significant) representations had displaced the locus of responsibility and accountability from product change to questions of aesthetics, sampling and methodology.

Which is not to say that initiative lacked sincerity, the genuine backing and participation of our stakeholders or broader institutional support. Our leadership devoted a significant amount of time and resources to the process, from steering cross-functional working groups, to supporting several forums and bottom-up initiatives. But, speaking personally, it felt like the empiricism of tracking KPIs had begun to dominate the conversation, muting and at times even overshadowing the achievement of structural outcomes. And after a year or so, it was unclear as to what specific progress had been made to affect the actual product and design process. So what exactly went awry?

In this personal, auto-ethnographic account, I will critically interrogate this recursive loop that, at least anecdotally, has been experienced by colleagues involved with similar initiatives across a number of organizations. In the first section, I will historicise the problem of inclusion that our team was seeking to redress. The theme of resilience is significant here because it describes not requirements of our ethnographic praxis or institutional response, but the persistence of historical biases and inequities that are continuously reinscribed into newer technological frameworks. This resilience of bias will serve as a prompt to think and act outside of the scope of what traditionally might be considered ethnographic practice. As a conceptual framework for this expansion, I will introduce infrastructure studies to help us connect the material, historical and semiotic entanglements of ethnographic investigations that broadens the agenda of our praxis. The idea of retrofitting infrastructure and Pierre Bourdieu's concept of "symbolic capital" will help diagnose the tendency to shift from the production of "knowledge units" to "accounting units." In the final section of this paper, I will outline some things we could have done differently from developing better metrics to building platform cooperatives. Admittedly, this is not a how-to guide, but rather an argument without guarantees, inconclusive and yet hopeful in terms of prescribing a path forward. It drives ethnography towards a purpose that encompasses and exceeds the regime of KPIs and tracking and knowledge production—of producing coordinated institutional action and measures of mutual accountability.

LEARNING FROM HISTORY

An article that appeared in *The New York Times* and *The Times of India* (India's largest English Language newspaper) in 1967 (see figure 1), titled "Radical Changes in Life of Negro Students," focuses on the 300 or so African American students attending the recently integrated University of Alabama. Recounting the broader resistance and generally hostile sentiment of the non-black student community towards integration, the article briefly mentions the "Southern Computer"—an IBM machine used by the college administration to ensure that students were paired with "compatible" roommates, i.e., individuals that belong to the same race. Given the racial history of Alabama and the rampant presence of the Ku Klux Klan in the local community, it is not particularly surprising to learn that the university's administration would use the computer system to reinforce segregation under the guide of "compatibility."

RADICAL CHANGES IN LIFE OF NEGRO STUDENTS

Threatening letters received by Alabama Varsity president

By GERTRUDE SAMUELS

"The New York Times" and "The Times of India" News Service

TUSCALOOSA, (Ala).

LIFE for negro students at the University of Alabama has undergone certain radical changes in the almost four years since Governor George C. Wallace stood in the door of the Foster auditorium and raised his "hand symbolically" against the Government and integration.

There are today 300 negro students out of a total of 17,621 of the five campuses of the university; 93 are on the main campus at Tuscaloosa, along with 11,000 whites. Though negroes are enrolled both as graduate and unre-graduate students, almost one-third are public school teachers doing advanced work.

The most immediate reaction of a visitor returning to the university after four years is the feeling of genuine relaxation. Today, questioned on race relations, many students along with every other negro living on the campus, have been carefully paired with negro roommates.

Arthur Dunning, a young negro student spoke of the difficulties in relation to whites: "A negro student might 'reach out' to be friends, and find that although one white student on your floor is friendly, his roommate might be a Ku Kluxer. So in order to avoid disturbances, you prefer not to say anything."

Susan Sargent, 18, who expects to be a teacher, disagreed and vigorously shook her head: "I am originally from Detroit, so integration isn't new to me. But I've lived in Birmingham for the past eight years, and coming to the south I found the situation quite different. I wanted to come here, to live around white people for educational purposes.

