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Epistemic Justice in the Age of AI: Rethinking Knowledge, Power, and Agency

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Abstract

The study examines how artificial intelligence (AI) is fundamentally changing how knowledge is constructed and shared. It confronts epistemic justice, or the specific situations of injustice for groups that have been marginalized. The study analysed critical philosophy with case studies examining how AI systems do not function like neutral tools but as epistemic systems that reinforce testimonial and hermeneutical injustices. This paper navigates its methodological concerns through the blend of conceptual analysis from illustrative cases and provides a critique of impact upon epistemic justice to theorists (e.g., Miranda Fricker, José Medina, Kristie Dotson, and Ruha Benjamin) which demonstrates that how data governance and algorithmic design marginalized "epistemologies that are not privileged." Our main finding is that the dominant narrative or modes of linguistic and cultural production bearings are often amplified by AI, thus eliding others. When we talk about selective data curation, black-box algorithms, and automation bias, we are talking about it another way. The research has also suggested how through epistemic outsourcing and presentational erasure, these technologies lead to the abandonment of local and tacit knowledge - particularly epistemologies in the Global South. The conclusion of the study thus calls for the infusion of philosophical and ethical reflections and critical approaches such as design justice, epistemic pluralism, decolonial practices, and feminist epistemologies. These approaches thus conceptualize AI not merely as a tool for making things easier for us, but rather as a moral agent that is co-responsible in knowledge-making. In turn, this offers a set of normative principles on which the development of AI systems should be based; the principles emphasize practices that implement inclusive and transparent community engagement. Hence, it posits that epistemic justice does not represent one facet of technological advancement but rather constitutes an essential principle for knowledge systems based on ethical and democratic conducts.

Keywords: Epistemic Justice, Artificial Intelligence, Knowledge Systems, Power and Agency

1. Introduction

Artificial Intelligence (AI) has emerged as a key influence within epistemic change, invigorating attention to the assessments of the validity of knowledge, agency, and

constructions of justice. In other words, how societies define their knowledge will be influenced not only by algorithmic processes of generating, sharing, and evaluating information, but also by the technological artefacts and socio-epistemic arrangements associated with larger political and economic ideologies. This can take many forms, from search engines selecting what types of information to index, all the way to predictive algorithms informing decisions about the criminal justice system, employment, and health care. Such systems have already integrated into public life and institutional practices: while they may create new pathways for epistemic access, these routes could also be obscured by emerging forms of exclusion, bias, and control.

A normative framework for critical appraisal is necessary concerning how knowledge and action are accounted for in this period of A.I. Here, it is important that the idea of epistemic justice is introduced, articulated initially by Miranda Fricker (2007), it is an investigation into the ethics involved in epistemic practices and institutions—the fair or unfair exercise of knowledge practices specifically in connection to beliefs and attributions of credibility and the distribution of interpretive resources among various social groups. Just the act of establishing this analytical model surfaces a number of immediate questions to ask - who articulates and sees the arguments that comprise the A.I? Whose knowledge is articulated, and who's obfuscated? How do systems designed in contexts of epistemic privilege reproduce historical patterns of silencing and marginalization?

Such systems are present biases when AI is biased - indeed a problem that has already been elaborately documented - but they are highly integrated into the global structures of epistemic authority and power through which ideas and concepts get evaluated and accepted. They are most often modelled after the worldview of their developers with scant regard or even misrepresentation of the epistemic standpoints of disadvantaged groups. For instance, while historical data demonstrates the biases in predictive policing tools against minority populations, large language models and their proponents continue to reinforce linguistic and cultural norms at the expense of epistemic diversity. Such technologies, then, have a capacity for perpetuating *testimonial injustice*, wherein some people are not believed or regarded seriously on account of prejudice, and *hermeneutical injustice* where some experiences are outside the frameworks of public understanding.

This paper seeks to address three central research questions:

1. How do AI systems reshape epistemic agency and the structure of knowledge production?
2. In what ways do algorithmic processes perpetuate testimonial and hermeneutical injustices?

