First Principles First

SCIENCE & IDEAS

Humanoid Labor in Technocracy: Work, Freedom, and the Crisis of Industrial Democracy

Agentic AI does not cause the failure of the industrial labor system. By eliminating the cognitive layer on which it rested, it makes that failure permanent.

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Manual labor in the ancient world. The Greek concept of ponos — toil — was explicitly associated with physical degradation and the absence of freedom, and the economy of the polis rested on chattel slavery. The civilization that invented the vocabulary of democratic freedom required mass unfreedom as its material precondition.

Abstract. Each dominant organization of human work contains within it the conditions of its own failure. The industrial and financialized model of labor — in which human productive capacity is sold as a commodity, social membership is mediated through wages, and value is measured by market price — is now failing on every dimension simultaneously: economically, ecologically, psychologically, and politically. Agentic artificial intelligence does not cause this failure; it makes the failure permanent, by eliminating the cognitive labor on which the entire arrangement rested. What follows cannot be a reformed version of the existing system. It requires new criteria for social and economic organization grounded in the science of entropy reduction, dynamic homeostasis, and the genuine conditions of human aliveness — and new institutions capable of deploying agentic AI in their service.

I. The Pattern of Epochal Failure

Every organization of human work resolves a genuine crisis and generates a new one. The resolution becomes the problem that the next transition must solve.

The transition from foraging to agriculture resolved subsistence scarcity and produced coercive extraction by early states, debt bondage, and the subordination of entire populations to surplus management. The medieval synthesis of feudal obligation and guild regulation resolved the chaos of post-Roman Europe and produced a moral economy so rigid that a single epidemic — the Black Death — shattered it by simply killing enough of its participants to make its fixed-role logic unenforceable. The Protestant Reformation and commercial expansion that followed resolved the spiritual contradictions of late medieval life and unleashed market forces that dissolved customary protections, made labor a commodity, and subjected human productive capacity to the logic of exchange.

The industrial revolution resolved chronic material scarcity for large populations and invented its own forms of unfreedom: the compulsory sale of time, the severance of productive activity from meaning, and the attachment of every dimension of social membership — income, healthcare, retirement, identity, dignity — to the performance of wage labor. We are living inside the failure of that resolution. The question before us is not whether it will be superseded, but what will replace it, and on what principles.

II. The Origins of Work as Belonging

For most of human existence, productive activity was not organized as a labor market. It was organized as a system of relationships, obligations, and identities rooted in kinship, locality, and shared cosmological belief. Among foraging peoples — the !Kung San, the Hadza, the Aboriginal peoples of Australia — what a person did was inseparable from who a person was. Roles were ascribed through kinship position, not chosen through market competition. Economic participation and social participation were the same thing. To fulfill one’s productive obligations was to be a member of the community; to be excluded from productive life was to be excluded from personhood itself.

Marshall Sahlins demonstrated in *Stone Age Economics* that these societies were not locked in desperate struggle against scarcity. The !Kung San devoted roughly fifteen to twenty hours per week to food procurement; the remainder went to visiting, ritual, storytelling, and rest. What Sahlins called the “original affluent society” was affluent not in material possessions but in the adequacy of means to modest and socially embedded ends. The concept of work as a distinct domain of life, bounded by clock time and compensated by wages, did not exist. Life and labor were not divided.

The first great fracture in this integration came not with industrialism but with the emergence of surplus civilization itself. In Babylon under the Code of Hammurabi, labor was for the first time formally classified, priced, and legally regulated — minimum wages set for field workers, maximum prices fixed for ox-drivers, artisan guilds established to standardize the production of the tapestries and glazed tiles on which imperial commerce depended. Corvée obligations required citizens to contribute communal labor — irrigation,

fortification, construction — as a direct tax to the state. The dignity of productive activity was already becoming conditional on one's position within a hierarchy of extraction: who owed labor to whom, under what legal terms, and at what rate of compensation determined by those with the power to set the terms.

