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THE METAMORPHOSIS OF CAPITAL: ALGORITHMIC POWER, MORAL ECONOMIES, AND THE FUTURE OF HUMAN VALUE

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Abstract

Capitalism in the 21st century is being reshaped fundamentally by the rapid integration of algorithmic technologies, which now mediate not only economic production but also social interactions and moral valuation systems. These technologies, particularly generative artificial intelligence (AI), have catalyzed the emergence of what scholars' term "algorithmic capitalism," a novel phase in the ongoing metamorphosis of capital. Unlike previous capitalist phases centered predominantly on physical labor and material production, this new form reframes value creation through digital abstractions, automated decision-making, and large-scale data processing (Egan, 2024). At the core of this transformation is the redefinition of labor itself. Traditional human labor—once the essential source of surplus value in Marxist theory—has increasingly transitioned into activities that facilitate and train algorithms rather than directly produce commodities. Human creativity, knowledge, and expertise become inputs for algorithmic systems, which then autonomously generate outputs that command economic value in markets. This shift detaches value from tangible labor processes and embeds it within complex data ecosystems and computational operations, challenging classical economic theories about the source of value (Egan, 2024).

Moreover, algorithmic capitalism reorganizes social relations on multiple levels. As algorithms govern information dissemination, consumption patterns, credit scoring, employment opportunities, and even social standing, they wield immense power over individual and collective life chances. The opacity and complexity of algorithmic decision-making create new dimensions of social

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inequality and power asymmetries, often reproducing and amplifying existing biases under the guise of neutral data processing (Noble, 2018). This mechanization of social control extends capitalist domination into the realm of moral economies, where ethical judgments about worth, dignity, and justice are increasingly quantified and codified by algorithmic metrics. The moral economies under algorithmic capitalism are also deeply influenced by the commodification of personal data. The extraction, aggregation, and monetization of human behavioral, biometric, and social data have become key drivers of capital accumulation. Companies transform intimate aspects of human life into data points that, when algorithmically processed, generate financial returns and market power. This commodification process raises urgent ethical questions about consent, autonomy, and the social responsibilities of tech corporations, highlighting tensions between individual rights and capital interests (Zuboff, 2019).

Furthermore, the evolving algorithmic infrastructures introduce novel challenges to democratic governance and social justice. The concentration of algorithmic expertise and data ownership in a handful of transnational corporations consolidates economic and political power, limiting transparency and accountability. This consolidation undermines public oversight and fuels authoritarian tendencies as digital platforms become sites for surveillance, misinformation, and political manipulation (Couldry & Mejias, 2019). Consequently, the valuation of human beings and their social contributions become increasingly mediated by proprietary algorithms, weakening collective agency and eroding inclusive democratic participation.

Algorithmic Capitalism and the Reification of Labour

At the heart of contemporary capitalism's transformation is the rise of algorithmic capitalism, whereby machine learning models and data-driven algorithms become central to value creation. As Egan (2024) explains, generative AI does not merely automate labor but reifies it by subsuming knowledge, creativity, and specialized skills into algorithmically generated outputs. This process detaches value from direct human labor and embeds it in the training data and statistical operations that reproduce and recombine pre-