3. What philosophical interventions are necessary to reorient AI development toward epistemic justice?

To these ends, the paper presents the methodological approach of normativity conceptualized. The paper seeks to contextualize and develop this argument through a literature review of the philosophical literature in epistemology, ethics, and the philosophy of technology and contemporary case studies with real-world examples. The analysis will draw on the insights of Miranda Fricker, José Medina, Kristie Dotson, and Ruha Benjamin, thus applying both analytic and intersectional approaches to the issue of epistemic injustice. Finally, the article will analyse AI development critically in a global context characterized by these epistemic asymmetries between Global North and South that shape the technological infrastructures and ethical ramifications thereof.

In summary, the current document suggests that epistemic justice should be integrated into the AI discussion not as a side-line consideration, but as a fundamental ethical responsibility. Future epistemologies cannot be solely created by opaque systems produced under limited epistemic constraints. Instead, the AI model must be developed as pluralistic, transparent, and reflexive, recognize the epistemic agency of all communities, and resist any structural reproduction of ignorance and exclusion. This supposition requires not only a reconstruction of the technical, but also the epistemological transformation rooted in a commitment to justice in knowledge, representation and action within this world.

2. Theoretical Framework: Epistemic Justice and Its Dimensions

In the last few decades, the philosophical idea of epistemic justice has become powerful to examine knowledge practices and their links to social power relations. This concept was taken up and developed by Fricker in the *book Epistemic Injustice: Power and the Ethics of Knowing* (2007). In its most basic form, the term advocates fairness in epistemic transactions, especially considering the ways people and groups are viewed when they are judgers of knowledge. Fricker locates two main forms of epistemic injustice: testimonial injustice and *hermeneutical injustice*, and both of these provide the conceptual basis to analyse whether AI systems will further or resist acts of epistemic harm.

Testimonial injustice refers to the way that the credibility or lack thereof of a person as a speaker is necessarily tied to the conditions of their identity. That person ends up suffering an 'epistemic' wrong: his or her status as knower is denied unjustly; therefore, the weight of the testimony of a woman or a person of color is lessened due to how such stereotype is entrenched in the society. Testimonial injustice thus happens when machine learning has trained systems on datasets that

view certain groups disproportionately or when algorithmic content moderation globally has filtered or suppressed minority perspectives as part of the argument within the AI context. These go largely invisible and have no accountability channels, contributing to further marginalization of already disadvantaged people.

What does the phrase "hermeneutical injustice" mean for the authors? *Hermeneutical injustice* refers to the disproportionate distribution of resources which, in modern terms, would be needed to interpret experiences, such that some social structure cuts some groups off from participation in a common system of collectively constructed meaning. For instance, given certain historically silenced experiences like gender dysphoria or racial microaggressions, there may not be enough conceptual tools for those experiences to validate their existence, and new forms of hermeneutical injustice arise today because of the imposition of AI technologies whose design has been predominantly specific to the Global North-and, for that matter, not necessarily attuned to incorporate different worldviews of local knowledge systems and non-Western ontologies. Through this, digital epistemologies will not capture substantial universes of interpretation. Outcomes become, then, necessary conditions of digitally encoded epistemic exclusion that replicate asymmetries across international powers and understandings.

Such limitations have been pointed out and extended by recent philosophers toward a broader theorizing of epistemic injustice. José Medina (2013) contributes a pertinent example with the idea of 'epistemic friction' presented in his writing The Epistemology of Resistance. Epistemic friction designates the resistance to epistemic practices that call into question the fundamental assumptions supporting dominant epistemic structures based upon unjust exclusionary practices. Medina dismisses the idea of single evaluations of credibility in favour of critiques regarding the institutional and systemic factors that enable epistemic injustices. This manner of thinking is most powerful in the context of AI ethics, when injustices are not carried out at the elements of engagement with individuals or technoscientific practices but are based in the structure, or architecture, and the processes of decision making that are built into these structures.

