A PRIMER ON AI IN/FROM THE MAJORITY WORLD





A PRIMER ON AI IN/FROM THE MAJORITY WORLD:

An Empirical Site and a Standpoint

Current understandings of AI systems have a weakness: most people's histories, futures, and opinions have been written out of the story of these systems and their effects.

The primer takes inspiration from the panel sessions on <u>Mapping the</u> <u>Conceptual Vocabulary of AI in the Global South</u> at the Annual Meeting of the Society for the Social Studies of Science (4S) and the <u>Parables of AI in/from</u> <u>the Global South Storytelling Workshop</u>, both held in October, 2021.

We asked ourselves two questions when making this primer. First, how can we describe living with AI systems and their data collection practices as they increasingly become central to organizing everyday life? And second, what visions can we surface for building equitable AI infrastructures for the geographic regions that are home to the majority of the human population: what we'll refer to as the majority world?

Over time, these questions yielded a set of topics that we have organized into three large themes: ground realities, mediating structures, and framing narratives—moving from the empirically fine-grained, through mid-level processes, to the imaginations of pasts, presents and futures that govern AI and the majority world. Readers can use this table to navigate through the dozen categories in the collection:

The Majority World: an empirical site and a standpoint		
Ground realities	Mediating structures	Framing narratives
<u>Decolonizing Feminist AI</u> Afro-Modernities	<u>Development Legacies</u> <u>Labor</u>	<u>Surveillance</u> Extraction
Indigenous Protocols Anti-Caste Cultures	Migration War Machines	Social Protection Experimentation

Ground realities center our understanding of AI in the experiences and standpoints of particular geographies and research communities. Particular locales produce a way to understand data systems grounded in specific histories. Communities living in these locales also produce particular theories of the world that help unpack what AI means today. In other words, locales do not only generate local experience, they also generate conceptual categories that themselves travel and can help us make sense of the sociotechnical worlds all around us.

Mediating structures describe processes and histories that make and remake data-driven AI-based systems. They are tied up with the long histories of capital, imperial, and colonial expansion and with the extension of forms of governance that accompany these structural forces.

Framing narratives elucidate the large, present-day categories through which such systems are often understood and analyzed. Though these framing narratives can be quite useful to understand the operation of AI systems in the majority world, on their own, they are often overly-broad and can flatten differences.

Although these sections can be read in any order, we suggest a synthetic approach. For example, readers might choose a category from 'grounded realities' and see how it pairs with one from 'mediating structures' or 'framing narratives,' like this: What do afro-modernities have to tell us about how developmental legacies produce extraction? This is just one possibility. By engaging with and sampling from the twelve thematic categories, readers will find their own connections.

We hope this primer grows like ginger. Unlike plants that grow from their roots, ginger is a rhizome that can grow from any part of its body. It embodies multiplicity as it reaches for the sun.

We offer this collection as an invitation to explore a preliminary listing of resources and to engage with the point of view of the majority world. We identify and gather resources in multiple formats—books, journal articles, newspaper articles, blog posts, podcasts, lectures, interviews—that together provide a window into what makes data-driven AI-based interventions possible in the majority world.

Although it may be a start, it does not connect completely to projects of repair, redistribution, or remaking. It might be the task of those who read and commit to this primer to take those next, very material, steps.

One avenue for participation is to continue building the <u>Public Zotero</u> <u>Library</u> from which this collection has been curated. This library began as a collaborative endeavor to bring together the resources shared by the participants of the Parables of AI workshop. The library has grown ever since to incorporate our own literature survey and suggestions for resources we received from our collaborators on this primer. The library is publicly accessible, and easy to join as a member. Please reach out to Ranjit Singh (<u>ranjit@datasociety.net</u>) if you're interested in curating and building it further. Concept Editing Cover Illustration Graphic Design Sareeta Amrute Sareeta Amrute, Ranjit Singh, Rigoberto Lara Guzmán Monica Mohapatra Andrea Carrillo Iglesias

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THE MAJORITY WORLD: A SITE AND A STANDPOINT

At its most basic, the "majority world" signals a shift in standpoint. It was coined by <u>Shahidul Alam</u>, a photographer, writer, curator, and activist from Bangladesh, to highlight how the majority of the human population of the world lives in geographic regions—variously addressed as the "'Developing World'", the "'Third World'," or the "'Global South"'—that are <u>rendered and remaindered</u> as passive peripheries of ostensibly global problems and developments.

