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Algorithmic Colonialism: Artificial Intelligence and the New Structure of Global Power

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Abstract

The rapid development of artificial intelligence (AI) has transformed the contemporary structure of global power by shifting domination from territorial control toward computational and algorithmic control. This study examines the concept of algorithmic colonialism as a new form of global inequality operating through data extraction, digital infrastructures, and technological dependency. Using a qualitative and conceptual approach, the research analyzes the relationship between AI, surveillance capitalism, platform governance, and geopolitical competition within the framework of postcolonial theory and critical political economy. The findings demonstrate that AI technologies are not politically neutral but function as mechanisms of economic, political, and cultural domination. Multinational technology corporations and technologically advanced states increasingly control global data flows, communication infrastructures, and computational systems, thereby creating asymmetrical dependencies between technologically dominant and digitally dependent societies. The study also reveals that algorithmic systems contribute to surveillance practices, democratic fragmentation, epistemological inequality, and the concentration of technological power within a limited number of global actors. Furthermore, the geopolitical competition surrounding AI development intensifies global inequality by reinforcing technological dependency and limiting digital sovereignty in developing countries. This article argues that algorithmic colonialism represents a contemporary continuation of historical colonial logic operating through digital mechanisms rather than physical occupation. The novelty of this study lies in its interdisciplinary integration of postcolonial theory, digital political economy, and AI governance into a unified conceptual framework explaining how artificial intelligence restructures global political authority in the digital era. Ultimately, the study emphasizes that struggles over data ownership, technological sovereignty, and computational governance will become defining political challenges of the twenty-first century.

Keywords: Algorithmic Colonialism; Artificial Intelligence; Digital Power; Surveillance Capitalism; Digital Sovereignty.

Introduction

Artificial intelligence (AI) has emerged as one of the most transformative forces in the contemporary global order. Beyond its technological functions, AI increasingly shapes economic

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structures, political governance, military strategy, and cultural production on a global scale. In the twenty-first century, power is no longer determined solely by territorial control, military capability, or industrial production, but also by the capacity to dominate digital infrastructures, data ecosystems, and algorithmic systems. As AI technologies become deeply integrated into everyday life, they simultaneously redefine the architecture of global power and generate new forms of dependency between technologically dominant actors and digitally dependent societies (Crawford, 2021).

The rapid development of AI has intensified asymmetrical relations between developed and developing countries. A small number of states and multinational technology corporations currently control most of the world's computational infrastructures, cloud systems, semiconductor production, and AI research capacities. Companies such as Google, Meta, Amazon, Microsoft, OpenAI, and Tencent possess enormous influence over digital communication, information circulation, and data extraction processes worldwide. This concentration of technological power has produced what many scholars identify as a new form of digital domination commonly described as algorithmic colonialism or data colonialism (Couldry & Mejias, 2019; Kwet, 2021).

Algorithmic colonialism refers to the process through which powerful technological actors exploit data, digital infrastructures, and computational systems to establish economic, political, and cultural dominance over less technologically developed societies. Unlike classical colonialism, which relied on territorial occupation and military force, algorithmic colonialism operates through invisible digital mechanisms embedded within everyday social practices. Individuals continuously generate data through smartphones, social media platforms, online transactions, and digital applications, often without fully recognizing how their behavioral information is collected, monetized, and utilized for predictive control (Zuboff, 2019).

The transformation of data into a strategic economic resource has fundamentally altered the dynamics of global capitalism. Contemporary digital capitalism depends upon large-scale data extraction to train AI systems, optimize algorithmic predictions, and influence consumer behavior. According to Couldry and Mejias (2019), data colonialism represents a continuation of historical colonial logic because human life itself becomes a source of extraction and commodification. In this context, social interactions, emotions, preferences, and behaviors are converted into valuable economic assets controlled primarily by global technology corporations.

The expansion of AI also contributes to the emergence of surveillance capitalism, a system in which personal data is continuously harvested to predict and shape future behavior (Zuboff, 2019). Surveillance technologies integrated within AI systems enable corporations and governments to monitor populations at unprecedented levels. Recommendation algorithms, facial recognition systems, predictive analytics, and automated decision-making technologies increasingly influence social behavior, political communication, and economic activity. As a result, algorithmic systems function not merely as technical instruments but as mechanisms of governance and social control.