As noted by Kristie Dotson (2011), epistemic oppression can be defined as "the continued epistemic exclusion that reduces one's participation in knowledge production." Dotson's position on Black feminist epistemology shows how systemic conditions often deny groups that face marginalization access to the actual bearing of knowledge creation processes and validation. Dotson's remarks are also relevant for analysing the extent in which AI technologies, based on industrial, corporate, and militarized interests, may limit or render some

pathways of knowledge obscure or irrelevant. These frameworks go deeper than Fricker's concern with interpersonal dynamics, and offer us ways to conceptualize structural and intersectional forms of epistemic injustice.

Alongside these scholars, Ruha Benjamin, Safiya-Umoja Noble, and Virginia Eubanks have examined the ways in which algorithms perpetuate social inequalities and inflict epistemic harms. For example, technology, as described by Benjamin, is the new Jim Code under which racial bias is given and hidden, all in the name of objectivity and efficiency (Benjamin, 2019)-whereas Noble's *Algorithms of Oppression* (2018) largely uphold systematic racism and sexism in search engines such as Google, demonstrating through various examples that the mechanisms by which epistemic authority is produced are based more on external-than-internal considerations-subject to corporate and algorithmic priorities rather than epistemic merit or inclusivity. Hence, these ideas point to the need for an epistemology oriented towards justice in view of power, context, and technological mediation.

This paper will employ the framework of *epistemic justice* to structure its analysis and norms. From an epistemic perspective, it examines the operation of artificial intelligence within specific socio-cultural and political contexts, where the determination of whose knowledge is valued can yield varied responses. Normatively, it establishes the criteria for assessing AI design and governance: fostering equal epistemic agency, embracing a diversity of knowledge, and ensuring transparency regarding knowledge assumptions and limitations.

Epistemic justice transcends the mere enhancement of transparency in biased datasets or algorithms; it seeks to redefine the foundational concepts of our knowledge systems. This allows us to inquire not only about the fairness of technologies but also about whether they are constructed upon inclusive and reflexive epistemologies. In this sense, technocratic solutions are integrated into a broader imperative to move beyond technical aspects and engage with the significant philosophical implications of ethical, social, and political consequences in the realm of knowledge within a digital landscape.

3. AI as an Epistemic Agent and Infrastructure

Machine learning and AI now occupy an important position in the knowledge ecologies of societies. Such AIs are not simply systems or tools anymore, they are part of the knowledge production, dissemination and legitimization process. People interact with the world through AI with the help of recommendation engines. This has an effect on the discourse. There are also analyses and decision-making that are automated. This can be seen in law, finance, and medicine. In this respect, this section argues, AI should be conceived as more than an epistemic

agent-a non-human one, but also an epistemic infrastructure whose design, deployment, and governance represent and replicate existing structures of knowledge and power.

The term AI refers to systems that may become *epistemological agents* in certain constraints, systematically gathering, processing, and disseminating information in ways that others come to know or hold beliefs about. This is partly based on *philosophies regarding technology*, particularly *actor-network theory*, with significant grounding in Bruno Latour's argument that agency is distributed amongst networks of human and non-human actors. AI can facilitate content development across all consumer brands, intellectual property, and media and content agencies. Their algorithms determine what is seen or unseen, stressed or ignored, welcomed or questioned.

The wider role of AI, however, is as *epistemic infrastructure*. This refers to an institutional and systemic framework of knowledge architecture embedded in platforms, datasets, machine learning models and interfaces. Such infrastructures are rarely neutral. They make choices about whose data to collect, what to measure, whose language to accept and whose standards of truth to use when designing. Helen Nissenbaum's idea of *contextual integrity* is based on the view that all information flows are situated in a normative social context. AI often breaks this context with data and analyses that are decontextualized and depend on spare statistical reasoning.

One example is natural language processing (NLP) systems and large language models (LLM), which are trained on extensive corpora often sourced from the Internet. These corpora frequently over-represent the powerful languages, cultures and classes. Consequently, the knowledge produced by the AI is largely biased against the mainstream, yet favourable to local, indigenous, or oral knowledge. In other words, we can speak of *an epistemic narrowing*, where the diversity of knowledge present in the world is reduced to formats which are intelligible to algorithms that reproduce the most dominant hegemonies.