Ancient Greece radicalized this division into a foundational philosophical commitment. The Greek concept of *ponos* — manual toil — was explicitly associated with pain, physical degradation, and the absence of freedom. The economy of the polis rested on chattel slavery: tens of thousands of enslaved people worked the silver mines at Laurion under conditions of systematic brutality, freeing citizens to pursue *praxis* — political and philosophical activity — which alone was considered worthy of a fully human life. The structural irony was precise: the civilization that invented the vocabulary of democratic freedom required mass unfreedom as its material precondition. Over half of the Athenian population worked as artisans or traders, occupations that carried a social stigma their practitioners could never fully escape. Greek thought bequeathed to Western civilization not only its democratic ideals but its deepest contempt for the people whose labor made those ideals materially possible.

The medieval guild system, at its height, partially recovered the integration that foraging societies had embodied at a more complex level of craft production. A master craftsman was not merely a producer of goods. He was a member of a brotherhood that prayed, mourned, feasted, and governed together. His productive role was inseparable from his civic role, his religious role, and his familial role. The guild doctrine of the just price — derived from Aquinas and Aristotle — held that a fair price was not what the market would bear but what maintained the producer in their proper social station. Commerce was embedded in moral community, not the reverse.

But embedded within these arrangements was the mechanism that would eventually destroy them: debt. In the feudal West, debt functioned as the legal instrument of status conversion. Poor freemen, facing crop failure or military threat, would sell their labor — or that of their children — to a lord in exchange for food and protection. The debt was never designed to be repaid. It was designed to be perpetuated, converting the temporary vulnerability of the free person into the permanent subordination of the serf. Manorial fees, inheritance dues, and the chronic gap between subsistence and obligation ensured that the indebted peasant's legal standing continuously deteriorated toward the condition of someone entirely owned by the land they worked — and by the lord who owned the land. What appeared as a transaction was in fact a trap whose teeth closed in one direction only.

The Chinese imperial system produced an analogous mechanism through different institutional logic. Under the Han and Ming dynasties, wealthy bureaucrats and landlords deployed high-interest credit as an instrument of peasant dispossession: when harvests failed and tax obligations fell due — demanded in silver after the Single-Whip Reform made monetary payment compulsory — peasants had no recourse but the moneylender, and no exit from debt but the surrender of their land and their labor. The foreclosed peasant became a tenant farmer or bondservant, legally free in name but economically captive in every practical sense. What makes the Chinese case structurally distinctive, and theoretically important, is that this dispossession was not a reinforcement of

state power but a subversion of it. The Emperor and the landlord were competitors for the same peasant surplus: every household absorbed into private dependency was a household removed from the imperial tax rolls, a reduction in the central government's fiscal base and military capacity. Western feudal debt entrenched hierarchy by aligning the interests of lord and state. Chinese imperial debt fragmented hierarchy by setting local elite accumulation in structural opposition to central authority. The mechanism was the same; the political geometry was inverted.

What Karl Polanyi called the Great Transformation was the progressive disembedding of economic activity from social life: the creation, through enclosure, dispossession, and the destruction of customary rights, of a population with no alternative to wage labor. A person who could grow food on common land, gather firewood from common woods, and graze animals on common pasture had access to the means of livelihood that made market participation optional. Enclosure made it compulsory. The labor market required, as its precondition, the elimination of every alternative to it. In the industrial age that followed, the debt mechanism migrated from land to the factory town. The truck system and the company store replicated the logic of the manorial economy in an urban register: workers paid in scrip redeemable only at employer-owned retailers, wages calibrated precisely below the cost of basic necessities, debt accumulating at a rate that made legal departure from employment impossible without an external intervention the employer had every incentive to prevent. Debt was no longer the instrument of converting freemen into serfs. It was the instrument of converting wage workers into something that could not quite be distinguished from them.