SOUTHERN COMPUTER

Figure 1. Article in The New York Times and The Times of India (1967) describing the use of the Southern Computer at the University of Alabama

Flash forward three decades or so to the website Roommates.com founded in 2000 as a service that provides a way for users to find roommates to save money or add some extra income. To use the site, users had to create a profile by answering a series of questions including their name, demographics and the type of roommate they were looking for in terms of these last three questions. The site would then use a matching algorithm to help users find the "perfect match" in a neighborhood or area of their choosing. In 2008, the Fair Housing Council of San Fernando Valley filed and won a case against Roommates.com for violating the California Fair Housing Act Section 12955 by allowing users the ability to discriminate through the website's onboarding questionnaires.

A startling realization from this historical juxtaposition is the resilience of bias and discrimination and its ability to reinvent itself and evovle. The problem we are up against is one of pervasive, structural asymmetries of power that Virginia Eubank (2018) identifies in automated systems in her study on Medicaid and Temporary Assistance for Needy Families (TANF) in Indiana, a computerized homelessness entry system in Los Angeles and a child welfare program in Pennsylvania. Applying a historical lens to her analysis of the systems, Eubank (2018) connects the automation used in the processing of applications to the criteria formalized in the 19thcentury poorhouses and Christian eugenics movement. Documenting the real harm and impact of automated decision making on vulnerable classes, Eubank (2018) concludes:

> Automated eligibility systems and predictive analytics are best understood as political decision-making machines. They do not remove bias, they launder it, performing a high-tech sleight of hand that encourages us to perceive deeply political decisions as natural and inevitable. They reinforce some values: efficiency, cost savings, adherence to the rules. They obscure or displace others: self-determination, dignity, autonomy, mutual obligation, trust, due process, equity (p. 224).

If an attention to history alerts us to the persistence and resilience of discrimination, it also surfaces important lessons on the consequences of letting these biases go unchecked. Surveying a 30-year period between 1943 and 1974, Mar Hicks (2017) offers a cautionary tale on the demise of British computing because of the low value associated with the tasks performed by women workers in the British computing industry. As highlighted by David Alan Grier (2013) in his history of the central, but neglected role that women have played in computation, the first computers were in fact humans, and mostly women, who performed complex calculations by hand. The dominance of women as electronic computer workers during Britain's war time efforts was due to the denigration of early computer work, which was referred to as the "industrialization of the office" (Hicks, 2021, p. 139). The post-war period witnessed a continued reliance and interdependence on women as computer programmers in the workplace. However, this was concentrated in lower-level clerical grades and lower pay as an outcome of a gendered-class based system where men were promoted to managerial positions. The 1960s heralded a change in the perception of computers as important tools for consolidating and wielding power over workflow, which, in turn, brought a change to the value associated with computer work. This required a burdensome transfer of knowledge from women computer workers who possessed the required skills to perform the jobs, but were not allowed to apply to the newly created class of management-aligned computer jobs:

> In 1959, one woman programmer spent the year training two new hires with no computer experience for a critical long-term set of computing projects in the government's main computer center while simultaneously doing all of the programming, operating, and testing work as usual. At the year's end, her new trainees were elevated to management roles while she was demoted into an assistantship below them, despite her longer experience and greater technical skills (Hicks, 2021, pp. 140-141).

The continued feminization of computer work in Britain caused an unprecedented labor shortage, with young men supposed to take over the job leaving for managerial positions because of the associated stigma. By the time that the UK government decided to invest in computer infrastructure and develop technologically advanced mainframes as a potential solution to its artificially induced labor shortage, decentralized systems were becoming the norm. In Hicks' (2017) parlance, the demise of the computer industry in Britain was a result of sexism by design "as a feature, not a bug."

