

The World Is Not Fair: On Inequity as a Second-Order System Property

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“Fairness is resistance, not equilibrium.”

“The just must remain just, but also live in the world that is not.”

Abstract

This article explores the hypothesis that fairness is not a default state of the world but a second-order construct – an emergent or imposed feature rather than a spontaneous outcome. Drawing on systems theory, game theory, historical cases, and thermodynamic metaphors, the paper investigates whether the observed tendency for inequality to expand is a universal feature of complex adaptive systems. We consider the provocative question: is the widening of gaps between agents – whether economic, political, or epistemic – a necessary outcome in all coherent systemic worlds? Through philosophical reflection and comparative analysis, we examine whether inequality is not merely permitted by the structure of reality, but required by it – unless actively resisted.

1 Introduction: The Provocation of Unfairness

John F. Kennedy, in a speech that left its mark on many who came of age during his presidency, offered a stark observation:

“The world is not fair.” Kennedy, [1963](#)

This statement, while unadorned, gestures toward a profound structural reality – that inequity may not be a temporary aberration, nor a mere product of human cruelty or error,

but rather a persistent, emergent property of the world as it is. This treatise explores the possibility that the expanding gap between the privileged and the marginalized is not just a social or moral failure, but a *systems outcome* – one that may recur across a vast range of conditions.

We thus pose the question with deliberate breadth:

Is inequality – specifically, the tendency for gaps to widen – a necessary outcome in all coherent systemic worlds?

This is not merely a historical or economic inquiry. It is ontological. It invites us to consider whether *any* world, governed by rules of limited resources, bounded rationality, path dependency, and feedback loops, would inevitably manifest increasing asymmetries unless actively and perpetually constrained.

What Do We Mean by “All Possible Worlds”?

In philosophy, the term *all possible worlds* refers to the conceptual space of all coherent configurations that reality might assume – each governed by internally consistent laws. Within modal logic and metaphysics, it is a way of asking: what is necessarily true, rather than contingently so?

In our context, this idea is adopted as a thought experiment:

- Across different civilizations, economies, ecologies, or artificial systems...
- Across any configuration of agents competing, interacting, and adapting...
- Does the logic of the system lead to concentration?
- Is divergence not a deviation, but an attractor?

In short: is the “expanding gap” not merely likely, but *inevitable* – unless actively resisted?

Toward a Systems Understanding of Inequity

This paper argues that fairness is not a foundational property of the world, but a *second-order construct* – something imposed, not something that arises. Drawing from systems theory, game theory, thermodynamics, and social philosophy, we shall examine how inequality arises, why it persists, and what – if anything – can temper it.

We contend that the expanding gap is not merely a flaw of capitalism, nor a failure of governance, but an *expected consequence of open, adaptive, nonlinear systems*.

To explore this claim, we must step beyond moralistic rhetoric and into the structure of reality itself.

2 Fairness in Philosophical and Social Traditions

Before we examine fairness as a systemic property, it is essential to trace how it has been conceived in philosophical and social thought. The desire for fairness may be universal, but its interpretation and institutionalization vary widely.

Aristotle and the Roots of Distributive Justice

In *Nicomachean Ethics* Aristotle, [350 BCE](#), Aristotle distinguished between distributive and corrective justice. Distributive justice concerns the proportional allocation of resources, based on merit or contribution. In contrast, corrective justice aims to restore balance when an injustice has occurred. Both rely on a preconception of balance – that justice corrects for deviation, not systemic drift. In this sense, fairness is seen not as an emergent property but as an ideal equilibrium.

Rawls and the Veil of Ignorance

John Rawls advanced a more procedural notion of fairness in *A Theory of Justice* Rawls, [1971](#). He proposed that a just society is one whose rules would be chosen by rational agents behind a “veil of ignorance,” unaware of their own place in society. This heuristic divorces justice from power and treats fairness as a product of symmetry in epistemic access. Yet it is entirely a thought construct – an *imposed* fairness, not a discovered one.

Marx and Structural Asymmetry

Karl Marx rejected the idea that fairness could arise from within capitalist relations. For Marx, the very architecture of capital ensures asymmetry: those who own the means of production accumulate at the expense of those who sell labor. His theory of surplus value and the inexorable tendency toward concentration underscores the view that inequality is not a failure of capitalism, but its central mechanism.