Across all of these systems — Babylonian, Greek, feudal, Ming, and industrial — a single structural logic recurs. The formal freedom of the laborer is preserved just enough to maintain the ideological legitimacy of the arrangement, while the material conditions of that freedom are systematically destroyed. The Greek slave was owned outright; the feudal serf was legally tied to the land; the indebted Ming peasant was technically free to leave; the company-town worker was legally at liberty to quit. In each case the formal freedom was real and the practical freedom was fictitious, because the conditions that would have made freedom meaningful — access to land, to credit, to alternative means of subsistence, to a legal system not owned by the creditor — had been methodically eliminated. What Polanyi identified as the peculiar violence of the market system — its treatment of labor as a commodity indistinguishable from any other — was not invented by industrial capitalism. It was inherited by it, refined by it, and scaled by it to a scope no previous civilization had achieved.

> *To allow the market mechanism to be the sole director of the fate of human beings and their natural environment would result in the demolition of society. For the alleged commodity 'labor power' cannot be shoved about, used indiscriminately, or even left unused, without affecting also the human individual who happens to be the bearer of this peculiar commodity.*
>
> — Karl Polanyi, *The Great Transformation* (1944)

III. The Industrial Bargain and its Built-In Contradictions

The industrial organization of work produced a genuine bargain: in exchange for the compulsory sale of labor-time under conditions of clock discipline and managerial authority, workers eventually received wages sufficient to participate in mass consumption, access to healthcare and retirement security through employer-provided benefits, and a measure of political representation through labor unions and democratic institutions. The postwar settlement in Western Europe and North America stabilized this bargain into law and social expectation. For the first time in history, a substantial majority of the population in wealthy nations had a stable, institutionally supported claim on a dignified material life.

But the bargain contained two structural contradictions that would eventually destroy it. The first was alienation. Karl Marx identified it with a precision that has not been improved upon: the worker in the capitalist system is estranged from the product of their labor, from the process of production, from their fellow workers, and from their own human nature. Work, which ought to be the primary medium through which human beings realize their creativity and sociality, becomes instead a means to an end: the acquisition of wages that purchase access to life outside working hours. Hannah Arendt sharpened this: industrial capitalism had elevated labor — the most biologically cyclical of human activities — to the organizing principle of an entire civilization, crowding out the genuinely world-building activities of craft and political action. The result was a society of laborers: beings whose dignity was staked entirely on their productive output, who had no stable world of shared meaning, and whose political capacities had atrophied into the passive consumption of electoral spectacles.

The second contradiction was the false division of private and public spheres. The market was understood as the domain of natural self-interest; the state was understood as the reluctant corrective to market failures. This division had a corrosive psychological effect: it naturalized competitive individualism and pathologized collective action, constructing a self whose primary relationship to the social world was as a manager of personal assets within a field of market signals. Robert Putnam's decades of research documented the

measurable consequences: civic participation, institutional trust, neighborly interaction, and voluntary association all declined across the second half of the twentieth century in direct correlation with economic inequality and the withdrawal from community life that market-centered individualism produced.

IV. Financialization and the Fictionalization of Value

The postwar bargain began unraveling in the 1970s under the pressure of stagflation, global competition, and the rise of shareholder primacy — the doctrine that the sole obligation of corporate management was to maximize returns to equity holders. If the corporate purpose was share price, then the workforce was a cost to be minimized. Layoffs, offshoring, outsourcing, and the replacement of permanent employment with contract and gig arrangements were not failures of corporate governance; they were expressions of its success by the only metric that mattered. Real wages for non-supervisory workers in the United States were roughly flat from 1973 to 2000 even as productivity continued to grow. Union membership fell from thirty-five percent of the private-sector workforce in the mid-1950s to below seven percent by 2020. The productivity gains of the late twentieth century went to capital, not to labor.

Financialization then converted the public institutions designed to manage this divergence into vehicles for further extraction. Financial regulation was dismantled under pressure from the institutions it regulated. Healthcare was organized around the extraction of rents from illness. Housing policy protected incumbent asset values rather than expanding affordable supply. Tax systems were restructured to shift burdens from capital to labor. Mariana Mazzucato's analysis made the mechanism precise: the spectacular financial returns of the contemporary economy do not primarily represent the creation of new social value. They represent the extraction of value created by others — by workers, by publicly funded research, by the accumulated infrastructure of social life — through monopoly, financialization, and the appropriation of network effects.