The situation is further complicated by what is more accurately referred to as *algorithmic opacity*, which hinders both users and developers from fully understanding how AI systems reach their conclusions. This 'black box' nature of modern knowledge systems contradicts traditional philosophical concepts of public reason, deliberation, and *rational justification*, all of which are fundamental to democratic knowledge practices. When any challenge to epistemic authority is transferred to these opaque systems, the conditions for epistemic accountability are significantly weakened. As Frank Pasquale notes in *The Black Box Society (2015),* the rise of

algorithms whose operations are unclear will gradually eliminate deliberation, replacing it with automatic reasoning that undermines the transparency essential for epistemic justice.

One of the other pressing issues in this context is automation bias, the human tendency to over-rely on the outputs of AI systems, even if the information produced seems to contradict personal judgment or common sense. This bias effectively lends undue epistemic authority to AI systems, allowing them to act as a greater truth arbiter in regards to many aspects of life, from diagnoses of illness in healthcare to judgments about financial risks. In this case, AI moves beyond existing simply as a tool – this AI is more like a *legitimating mechanism* of certain types of knowledge while delegitimizing other types of knowledge, usually without critical reflection.

The role of AI as an epistemic infrastructure is amplified in the space of global development or governance, where purely information-based predictive analytic modes are often employed to address social problems such as poverty, migration, and subsequent social decisions regarding how to respond to pandemics. Scholars such as Lucy Suchman and Claudia Aradau have argued that these systems emerge through reductive logics and render complex social issues into measurable variables. These not only erase epistemic diversity but also reinforce technocratic modes of governance that exclude community-, experience-, or place-based knowledge systems. In this context, AI can be construed as a new form of epistemic *extractivism* through which knowledge can be extracted, abstracted and commodified without regard for where it comes from and/or the ethical issues of extracting knowledge.

The serious implications of these developments for philosophy are profound. Traditional epistemology has typically focused on a specific type of subject: the individual knower and propositional knowledge. However, it is evident that human intelligence renders knowledge as a *relational, infrastructural, and technologically mediated construct.* This transformation necessitates a significant departure from classical notions of the 'knowing subject' and instead emphasizes the distribution of *epistemic agency* across socio-technical networks. Who is responsible for constructing these systems? Who subsequently determines what qualifies as knowledge? And who possesses the authority to contest the outputs generated by algorithms?

In response, certain scholars have proposed an alternative perspective through the lenses of *design justice and data feminism*, aiming to foster broader diversity and enhanced inclusion within participatory epistemic infrastructures. This concept may encompass the outcomes of community-driven design initiatives, the specific motivations for transparency in data sourcing, and a critical understanding of power imbalances. Articulated in these ethical frameworks and

with corresponding epistemological commitments, these AI systems should not be viewed merely as neutral optimizing instruments, but rather as *normatively influenced agents* involved in the creation of social meaning.

Artificial Intelligence systems should not be viewed solely as technological artifacts; rather, they must be understood as *epistemic agents and frameworks* embedded within socio-political environments. The sources of knowledge, as well as the circumstances under which they are acquired, are crucial for comprehending this dual perspective, which is essential for engaging with the profound philosophical implications of epistemic justice in the digital era.

4. Mechanisms of Epistemic Injustice in AI Systems

Artificial intelligence is frequently presented as a neutral or objective instrument for improving decision-making and knowledge management; nevertheless, in reality, its development and implementation violate and exacerbate profound epistemic injustices. These injustices are not trivialized by the structural context; rather, they are inherently structural, ingrained in the array of processes through which AI systems are designed, trained, validated, and deployed within the socio-technical landscape. In this section, I will consider particular *mechanisms by which AI systems contribute to the perpetuation of testimonial and hermeneutical injustices* in the context of datafication, representational bias, algorithmic opacity, and epistemic outsourcing.