Merton and the Matthew Effect

Sociologist Robert Merton coined the term “Matthew Effect” to describe how advantage compounds over time¹ Merton, 1968. Success leads to further success, while failure forecloses opportunity. Originally observed in the realm of scientific credit and citation, this phenomenon appears across all hierarchical systems: education, wealth, prestige, and influence. In Merton’s framing, fairness is the exception – not the rule – in any domain where reputation and accumulation are in play.

Toward a Synthetic View

Across these traditions, one finds a common theme: fairness does not arise naturally. It is either:

- a *design choice* (Rawls),
- a *restorative counterbalance* (Aristotle),
- or a *myth masking structure* (Marx).

We are led to a working hypothesis: **Fairness is a second-order construct – a normative overlay on systems whose default behavior diverges from it.**

3 Systems Science Perspective

While traditional philosophical frameworks treat fairness as a normative ideal, systems science invites us to treat it as an emergent outcome – or more precisely, an anomaly.

Feedback Loops and System Drift

Complex systems are governed by feedback mechanisms. Positive (reinforcing) feedback loops amplify deviation, while negative (balancing) feedback loops resist it. Most systems exhibit a dynamic interplay of both. However, when reinforcing loops dominate – such as in capital accumulation, network centrality, or institutional prestige – the system naturally drifts toward concentration. Fairness, in this view, requires deliberate insertion of balancing mechanisms.

¹The term refers to Matthew 25:29 — “For unto every one that hath shall be given, and he shall have abundance: but from him that hath not shall be taken away even that which he hath.” Merton invoked this verse to describe the cumulative advantage in scientific recognition, where already eminent scholars receive disproportionate credit.

Power Laws and Preferential Attachment

Albert-László Barabási's work on scale-free networks shows how nodes with early advantages accumulate more connections over time Barabási, [2002](#). This phenomenon, known as preferential attachment, mirrors wealth accumulation in social systems: early advantage leads to increasing returns. The resulting distribution follows a power law – a small number of nodes hold a disproportionate share of the system's connectivity or value.

Thermodynamics and Entropy Gradients

Analogies from thermodynamics offer another lens. Energy flows from high to low potential, but in constrained systems, gradients persist. Just as insulation can preserve thermal asymmetries, institutions and legal frameworks can preserve economic and social ones. The “concentration of energy” in physical systems is mirrored by the “concentration of capital” in open economies. Schrödinger's reflections on order arising from entropy gradients – in his notion of *negative entropy* or *negentropy* – illuminate how local structure can persist even as global disorder increases Schrödinger, [1944](#).

Path Dependence and Lock-In

Once asymmetry emerges, it tends to become self-reinforcing. Brian Arthur's concept of path dependence describes how early, often random advantages become entrenched through increasing returns, learning effects, and institutional inertia Arthur, [1994](#). In such systems, fairness is not only absent at the start – it becomes progressively harder to reintroduce.

Implications

From a systems perspective, fairness does not arise naturally. Systems drift toward inequality unless:

- damped by active feedback,
- randomized by noise,
- or reset by rupture.

Thus, the emergence of inequality is not a deviation from natural order – it *is* the natural order in open, adaptive systems.

4 Game Theoretic Dilemmas and Strategic Defection

Systems do not operate in isolation. Any theory of fairness must account for inter-agent dynamics, especially when multiple actors pursue their interests under constraints of competition, uncertainty, and limited trust. Game theory offers powerful models to analyze such conditions.

The Prisoner's Dilemma and the Incentive to Defect

In the canonical prisoner's dilemma, two rational agents acting in their own self-interest each choose to defect – even though mutual cooperation would yield a better collective outcome. Applied to international economics, environmental agreements, or class stratification, the model shows that fairness can be suboptimal from the perspective of any single actor. Unless there is a mechanism for enforcement, defection dominates cooperation.

Iterated Games and the Limits of Trust

In repeated games, cooperation can emerge through strategies like “tit-for-tat” or conditional reciprocity Axelrod, [1984](#). Yet these equilibria are fragile. They rely on memory, reputation, and mutual visibility – all vulnerable in large, anonymous, or asymmetric systems. When actors can conceal defection or externalize its costs, the cooperative equilibrium collapses.