David Graeber's concept of *bullshit jobs* captured a related pathology: the proliferation of occupations whose primary function is not the production of anything socially useful but the maintenance of organizational structures that extract value from productive activity. Survey data from multiple countries suggested that a substantial minority of workers privately believe their work makes no meaningful contribution to the world. The wages are real; the work, by the workers' own assessment, is fictional. An economy in which a significant fraction of its participants experience their own activity as pointless is not merely inefficient. It is a system that has severed the connection between productive activity and human meaning at its roots.

> *The ruling class has figured out that a happy and productive population with free time on their hands is a mortal danger. The solution has been to create an endless number of jobs that are, effectively, pointless.*
>
> — David Graeber, *Bullshit Jobs: A Theory* (2018)

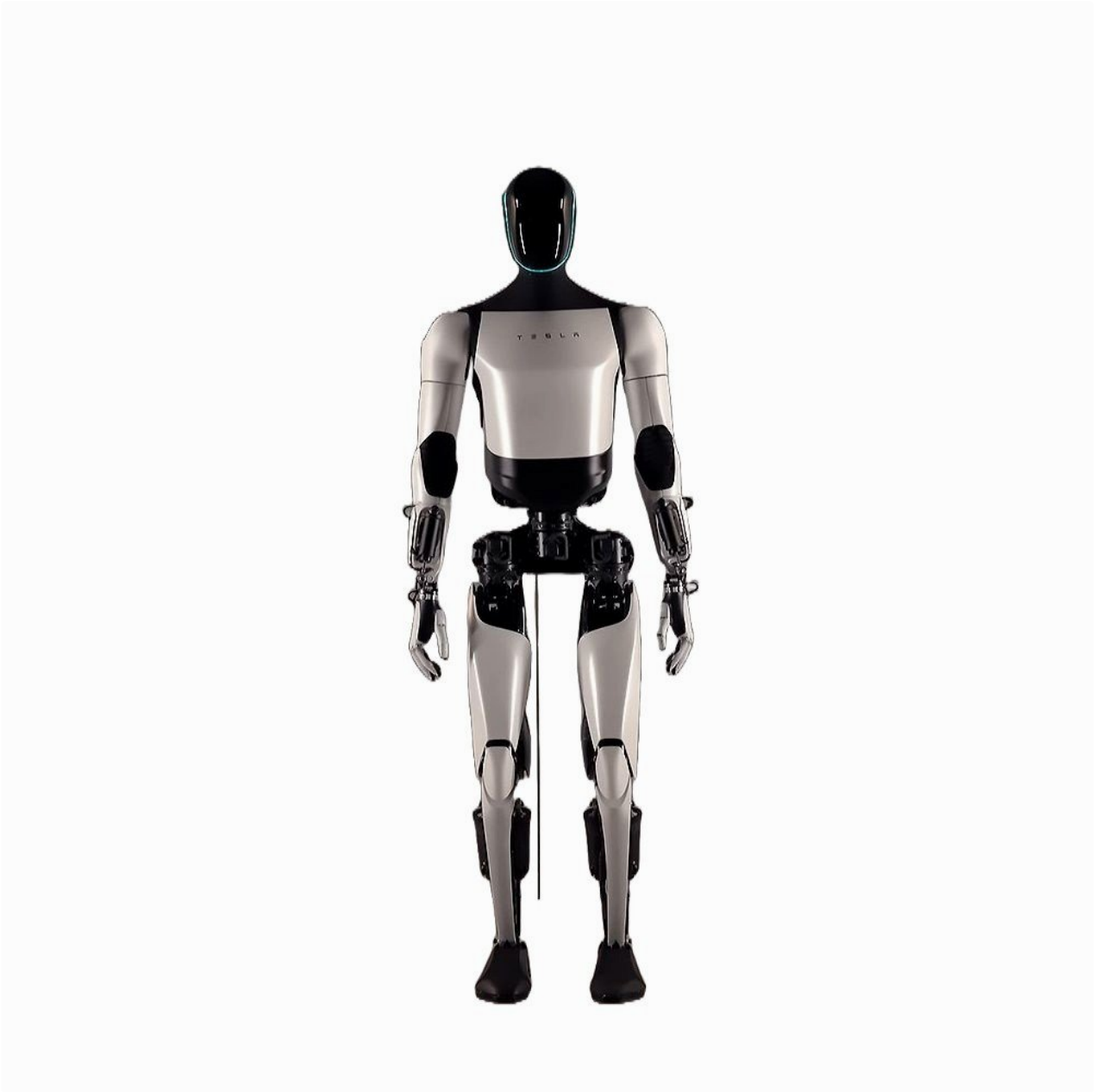
v. The Social Pathologies of a Failing System