The lesson here is simple, but far reaching. As ethnographers tasked with the project of equity and inclusion, it is imperative that we locate our ethnographic material within broader historical developments. An explicit acknowledgement of these histories reveals not only the resilience of bias and unexpected ways in which discrimination apparates itself, but the importance of deeper, structural action. The questions of representation and inclusive research practice that we grapple with are necessary but inadequate to resolve structural issues. We need to expand the scope of our work from the production of insights to rewiring the circuits of decision making that transform how things are done. As a path forward, I propose the notion of "infrastructural thinking" to help us locate our interventions as

ethnographers and researchers historically, while provoking us to explore deeper, structural alliances and outcomes that exceed disciplinary concerns.

THINKING INFRASTRUCTURE, INFRASTRUCTURAL THINKING

Infrastructure studies, which emerged from science and technology studies and information studies, originally sought to analyze a range of large-scale systems such as electric power grids (Hughes, 1983) that one might typically consider built infrastructure. Emphasizing the need to account for different measures of scale within the material organization of systems and networks, the concept of infrastructure has been applied to an analysis of assemblages spanning labor, material practices, and organizational structures (Ribes & Bowker, 2009), as well as intangible organizational schemas that shape knowledge such as classification systems (Star & Ruhleder, 1996). In postcolonial contexts, such as South Asia, there have been several recent engagements with infrastructure studies as a means to recuperate marginalized histories from dispersed socio-technical networks such as water distribution systems (Anand, 2017) or state-sponsored projects such as nuclear reactors (Mukherjee, 2020). In many of these studies, infrastructure reveals itself most clearly at the moment when it breaks down (Starosielski and Parks, 2017) even as it serves as "the living mediation of what organizes life: the lifeworld of structure" (Bertland, 2016; p. 393).

But what exactly is infrastructure? The varied subjects of these conceptualizations seem to have tested the elasticity of the term, creating a productive, yet vague understanding of infrastructure as a critical category. This confusion extends well beyond esoteric academic interests—at the time of writing this article, the definition of infrastructure had been the subject of vigorous debate in the United States congress and was at the center of a 3.5-trillion dollar spending proposal that sought to fund childcare, education, and a number of important programs towards strengthening the country's "social infrastructure." Providing some clarity on the matter, anthropologist Brian Larkin (2013) offers a sensible, two-part definition of infrastructure as, on the one hand, "built networks that facilitate the flow of goods, people, or ideas and allow for their exchange over space" (p. 328) and, on the other hand, as "forms separate from their purely technical functioning… [that] need to be analyzed as concrete semiotic and aesthetic vehicles oriented to addressees" (p. 329). Definitions aside, what does infrastructure studies do for ethnographic research?

Even as ethnography is vital to the task of studying infrastructure, we have forgotten that we ourselves are imbricated within techno-social infrastructures responsible for conceptualizing, developing and maintaining a vast array of products and services. As ethnographers, our responsibility is typically centered on the ethics of the research encounter as we strive to build empathy and sensitize stakeholders and teams to the latent needs of our subjects. We wholeheartedly strive to perfect the semiotics of representation, forgetting that the forms we produce are not an end in themselves. There is a clear parallel here between acts of representation and Lucy Suchman's (1994) critique of speech acts as social/political action:

> The observation that language is social action is due originally to Austin (1962) and the later Wittgenstein (1958), who argue for the impossibility of theorizing language apart from its use. Somewhat paradoxically, however, their observations have been taken by subsequent theorists as grounds for assuming that a theory of language constitutes a theory of action. Rather than setting up as a requirement on theorizing about language/action that it be based in investigations of talk as a form of activity, the observation that language is action has been taken to imply that action is, or can be theorized as, the use of language qua system to get things done. And language

> taken as a system provides a tractable core phenomenon for disciplines whose theory and methods best equip them for formal systems analysis (p. 87).

Infrastructural thinking prompts us to find ways to decolonize not just the research encounter and modes of representation, but also the processes and sites of product-design and techno-production that follow. Our involvement as ethnographers, does not end with the production of knowledge, but rather must extend through the product life cycle. Reconceptualized through this lens, the project personas can be seen to be an attempt to retrofit the institutional infrastructure of product design, except that their brittleness and scale made them hard to alter. Here, we arrive at a paradox. On one hand, the personas and efforts for better representation in the research practice received broader institutional support. On the other, much like our efforts which had inadvertently become ensnared within a recursive loop of representation.