Fairness as Strategic Liability

An agent or society that voluntarily limits accumulation, redistributes gains, or enforces egalitarian norms may become strategically disadvantaged. History provides many such examples: peaceful polities overrun by extractive ones; idealistic regimes undermined by realpolitik rivals. In game-theoretic terms, fairness is not Pareto-optimal – it must be protected by metagames, institutions, or coercive leverage.

Dominance and Stability in Unfair Systems

Nash equilibrium does not imply fairness – only mutual stability. In many systems, the stable equilibrium involves entrenched inequality. No single agent can unilaterally change the rules without incurring loss. The unfair system persists not because it is ideal, but because it is locally rational and globally inertial.

Implications

Fairness, from a game-theoretic view, is:

- an unstable strategy in adversarial environments,
- a public good subject to free-rider problems,
- and a normative ideal that may require external enforcement to survive.

Thus, even if all agents desire fairness, their strategic positioning may preclude its realization – especially in the absence of mutual guarantees or systemic trust.

5 Historical Evidence: For and Against the Proposition

If the widening of inequality is indeed a systemic inevitability, we would expect to see its recurrence across diverse historical epochs and sociopolitical contexts. Conversely, if such a trend can be reversed or mitigated, evidence of exceptions must also be examined. This section surveys both reinforcing and countervailing cases.

Supporting the Inevitability Thesis

The Athenian Precedent. Classical Athens, despite its intellectual brilliance and participatory governance, eventually succumbed to internal polarization and external defeat. Its ideals of fairness were insufficient to shield it from the systemic pressures of imperial competition and internal inequality Hanson, [2001](#).

Tibet and the Cost of Peace. Tibet’s commitment to non-violence and cultural serenity did not prevent its absorption by a materially superior and strategically aggressive neighbor. In game-theoretic terms, its fairness ethos was not matched by structural defenses Goldstein, [1997](#).

Capital Concentration in Modern Economies. Piketty’s longitudinal data demonstrate that the return on capital (r) consistently exceeds the growth rate of the economy (g), leading to increasing wealth concentration over time – a dynamic that appears systemically persistent without deliberate intervention Piketty, [2013](#).

Network Effects and Preferential Attachment. As described in Section 3, Barabási’s model of scale-free networks shows that once nodes gain initial advantage, inequality deepens – an emergent feature of the structure itself Barabási, [2002](#).

Exceptions and Counterexamples

Post-War Scandinavian States. Countries like Sweden and Norway, through strong redistributive policies and social contracts, have managed to retain global competitiveness while tempering inequality. Though not utopian, these models show that equity and functionality can coexist under certain institutional conditions Kautto, [2010](#).

The New Deal and Structural Reset. In the wake of the Great Depression, the United States implemented a range of fiscal and regulatory policies that curtailed inequality and established a temporary equilibrium. Though this regime eroded over time, it demonstrates that system dynamics can be altered through policy Temin, [1991](#).

Gift Economies and Egalitarian Tribes. Anthropological studies of hunter-gatherer societies such as the !Kung suggest that egalitarianism can be maintained through cultural norms that suppress hoarding and reward sharing. These are not high-growth systems, but they demonstrate an alternative attractor Lee, [1979](#).

Intentional Communities. Kibbutzim, monastic orders, and other voluntary communal arrangements have shown sustained resistance to inequality – albeit often requiring strict norms, bounded scale, and high cultural cohesion Near, [1992](#).

Conclusion

History provides abundant evidence for the self-reinforcing nature of inequality. But it also offers glimpses – rare, bounded, fragile – of systems where fairness has been cultivated. These exceptions do not refute the proposition; they clarify the conditions under which it might be temporarily defied.

6 Interventions, Constraints, and the Cost of Equity

If inequality emerges naturally in open systems, then fairness must be engineered – and maintained at cost. This section examines the nature of those costs, and the mechanisms by which societies have attempted to counteract systemic drift.

Equity as Feedback Dampening

From a systems engineering perspective, fairness can be seen as a form of negative feedback imposed on reinforcing loops. Progressive taxation, antitrust laws, universal education,

and estate limits are all designed to inhibit runaway accumulation. These policies function analogously to dampers in dynamic systems – absorbing oscillations and redirecting flows Meadows, [2008](#).

Thermodynamic Analogies: Structure Requires Energy

The creation of structure in physical systems – such as reducing entropy locally – requires continuous energy input. Likewise, the maintenance of fairness demands sustained effort, vigilance, and political will. Absent such inputs, systems revert to asymmetry. Illich warned that even well-intentioned institutions become self-serving unless constrained by meta-ethical boundaries Illich, [1978](#).