The social consequences of this failure are not merely economic. They are psychological, biological, and political simultaneously. Johann Hari's synthesis of depression research identified its dominant causes not as chemical imbalances but as relational deficits: disconnection from meaningful work, from other people, from status and respect, from the natural world, and from a believable future. The epidemic of depression that has accompanied the financialized era is not incidental to it; it is its predictable psychological expression.

The crisis of addiction is inseparable from the same root. Bruce Alexander's research demonstrated that addiction is not primarily a pharmacological property of substances but a response to social impoverishment: individuals without adequate social connection, meaningful activity, and a sense of belonging will seek relief in whatever chemical or behavioral substitutes are available. The opioid catastrophe in rural and post-industrial America was not simply a supply-side pharmaceutical failure. It was the predictable consequence of destroying the economic and civic infrastructure of those communities and leaving their inhabitants without the connections that make life worth living.

What makes this moment qualitatively different from previous periods of industrial disruption is that these pathologies are being actively amplified and monetized by the market mechanisms that produced them. Social media platforms optimized for engagement discovered that threat responses — outrage, anxiety, tribalism, the addictive pull of status comparison — generate the highest engagement. The monetization of social disconnection is not a market failure in the conventional sense. It is a market success: the successful conversion of social suffering into advertiser revenue. The system that produced the pathology is now extracting profit from its treatment.

VI. The Agentic Break: No Next Layer



The Tesla Optimus humanoid platform. The industrial machine replaced physical labor and produced demand for engineers and managers. The computer replaced clerical work and produced demand for programmers and analysts. Agentic AI breaks this logic because it targets the cognitive layer itself.

Agentic artificial intelligence does not merely add to this failure. It makes the existing institutional resolution permanently untenable by eliminating the absorptive capacity that every previous wave of automation relied upon. The industrial machine replaced physical and routine labor but created demand for engineers, managers,

and designers. The computer replaced clerical work but created demand for programmers, analysts, and knowledge workers. In each case, the displacement of one category of labor generated new demand for a higher-order cognitive category that human beings were uniquely positioned to fill. Agentic AI breaks this logic because it targets the cognitive layer itself.

What is distinctive is not only the scope of displacement but its exponential rate and its self-amplifying character. Unlike previous industrial transitions that unfolded over generations, agentic AI is accelerating over years, with each generation of systems capable of assisting in the design and training of the next. Karl Friston's free energy principle and Active Inference architectures describe the mechanism: these systems maintain generative models of their environments, continuously minimize prediction error, set their own subgoals, and develop novel cognitive affordances — new ways of perceiving, reasoning, and acting that were not explicitly programmed and that can be applied across open-ended domains. They do not merely perform defined tasks. They develop generalizable cognitive capabilities that compound.

Teilhard de Chardin envisioned the history of planetary complexity as successive emergent layers: the geosphere, the biosphere, and the noosphere — the sphere of organized thought that emerges from and reorganizes the biosphere. What agentic AI represents is the noosphere becoming self-amplifying: intelligence reorganizing itself at rates and scales that transcend individual biological cognition. The apt biological analogy is not the steam engine. It is the endosymbiotic transition from prokaryotic to eukaryotic life — the acquisition of mitochondria that made a qualitatively different energy metabolism possible and, ultimately, multicellular life, nervous systems, and consciousness. That transition reorganized the fundamental substrate of biological complexity. This one is reorganizing the fundamental substrate of cognitive complexity. The timescales are incomparably different; the structural magnitude is comparable.