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existing knowledge in novel forms. The 'dead labor' embedded within algorithms becomes capital with self-valorizing capacities, creating a hyperreal commodity relation wherein reality itself is superseded by simulations (Egan, 2024). This transformation parallels Marx and Lukács' concept of commodity fetishism and the structure of reification, deepening the alienation of labor from its social roots. Human labor is increasingly reduced to an act of supervision and data provision, while algorithmic infrastructures wield hegemonic power over information flows, meanings, and economic outputs. The substitution of human judgment with probabilistic models fosters a semiotic economy where meaning is abstracted and reified as part of capitalist commodity relations rather than reflecting authentic social relations (Egan, 2024). Contemporary capitalism is undergoing a profound transformation through the rise of algorithmic capitalism, a system in which machine learning models and data-driven algorithms have become central agents of value creation. Unlike traditional capitalism, where value emerged primarily from direct human labor and physical production, algorithmic capitalism reifies labor by subsuming human knowledge, creativity, and specialized skills into algorithmically generated outputs (Egan, 2024). This crucial shift detaches economic value from the immediate efforts of workers and embeds it instead in the vast datasets and statistical operations that algorithms use to reproduce, recombine, and simulate pre-existing knowledge in novel ways. The 'dead labor'—to use Marxist terminology—embedded within algorithms attains a form of capital that possesses self-valorizing capacities. In other words, algorithms not only represent accumulated labor but also generate value autonomously, creating hyperreal commodity relations whereby reality is superseded by simulations and digital constructs. This dynamic transforms the material basis of capitalism into a semiotic and data-driven economy, deeply intertwining production with representation and abstraction (Egan, 2024). This transformation evokes parallels to Marx and Lukács' concepts of commodity fetishism and reification. As labor becomes increasingly mediated by algorithms, the social roots of human labor experience deepened alienation. The worker's role is diminished to that of a supervisor or data provider, ceding direct control over production processes to algorithmic infrastructures that wield hegemonic power over information flows, meanings, and economic outcomes.

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This mediation effectively substitutes human judgment with probabilistic models, which operate within a semiotic economy where meaning itself is abstracted, commodified, and reified as part of capitalist exchange rather than reflecting genuine social relations (Egan, 2024).

Moreover, algorithmic capitalism extends mass commodification into the domain of knowledge and social life by transforming data into a primary resource for valorization. This process relies on "datafication"—the conversion of social actions, behaviors, and interactions into quantifiable data points—which algorithms then analyze and exploit to optimize efficiency, forecast behaviors, and generate profits. The algorithm's role as an active agent rather than a passive tool reshapes the economic landscape, enabling new forms of power concentration and social control embedded in technological infrastructures (Fashion Sustainability Directory, 2025). By orchestrating consumption patterns, labor dynamics, and even governance mechanisms, algorithmic capitalism restructures entire moral economies. It redefines human value in increasingly abstract terms, anchored not in embodied labor or social relations but in data-driven representations and algorithmic judgments. The opacity of these systems further entrenches power asymmetries, reducing transparency and democratic accountability, while rendering social inequality deeper and less immediately contestable (Noble, 2018; Zuboff, 2019).

Moral Economies and Algorithmic Power

The metamorphosis of capital through algorithms also reshapes moral economies—the frameworks through which societies value human effort, dignity, autonomy, and social relations. Blunden (2025) emphasizes that capitalism's productive forces have deeply influenced political, social, aesthetic, and moral life, in ways that are intensifying under new forms of digital and algorithmic private property. The consolidation of algorithmic control by corporate elites centralizes power over communication, labor organization, and social reproduction. Consequently, moral economies governed by participatory social ethics confront unprecedented challenges from tech-enabled capital monopolies that prioritize profit extraction and data commodification. Algorithmic capitalism erodes traditional moral economies based on labor's

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social value by transitioning to metrics driven by data exploitation and artificial intelligence outputs. This erasure of human-centered value systems demands critical scholarship and activism to reimagine human worth beyond algorithmically-mediated capitalist logic. The metamorphosis of capital through algorithms fundamentally reshapes moral economies—the socially constructed frameworks through which societies attribute value to human effort, dignity, autonomy, and social relations. As Blunden (2025) highlights, capitalism's productive forces have long influenced political, social, aesthetic, and moral life; however, this influence is intensifying as new forms of digital and algorithmic private property consolidate power in unprecedented ways. Corporate elites increasingly control algorithmic infrastructures that govern communication channels, labor organization, and social reproduction, centralizing authority within a few powerful tech monopolies. This concentration of control disrupts traditional moral economies based on participatory social ethics and collective norms, replacing them with profit-maximizing, data-driven logics that commodify human life and social interactions. Algorithmic capitalism undermines established moral economies centered around labor's social and intrinsic value by shifting the basis of worth to metrics derived from data extraction and artificial intelligence outputs. This evolution entails a profound erasure of human-centered value systems, demanding new critical scholarship and activist frameworks to reimagine human dignity beyond the algorithmically mediated capitalist paradigm. The process of "datafication"—transforming human behaviors, relationships, and social activities into quantifiable data—serves as a foundation for this new moral economy, where human actions are reduced to inputs for algorithmic analysis, optimization, and monetization (Fashion Sustainability Directory, 2025). In turn, this commodification of the social fabric challenges long-held principles of fairness, autonomy, and mutual recognition that underpinned earlier moral economies. The moral economies structured by algorithmic capitalism also give rise to new forms of social stratification and exclusion. Algorithms deployed within labor markets, credit systems, social media, and surveillance platforms embed latent biases that systematically disadvantage marginalized populations, intensifying existing inequalities under the veil of seemingly neutral computation (Noble, 2018).