Rather than assuming that knowledge and innovations move out of the so-called centers of Europe and the United States to the rest of the world, thinking "'from the majority world"' means tracing out emerging forms of knowledge, innovation, and labor in former and still-colonized spaces and how it is often expropriated, extracted, and made invisible.

The collection of resources approaches the majority world in two distinct ways:

First, developments in the majority world need to be addressed in their own right instead of treating them as derivative of active centers of knowledge and technology production.

Second, the majority world is not only an empirical site, but also a method to understand, analyze, and build developmental, postcolonial, and decolonial computing practices. This first collection of sources provide a baseline for locating AI in the majority world, as well as examples of how a majority world view is a method of approaching technology more generally.

What changes when we view AI systems through the lens of the "majority world"? How can we think about uneven power relations not only between worlds but within them? What does the frame add to our ability to engage with the complexity of the everyday experience of AI? Is the term "majority world" better than "global South"? What does the term add? What does it fail to consider?

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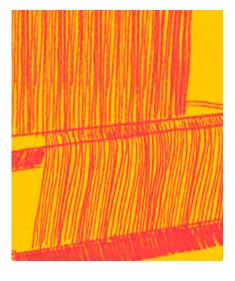
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[**Blogpost**] Ricaurte Quijano, Paola. "Artificial Intelligence and the Feminist AI can often be a placeholder. Part predictive statistical analysis, part marketing strategy. Our interest in AI is located in unpacking its ubiquity. AI in general and machine learning in particular promise to use the recognition of patterns over time to solve problems that range from removing hate speech from online platforms without the need for human moderators to monitoring forest fires in the deep jungle. AI systems do so by claiming that the methods of using historical data to recognize patterns in current situations can be applied to any problem, thereby masking the various forms of violence that this claim enacts.

We suggest in this primer that AI systems *seem* detached from social life, but are in fact very much a product of sociality—the labor, assumptions, and practices of humans and more-than-human-lives interacting. One of the most important questions to pose regarding AI is, how are these underpinnings of its production hidden and to what end?

Rather than providing an overview of all the uses of the term AI, we begin with a feminist, decolonizing reading of AI that questions both who and what is deemed "artificial" and how against whom, through what—is intelligence measured.

What are the organizing principles that structure asymmetries of power-relations in data and AI? When does thinking from a decolonizing, feminist perspective means including more voices in AI futures, and when it might mean refusing AI systems altogether? When does it mean putting these systems in relationship not only with human beings Decolonial Imagination." Bot Populi (blog), March 4, 2022. <u>https://</u> <u>botpopuli.net/artificial-intelligence-</u> <u>and-the-feminist-decolonial-</u> imagination/

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but also with the living world, with the world of mountains, rivers, and oceans, and with the world of sentiments and perceptions?

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AFRO-MODERNITIES

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J. Khadijah Abdurahman. "Tigray, Oromia, and the Ethiopian Empire." *The Funambulist*, August 31, 2021. <u>https://thefunambulist.net/magazine/</u> <u>against-genocide/tigray-oromia-and-</u> <u>the-ethiopian-empire</u>

[Podcast] Taye, Berhan, and Neema Iyer. Terms & Conditions: A Podcast on Digital Rights in Africa. Accessed February 3, 2022. <u>https://anchor.fm/ tcafricapodcast/</u> Technologies developed in Africa draw on indigenous traditions of mathematics, pattern-making, architecture, and ethical sensibilities. This section highlights these developments as constitutive of what <u>Michael Hanchard</u> calls afro-modernity: "a form of relatively autonomous modernity" (Page 247) distinct from its Western conceptions.