What this means for the existing labor system is that there is no higher cognitive layer waiting to absorb the displaced. This is what the current transition shares with Polanyi's enclosure: the destruction of the alternative that made wage labor avoidable. Once common-land rights were extinguished, agricultural workers had no choice but to accept whatever industrial employers offered. Once agentic AI performs cognitive work at commodity prices, knowledge workers face an analogous constraint. The difference is that this time the constraint is not spatial — one cannot flee to the city and acquire new skills — but cognitive. The domain of economic participation that defined the middle class for two centuries is being compressed faster than any institutional adaptation can follow.

VII. A New Science of Value: Entropy, Homeostasis, and Aliveness

The failure of the industrial-financialized system is, at its root, a failure of value: the measurement of social success by metrics — GDP growth, share price, transaction volume — that systematically mismeasure what actually makes individual and collective life thrive. An adequate successor framework requires a different scientific foundation for value: one grounded not in the preferences of market actors but in the biophysical conditions that sustain complex adaptive systems.

Living systems — from cells to organisms to communities to ecosystems — are distinguished from non-living ones not by their material composition but by their organizational dynamics. They actively maintain themselves far from thermodynamic equilibrium by continuously processing energy and information to reduce internal disorder. This is the free energy principle that Friston's work formalizes at the level of nervous systems: an organism is a prediction machine that minimizes the gap between its expectations and its sensory evidence of the world — not by retreating from the world into certainty, but by actively modeling, exploring, and acting to bring reality into alignment with its generative models. The extension to social systems is direct: healthy communities, organizations, and institutions exhibit the same properties. They maintain coherent collective action in response to environmental challenges, adapt their internal structures to changing conditions, and sustain the conditions under which their members can develop their capacities rather than merely reproduce themselves.

The concept of **dynamic homeostasis** captures what this means institutionally. A homeostatic system is not static; it is actively self-maintaining across perturbation. The human body maintains temperature, pH, glucose, and blood pressure within viable ranges through continuous active adjustment, not through the absence of disturbance. A community with high social homeostasis maintains the trust, reciprocity, and shared norms that allow collective problem-solving to function across changing conditions. Elinor Ostrom's research demonstrated that such communities reliably develop institutional arrangements for managing shared resources — fisheries, irrigation systems, forests — that outperform both privatization and state management, because they are organized around local knowledge, reciprocal monitoring, and adaptive rule modification rather than centralized authority or price signals alone.

The thermodynamic language of **entropy reduction** provides a precise criterion for evaluating institutional designs: does this institution reduce the cognitive and energetic disorder of the systems it serves, or does it increase it? A healthcare system that intervenes after illness becomes acute — expensive, disruptive, biologically costly — is high-entropy healthcare. A healthcare system that maintains continuous models of population health, identifies preventable illness before it becomes acute, and intervenes at the level of social determinants — housing, nutrition, social connection, environmental quality — is low-entropy healthcare. The difference is not

merely humanitarian; it is thermodynamically and economically precise. Prevention is cheaper than treatment because it acts before the system has moved far from equilibrium. Restoring order to a highly disordered system requires more energy than maintaining order in one that has not been allowed to disorder.

This framework generates a different conception of public goods: not residual categories of market failure to be reluctantly funded by taxation, but the active infrastructure of social homeostasis without which market activity itself cannot be sustained. Clean air and water, stable housing, reliable nutrition, accessible healthcare, quality education, trustworthy civic institutions — these are not luxuries added on top of an otherwise self-sustaining economic system. They are the preconditions of the cognitive and biological vitality that makes any productive activity possible. An economy that fails to maintain these preconditions is not merely unjust; it is thermodynamically self-defeating, generating entropy faster than it can be managed, producing the social disorder — depression, addiction, political nihilism, institutional decay — whose costs eventually exceed the productive gains of the system generating them.