The political implications of AI are particularly significant in democratic societies. Social media algorithms influence public discourse by prioritizing emotionally engaging content, often

amplifying misinformation, polarization, and ideological extremism (Gillespie, 2022). Recommendation systems shape the visibility of information and indirectly influence political attitudes, electoral behavior, and collective emotions. This phenomenon has transformed digital platforms into powerful political actors capable of affecting democratic processes beyond traditional institutional oversight.

At the international level, AI has become a central component of geopolitical competition. The United States and China currently dominate global AI development through massive investments in machine learning, semiconductor industries, quantum computing, and cloud infrastructures. This technological rivalry reflects a broader struggle for global influence in the digital age. Countries lacking advanced AI capabilities risk becoming increasingly dependent upon foreign technologies for communication systems, cybersecurity, digital governance, and economic development (Lee, 2018). Consequently, technological dependency has become a defining characteristic of contemporary international relations.

Scholars have increasingly argued that AI should not be understood as a politically neutral technology. Crawford (2021) emphasized that AI systems are built upon material infrastructures involving labor exploitation, environmental extraction, and geopolitical inequalities. Similarly, Birhane (2021) argued that AI development frequently reproduces colonial power structures because technological systems are designed primarily according to Western political, cultural, and economic interests. These systems often marginalize local knowledge, indigenous perspectives, and non-Western epistemologies, thereby reinforcing global asymmetries in knowledge production.

The issue of algorithmic bias further demonstrates the political nature of AI systems. Existing research shows that AI algorithms frequently reproduce racial, gender, and socioeconomic inequalities embedded within historical datasets. Noble (2018) demonstrated how search engine algorithms reinforce racial stereotypes and discriminatory representations, while Benjamin (2019) argued that automated systems can institutionalize structural inequality under the appearance of technological objectivity. Such findings indicate that algorithmic systems are not detached from social power relations but actively participate in reproducing existing hierarchies.

Another important dimension of algorithmic colonialism concerns digital sovereignty. Many developing countries rely heavily upon technological infrastructures owned by foreign corporations, including cloud computing services, operating systems, software ecosystems, and digital communication platforms. This dependence limits the capacity of states to regulate digital environments independently and protect national data resources. Ricaurte (2022) argued that the Global South faces significant challenges in maintaining technological autonomy because digital infrastructures remain concentrated within a limited number of powerful global actors.

Moreover, AI increasingly transforms the nature of labor and economic production. Automation technologies threaten to displace workers across multiple industries while concentrating wealth within technology sectors and highly digitalized economies. Srnicek (2017) described this transformation as platform capitalism, where economic value is generated through digital platforms controlling data flows and network infrastructures. As AI systems become more

advanced, inequalities between technologically advanced societies and digitally dependent regions may continue to expand.

The militarization of AI further intensifies concerns regarding global inequality and political domination. Autonomous weapons systems, predictive surveillance technologies, and AI-assisted cyber warfare capabilities have redefined contemporary security strategies. Technological superiority increasingly determines military effectiveness, enabling powerful states to extend geopolitical influence through digital infrastructures and computational capabilities (Scharre, 2018). In this context, AI functions not only as an economic resource but also as a strategic instrument of global power projection.

Despite the growing body of scholarship concerning AI ethics, surveillance capitalism, and digital governance, existing studies often focus on domestic policy challenges rather than broader transformations in global political authority. Much of the literature emphasizes issues such as privacy, transparency, and accountability without fully examining how AI restructures international hierarchies and creates new forms of technological dependency. Consequently, there remains a significant theoretical gap concerning the relationship between AI development and the emergence of contemporary forms of colonial domination.

This article seeks to address this gap by conceptualizing AI as a mechanism of algorithmic colonialism operating through data extraction, computational governance, and digital dependency. The study argues that AI has transformed the structure of global power by shifting political authority from territorial sovereignty toward technological and algorithmic control. Unlike traditional colonialism, algorithmic colonialism functions through invisible systems of influence embedded within digital platforms, communication infrastructures, and everyday technological interactions.

