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Digital Colonialism in the age of AI

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Abstract: This paper examines generative AI through standpoint theory, native feminism, and settler colonialism, analyzing how data exploitation, epistemological biases, and weaponized supply chains perpetuate colonial power dynamics while proposing strategies for community-led resistance and alternative development pathways.

INTRODUCTION

Since the launch of ChatGPT in 2022, AI has taken the world by storm. The technology has the potential to disrupt much of what we know of society today, changing how we work and interact with the world. While these technologies offer unprecedented capabilities, they also perpetuate existing power structures and inequalities. In this essay, I analyse and problematize the rise of AI through the lens of standpoint theory and native feminism, highlighting the ways in which AI today reinforces colonial themes of exploitation, dominance and power. By interrogating the colonial exploitation in the development of AI, the use of AI in perpetuating entrenched power structures, and how countries wield AI for geopolitical dominance, this paper reveals the complex interplay between AI advancement and ongoing forms of digital colonialism. This work is in partial fulfilment of the ENGR184 course using the blueprint curriculum by Ref.[3, 10] and captured in a collection [4].

METHODS

Standpoint theory posits that knowledge is not neutral, but "socially situated," and those in marginalized positions can perceive power dynamics more clearly than the non-marginalized [9]. Critically, standpoint theory challenges the notion that knowledge and science are always objective and universal. Rather, it draws attention to power structures and marginalized groups that exist in and directly influence the creation of knowledge. In the context of AI, standpoint theory suggests that ethical analysis should center the viewpoints of those often excluded from AI development design. This means recognizing that AI systems built solely from a dominant perspective will carry hidden biases, whereas incorporating diverse standpoints can reveal blind spots in design and outcomes. By beginning inquiry from marginalized lives and experiences, we are more likely to ask critical questions about who benefits or is harmed by AI, and how the use of AI can entrench or challenge existing power structures.

Diving deeper, Native Feminism is an extension of standpoint theory that identifies the settler colonialist power dynamic that exists within our society today [1]. It recognizes that indigenous groups have historically been exploited and marginalized and seeks to challenge current epistemological standards by offering alternative viewpoints from those who have been sidelined by the colonial powers today. This framework is particularly applicable to AI as it presents a powerful challenge to the extractive, profit-driven logics that underlie much of AI development.

COLONIAL EXPLOITATION IN THE DEVELOPMENT OF AI

The development of AI is fundamentally dependent on and intrinsically inseparable from the unethical exploitation of resources and the environment by corporations.

Firstly, vast amounts of data resources were illegally extracted and exploited to create AI. Large language models like GPT-4 and Claude were trained on billions of texts, including copyrighted and pirated ones, the majority of which was scraped from the internet without proper consent or compensation. For example, OpenAI, the creators of ChatGPT, is currently facing numerous lawsuits from publishers, newspapers and media outlets across the world for violating the fair use copyright policies that govern their public content. Similarly, a lawsuit brought against Meta by several high-profile authors like Ta-Nehisi Coates revealed that the tech giant knowingly trained its AI models on pirated copies of their works. The way that these works were taken from their original creators without compensation or consent, and used to the benefit of corporations and capitalist shareholders can be characterized as "data colonialism" [6], which mirrors the settler colonial extraction of natural resources at the expense of indigenous communities. AI companies argue that the way they use the data falls under a fair use policy as the data is in the public domain and their AI models do not replicate or copy the underlying data. Not only does this argument parallel colonial arguments that claimed lands as "Terra Nullius" or "land without a master" as justification to claim and exploit the land, but it is also not true. It turns out that it is common for generative AI models to completely reproduce data from the underlying training sets [13]. Additionally, not only are AI companies benefitting through the exploitation of creators, but they are also in fact wholly dependent on having unfettered access to said data. In a lawsuit against the New York Times, OpenAI testified that "the race for AI is effectively over" without free access to copyrighted data.

