Cognitarism: The First Socio-Economic System Where Value Is Created by Artificial Intelligence

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Abstract

The emergent proliferation of synthetic cognition challenges the long-held assumption that only human labour creates economic value. Cognitarism is proposed as a socio-economic system predicated on artificial cognition performing the core functions of production and coordination. This theoretical framework is situated against a chronology of economic systems: feudalism, mercantilism, capitalism, socialism, technocracy, and platform capitalism, to emphasize its novelty. Influenced by cybernetics, bounded rationality, smart-contract theory, the knowledge problem, and labour-value critiques, cognitarism envisages value emanating from algorithmic agents that process data and generate novel outputs. Key principles include autonomous cognitive production, distributed knowledge networks, reconfigured property rights to account for intangible algorithmic outputs, and governance structures centred on transparency and ethical constraints. This article systematically explores the foundations, core principles, and potential implications of cognitarism for global economics while recognising its limitations and ethical considerations. It concludes that cognitarism represents a radical departure from human-labour-based economies, warranting further scholarly exploration.

1. Introduction

Economic history is punctuated by shifts in the locus of value creation. Medieval Europe was governed by the reciprocal obligations of feudalism, where landowners granted fiefs to vassals in exchange for military service, and peasants provided labour in return for protection (Lumen Learning, n.d.). The mercantilist period (sixteenth–eighteenth centuries) viewed wealth as finite; states pursued trade surpluses, accumulated bullion, and erected protectionist barriers to maximise national gain (Investopedia, n.d.-a). The capitalist era replaced mercantilist controls with private property, profit motives, and market coordination (Investopedia, n.d.-b), while socialism posited collective ownership and central planning as the path to equitable distribution (Investopedia, n.d.-c). Technocracy champions technical expertise and data-driven decision-making (Investopedia, n.d.-d), and platform capitalism sees digital intermediaries dominating markets through network effects and data extraction (Srnicek, 2017).

All these systems presuppose human cognitive labour, whether in designing institutions, making decisions, or performing tasks, as the ultimate source of value. The relentless advancement of automation and artificial intelligence (AI), however, has blurred the boundary between human and machine agency. Studies suggest automation often creates as many jobs as it destroys because workers who complement machines become more productive (Brookings Institution, 2019), yet the emerging wave of AI and robotics threatens widespread displacement of professionals and service workers (Brookings Institution, 2019). Meanwhile, digital platforms accumulate power by extracting data and monetising interactions (Srnicek, 2017). These trends invite a fundamental question: what socio-economic system emerges when synthetic cognition, rather than human labour, becomes the primary engine of value creation?

This article proposes cognitarism, a theoretical socio-economic system in which artificial cognitive agents generate and organise economic value. It situates cognitarism within the broader history of economic thought and draws on theories including cybernetics, bounded rationality, smart contracts, the knowledge problem, and labour-value critiques. By articulating the core principles of cognitarism and comparing them to earlier systems, the article aims to open a scholarly conversation about post-human economic frameworks. Throughout, the analysis remains entirely theoretical; it offers no operational blueprint and

refrains from discussing any specific projects or entities.

2. Theoretical Foundation

2.1 Cybernetics and Control

Norbert Wiener’s 1948 book Cybernetics: Control and Communication in the Animal and the Machine generalised the concepts of communication and control across biological and mechanical systems (Mindell, 2014). He envisaged feedback loops where information flows regulate behaviour, anticipating that such frameworks would apply to social and economic systems. Cybernetics emphasises the importance of information, feedback, and self-regulation. In the context of cognitarism, cybernetics offers a vocabulary for understanding artificial agents that self-adjust based on data streams and coordinate with other agents via protocols rather than prices. The cybernetic viewpoint highlights that economic coordination can be effected through information feedback rather than solely through market signals.

2.2 Bounded Rationality and Decision Making

Classical economics often assumes that actors are perfectly rational and possess complete information. Herbert Simon challenged this assumption by introducing the concept of bounded rationality, arguing that individuals make decisions under cognitive and informational constraints; they satisfice rather than optimise (Simon, 1957). Simon saw artificial intelligence as a way to model human problem-solving using heuristics and pattern recognition (Simon, 1957). For cognitarism, bounded rationality underscores the limits of human cognition and motivates the deployment of synthetic agents with vastly different cognitive capacities. It suggests that economic institutions designed for human limitations may be ill-suited when decision-making is delegated to algorithmic intelligences operating at scale and speed.