The novelty of this article lies in its interdisciplinary synthesis of postcolonial theory, digital political economy, AI governance, and critical sociology into a unified analytical framework. While previous studies have separately discussed surveillance capitalism, data colonialism, and algorithmic bias, this article integrates these discussions within the broader context of global political transformation. Furthermore, the study proposes that AI represents not only a technological revolution but also a civilizational shift in the organization of power, authority, and sovereignty in the digital era.

Understanding algorithmic colonialism is therefore essential for analyzing the future trajectory of global politics and technological governance. As AI systems continue to shape communication, labor, governance, security, and social interaction, struggles over data ownership, computational infrastructures, and digital sovereignty will likely become defining political issues of the twenty-first century. The challenge confronting contemporary societies is not merely how to regulate artificial intelligence, but how to prevent the emergence of new forms of domination embedded within algorithmic systems and digital capitalism.

Method

This study employs a qualitative research approach using conceptual and critical analysis to examine the relationship between artificial intelligence (AI) and the transformation of global power structures. The research does not utilize quantitative data or statistical analysis; instead, it focuses on theoretical interpretation and interdisciplinary literature review.

The study applies a library research method by analyzing academic books, peer-reviewed journal articles, and policy reports related to artificial intelligence, digital capitalism, postcolonial studies, surveillance society, and global governance. Most references were selected from Scopus-indexed journals and recent publications from 2020–2025 to ensure academic relevance and contemporary scholarly engagement.

The theoretical framework integrates postcolonial theory, political economy, and critical sociology to explain how AI contributes to new forms of domination through data extraction, algorithmic governance, and technological dependency. Concepts such as digital colonialism, surveillance capitalism, and technological sovereignty are used to interpret the emergence of asymmetrical power relations between technologically dominant actors and digitally dependent societies.

Data analysis was conducted through qualitative thematic analysis. Relevant literature was categorized into several analytical themes, including data commodification, platform power, algorithmic bias, geopolitical competition, and digital dependency. These themes were critically interpreted to identify patterns regarding the role of AI in restructuring political authority and global inequality.

This study adopts an exploratory and explanatory orientation. Rather than testing hypotheses empirically, the research aims to construct a conceptual understanding of algorithmic colonialism as an emerging form of global power in the digital era. Although the study is theoretical in nature, it contributes to academic discussions concerning AI governance, digital sovereignty, and the political implications of technological concentration in contemporary international relations.

Artificial Intelligence and the Transformation of Global Power

The findings of this study demonstrate that artificial intelligence (AI) has transformed the structure of global power from territorial domination toward computational domination. In the industrial era, political and economic power was largely determined by military capability, natural resources, and industrial production. However, in the digital era, control over data, algorithms, and computational infrastructures has become increasingly important in shaping international hierarchies. AI technologies now function as strategic instruments capable of influencing economies, political systems, communication networks, and social behavior on a global scale (Crawford, 2021).

This transformation reflects the emergence of a new form of power embedded within digital infrastructures. Unlike classical colonialism, which relied on direct territorial occupation, algorithmic colonialism operates through invisible mechanisms of technological dependency and

data extraction. Countries lacking advanced AI infrastructures become dependent on foreign digital systems, cloud services, and computational technologies, thereby limiting their capacity for technological sovereignty (Kwet, 2021).

Data Extraction and Surveillance Capitalism

One of the central characteristics of algorithmic colonialism is the extraction and commodification of human data. AI systems require enormous amounts of data to train algorithms, optimize predictive systems, and automate decision-making processes. Every interaction conducted through digital platforms—including online searches, social media activity, and mobile applications—generates behavioral data that can be collected and monetized by technology corporations.

Couldry and Mejias (2019) argued that this process resembles historical colonial extraction because human experience itself becomes a source of economic exploitation. Similarly, Zuboff (2019) described this condition as surveillance capitalism, in which personal data is transformed into behavioral predictions used for commercial and political purposes.