Sociologist Pierre Bourdieu's concept of "symbolic capital" helps us understand the dissonance. Symbolic capital describes activities that do not entail any economic benefit or monetary exchange but instead accrue reputation in forms such as credit, prestige or authority. As David Swartz (1997) notes, any form of activity or even capital—economic, cultural, social—may acquire a symbolic form if it:

> gain(s) in symbolic power, or legitimacy, to the extent that they become separated from underlying material interests […] Individuals and groups who are able to benefit from the transformation of self-interest into disinterest obtain what Bourdieu calls a symbolic capital. (p. 43)

Note that the terms *self-interest* and *disinterest* have a technical meaning in economic theory. Activities which are oriented toward the maximization of economic benefit are considered *self-interested*; while the forms of exchange that are noneconomic are termed *disinterested.* For Bourdieu (1987), the theory of economic production (self-interest*)* and a general science of the economy of practices (disinterest) co-constitute each other: "the world of bourgeois man, with his double-entry accounting, cannot be invented without producing the pure, perfect universe of the artist and the intellectual and the gratuitous activities of art-for-art's sake and pure theory" (p. 16). A shortcoming of classical economic theory then, is that it is blind to the *disinterested* foundations of the very order it claims to analyze, ignoring the processes by which symbolic capital is linked to power through processes of legitimation.

The manner in which the project personas accrued symbolic capital should be somewhat apparent, but worth sketching out as a process. As emergent forms associated with public protests for social and racial justice, the personas were legitimized by our institution's commitment to inclusivity. They represented an ideal, aspirational state that encouraged voluntary, social accountability. Incorporating the personas into product decision making afforded the prospect of favorable stakeholder reviews and improved odds for feature launches. Unfortunately, the actual task of thinking about inclusivity via the personas was diluted and absorbed into a form of performative metrics.

Gingras' (2020) traces a similar turn in the domain of scientific publishing where a shift in the technical infrastructure of journal publishing to online publishing resulted in the concentration and subsequent super-specialization of scientific journals at the hands of a few giant publishing firms. Scientist authors, journal editors and managers of academic institutions began to game the system of bibliometrics in an effort to increase the number of citations, improve the Journal Impact Factor, essentially any form of objective measure of the value of a paper or publication. The value represented by these metrics in turn directly influenced funding and grants needed for subsequent research. The inadvertent consequence of this process transformed the published paper into an "accounting unit" used to "*evaluate*

researchers and research organizations (departments, laboratories, and universities)" (Gingras, 2020; p. 67, my italics). To return to my case study, essentially, the output of the research program had been transformed from a "*knowledge unit* to an *accounting unit"* (Gingras, 2020; p. 64, my italics). The transformation effectively emptied ethnographic insights of their content. So what should we have done differently?

RETHINKING ACTION

In *Complaint!* (2021), feminist theorist Sara Ahmed investigates how matters of discrimination are handled by universities, documenting the experiences of dozens of individuals who either filed formal grievances through institutional channels or who challenged the system meant to provide redress. As Ahmed (2021) notes, those who "challenge how power works come to know how power works" (p. 47). The complaint becomes a form of "sticky data" that begins to define and describe the person who is complaining. This counterintuitive reversal sums up the predicament of the research team where recruiting quotas meant to compliment the personas became a measure of the program's efficacy. Perhaps we had strayed too far from the core strengths of ethnographic practice? After all, ethnography is an inductive method that produces forms of anthropological knowledge that are expressive and provide thick descriptions of contexts, actions and motivations. But to dismiss quantitative forms of knowing entirely would be an irresponsible (mis)diagnosis, unlikely to resolve the structural tension that emerged from the project. Measuring the diversity of a participant pool is a critical step to pluralise the breadth and range of experiences that inform an understanding of the world. It provides a measure of accountability at a minimum threshold of action for any product or service aspiring to a greater degree of inclusivity.