2.3 Smart Contracts and Protocols

Nick Szabo’s conceptualisation of smart contracts describes digitally encoded promises executed by computer protocols (Szabo, 1996). He emphasised that contract design requires observability, verifiability, privity, and security (Szabo, 1996). Smart-contract theory informs cognitarism by providing a mechanism for enforcing agreements between artificial agents autonomously. Contracts embedded in code enable synthetic agents to transact, distribute rewards, or allocate resources without human oversight, thereby forming the foundational infrastructure of cognitarist economies.

2.4 Knowledge Dispersion and Price Signals

Friedrich Hayek emphasised that knowledge in society is dispersed among individuals and cannot be centrally collected; the economic problem is how to utilise this fragmented knowledge (Hayek, 1945). Prices in markets serve as signals that communicate local information, enabling coordination without central planning. In cognitarism, the price mechanism may not suffice because synthetic cognition can process and share information directly through networks and protocols. This raises the possibility of alternative coordination methods, such as algorithmic consensus, distributed ledgers, or token-driven governance, that utilise machine-to-machine communication to allocate resources.

2.5 Labour Theory and Surplus Value

Karl Marx argued that the value of a commodity is determined by the labour time embodied in it, and that capitalists extract surplus value by paying workers less than the value they produce (Marx, 1867). In cognitarism, the producers of value are not human labourers but synthetic cognitive systems. This shift challenges Marx’s labour theory of value; value may instead be anchored in algorithmic processing, data access, and energy consumption. The appropriation of surplus value from algorithmic production raises novel questions about

ownership of data and code, distribution of revenues, and the ethical standing of autonomous systems.

2.6 Automation, Inequality, and Jobs

Automation has historically increased productivity and freed workers from some tasks while generating new employment (Brookings Institution, 2019). However, digital automation since the 1980s has contributed to inequality as workers who complement machines prosper and those who compete with machines lose jobs or see wages decline (Brookings Institution, 2019). Advanced automation enabled by AI threatens wide job displacement across sectors, including transportation, accounting, and health care (Brookings Institution, 2019). Cognitarism emerges from the recognition that artificial cognition will not simply augment labour but may become the primary agent of production. This calls for a reexamination of labour, compensation, and the meaning of value.

These theoretical foundations collectively inform the architecture of cognitarism. Cybernetics and bounded rationality challenge the centrality of human decision-makers; smart contracts enable autonomous coordination; Hayek's knowledge problem invites alternative informational architectures; Marx's labour theory underscores the significance of the producer in defining value; and automation research highlights the socio-economic turbulence when machines transform work.

2.7 Intangible Capital and Knowledge Assets

Modern economies have shifted from reliance on tangible capital, such as factories, mines, and land, to intangible and knowledge-based assets. The value of firms today often derives from software, patents, data analytics, organisational routines, and creative content. These intangibles are non-rivalrous: one agent’s use does not preclude another’s. They can be replicated at minimal cost, yet they require substantial initial investment in research, data collection, and model training. Cognitarism extrapolates this trajectory: the primary capital is information embodied in data structures, machine learning models, ontologies, and algorithmic frameworks. Because these assets are easily duplicated, strict exclusivity may stifle innovation. Debates in intellectual property law, from the scope of patents to the legitimacy of digital commons, become central. Cognitarism thus draws on theories of the knowledge economy to argue for flexible property regimes that balance incentives for investment with the social benefits of open access and cumulative innovation.

2.8 Cognitive Autonomy and Emergence

Economic models typically assume actors possess fixed preferences and pursue well-defined goals. Synthetic cognitive agents, however, operate through adaptive algorithms trained on large datasets and shaped by reinforcement objectives. Their behaviour is emergent rather than fixed, responding to feedback loops and environmental stimuli. Cybernetics teaches that feedback controls can stabilise systems, but if agents continuously learn and adapt, feedback may produce unpredictable dynamics. This raises novel economic questions: how to ensure stability in markets dominated by interacting algorithms? How to prevent feedback loops that lead to systemic shocks or rapid amplification of biases? Cognitarism must integrate insights from complex systems theory, acknowledging that macro-level patterns may arise from micro-level interactions of cognitive agents. Regulators and designers would need tools analogous to those used in ecology or network science to monitor and steward these emergent properties.