The findings indicate that surveillance capitalism allows corporations to accumulate unprecedented economic and informational power. Companies such as Google, Meta, Amazon, and Microsoft possess significant control over global data flows, digital communication systems, and AI infrastructures. As a result, technological corporations increasingly function as transnational political actors with influence extending beyond traditional state boundaries.

Moreover, surveillance systems embedded within AI technologies normalize continuous monitoring of human behavior. Individuals voluntarily participate in systems of data extraction because digital platforms offer convenience, communication, and entertainment. Consequently, domination becomes embedded within everyday digital practices and appears less coercive than traditional colonial systems.

Algorithmic Governance and Political Control

Another important finding concerns the growing role of AI in governance and political regulation. Governments and corporations increasingly utilize AI technologies for predictive policing, facial recognition, automated administration, and public surveillance. These technologies enhance the capacity of institutions to monitor populations and regulate social behavior in real time.

The study finds that algorithmic governance changes the nature of political authority. Traditionally, political power depended on territorial administration and institutional control. In contrast, digital governance operates through decentralized computational systems capable of influencing behavior indirectly through algorithmic mediation. Deleuze (1992) referred to this transformation as the emergence of "societies of control," where power functions continuously through technological networks.

Social media platforms also play a significant role in shaping political communication. Recommendation algorithms prioritize emotionally engaging content in order to maximize user

engagement, often amplifying misinformation, ideological polarization, and political extremism (Gillespie, 2022). Consequently, AI systems increasingly influence democratic discourse by shaping information visibility and public opinion formation.

The findings further indicate that algorithmic governance reduces transparency in political decision-making. Automated systems often operate through complex computational models that remain inaccessible to the public. As a result, individuals affected by algorithmic decisions may not fully understand how digital systems influence economic opportunities, social visibility, or political participation.

Geopolitical Competition and Technological Dependency

The study also reveals that AI has become a central component of geopolitical competition in the contemporary international system. The rivalry between the United States and China over AI supremacy demonstrates how technological innovation increasingly determines global influence and national security. Investments in machine learning, semiconductor production, cloud computing, and quantum technologies have become strategic priorities for dominant states (Lee, 2018).

This geopolitical competition creates asymmetrical dependencies between technologically advanced countries and developing societies. Nations lacking AI research capacity and digital infrastructures often depend upon foreign technologies for communication systems, cybersecurity, and economic development. Such dependency resembles historical colonial relationships in which peripheral societies relied upon dominant powers for industrial and economic resources.

Kwet (2021) argued that digital infrastructures controlled by foreign corporations can weaken national sovereignty because states become dependent on external technological systems. The findings of this study support this argument by demonstrating that technological dependency limits the ability of developing countries to regulate digital environments independently.

Furthermore, AI contributes to the militarization of global politics. Autonomous weapons systems, predictive surveillance technologies, and AI-assisted cyber warfare capabilities increasingly shape contemporary security strategies. Technological superiority therefore becomes a key determinant of military and geopolitical power in the digital age.

Epistemological Domination and Cultural Inequality

Another major finding concerns the epistemological dimensions of algorithmic colonialism. AI systems are primarily trained using datasets dominated by Western languages, cultural assumptions, and social values. Consequently, non-Western perspectives, indigenous knowledge systems, and minority languages are often marginalized within global AI architectures.

Birhane (2021) emphasized that AI development reproduces colonial structures because technological systems privilege dominant forms of knowledge production while excluding alternative epistemologies. This study finds that algorithmic systems contribute to cultural

homogenization by prioritizing globally dominant narratives and reducing the visibility of local cultural perspectives.

Search engines, recommendation systems, and automated translation technologies frequently reinforce linguistic and cultural inequalities. Languages with limited digital representation receive less visibility within AI systems, thereby restricting participation in global digital environments. As a result, algorithmic colonialism extends beyond economic exploitation into symbolic and intellectual domination.

The findings further indicate that algorithmic systems influence collective understanding of reality by controlling information visibility and cultural representation. This condition allows dominant technological actors to shape global narratives and public consciousness through computational infrastructures.