Hanchard goes on to articulate three features of Afro-Modern politics: "(a) a supranational formulation of people of African descent as an 'imagined community' that is not territorially demarcated but based on the shared belief in the commonalities of Western oppression experienced by African and African-derived peoples; (b) the development of alternative political and cultural networks across nationalstate boundaries; and (c) an explicit critique of the uneven application of the discourses of the Enlightenment and processes of modernization by the West, along with those discourses' attendant notions of sovereignty and citizenship" (Page 248).

The idea of Afro-modernities locates Africa as a site of technical innovation, though a frequently under-recognized one. This innovation often takes forms that are not recognized within existing models of entrepreneurship, technology, or capitalism. At the same time, like Asia and Latin America, Africa is a continent that is often on the receiving end of schemes to transfer or develop technologies for Africa on the one hand and to extract data and minerals on the other.

While other sections will attend to these developmentalist, extractivist, and experimental relationships between technology and Africa, these sources ground an alternative story about Afro-modernities that recognizes indigenous [Podcast episode] Digital Democracy, Analogue Politics with Nanjala Nyabola

[News article] Ormerod, Alex González. "How AI Reinforces Racism in Brazil." News. Rest of World, April 22, 2022. <u>https://restofworld.org/2022/how-ai-reinforces-racism-in-brazil/</u>



frameworks that have developed independently and as an ongoing rebuke to how the "minority world" engages people in the "majority world." These sources expand this recognition to understandings of the African continent's relationship to the African diaspora, and engage with Afrofuturist approaches that ground data and AI in the possibilities that emerge through this relationship.

How does the African approach grounded in relationality reimagine ethics and politics of data and AI? How does Afro-Modern politics and consciousness undergird a critical transnational engagement with the ongoing entrenchment of data and AI in discriminatory legacies of colonialism? How can we expand our understanding of the possibilities in Afro-futurism without glossing over the real contests over emergent African approaches to technology?

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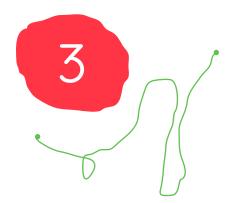
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INDIGENOUS PROTOCOLS

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"Indigenous is an analytic, not an identity." Excerpted from <u>@storfjta's tweet</u>, January 20, 2021.

Indigenous Protocols (IP) consider the ontological relationships with non-human beings, such as rivers, stones, and trees, as reciprocal sites of exchange from which to reality can be deciphered. The way such relationships organize or articulate a distinct worldview is often described as a *cosmology*, or the study of the overall structure of the universe, but Indigenous protocols goes beyond logos to include ways of being and knowing concerned with pluriversal co-existence in a complex, living system that honors and reveres the elemental forces of creation, not just the study of singular, isolated phenomena.

Protocols are a better way to understand these contingent dynamics. Protocols provide frameworks or sets of ethico-juridical instructions (laws) passed down through generations as procedural codes for governing and mediating space-time matters. What makes a protocol "indigenous" is its connection to a complex web of intra-relations, grounded in a particular place, and used to determine belonging to self, family, and land.

In recent years, indigenous thinkers from mainland and island nations have deployed such protocols—informed by specific intellectual, ceremonial, and ancestral traditions—to intervene and contribute to ongoing debates about the long-term, ecological viability of planetary scale computation. [Toolkit] Winger-Bearskin, Amelia. "Wampum.Codes, Indigenous Wisdom as a Model for Software Design and Development." Studio Amelia. Accessed February 22, 2022. https://www.studioamelia.com/ work/software

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How are indigenous protocols influencing the development, regulation, and design of data-intensive processes like machine learning? The following sources collect a field of methods for addressing AI systems, from data sovereignty research practices to emergent approaches to art, software, and science.