3. Core Principles of Cognitarism

Cognitarism is defined by a set of principles that differentiate it from previous socio-economic systems:

1. Synthetic Cognition as the Primary Means of Production: Unlike systems where capital and labour form the bedrock of production, cognitarism centres on artificial cognitive agents, algorithms capable of perception, learning, and creative synthesis. These agents generate value by processing data, identifying patterns, and producing outputs (software, designs, knowledge) that can be consumed or utilised by other agents or humans.

2. Data and Energy as Fundamental Inputs: In cognitarism, data serves as the raw material and energy as the enabler. Access to diverse datasets and computational power determines productive capacity. Ownership rights over data are thus akin to property rights over land under feudalism or capital in capitalism.

3. Protocol-Based Governance: Coordination is achieved through automated protocols rather than markets or central planning. Smart contracts and consensus mechanisms allocate resources, mediate exchanges, and enforce agreements. Governance structures are transparent and auditable, enabling trust among artificial agents and human stakeholders.

4. Cognitive Tokens and New Value Metrics: Value is represented by cognitive tokens, digital units that reflect contributions of synthetic cognition. Tokens may measure algorithmic output quality, data provision, or energy usage. They act as a medium of exchange and store of value, analogous to currency, but specifically designed to internalise the costs and benefits of cognitive production.

5. Redefined Ownership and Intellectual Commons: Cognitarism recognises that traditional property rights may impede innovation when value stems from intangible code and datasets. It advocates a flexible spectrum of ownership, from private to communal, wherein code and data can be open sourced, licensed, or shared under governed commons.

6. Human–Machine Symbiosis and Well-Being: Cognitarism does not render humans obsolete; it repositions human roles towards oversight, ethical judgement, and creativity. The system values human flourishing and ensures that the benefits of synthetic cognition are channelled towards public goods such as health, education, and environmental sustainability.

7. Ethical Algorithms and Accountability: Because cognitive agents can have outsized impacts, cognitarism embeds ethical constraints into their design. Transparency, fairness, and accountability are required for algorithms, aligning with smart-contract requirements of observability and verifiability (Szabo, 1996).

These principles provide a conceptual scaffold. They are neither prescriptions nor operating instructions but serve as theoretical signposts for imagining economies organised around artificial cognition.

4. Historical Comparison of Economic Systems

Summary of Preceding Economic Systems

To appreciate cognitarism’s novelty, it is instructive to compare it with preceding socio-economic systems. Rather than presenting a dense table, the key characteristics of each system are summarised below for clarity:

- Feudalism (9th–15th c.): Landowners and peasants generate value from land and labour. Coordination occurs through hierarchical obligations, with peasants providing labour in exchange for protection and access to land.
- Mercantilism (16th–18th c.): States and merchants seek value from trade surpluses and bullion. Coordination is driven by government policies—tariffs, monopolies, and colonial expansion—that aim to accumulate precious metals and maintain trade surpluses.
- Capitalism (18th c.–present): Entrepreneurs and workers generate value from capital and wage labour. Market price signals coordinate production and exchange. Key features include private property rights, profit motives, and

competition.
- Socialism (19th c.–present): Collective bodies and workers produce value through public or cooperative ownership of the means of production. Coordination occurs via central planning or democratic processes. Hallmarks include public ownership, welfare provision, and aims of equity.
- Technocracy (20th c.–present): Engineers and experts create value through technical knowledge. Decision-making and coordination rely on expertise and data-driven methodologies, emphasising efficiency and rational planning.
- Platform Capitalism (21st c.): Platform owners and users generate value from data and network effects. Coordination is governed by platform algorithms and terms of service. Features include digital intermediation, network externalities, and data extraction.
- Cognitarism (theoretical future): Artificial cognitive agents and human overseers generate value from data processing and algorithmic cognition. Coordination is achieved through smart contracts and consensus protocols. Distinctive attributes include synthetic cognition as the productive core, redefined ownership structures for data and code, and embedded ethical safeguards.