A. Datafication and Epistemic Reductionism

There are many forms of mechanisms under which digitalization is seen as the first necessity. By *datafication*, human experience in the form of actions and interactions is transformed into digitally quantifiable data. This reduction process privileges what can be measured and encoded above that which holds meaning depending on context, affect, or relatedness. This renders knowledge externally, i.e., what we can know is simplified to fit into the predication of the statistical model that is flattened in its ontology. Moreover, the very act of measuring data rests on some value-laden presuppositions about what counts as relevant, measurable, or intelligible, very often underestimating other non-dominant epistemic perspectives.

Such systems are being used for predictive policing: collecting and analysing crime data to predict future criminal acts. As Andrew Ferguson and Virginia Eubanks have shown, however, such data are largely generated through historical patterns of surveillance and over-policing of marginalized communities. The algorithm treats systemic injustice as neutral input, creating *feedback loops* that perpetuate epistemic and material marginalization (Ferguson 2017; Eubanks 2018). In doing so, it contributes to *testimonial injustice* because the promised

neutrality is put forth to deny the experience of affected communities and endorse such views that really have bias concealed within them.

B. Representational and Ontological Bias

Second, it involves a *representational bias* in the datasets that train machine learning models. Most of these larger systems, such as those which cover the field of natural language processing or image recognition, operate off datasets that skew heavily towards being Euro-American, Anglophone, and affluent. This type of bias not only distorts statistical outcomes; it also shapes ontological aspects: it dictates which identities, experiences, and modes of expression are recognizable to the AI system.

Safiya Noble's work *Algorithms of Oppression (2018)* shows how, over the years, searches about Black women generated results from Google's algorithms that often connect Black women to harmful stereotypes. These results are not just technical problems; they are also examples of *epistemic violence*—an articulation of oppressive epistemologies presented as algorithmically neutral. Furthermore, facial recognition technologies have been shown to perform poorly with people with darker skin, particularly women, because there was no representative (sufficient) data (Buolamwini and Gebru, 2018). This absence or misrepresentation leads to *hermeneutical injustice,* as the visibility and experiences of that group have been misread as a systematic attempt to erase and misinterpret their experiences.

C. Algorithmic Invisibility and the Black Box Problem

The third, and possibly the most basic, one is *algorithmic opacity*, which relies on the inability of people affected by advanced systems to make sense of or contest the results they have produced. This is often described as the *black box problem*, which leads both to technical complexity and proprietary secrecy, essentially separating knowledge *authority from epistemic responsibility*. Often the people or communities do not have the process that guided the decision made algorithmically (for example, decisions whether to grant a loan, assess medical risk, or decide on the acceptance to epidemic on the basis of algorithmic risk assessments.)

This lack of transparency undermines the essential elements of epistemic justice—namely, transparency, contestability, and reflexivity—thereby preventing the possibility of contestation and reinterpretation of algorithmic outputs. This situation compensates for the feigned denial of individuals' epistemic agency, which is crucial for them to comprehend, critique, or evade knowledge claims that directly impact their lives. As Lilly Irani (2019), the philosopher, puts it, "this produces a 'technocratic mystique'-centralizing expertise and dismissing the epistemic labour of ordinary users" (Irani, 2019).

D. Epistemic Outsourcing and the Denial of Local Knowledge

Another mechanism of misappropriation is what we call *epistemic outsourcing*, delegating interpretive and decision-making functions to AI systems that were developed in contexts detached from the communities that they purport to serve. In other instances, such as this, the epistemic misappropriation often leads to marginalizing the *local, indigenous, or experiential knowledge systems* and example development projects using AI to monitor agricultural activity or environmental risks that usually rely on satellite and remote sensing data, thus circumvention of the situated expertise of local farmers and inhabitants (Molnar & Gill, 2018).

Two forms of epistemic injustice affect local knowers. First, their *testimonial credibility* is denied-anecdotal or unscientific-their knowledge is typically dismissed. It does also suffer a *hermeneutical exclusion* in that the interpretive frameworks used to make sense of their realities are externally imposed, and these are culturally incongruent. In these cases, instead of serving as instruments of empowerment, AI systems are becoming mechanisms of epistemic colonization, thus reinforcing hierarchies of knowledge that reflect geopolitical and economic disparities.

