

Voice AI and Hermeneutical Injustice at the Border

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The use of AI in managing human mobility across national borders has become ubiquitous in the last decade. (Amnesty International 2024) As a result, AI ethics scholars have grappled with the ethico-political consequences of AI at the border (Chouliaraki and Georgiou 2022), especially the coercive and ‘immediately visible violence inflicted by the technology industry’. (Aizeki et al. 2024) But what about more invisible forms of AI-mediated violence that infect knowledge infrastructures in a way that marginalises vulnerable populations at the border? AI is beginning to utilise the human voice as a way of sensing and knowing migrant bodies. While Voice AI offers considerable efficiency and security benefits, we must remain cognizant of the ethical trade-offs inherent to these systems. In this paper, I argue that Voice AI at the border is leading to the distortion of conceptual resources that hinder migrants’ self-understandings – a form of hermeneutical injustice.

To date, a nascent literature has developed studying the only widely used voice biometric technology – DIAS. DIAS is used for dialect recognition at the German border – awaiting expansion to other EU countries – to identify the national origin of asylum seekers. (See, e.g., Drage and Frabetti 2024; Kang 2022; Oliveira 2019; Palumbo 2024; Palumbo and Prey 2024) One way of re-reading this literature is through the lens of epistemic injustice. (Scheel 2024) Epistemic injustice is harm done to our capacities as subjects of knowledge, distinct from other forms of injustice at the border, such as legal or distributive. (Fricker 2007) Testimonial injustice – that is, reducing credibility given to individual testimonies owing to prejudice referable to their social identity – has been a potent form of epistemic injustice widely perpetuated at borders. (Aradau and Canzutti 2025) Broadly, scholars argue that outputs of DIAS have been treated as an objective truth to verify or discredit testimonial narratives of prospective asylum seekers about their own identity as they are unjustifiably treated with suspicion – a perpetuation of testimonial injustice, even though the exact terminology is not always adopted. (See, e.g., Palumbo and Prey 2024; Scheel 2024)

However, the scholarship on Voice AI has largely remained fragmented by whether migration is physical or virtual. Increased electronic connectivity through globalisation has rendered “virtual migration” a standard mode of migration whereby an individual physically remains in their country of origin but undertakes labour as if they are situated abroad, such as IT or call centre workers. (Aneesh 2006) In virtual migration, the primary use of Voice AI has been Sanas – an algorithm to neutralise call centre workers’ accents, enhance voice quality, and remove background noise to conceal their identity. (Chan 2022) Currently, Sanas is used by around 10,000 call centre workers, especially in India and the Philippines. (Chan 2022)

Through Voice AI, such as Sanas, the virtual border seeks to generate non-knowledge by concealing the identities of call centre agents, instead importing their disembodied labour. However, scholarship has yet to consider the epistemic injustice perpetuated by the pursuit of non-knowledge at the virtual border.

To obtain a comprehensive understanding of epistemic injustice and Voice AI at the border, we must consider both physical and virtual mobility. Focus on testimonial injustices perpetuated by DIAS and the lack of engagement with epistemic harms of Sanas have largely obscured another ubiquitous form of epistemic injustice – namely, hermeneutical injustice. Hermeneutical injustices arise when hermeneutical marginalisation results in gaps or distortions in conceptual resources that prevent the hermeneutically marginalised from understanding or communicating significant aspects of their social experience. (Falbo 2022; Fricker 2007; Medina 2012) Hermeneutical marginalisation is unequal participation in knowledge-making activities due to social powerlessness. (Fricker 2007) Unlike testimonial injustices, hermeneutical injustices can arise independently of whether an individual’s testimony about their own identity is solicited, meaning it can potentially impact both physical and virtual migration.

To address this gap, I ask: How does Voice AI at the border perpetuate hermeneutical injustices?

For Sanas, I analyse patents and promotional materials. However, as patents were largely inaccessible for DIAS due to national security, I draw on investigation by Biselli (e.g., 2018), ethnography by Scheel (2024) and technical analysis by Oliveira (e.g., 2019), which provide training material, technical specifications, and evaluative statistics.