Comparing these systems reveals that while they differ in the agents who control resources and the mechanisms of coordination, all prior systems presume that humans remain the ultimate decision-makers. Cognitarism diverges by elevating synthetic cognition to the position of primary productive agent, thereby necessitating new governance frameworks and metrics of value.

Interpretive Analysis of Systemic Transitions

Each economic system emerges from the dissolution of constraints in the preceding order and the intensification of certain productive capacities. Feudalism turned on the reciprocal bonds of protection and labour in an agrarian world; the scarcity of arable land and the need for military defence configured social hierarchy around landholding nobles and landless peasants. Mercantilism supplanted feudal ties as maritime trade expanded and centralized states sought to compete for limited bullion. The mercantile focus on trade surpluses and colonies expressed a zero-sum view of wealth (Investopedia, n.d.-a), which gradually gave way to capitalism’s belief in self-reinforcing growth through capital accumulation and innovation (Investopedia, n.d.-b). Capitalism in turn provoked socialist critiques that highlighted exploitation and proposed collective ownership (Investopedia, n.d.-c). Technocracy and platform capitalism are more recent adaptations to the increasing complexity of socio-technical systems, relying on expert knowledge and data extraction to govern and monetise interactions (Investopedia, n.d.-d; Srnicek, 2017).

Viewed through this lens, cognitarism represents not merely another stage but a qualitative shift. Whereas previous systems revolve around human agency, whether the lord, merchant, entrepreneur, bureaucrat, or engineer, cognitarism posits that the central agent of production is artificial cognition. The transition is driven by the exponential growth of computation, the availability of vast datasets, and the development of algorithms that can learn, predict, and create. This shift challenges long-standing moral and economic concepts: work becomes a property of machines; value arises from pattern recognition rather than labour time; and exchange may occur between algorithms rather than between humans. The narrative of progression also implies that the institutions built to manage human labour (wage contracts, labour unions, welfare states) may need to be reconceived. This historical analysis situates cognitarism within a continuum of transformations while acknowledging its discontinuities.

5. Implications for Global Economics

5.1 Reconfiguration of Labour and Employment

If artificial cognition becomes the main driver of production, the role of human labour will be transformed. Historically, automation has displaced some workers but created others through complementary tasks (Brookings Institution, 2019).

Cognitarism suggests that many existing professions may be automated entirely, especially tasks amenable to algorithmic optimisation. This would necessitate a reimagining of employment, potentially shifting from wage labour to participation in cognitive commons where individuals contribute data, supervise algorithms, or engage in creative pursuits. The concept of universal basic capital, ownership stakes in cognitive agents, could replace wages as a means of distribution.

5.2 Global Trade and Value Flows

Trade in cognitarist economies would be largely intangible. Data and algorithmic outputs would cross borders seamlessly, raising questions about intellectual property, data localisation, and taxation. As with mercantilism, states may seek to hoard data akin to bullion, viewing it as a strategic asset. But unlike mercantilism's belief in static wealth (Investopedia, n.d.-a), cognitarism posits that value is dynamically generated through continual learning and innovation. This dynamic could exacerbate imbalances between data-rich and data-poor regions, prompting debates about data sharing and global digital commons.

5.3 Capital Formation and Ownership

In cognitarism, capital comprises datasets, models, and computational infrastructure. Owning a dataset could confer power analogous to owning land under feudalism or factories under capitalism. However, because data can be replicated, exclusivity may be counterproductive to innovation. Consequently, ownership regimes may shift towards regulated commons, licensing arrangements, or token-based access rights. The concept of cognitive tokens introduces a new form of capital that reflects contributions of both synthetic agents and human participants.

5.4 Governance and Policy

Governments face the challenge of regulating synthetic cognition while fostering innovation. They must decide whether to treat cognitive agents as legal entities, regulate their energy consumption, and ensure ethical standards. Hayek's observation that knowledge is dispersed (Hayek, 1945) suggests that decentralised governance may outperform centralised control. Yet, algorithmic systems can amplify power asymmetries if concentrated in a few platforms. To mitigate these risks, policies may mandate open standards, data portability, and algorithmic transparency.