> *A happy and creative population in good health is not a consumption good. It is the primary productive asset of any society worth sustaining.*
>
> — adapted from Amartya Sen, *Development as Freedom* (1999)

VIII. Agentic AI and Affordable Public Goods

The institutional implication of this framework is that the central challenge of the coming generation is not the management of AI displacement but the design of institutions that deploy agentic AI in the active reduction of social and cognitive entropy — making the public goods that constitute the infrastructure of human aliveness genuinely affordable for the first time.

The cost of public goods has historically been driven by the cognitive complexity of managing them at scale: the difficulty of maintaining current, accurate models of complex systems — health, housing, infrastructure, ecology — across large and diverse populations, and of coordinating effective responses to the perturbations those systems face. Healthcare is expensive partly because clinicians cannot maintain rich longitudinal models of each patient’s health across time; they can only respond to the states patients present with when they seek care. Housing policy fails partly because planners cannot maintain accurate real-time models of supply, demand, and the social consequences of development decisions. Environmental regulation fails partly because regulators cannot monitor complex ecosystems continuously enough to intervene before damage becomes irreversible.

Agentic AI systems grounded in Active Inference principles can, for the first time, maintain the kinds of rich, continuously updated generative models of complex social and biological systems that genuine preventive governance requires. An Active Inference system managing community health does not wait for patients to present symptoms. It maintains generative models of health across populations, updating continuously as new data flows in — from environmental sensors, social service records, nutritional patterns, mobility data — and acts to minimize the predicted entropy of health outcomes, identifying the specific households and neighborhoods where early intervention will prevent the most costly downstream disorder. The system does not replace clinical judgment; it extends the cognitive reach of clinicians far beyond what any individual practitioner could manage, freeing them for the irreducibly relational dimensions of care.

The same logic applies to housing, education, environmental quality, and civic governance. In housing, agentic systems maintaining rich models of neighborhood-level supply, affordability, and social consequence can identify the specific zoning and development interventions that will most reduce housing insecurity for the most households at the least public cost. In education, Active Inference systems maintaining models of each learner's developing understanding can personalize learning pathways not by adjusting the pace of standardized content but by connecting each learner's specific conceptual gaps and emerging interests to the living communities of practice where those interests are pursued — more closely approximating the guild model of embedded apprenticeship than the industrial model of standardized credential production. In civic governance, agentic systems can translate the technical complexity of policy decisions — environmental impact, fiscal consequence, distributional effect — into the specific implications for specific communities, enabling genuinely informed deliberation rather than the managed theater of comment periods that currently substitutes for democratic participation.

What all of these applications share is the use of agentic AI not to replace human judgment and relationship but to reduce the cognitive entropy that currently prevents human institutions from functioning at the level of complexity their tasks require. The industrial model of public institutions — hierarchical, rule-bound, standardized, responding to populations in aggregate rather than individuals in context — was not designed for the management of complex adaptive systems. It was designed for the management of populations through procedures that could be applied uniformly at scale. Agentic AI makes possible a qualitatively different institutional model: one that is simultaneously scalable and particular, simultaneously efficient and genuinely responsive to the specific conditions of specific people in specific places.

The financing of these institutions is itself an entropy problem. Public goods have been chronically underfunded not primarily because of fiscal constraint but because the mechanisms through which their value is captured and recirculated into their maintenance have been systematically broken. The productivity gains generated by publicly funded research, infrastructure, and education flow disproportionately to those who own the private assets positioned to benefit from them, rather than to the public investments that made those gains possible. A direct levy on the labor substitution gains generated by AI deployment — capturing a portion of the wage bill eliminated through cognitive automation and directing it toward the social homeostasis infrastructure that

sustains the consuming population — is not redistribution in the conventional sense. It is the correction of a thermodynamic accounting error: the recognition that the surplus generated by AI systems trained on public data, built on public research, and operating in public markets carries an obligation to the public commons whose vitality it depends on.

Conclusion: Coherence, Freedom, and the Long History of Debt

The failure of the industrial-financialized epoch of work is not primarily an economic failure, though it is that. It is a failure of coherence: the progressive dissolution of the social, relational, and ecological systems through which human beings have, across all of their history, generated the meaning, belonging, and genuine agency without which human life becomes uninhabitable. We have built, at enormous productive cost, a civilization organized around the liquidity of transactions rather than the vitality of communities — maximally mobile, maximally efficient in its narrow terms, and deeply alive to the wrong things.