E. Automation Bias and the Devaluation of Human Judgment

In the end, *automation bias* - the inclination for humans to lean into outputs taxonomized from machinery - creates an epistemic landscape in which information from AI is inappropriately prioritized over human reasoning. This creates a situation in which professionals like teachers, doctors, or social works lose their authority because their actions no longer reflect the predictions of automated algorithms. In this instance, AI systems alleviate the *epistemic burden of proof* from human agents, and asks the question, "What is counter to the algorithm that justifies your disagreement?"

These situations have ramifications, especially in high-stakes circumstances like health care, criminal justice, and education. Disregarding human reasoning becomes a prerequisite, pushing a technocratic agenda, and stripping the epistemic authority from epistemic subjects - whoever that may be. Philosophically, this suggests an abandonment of pluralism and dialogue systems that democratic knowledge relies on.

5. Towards Epistemic Justice: Ethical and Philosophical Interventions

Considering that modern AI systems incorporate elements of epistemic injustice, simply rectifying biased algorithms is insufficient. Instead, it is essential to reconsider knowledge systems in a manner that is both *philosophically sound and ethically responsible*: examining the structure of these systems, identifying whose perspectives are highlighted, and analysing

the distribution of epistemic agency. This section will investigate a range of interdisciplinary approaches—from design justice and participatory epistemologies to decolonial and feminist critiques—all focused-on reshaping AI to uphold epistemic justice as a *moral imperative and a prerequisite for democracy.*

A. Reframing AI through Epistemic Pluralism

To adopt epistemic justice, the fundamental knowledge acknowledged is *epistemic pluralism*, which posits that there are multiple valid ways of knowing, encompassing perspectives from various cultural, social, and experiential backgrounds. Nevertheless, the epistemologies of most AI systems tend to favour *scientific rationalism, statistical regularity,* and data positivism. Philosophers like Sandra Harding and Boaventura de Sousa Santos have facilitated the democratization of epistemology by integrating marginalized knowledges and what are termed "epistemologies of the South" (Santos, 2014).

The standard and formality of the rewritten changes were: In establishing epistemic pluralism into artificial intelligence requires serious changes in the construction of datasets and how models are trained. It requires not just intention with regard to deliberately incorporating marginalized voices but an intention that these voices are part of the construction of epistemic meaning, rather than simply being included tokenistically. This transforms AI from being viewed as a singular universal intelligence, into being seen as a *site of negotiation under the weight of differing cultures of knowledge.*

B. Design Justice and Participatory Infrastructures

The main argument within *Design Justice*, as outlined by Sasha Costanza-Chock in 2020, is to deconstruct systems of technology and their making. The main assumption here is that the individuals who are most impacted by a design choice should have the most power over that choice. In this sense, the traditional design begins to take form in *community-led* design, wherein marginalized communities, in their history, have an inclusive voice to define problems, create objectives, and develop solutions.

This means that these communities will now have a voice in the conversations around data governance, consent, and accurate representation. The *epistemic agency* of those who know will therefore be acknowledged and there will be no hierarchy or separation of experts and lay people. This model can comfortably suit *relational epistemologies* that value dialogue, mutual recognition, and shared authority in knowledge production.

Participatory design must promote acts such as algorithm audits, transparency and accountability strategies, as well as impact assessments for the *governance of AI.* Scholars such

as Ruha Benjamin and others have argued for what they call "abolitionist tools". These notions seek to not only dismantle oppressive and biased structures but work to abolish and dismantle those systems while building just and humane alternatives for the existing systems (Benjamin, 2019).

C. Feminist Epistemologies and Situated Knowledge

In this context, feminist philosophy of science, as seen in Donna Haraway's work, suggests a view of situated knowledge which critiques the so-called God trick, which sees all from a nowhere perspective. This perspective will surely pose a direct challenge to the *illusory objectivity* that AI systems often mistakenly think they have. Situated knowledge posits that all knowledge is produced from specific positionalities; embracing this partiality increases epistemic validity, rather than decreasing it (Haraway, 1988).