EXPLORE

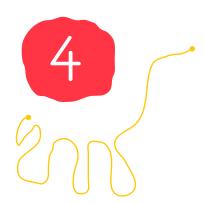
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ANTI-CASTE CULTURES

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[Newspaper article] Rai, Saritha. "How Big Tech Is Importing India's Caste Legacy to Silicon Valley." Bloomberg.Com, March 11, 2021. https://www.bloomberg.com/news/ features/2021-03-11/how-big-tech-isimporting-india-s-caste-legacy-tosilicon-valley Caste is a flexible form of prevalent dehumanization in South Asia that is similar to, but not the same as, race. The perpetuation of caste-based discrimination in AI systems is not surprising to those who study caste.

There is a deep historical computational culture that moves from the modes of classification and data collection, especially through the census of the British Raj, that undergirds, but cannot entirely explain, these practices. Caste precedes the colonial encounter, and caste continues as an extractive and oppressive practice after the formal end of colonialism.

Exploring how such discrimination is perpetuated requires thinking about caste in its particularity and across the experiences of the systemically marginalized. It also requires thinking about alternative visions that emerge, and have consistently emerged, from oppressed-caste, anti-caste spaces and voices.

Anti-caste cultures are sites of politicization for the larger goal of annihilating caste. To accomplish this goal, we need to both think with emancipatory politics and the way that digital systems reassert dominant caste hegemonies across South Asia and the South Asian diasporas, and across religions. This selection on anti-caste cultures builds on the Critical Caste Studies in Tech Syllabus created by Murali Shanmugavelan.

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It is a vision and a promise that often underlies plans for circulation of resources as aid and technologies as interventions from "developed" to "developing" worlds.

The discourse of development constructs the majority world as a particular object of intervention structured on ways of knowing it from a distance.

Although these interventions are inevitably prone to failure, they have real consequences for the worlds in which they intervene.

Similarly, as AI systems unfold, their use is often justified in terms of how these systems can enable better living conditions for people of the majority world.

The effects of this powerful discourse include the spread of AI systems as a solution to problems of inequality, from poverty alleviation to empowerment of systemically marginalized populations. Such arguments justify not only proliferation of data-driven services, but also data mining, labor exploitation, and vast amounts of energy consumption.

How do ongoing investments in data and AI intersect with (im)possibilities, discourses, and imaginaries of modernity,

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DigiLabour Research Laboratory. "DigiLabour—Research Laboratory and Newsletter on The World of Work and Technology." Accessed February 4, 2022. <u>https://digilabour.com.br/</u> AI cannot exist without human labor, which is often rendered invisible in the lived experience of automation.

From gig drivers to content moderators, from data clerks to software engineers, AI systems depend on the work of these hidden workers making these systems to seemingly work without the need for human sweat or embodied ingenuity.

These workers, in turn, create new patterns of social connectivity, new forms of meaning for everyday life in a datadriven world, and revisit the modes of economic production that these systems demand. They repair, fill in in the event of failures, and adapt the workings of these systems to local conditions.

These laboring bodies, however, are often erased when AI is talked about in other places and spaces of entrepreneurship, innovation, and state structures.

How is the human labor that undergirds data and AI made invisible? How is this labor unevenly distributed across the world? What are the modes and tactics of organizing in the face of ongoing datafication of laboring bodies? How do these tactics account for and engage with the needs, vulnerabilities, and politics of workers who make AI possible? [Resource repository] Ozoma, Ifeoma. "Welcome to the Tech Worker Handbook: Preparedness Is Power." The Tech Worker Handbook. Accessed February 4, 2022. https:// techworkerhandbook.org/

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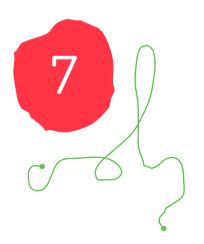
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MIGRATION

Migration is often represented as a movement of people from the "South" to the "North." However, most migration, especially in relation to the movement of world's refugees, is from the South to the South—*within* the majority world.