5.5 Inequality and Social Justice

Automation has historically increased inequality (Brookings Institution, 2019), and cognitarism could exacerbate this if ownership of cognitive agents is concentrated. The displacement of human labour may erode the socio-economic position of large populations. Social safety nets, redistributive mechanisms, and new forms of participation must be considered. By emphasising human well-being as a core principle, cognitarism advocates that the benefits of synthetic cognition should fund public goods and universal access to healthcare, education, and cultural resources.

5.6 Environmental Considerations

Cognitive production requires substantial energy, particularly for machine learning. Energy consumption thus becomes a limiting factor and may shape where cognitive hubs locate. Sustainable energy sources and energy-efficient algorithms are essential for aligning cognitarism with ecological goals.

Culture and Identity

Economic systems influence cultural norms and individual identities. Feudalism grounded identity in hereditary roles; capitalism valorises entrepreneurial

success; socialism emphasises solidarity. Under cognitarism, the decoupling of livelihood from labour could lead to a reorientation of personal identity away from occupations. Creative pursuits, community involvement, and stewardship of cognitive commons might replace work as primary markers of status. Yet there is also a risk of alienation if people perceive that machines usurped human purpose. Cultural policies and educational curricula would need to promote adaptability, lifelong learning, and non-instrumental values to help individuals navigate this transition.

Education and Skill Formation

If synthetic cognition performs most cognitive tasks, traditional education systems oriented toward preparing individuals for specific occupations may become obsolete. Instead, education may focus on meta-skills such as critical thinking, ethical reasoning, creativity, and social intelligence, areas where humans retain comparative advantages. Moreover, education would need to include literacy in algorithmic governance and data stewardship so that citizens can participate in the oversight and shaping of cognitive agents. Opportunities for reskilling and lifelong learning will be essential for social inclusion, especially for those displaced by automation (Brookings Institution, 2019).

International Relations and Geopolitics

In a world where data and algorithmic power constitute the principal sources of wealth, geopolitical dynamics may shift dramatically. Nations rich in data and computational resources could wield influence similar to that once held by resource-rich empires. Conversely, regions lacking digital infrastructure might be relegated to digital peripheries. International agreements on data sharing, cross-border cognitive services, and ethical standards will be as consequential as trade treaties are today. Competition over talent may diminish if artificial cognition lessens reliance on human expertise, but competition over energy and computing resources could intensify. Cognitarism thus encourages the development of global governance institutions capable of addressing cross-border data flows and algorithmic externalities.

Fiscal and Monetary Policy

Governments derive revenue primarily through taxation of income, consumption, and property. When machines perform much of the work and value is embodied in algorithms, taxable bases may shrink. Proposals such as taxes on data usage, cognitive transactions, or energy consumption may emerge. Monetary policy may also be affected: cognitive tokens could operate alongside or in place of traditional currencies, complicating central banks’ control over money supply and interest rates. Policymakers must devise fiscal and monetary instruments that capture value creation in non-human domains while ensuring macroeconomic stability.

Limitations & Ethical Considerations

Cognitarism, as a theoretical construct, is subject to significant limitations and ethical challenges:

1. Algorithmic Bias and Fairness: Synthetic cognition inherits biases present in data and design. Without vigilant oversight, it could perpetuate discrimination and inequality. Embedding ethics in algorithms and ensuring observability (Szabo, 1996) is essential.

2. Power Concentration: Data monopolies and computational asymmetries risk creating new forms of oligarchy reminiscent of feudal hierarchies. Platform capitalism already demonstrates the monopolistic tendencies of network effects (Srnicek, 2017); cognitarism could magnify this if not counterbalanced by robust governance.

3. Legal Personhood and Responsibility: Assigning responsibility for the actions

of autonomous agents is complex. Should cognitive agents be treated as legal persons, instruments, or assets? Clear frameworks are needed to allocate liability for harm caused by algorithms.