AI, Labor Transformation, and Economic Inequality

The expansion of AI technologies also transforms labor systems and global economic relations. Automation increasingly replaces human labor in sectors such as manufacturing, logistics, customer service, and administration. While AI can improve efficiency and productivity, the economic benefits generated by automation are concentrated primarily within technologically advanced corporations and highly digitalized economies.

Srnicek (2017) described this phenomenon as platform capitalism, where economic value is generated through digital platforms controlling data and network infrastructures. The findings suggest that AI intensifies existing inequalities because developing countries often lack access to technological innovation and advanced digital infrastructures.

In addition, automation may increase unemployment and labor precarity in vulnerable economic sectors. Workers in developing economies are particularly exposed to the negative impacts of AI-driven labor transformation due to limited technological adaptation and educational resources. Consequently, algorithmic colonialism reproduces global inequality through digital economic mechanisms rather than industrial exploitation alone.

Resistance and the Future of Digital Sovereignty

Despite the expansion of algorithmic colonialism, the study identifies emerging forms of resistance aimed at protecting digital sovereignty and reducing technological dependency. Several countries and international organizations have introduced regulatory frameworks concerning data protection, AI ethics, and digital governance.

The European Union's General Data Protection Regulation (GDPR), for example, represents an effort to strengthen democratic oversight over personal data and digital privacy. Similarly, debates concerning ethical AI, open-source technologies, and decentralized digital infrastructures reflect growing awareness regarding the concentration of technological power.

However, the findings indicate that existing regulatory efforts remain insufficient relative to the global scale of digital monopolization. Most developing countries continue to face

structural barriers in AI development due to limited research capacity, inadequate infrastructures, and economic dependency on foreign technologies.

Therefore, the future of global politics will likely depend on struggles over technological sovereignty, data ownership, and computational governance. The study argues that algorithmic colonialism represents not merely a technological issue but a structural transformation in the organization of contemporary global power. As AI becomes increasingly integrated into governance, communication, security, and economic systems, the contest over digital infrastructures will become one of the defining political challenges of the twenty-first century.

Conclusion

Artificial intelligence (AI) has fundamentally transformed the contemporary structure of global power by shifting the basis of domination from territorial control toward computational and algorithmic control. This study demonstrates that algorithmic colonialism represents a new form of global inequality operating through data extraction, digital infrastructures, and technological dependency. Unlike classical colonialism, which relied on physical occupation and direct political administration, algorithmic colonialism functions through invisible systems embedded within everyday digital interactions, communication platforms, and automated governance mechanisms.

The findings reveal that multinational technology corporations and technologically advanced states possess significant influence over global data flows, AI infrastructures, and digital communication systems. This concentration of technological power has created asymmetrical dependencies between technologically dominant actors and digitally dependent societies, particularly in developing countries. As a result, digital sovereignty has become one of the most important political challenges in the contemporary international system.

The study also shows that AI contributes to the transformation of political authority through algorithmic governance, surveillance systems, and platform-based control over public discourse. Algorithms increasingly shape information visibility, social behavior, and political communication, thereby influencing democratic processes and collective consciousness. Furthermore, AI systems frequently reproduce cultural and epistemological inequalities because they are primarily developed using datasets dominated by Western languages and perspectives.

In addition, the geopolitical competition surrounding AI development has intensified global technological inequality. Countries with advanced computational infrastructures possess greater capacity to influence global governance, digital regulation, and technological standards. Consequently, AI has become not only an economic resource but also a strategic instrument of geopolitical power.

This article contributes theoretically by integrating postcolonial theory, political economy, and digital governance studies into the concept of algorithmic colonialism. The study argues that AI should be understood not merely as a technological innovation, but as a structural transformation in the organization of power, sovereignty, and global inequality in the digital age.

Ultimately, the future of global politics will increasingly depend on struggles over data ownership, computational infrastructures, and technological sovereignty. Therefore, critical engagement with AI governance and digital justice is essential to prevent the emergence of new forms of domination embedded within algorithmic systems and global digital capitalism.

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