This recognition emphasises the socio-political positionality of the designers, annotators, engineers, and end-users in AI. Hence, it calls for the prototype of context-aware systems that demonstrate the values, histories, and power structures of their context. *The feminist principles* of data ethics articulated by Data Feminism (D'Ignazio & Klein, 2020) raise these principles—interwoven, as related to transparency, intersectionality, and accountability, which can serve as guiding stars for equitable and inclusive AI systems.

D. Decolonial Approaches to Epistemic Justice

It goes beyond the questioning of specific technical and representational biases in AI; decoloniality interrogates the underlying *epistemic assumptions* behind these systems. Specifically, it challenges how western, enlightenment-based epistemologies became dominant and continues the process of *epistemic erasure* of indigenous and non-western ways of knowing. Decolonially, of course, refers to Waslot Mignolo and Catherine Walsh's very numerous arguments: decoloniality is not only wrought with the diversification of knowledge but is all about delinking with colonial frameworks of knowing (Mignolo & Walsh, 2018).

With regard to AI, it would involve the resistance towards the generalization of equal technical standards, ontologies, and classifications, especially on how they would assimilate the beauty of cultural difference. The knowledge that should repair would be an indigenous-cantered, oral, and relational knowledge system. They talked about decoupling epistemologies that would provide other resources to the AI systems that commodify and extract without permission and work to obtain instead communal, owned through common means of knowledge exchanges based on ethical principles.

E. Institutional and Policy-Level Reforms

With all this said, all work toward epistemic justice in AI must be entrenched in institutions and public policy. It comprises:

- Enabling *algorithm transparency* and explainability in high-stakes decision systems.
- Conceptual development of *epistemological impact evaluations* along with environmental and social impact assessments.
- Finally, *implementing public infrastructures that allow for open, diverse, community-curated data.*
- Providing funding for interdisciplinary research that will put philosophers, technologists, sociologists, and affected communities in dialogue together.

Public organizations (universities, think tanks, regulatory authorities, etc.) should take it upon themselves to define and guide *epistemic accountability* in the public realm. It will be hard to show value to the latter role of the philosopher here, not just as critiquing the assumptions of AI, but rather in collaborating together towards a proactive co-design of novel architectural structures of epistemology.

6. Conclusion

In summary, this study sheds light on the important role AI plays, in both its epistemic agent and epistemic infrastructure forms, in reinforcing the pre-existing epistemic and power hierarchies that disadvantage various communities. Findings demonstrated that AI systems propagate testimonial and hermeneutical injustices in part due to biased training datasets, the transparency and adjudication of programming systems, automation bias and non-Western, Indigenous, and experiential knowledge exclusion from algorithms, each an integral feature of design, employed and conducted by governance structures that articulate the politics and geographies of AI algorithms as a whole. The implications of these findings are far-reaching, highlighting the active nature of AI technologies and their failure to be neutral or objective and identifying an urgent need to rethink the ethical frames of AI. More importantly, if the epistemic injustices are not corrected consider future scenarios in which algorithmic knowledge systems confer a degree of epistemic homogeneity adverse to plurality, democratic activity, and epistemic communities that are already disadvantaged. In conclusion, this research advocates for a vital reconsideration of AI ethics and governance via a lens of epistemic justice including an emphasis on design justice, the development of community-oriented, participatory and collaborative infrastructures; the advancement of epistemic pluralism that acknowledges multiple epistemologies, and the incorporation of feminist and decolonizing critiques of AI into

policy and practice. As an example, it is critical to collaborate with AI developers, educators, policymakers, AI ethicists or philosophers, and advocates/activists to ensure inclusive, transparent and accountable engagement with AI. Organizations, institutions, and programs can become partners in the community assessment for epistemic impact in a similar way to how they evaluate for technical impact. They can also foster interdisciplinary research with impacted communities as just that - impacted communities, and not subjects, as co-creators of knowledge. The future of equitable AI is not just dependent on reckoning with current flawed systems, but also depends on changing the epistemological ideals that underpin those very systems. It is also imperative that the knowledge that informs ethics in this morphing AI landscape is produced in ways that are democratic, contextual, and just.

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