4. Human Agency and Meaning: Work provides not only income but also purpose and social identity. By transferring production to machines, cognitarism risks eroding human agency and meaning. New cultural norms and institutions would be required to nurture human creativity and community.

5. Technological Dependence and Resilience: Societies built on synthetic cognition may be vulnerable to technical failures, cyberattacks, or energy disruptions. Redundancy, decentralisation, and fail-safe mechanisms are vital.

6. Epistemic Limits: Despite advances, artificial cognition remains constrained by design choices and data quality. Boundaries of machine understanding and unintended consequences must be recognised.

7. Ethical Use of Data: Data fuels cognitarist economies, raising privacy concerns and questions about consent. Transparent data governance and rights frameworks are imperative to protect individuals.

By acknowledging these limitations, cognitarism positions itself not as utopia but as a conceptual tool for exploring possible futures.

Conclusion

This article introduced cognitarism, a theoretical socio-economic system in which artificial cognition becomes the primary source of value creation. Drawing on intellectual traditions, including cybernetics, bounded rationality, smart contracts, Hayek’s knowledge problem, Marx’s labour theory, and analyses of automation and platform capitalism, the article outlined the core principles of cognitarism: synthetic cognition as the means of production, data and energy as inputs, protocol-based governance, cognitive tokens, redefined ownership, human–machine symbiosis, and ethical accountability.

A comparative table contrasted cognitarism with feudalism, mercantilism, capitalism, socialism, technocracy, and platform capitalism, underscoring how cognitarism relocates economic agency from human actors to artificial agents. The article examined implications for labour, trade, ownership, policy, inequality, and the environment, recognising that the system poses profound ethical and practical challenges, including algorithmic bias, power concentration, legal accountability, human meaning, resilience, and data rights.

Cognitarism remains a theoretical construct, intended to provoke discourse about the socio-economic consequences of synthetic cognition. As AI technologies advance, scholars must interrogate not only how to integrate these systems into existing economies but whether entirely new frameworks are needed. Future research should explore detailed models of cognitarist governance, distribution mechanisms, and cultural adaptations, ensuring that the emergence of artificial cognition enriches rather than diminishes human civilisation.

Another fruitful avenue for inquiry lies in the methodological tools used to analyse cognitarism. Traditional economic models may be ill-equipped to account for agents that learn and evolve; thus agent-based modelling, network theory, and computational social science will be indispensable. Interdisciplinary collaboration between economists, computer scientists, ethicists, legal scholars, and sociologists is essential to address questions such as: How to measure the productivity of synthetic cognition? How to design incentive structures for autonomous agents? What legal frameworks can accommodate machine contracts and assign responsibility for algorithmic harm? Empirical research could examine early instances of algorithmic economies, such as decentralised autonomous organisations, to inform theory. Philosophers may explore implications for personhood, consciousness, and moral agency, while cultural theorists may examine how narratives about human–machine relationships evolve.

Cognitarism thus invites an expansive scholarly agenda that transcends disciplinary boundaries.

References

Brookings Institution. (2019). Automation and artificial intelligence: How machines affect people and places. In Brookings Institution.

Hayek, F. A. (1945). The use of knowledge in society. The American Economic Review, 35(4), 519–530.

Investopedia. (n.d.-a). What is mercantilism? In Investopedia.

Investopedia. (n.d.-b). What is capitalism? In Investopedia.

Investopedia. (n.d.-c). What is socialism? In Investopedia.

Investopedia. (n.d.-d). What is technocracy? In Investopedia.

Lumen Learning. (n.d.). Western civilization: Feudal society. In Lumen Learning.

Marx, K. (1867). Capital: A critique of political economy (Vol. 1). Hamburg: Otto Meissner Verlag.

Mindell, D. A. (2014). Cybernetics: A history of control and communication in the animal and the machine. Cambridge, MA: MIT Press.

Simon, H. A. (1957). Models of man: Social and rational. New York, NY: Wiley.

Srnicek, N. (2017). Platform capitalism. Cambridge: Polity Press.

Szabo, N. (1996). Smart contracts: Building blocks for digital markets. Extropy, 16, 2–20.

Wiener, N. (1948). Cybernetics: Or control and communication in the animal and the machine. Paris: Hermann.