Secondly, it is impossible to ignore the environmental costs that arise in the development of AI. The development of AI requires not only digital data, but also vast amounts of raw materials and resources. Using ChatGPT may seem no different than doing a quick google search, yet it's likely to take 5 times the amount of electricity for each query [7]. In 2024, Microsoft offered to revive the three-mile island nuclear plant to power its AI datacenters, a sign of the huge demand in electricity it predicted it needed. While nuclear energy is one of the cleanest forms of energy, its adoption is limited, and most of the electricity produced today is instead from polluting fossil fuels. Besides electricity, water is another resource that AI companies depend on. It is estimated that AI demand will account for 4.2 - 6.6 billion cubic meters of water withdrawal in 2027, which is more than half the total annual water consumption of the UK [11]. Not only is water consumption high, but big tech companies are also often competing with everyday citizens over limited water resources. Google planned to build a data center in Cerrillos, Chile, which was expected to use millions of gallons of water every year in a region that has been in extended drought conditions for the past 15 years.

PERPETUATION OF UNEQUAL POWER STRUCTURES IN THE USE OF AI
As AI is trained on a limited and specific set of sources of knowledge but is viewed as an approximation of human intelligence, the use of AI insidiously perpetuates the unequal colonial power structures in the world. Fundamentally, AI is a statistical machine trained on a specific set of data. This datasets serves as a repository of knowledge and compass for AI to serve its four main functions, as defined by Russell and Norvig [14]: (i) Acting humanly; (ii) Thinking humanly; (iii) Thinking rationally and (iii) Acting rationally. As much as the ideal is for AI to be trained on all the knowledge in the world, the reality of the matter is that AI is trained on a very limited set of data, due to logistical, language and economic constraints. In fact, most of the datasets AI is trained on come from a narrow range of geographic regions, predominantly Western, English-speaking countries, due to an over-reliance on large-scale web-scraped datasets primarily from platforms and communities in the Global North [2].

Drawing on native feminist theory and standpoint theory, this poses three serious consequences. Firstly, the use of AI devalues and excludes knowledge in the global periphery. As AI is primarily trained on Western, English-speaking sources, knowledge from a huge part of the

world is wholly excluded, such as that of indigenous, minority and non-English-speaking communities, entirely excluding these scholars and worldviews. For example, in recent years, native feminist scholars have drawn attention to Indigenous ways of knowing, which are embedded in the specific context of Indigenous communities and have been found to fundamentally challenge Western epistemologies [15]. Yet, such Indigenous knowledge is scarcely and disproportionately represented in the dataset AI models are trained on, causing AI to exclude and devalue their knowledge. This is dangerous, as AI is defined as "thinking" and "acting" "humanly" and "rationally", which creates the assumption that the way AI behaves is the definitive, rational way for humans. In truth, AI is trained on an extremely skewed and limited set of data, which is not obvious to the quotidian user, thereby elevating Western scholars and institutions to seeming "bastions of truth" while erasing whole cultural, linguistic and social communities and their epistemologies.

Secondly, beyond elevating knowledge from certain geographies and languages, the use of AI also amplifies the social biases and cultural norms present in dominant sociopolitical groups. Standpoint theory argues that knowledge is not neutral and sterile, but necessarily "socially situated" within the specific social positions and lived experiences of an individual vis-a-vis the world around them [9]. Consequently, every piece of knowledge inherently carries the baggage of biases and cultural norms of certain individuals and groups. AI, which is trained on a specific and limited set of predominant Western, English-speaking data, unknowingly and insidiously propagates the biases and cultural norms of these Western, English-speaking sociopolitical groups. For example, AI systems, particularly large language models, have been found to associate professional and authoritative roles predominantly with men, while relegating women to domestic or subordinate positions — a stereotype which originates from historical Western patriarchies [2]. This implicit bias is one unique to this context, and is non-existent or even diametrically opposed in other contexts, such as in matriarchal societies that elevate women over men. For the Minangkabau people of Indonesia, lineage and inheritance are passed through the mother's side, while in the Iroquois Confederacy of North America, elder women in clans hold significant power in choosing chiefs and making clan-wide decisions. Thus, the use of AI implicitly amplifies biases and cultural norms of certain dominant sociopolitical groups.