Our impulse to combine semiotic and quantitative representation was a good move. What we failed to do was approach metrics from an infrastructural perspective. Instead we worked in silos and did not account for dependencies between initiatives, which would entail assessing progress across initiatives. For example, instead of looking at the diversity of the participant pool in isolation, we should have been aligning our goals with a sister effort led by Human Resources that was investing in increasing the diversity of the product team making decisions. Conversations about developing more inclusive research approaches and methods should have been conducted in parallel with developing more inclusive processes to execute on insights with the product and design team. The task of measuring product satisfaction of specific cohorts should have also had a product KPI to improve the baseline. We had focused on measuring task completion, instead of the holistic progress towards a desired outcome.

In retrospect, this was an almost predictable outcome. Institutional efforts focused on inclusion, such as remedial diversity training, tend to emphasize the responsibility of the individual. After all, change begins with each person building an awareness of their own biases. But as we learned from the historical overview, structural biases are trickier to resolve. They linger in the negative space between people, in the processes that constitute the inner workings of infrastructures. Eliminating these biases requires coordinated actions at scale.

Scholtz and Schneider's (2017) notion of "platform cooperativism," offers a model of collective ownership and responsibility to its participants that could serve as a resource. Conceptualized as an alternative to the extractive practices of the platform economy, platform cooperatives have formed across numerous domains such as creative practices (Stocksy is a stock photo site where contributing photographers are also owners), ride-

sharing (companies like Juno and Union Taxi are partially driver owned), to even bartering (Peerby is a neighbor-to-neighbor goods sharing platform). Far from a utopian project, platform cooperativism is not an idealized, unqualified state of affairs. Rather, it connotes an emerging relational model with alternative sets of values that often operate within the same constraints as capitalism (Scholtz and Schneider, 2017). If infrastructural thinking expands the scope of the ethnographic agenda, platform cooperativism helps operationalize and share the responsibility of change as a coordinated effort across functions. The path to building a platform cooperative is admittedly murky and not straightforward. It involves discussions and reflections of the inherent harms and unintended consequences of our work, especially for marginalized communities. It may result in a playbook or a checklist, so long as we acknowledge that these artifacts are the means to an outcome and not an end unto themselves. And of course, it must have measures of structural accountability that steer action towards intended outcomes.

CONCLUSION

To return to the case study, despite the initial missteps, my story has a happy ending. The team hired a dedicated researcher and product manager to focus exclusively on product inclusivity. There has been a deliberate shift across the organization to synchronize efforts in a cross-functional working group akin to a platform cooperative. But if anything, this paper alerts us to the crucial role that ethnography must continue to play in driving outcomes. Taking our cue from infrastructural thinking, the emphasis on representation can only be a part of the messy, unruly truthiness of the ethnographic encounter. We need to extend the ethics of our practice to tangible structural and product change built and maintained via networks of solidarity and care. All this, while circumventing the trap of "symbolic capital" and the knowledge that the problem of inclusion will resurface itself in new ways that will require further remediation. I offer three lessons from this case study and infrastructure studies that might serve as heuristics.

Think Historically. Technological bias is historical—we cannot re-imagine and co-create futures if we remain ignorant of the ways in which it has reinvented itself within each subsequent generation of technology. A critical reading of techno-histories also provides important warnings of what could happen if these biases remain unchecked as in the failure of the British electronic industry after World War II.

Measure Holistically. Measurement can quite easily become an end unto itself. Quantitative goals are important, but they need to focus on both individual and structural accountability. The latter can be achieved by developing horizontal measures of progress that surface the dependencies between siloed initiatives.

Act Cooperatively. The work of change is complex and prone to friction. Infrastructures used to produce and maintain technology are brittle and resistant to change. Platform cooperativism offers a model of working together across functions to scale commitments and outcomes through collective action.

I end with a provocation from Science and Technology Studies (STS) scholar Bowker (2018), who asks: "How do we reimagine the nature of knowledge for the way the world is now? How do we put into infrastructures forms of knowledge production that can bear the weight of these new exigencies?" (p.205)

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