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Moreover, the opacity and proprietary nature of these algorithmic systems make ethical evaluation and democratic oversight difficult, aggravating power imbalances and reducing citizens' ability to contest or renegotiate the terms of social value. The consolidation of algorithmic control enables tech monopolies to prioritize short-term profit extraction and data commodification above social well-being, enabling new forms of capitalist accumulation that extend into intimate realms of human life and social reproduction. As such, moral economies governed by participatory social ethics confront unprecedented challenges from insidious technologies that commodify everyday life and restructure social relations around surveillance, behavioral prediction, and manipulation (Blunden, 2025). This represents not merely an economic shift but a profound moral and political crisis, as societies struggle to retain human-centric values and democratic agency in an era dominated by algorithmic rule. To address this crisis, scholars argue for the urgent development of alternative moral economies that foreground solidarity, justice, and democratic accountability in digital and algorithmic governance. These approaches advocate for transparent algorithmic design, participatory data governance, and regulation aimed at safeguarding human rights and dignity. Activism and critical scholarship increasingly call for reimagining the social purpose of technology, moving from extractive and exploitative models toward frameworks that prioritize social goods, ecological stewardship, and emancipatory potentials (Egan, 2024; Fashion Sustainability Directory, 2025).

The Future of Human Value

The shifting landscape challenges foundational Marxist and political economy concepts of value centered on human labor and social relations. Scholars like Piketty (2014) and Nitzan (2009) have extended these reflections by emphasizing capital's evolving role in reproducing social orders and power structures. The decoupling of value creation from embodied human labor risks exacerbating inequalities and eroding democratic control. New moral economies must foreground relational, ecological, and social dimensions of human value to counteract algorithmic capitalism's reductionist logics. Alternative visions involve democratizing data governance, fostering cooperative digital

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infrastructures, and embedding human dignity in technological development processes (Han, 2022). The shifting landscape of capitalism driven by algorithmic technologies poses critical challenges to foundational Marxist and political economy concepts of value that center on human labor and social relations. Traditional theories, such as those articulated by Karl Marx, view value primarily as a product of embodied human labor within social relations of production. However, as algorithmic capitalism evolves, value creation increasingly decouples from direct, embodied labor and instead roots itself in data, algorithms, and automated processes, leading to complex transformations in social and power dynamics. Scholars like Thomas Piketty (2014) have extended these reflections by emphasizing the evolving role of capital not just as an economic factor but as a mechanism that reproduces and consolidates social orders and power structures. Piketty's fundamental insight—that the rate of return on capital (r) tends to exceed the economic growth rate (g)—implies a structural tendency toward increasing wealth concentration and inequality, threatening democratic values reliant on fair income and wealth distribution. This relationship, expressed as $r > g$, underscores how inherited and accumulated capital grows faster than society's productive capacity and labor income, thereby decoupling economic value from meritocratic achievement and embodied human work. Such dynamics risk exacerbating social stratification and undermining democratic control, as economic power increasingly translates into political and ideological dominance that shapes policy and governance frameworks. Jonathan Nitzan and Shimshon Bichler (2009) complement and deepen this analysis by conceptualizing capital itself as a form of power rather than merely a resource or factor of production. Their framework emphasizes that capitalism is a regime of control where capital serves as a symbolic financial entity that sustains and reorders social hierarchies. The process of capitalization is understood as a ritualistic and generative order that continuously reshapes economic and political realities, creating a recursive feedback loop where power is accumulated and reasserted through financial metrics detached from productive labor or social utility. This perspective explains how algorithmic