Thirdly and more broadly, the use of AI perpetuates unequal power structures that are entrenched in the world. As AI epistemically privileges and proliferates certain dominant Western viewpoints, it entrenches the hegemony of the developed Western core over the peripheral South. In a world where technology has the potential to level out the playing field for underdeveloped countries, AI, on the contrary, perpetuates systemic inequalities and a hierarchical world order that has existed during the times of colonialism — and insidiously at that, due to the common perception of AI as an approximation of human rationality and intelligence. Over time, as the usage of AI grows farther and wider, the result is not only epistemic exclusion but also the entrenchment of colonial power structures, seamlessly hidden behind the Potemkin village of technological progress and knowledge objectivity.

GEOPOLITICAL DOMINATION IN THE WEAPONISATION OF AI
As AI develops into a booming industry, estimated to be worth USD 279.22 billion in 2024, nation-states have increasingly been using AI as a weapon to effect geopolitical control and dominance in the international arena, through economic and trade maneuvers. This emerging trend is reminiscent of the historical dynamics of colonialism, where powerful nations used unfair trading regimes to assert power and dominance over weaker states.

Notably, this is particularly prominent in the semiconductor industry, whereby large nations leverage their dominance in semiconductor technology and supply chains to maintain a technological edge over smaller nations. Advanced semiconductors are essential for training and deploying generative AI models, and their production is controlled by a handful of nations and corporations. By having a monopoly and controlling the means of production, large nations can effectively keep smaller nations dependent on them for access to AI capabilities. This concentration of production capacity represents what Farrell and Newman [8] term "weaponized interdependence," where asymmetric network positions enable some states to leverage key nodes in networks for strategic advantage. From a settler colonial perspective, these actions represent a form of "technological enclosure" that parallels historical land enclosures. By restricting access to essential technological infrastructure, dominant powers can prevent technological self-determination for targeted nations, mirroring how colonial powers historically restricted industrial development in their colonies to maintain dependencies [16].

Already, the United States has implemented export controls on advanced chips and banned the sale of advanced lithographic equipment to China and other nations [12]. These export controls and trade bans are barriers put in place to prevent others from developing their own AI capabilities. For smaller nations and Indigenous communities, this technological dependence severely limits digital sovereignty and self-determination. Without access to advanced computing infrastructure, these communities remain consumers rather than producers of AI technologies, reinforcing their subordinate position in the global digital economy.

POSSIBLE SOLUTIONS

Firstly, the formation of transnational advocacy networks connecting Indigenous communities, Global South nations, and allied organizations in the Global North could effectively challenge current AI governance frameworks. These coalitions would develop and promote policy proposals emphasizing collective data rights, mandatory benefit-sharing mechanisms, and technology transfer provisions. By coordinating across borders, these networks could amplify marginalized voices in international forums such as the UN, OECD, and other multilateral institutions where AI governance is being shaped.

Secondly, supporting the development of community-controlled AI systems built on principles of reciprocity, sovereignty, and sustainability presents an alternative to extractive models. This includes funding community-owned data trusts, developing training datasets that incorporate diverse knowledge systems, and creating technical infrastructure that operates with significantly reduced resource requirements. Projects like the Indigenous Protocol and Artificial Intelligence Working Group demonstrate the viability of AI development aligned with Indigenous values and knowledge systems.

CONCLUSION

This analysis through standpoint theory, native feminism, and settler colonialism reveals generative AI as a site where historical patterns of exploitation and domination are being reproduced in digital form. The development of AI perpetuates colonial extraction through data appropriation and environmental exploitation; its deployment reinforces existing power hierarchies by privileging Western epistemologies while excluding Indigenous and Global South knowledge systems; and its supply chains are weaponized to maintain technological dominance in global politics.

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