For decades, more than two thirds of refugees come from just five countries that have struggled with war, ethnic persecution, and failure of governments: Syria, Afghanistan, South Sudan, Myanmar, and Somalia. And as we write this primer, the ongoing crises in countries like Venezuela and Ukraine are creating a new surge of displacement. Most refugees are only able to travel to a neighboring country, which implies that these neighboring countries in the "South" with fewer resources to contend with issues of migration are forced to bear the most responsibility for it.

The crisis of displacement can continue for protracted periods of time as refugees spend five years or longer being forced out of their home countries.

Internal migration within countries is a much larger phenomenon that impacts twice the number of people who cross international borders, yet it often remains invisible. As a result, internal migrants struggle to receive the same protection, aid, and services as refugees.

And while migration has become constructed as a primarily majority world phenomenon—least in the mode of crisis migration and refugee management has also become a new vanguard for applications of AI systems. AI systems are used to track movement through biometrics even while AI-backed technologies can become a vital infrastructure for displaced persons to find one another and find aid. How will migrants use and be targeted by AI systems being developed around the movement of peoples globally? What potentials do migrants find within AI systems? How do humanitarian crises accelerate these developments?

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Meanwhile, from the perspective of those on the ground, drone strikes produce rubble, high-pitched sound-scapes, and practices of scanning the skies that turn the sky itself into a war machine.

These machines seem to exist outside both the rule of law and the established rules of war. As such, they possess the ability to turn bounded territories into vast expanses of empty, warlike space.

These sources address the use of automated systems in warfare. They track the development of such systems by militaries and by large tech companies. They also trace several campaigns that protest the development and deployment of these technologies. Finally, these sources link the distribution of war machines in the Majority World with the control and surveillance of minoritized populations in the North.

What is the role of tech workers in combating the use of AI systems in developing war machines? How do AI systems as war machines connect the politics of surveilling poor, Black, and migrant populations in the 'minority world' with tracking and attacking populations in the majority world? What solidarities might be built from noticing those connections?

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Remembering is simultaneously a tool for recognition and surveillance. On the one hand, to be remembered is to be recognized as a member of a community and a nation state and actively engage with infrastructures of the state as a citizen. On the other hand, to be remembered is to live under the constant threat of being watched, tracked, measured, and classified—in short, surveilled.

In between these two binary positions are the emerging conditions of living in a world where a person's choice to participate in data-driven interventions legitimizes the use of their personal data to track them and sell them things. Alongside this predicament of data capture, AI systems innovate new means to track individuals and populations, from biometrics to finding patterns in large data-sets. At the same time, these innovations develop directly from the long history colonial projects to control enslaved and colonized peoples.

These sources explore the lived experiences of and attitudes towards privacy and surveillance in the majority world.

In what ways do people think about their privacy in different places? Is privacy necessarily individualistic, or are there other models of privacy that need to be developed along [Podcast] Hosein, Gus. "Technology Pill Podcast." Privacy International. Accessed February 8, 2022. <u>https://www.privacyinternational.</u> <u>org/learning-resources/technologypill-podcast</u>

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collective lines? How do we think about the tradeoffs between identification and surveillance, between being seen, and being watched?

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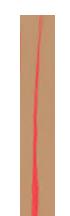


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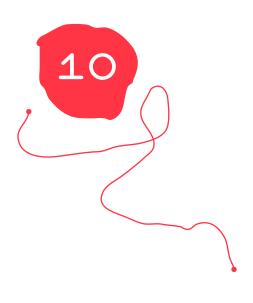
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In the majority world, AI systems rely on a logic of extraction. There are many debates over how such extraction works, but fundamental to them is the underlying question: what is considered "a resource"?