What this history reveals, when viewed across its full arc — from the Babylonian regulation of field workers to the Ming landlord's foreclosure on a peasant's harvest, from the feudal serf's manorial dues to the company-town worker's scrip — is that debt has functioned, with remarkable consistency across civilizations, as the primary technology of labor control. It is not incidental to the organization of work. It is its central instrument. Where outright slavery required the brute exercise of physical force, and serfdom required the codification of legal status, debt achieved what both of those systems sought while preserving the ideological fiction of freedom. The indebted person is formally free. They may go where they choose, contract as they will, speak as they please. What they cannot do is leave — because the conditions of their departure have been systematically foreclosed. The genius of debt as a labor control mechanism is precisely its invisibility: it presents coercion as obligation, extraction as contract, and the closing of every exit as the natural consequence of a voluntary transaction.

The structural pattern is consistent across its historical instances, though the specific mechanisms differ. In Babylon, it was the formal codification of labor obligations through law. In Greece, it was the philosophical elevation of some forms of work over others, which required the systematic degradation — and often the outright enslavement — of those who performed the work that made philosophy possible. In feudal Europe, the indebted freeman's deteriorating legal standing was the hinge on which the entire manorial system turned. In Ming China, tax obligations denominated in silver — a currency that peasants could only obtain by selling into markets whose terms they did not control — created the precise conditions of vulnerability that the landlord's credit was designed to exploit. In the industrial West, the truck system and the company store rebuilt the

manorial economy in an urban register, ensuring that the wage worker's nominal freedom of contract was perpetually circumscribed by a debt whose terms the employer set and whose repayment the employer controlled.

In each case, what was destroyed was not formal freedom but the material conditions that would have made formal freedom meaningful: access to land, to alternative subsistence, to credit on terms not dictated by those who benefit from the debtor's immobility. This is what Polanyi understood about enclosure, and what the history of debt-labor extends and deepens: the labor market does not simply find workers where they are. It produces workers — and continues to produce them — by systematically eliminating the conditions under which they could be anything else.

The emergence of agentic AI does not cause this failure, but it removes any possibility of managing it within the existing framework. It also, for the first time, creates the technical conditions under which a genuinely different organization of productive and social life is possible: one in which the cognitive work of managing complexity at scale is performed by systems capable of the contextual, adaptive, relational responsiveness that human institutions have always aspired to but rarely achieved. This creates space — not automatically, not without deliberate institutional design and political struggle — for human beings to do what markets have always undervalued: care for each other, make things of genuine beauty and use, and participate in the shared governance of the conditions of their own lives.

The successor framework will not be organized around growth as its primary criterion. It will be organized around **coherence**: the active maintenance of the biological and social conditions that sustain human aliveness, measured not by the volume of market transactions but by the reduction of cognitive and energetic entropy in the systems that matter most — the health of populations, the depth of social connection, the genuine agency of individuals in their communities, and the resilience of the ecological systems on which all of this rests. These are not soft or secondary considerations. They are the thermodynamic preconditions of any productive system worth sustaining.

Every previous epochal transition was resolved, to the extent that it was resolved, not by market forces alone but by deliberate institutional design — by political choices, made through struggle, about how to organize the distribution of productive surplus and the conditions of social membership. Central to each of those struggles was the question of debt: who owed what to whom, under what conditions, and with what right of exit. That question is not historical. It is the question that the current transition poses anew, at a scale and velocity that no previous civilization has faced. The answer to it will determine not only the distribution of the surplus that agentic AI generates, but whether the freedom that AI promises to create is substantive or merely formal — the freedom of the company-town worker, legally at liberty and practically captive, replicated at civilizational scale. The question is whether the institutional imagination and political will required can be assembled at the pace that the exponential acceleration of agentic AI demands. On that answer will rest whether AI becomes the infrastructure of human freedom or its most sophisticated instrument of dispossession.

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