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capitalism's abstraction from embodied labor amplifies existing inequalities by embedding social relations within numerical and algorithmic valorizations that resist traditional forms of democratic accountability. In response to these challenges, emerging moral economies must foreground relational, ecological, and social dimensions of human value in ways that counteract the reductionist logics of algorithmic capitalism. These alternative visions emphasize democratizing data governance structures, promoting cooperative digital infrastructures, and embedding human dignity at the core of technological development and deployment. According to Han (2022), this involves reconfiguring digital capitalism toward distributive justice by ensuring that data and algorithmic power are governed by collective, participatory mechanisms rather than private monopolies. Such frameworks recognize the interconnectedness of economic, social, and environmental well-being, advocating for a pluriverse approach to value that transcends purely financial or computational criteria. Fundamentally, these emerging moral economies seek to reclaim the social embeddedness of value production and reintegrate ethical considerations into the mechanisms that govern capital accumulation. They highlight the necessity for interdisciplinary approaches that combine political economy, ethics, and technology studies to foster systems that align economic activity with democratic governance, social justice, and ecological sustainability. This includes advocating for transparent algorithmic accountability, participatory data ownership, and policies designed to mitigate the exploitative tendencies of platform and algorithmic monopolies.

Conclusion

The metamorphosis of capital through algorithmic power marks a momentous shift in moral economies and the valuation of human labor within capitalist societies. Algorithmic capitalism transcends simple automation by fundamentally restructuring how meaning and human value are semiotically reified and commodified in economic, social, and political spheres. This transformation entails a move from labor-centered moral economies—where human effort, dignity, and reciprocity were core values—

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to ones dominated by data extraction, predictive algorithms, and platform logics that prioritize profit maximization and control over populations (Marxist Sociology, 2024; Fashion Sustainability Directory, 2025). At the core, algorithmic capitalism integrates massive datafication, algorithmic automation, platformization, and predictive analytics, which collectively reshape social relations and economic processes. Datafication transforms human actions, behaviors, and social conditions into quantifiable data points, feeding algorithm-driven systems that optimize economic exchanges but also commodify personal and social life (Fashion Sustainability Directory, 2025). This creates moral economies where human value is increasingly measured by metrics derived from algorithmic outputs rather than social or ethical considerations. The consolidation of algorithmic control by corporate tech monopolies centralizes power over communication, labor dynamics, and social reproduction, often to the detriment of participatory social ethics. The opacity of these algorithmic systems and the proprietary nature of data infrastructures undermine transparency and democratic accountability, entrenching new forms of social stratification and exclusion. Marginalized groups encounter algorithmic biases that legitimize unequal outcomes under the guise of ostensibly neutral computation, further challenging traditional moral frameworks of fairness and justice (Kear, 2022; Noble, 2018).

Moreover, the moral economy of algorithmic capitalism is characterized by competing value claims. Platforms promote market-driven moral logics that justify data extraction and monetization as fair and efficient, while users and civil society strive to assert alternative ethics emphasizing data privacy, autonomy, and equitable distribution of digital wealth (Thompson, 2023). These conflicting moral economies reveal the contested nature of human agency within algorithmically mediated capitalism, whereby individuals become both subjects of data extraction and potential actors of resistance through self-care practices and collective mobilizations. Addressing these profound moral and socio-economic transformations requires innovative theoretical frameworks and policy approaches that foreground human autonomy, social justice, and democratic governance in the digital age. Scholars emphasize the necessity of democratizing data governance, fostering cooperative digital

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infrastructures, and embedding principles of human dignity and ecological sustainability in technological development. Promoting transparency, inclusivity, and participatory oversight mechanisms for algorithmic systems is critical to rebuilding moral economies that value relational and social dimensions of human worth beyond reductive economic metrics (Marxist Sociology, 2024; Egan, 2024; Fashion Sustainability Directory, 2025).

In conclusion, the metamorphosis of capital through algorithmic power is not merely a technological shift but a radical transformation of moral economies governing human value, labor, and social relations. Responding effectively to these challenges demands deep theoretical inquiry and committed policy innovation to ensure that digital capitalism serves inclusive democratic ends rather than exacerbates inequalities and erodes human dignity.

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