I argue that the use of both Sanas and DIAS hermeneutically marginalises individuals. To understand the marginalisation process, I draw on Goffman's theory of performance, which posits that presentation of self in social life is based on performing social fronts for an audience. (Goffman 1959) While Goffman has been invoked to explain identity concealment by call centre agents (Rajan-Rankin 2018) and performances of legitimacy by physical migrants (Scheel 2019), the impact of Voice AI on these performances remains unexplored. Specifically, I highlight three critical aspects of Goffman's theory that are essential to creating social fronts—idealisation, disruption, and discipline—and explain how Voice AI mechanises them. Idealisation involves identifying and presenting a social front in alignment with social expectations. Discipline requires controlling one's performance to maintain this idealised social front, and disruption refers to an audience searching for performance flaws to dismantle the social front. Social roles come with pre-established fronts—collective representations carrying stable cultural meanings detached from individual performers — that actors must adopt and can only modify by choosing among a limited set of pre-established fronts (e.g., a doctor wears a white coat to appear clinical and trustworthy). (Goffman 1959)

I argue technical features common to Voice AI—namely, statistical patterning, large-scale data analysis, and mathematical abstraction of the voice—are tied to distinct epistemological imaginaries: homogenisation, accuracy, and depth of perception, respectively. In turn, each of these imaginaries is associated with idealisation, disruption, and discipline. To aid idealisation, the statistical optimisation process flattens heterogeneous social standards of the audience into a homogenous norm that performers can easily meet, and audiences can consistently apply to judge performances. Furthermore, the allure of superior accuracy and perceptivity of Voice AI due to large-scale data processing and mathematical abstraction is associated with the desire to perfect discipline and disruptions.

Although Sanas and DIAS rely on different Voice AI, they both outsource significant aspects of performance to AI. In this way, the process of creating social fronts is *mechanised*, hermeneutically marginalising the migrant as Voice AI automates production and dismantling of social fronts. As the outputs of Voice AI will essentially be the same each time it presents or disrupts a performance – if the same model is used– it will calcify certain social fronts, and distort social roles associated with those fronts.

In Sanas, hermeneutical marginalisation arises as Voice AI redefines the performance of call centre work. Sanas mechanises the idealisation process: rather than the call

centre agent imagining the “hegemonic” American customer (Mirchandani 2015), the algorithm predicts and imposes the target accent using labelled datasets (Pfeifberger and Zhang n.d.), outsourcing and perfecting idealisation. It disciplines the worker by obscuring their embodied voice—removing noise (Elmoudden 2016), altering accent (Aneesh 2015), and enhancing quality (Zhang et al. n.d.)—preventing “unmeant gestures” or disruptions (Goffman 1959), thereby sanitising identity. The result is a “roboticized voice” and “mechanical identity” (Chan 2022) that reshapes the social front of the “call centre agent.” This AI-mediated front becomes inaccessible to those who resist or lack access to such systems. The role is increasingly associated with a Westernised, standardised voice (Mirchandani 2015), making it harder for non-users to self-identify as competent or intelligible agents, contributing to hermeneutical marginalisation and injustice. (Payne et al. 2023; Vallor 2024)

DIAS grants algorithms significant power to define the legitimacy of asylum seeker identities. The idealisation process shifts from border guards to the “assemblage of the human-machine ear,” where algorithmic expectations are treated as objective. As a result, social fronts of the “legitimate asylum seeker” are distorted in three ways. First, DIAS privileges Westernised Arabic dialects encoded in US-based datasets, excluding those that do not match these patterns. Second, it treats timbre as a reliable marker of identity, even though dialects vary by region, class, and personal background (Oliveira 2025), generating arbitrary mismatches. Third, DIAS's accuracy rates are lower for rarer dialects, speakers of which are more likely to be labelled “phony” (Biselli 2018), reinforcing suspicion. (Scheel 2024; German Federal Government 2022). In all instances, asylum seekers who cannot perform these roles will struggle to establish an asylum case, either because they, or border guards, do not believe they are deserving.

By mechanising the creation of social fronts, Sanas and DIAS reshape the social understanding of “call centre worker” and “asylum seeker”. Individuals who cannot access these AI-mediated fronts may find themselves unable to self-identify or make themselves intelligible as competent or deserving, resulting in hermeneutical injustices.

Finally, I claim erasure of identities is a continuation of post-colonial critiques that highlight how AI systems embed rational, Eurocentric thinking in ways that subdue alternative modes of knowledge creation. (Mumford 2022) That is, Voice AI erases marginalised identities by privileging AI as a superior, racialised epistemic authority, which amplifies the marginalisation of post-colonial subjects and undermines self-confidence.

To continue this research, I want to understand how Voice AI impacts migrants' self-understandings by interviewing affected individuals. Ultimately, I want to extend my theory to other uses of Voice AI in border management, such as real-time speech translation in refugee classrooms and profiling in law enforcement.

Acknowledgments

The author is grateful to Dr. Beryl Pong for consistent guidance and Ms. María Hernández Jurado for valuable feedback. However, any remaining errors or oversights are solely the author's own. The author is indebted to the Leverhulme Centre for the Future of Intelligence for their generous financial support.

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