The extraction of resources can be as obvious as the literal removal of matter from the earth through mining or industrial agriculture. But forms of data mining and biocapitalism also rely on subjecting human populations to processes of extraction. Examining how these social data are constructed as resources adds a distinct layer to the critiques of AI systems as extensions of the extractive logic of capitalism.

These sources broadly span three distinct analytic layers by focusing on: [1] the materiality of data-driven systems, [2] the labor practices that make them possible, and [3] the data generated by commodifying human attention.

While critiques centered on exploitation of the environment and human labor have a much longer history, critiques of extraction as a form of data colonialism are relatively new.

While extraction varies in its forms, it is deeply consequential for efforts to map and analyze the circulation of data as capital and the emergent relationship between the majority world and data-driven systems.

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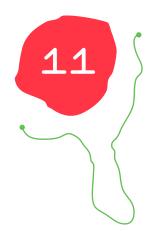
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SOCIAL PROTECTION

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[Feature article] Jemio, Diego, Alexa Hagerty, and Florencia Aranda. "The Case of the Creepy Algorithm That 'Predicted' Teen Pregnancy." Wired, February 16, 2022. https:// www.wired.com/story/argentinaalgorithms-pregnancy-prediction Social protection is a broad orienting principle for ongoing global efforts to end poverty, which is the first among the United Nations's Sustainable Development Goals. Datacentric technologies have become integral to these efforts by establishing evidentiary modes of belonging, whether as citizens, refugees, or migrants.

The use of data is imagined to be a step towards practically achieving both efficiency and inclusion at the same time in organizing the workings of international humanitarian organizations as well as governments. However, these goals tend to produce conflicting imperatives in designing social protection services. When targeting beneficiaries is oriented towards inclusion, the imperative is to relax conditions of eligibility in accessing public services; when it is geared towards efficiency, the imperative becomes to tighten these conditions.

Despite such contradictions, these imaginaries are not new. The conception of the nation state, for example, is deeply entwined with its characterization through statistics and various forms of citizen data. However, the emergent changes in identification practices, particularly through new interventions in digitizing identity, have created uneven conditions of digital mediation of social protection.

These uneven conditions have produced a variety of challenges across the majority world that range from troubles with efficient targeting and determining eligibility of beneficiaries through their data to everyday struggles with navigating access to and exclusions from data-driven services. The result is the deep transformation of social [Perspective] Cowls, Josh, Andreas Tsamados, Mariarosaria Taddeo, and Luciano Floridi. "A Definition, Benchmark and Database of AI for Social Good Initiatives." *Nature Machine Intelligence* 3, no. 2 (February 2021): 111–15. <u>https://doi.org/10.1038/</u> <u>\$42256-021-00296-0</u> protection. Understanding the core tensions in the emergent investments in datafication of social protection requires that we pay close attention to this unevenness.

How does data become the foundation of uneven efforts to practically achieve social protection? How does digital identity mediate the ability and experience of beneficiaries in navigating and accessing social protection services?

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Increasingly, however, the promise to resolve social problems is being replaced by aspirations of experimentation with technoscientific solutions to produce evidence of their efficacy.

This evidence, in turn, is employed as proof of concept for large-scale investments in such solutions within "developing" countries. Majority world becomes a laboratory for testing data-driven technologies and producing usable, marketable, data. Much of the relationship between AI systems and development fits within a model of experimentation that holds out the promise of creating systems—such as universal ID cards and Know Your Customer systems that simultaneously deliver goods to the poor and can be packaged for sale in other markets.

Such emphasis on experimentation shapes government efforts in securing international aid from promoting development projects as a responsibility towards citizens to treating development projects as an opportunity to gather data on efficacy of technoscientific and data-driven interventions. How do historical legacies of experimentation shape AIbased interventions? What are the moral arguments that justify these experiments? And, how does experiment mark both the persistence of uncertainties as a limitation of as well as a justification for continued investments?

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A Primer on AI In/From the Majority World

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