The Price of Fairness: Efficiency vs. Justice

Redistributive mechanisms often face criticism on grounds of efficiency. Economic libertarians argue that incentives matter: taxation discourages innovation; regulation hinders growth. From a narrow optimization standpoint, this may be valid. But the long-term stability of systems depends not on maximizing short-term outputs, but on maintaining coherence, legitimacy, and trust Sen, [1999](#).

Failure Modes of Intervention

Not all fairness-oriented interventions succeed. Some produce unintended consequences – black markets, elite capture, capital flight. Others introduce new inefficiencies or shift burdens to unseen corners of the system. Naomi Klein’s critique of top-down reforms without local participation highlights how imposed equity may backfire if disconnected from cultural and contextual realities Klein, [2007](#).

Conclusion

The pursuit of fairness is not cost-free. It requires both *design* and *maintenance*. But without it, the system becomes brittle – vulnerable to revolt, corruption, or collapse. The challenge lies not in choosing between equity and function, but in designing systems where they reinforce each other.

7 The Aesthetics of Fairness and the Politics of Perception

Fairness is not only a structural condition – it is also a perceptual and symbolic one. How people *perceive* inequality often diverges from how it actually manifests. This gap between system state and system narrative can itself become a source of instability.

Perceived Fairness vs. Objective Distribution

Psychological studies show that individuals frequently misjudge wealth distributions – often underestimating the concentration at the top. Similarly, policies may be judged not by their outcomes but by their perceived alignment with cultural values, group identity, or moral narratives. In such cases, fairness functions more as an aesthetic judgment than a measurable fact.

The Role of Narrative and Ideology

Political actors and media institutions actively shape perceptions of fairness. Whether casting taxation as theft or equity as justice, narratives provide cognitive scaffolding. As Neil Postman warned, the structure of public discourse increasingly favors spectacle over substance **Postman_1985**. When politics becomes performance, fairness is judged not by its mechanics but by its dramaturgy.

Resentment and Mimetic Desire

The perception of unfairness fuels resentment – particularly when comparative benchmarks are close. René Girard’s theory of mimetic desire suggests that we envy not distant elites but our neighbors who seem undeservedly fortunate. This creates fertile ground for populism, scapegoating, and social fragmentation.

Fairness as Identity Signaling

In polarized contexts, fairness claims often function as tribal markers. To advocate for redistribution or meritocracy is to signal alignment with a broader worldview. Consequently, debates over fairness become proxies for deeper conflicts over status, belonging, and legitimacy.

Conclusion

The politics of fairness cannot be separated from its aesthetics. To design equitable systems, one must also address the symbolic and perceptual frameworks through which fairness is interpreted – and contested.

8 Reflections on Design, Destiny, and Decency

Having surveyed the structural drivers of inequality – from feedback loops to strategic defection – and having acknowledged both historical tendencies and outlier cases, we arrive at a philosophical impasse. If fairness is not a default condition, is it merely a fantasy? Or might it still serve as a design principle, even if only as an asymptote never fully reached?

Is Fairness Designable?

The question is not whether systems tend toward inequality – they often do. The question is whether we can *design* systems that resist this drift without collapsing under the weight of their own constraints. This is not a technical question alone; it is moral, aesthetic, and epistemological.

We must recognize fairness as a kind of *meta-constraint* – a recursive value that governs not only outcomes but the architecture of rulemaking itself. In this sense, fairness becomes akin to sustainability: a principle that limits present excess to preserve long-term coherence.

Gardening, Not Architecture

Rigid systems often break; organic ones adapt. Perhaps fairness is not a blueprint to be enforced, but a garden to be cultivated – pruned, nurtured, revised with the seasons. This metaphor allows for pluralism, imperfection, and iteration, while still resisting entropy.

Resisting the Gravity of Power

Even if systemic drift toward inequity is a form of gravity, resistance is not futile. Resistance is meaning. The very act of designing for fairness – however flawed – is an assertion of human agency against structural determinism. It is an ethic of decency in an indifferent world.

Conclusion

We may never achieve a perfectly fair world. But fairness remains a legitimate horizon – not because it is guaranteed, but because it is chosen. As Camus reminded us, rebellion against absurdity is itself a form of dignity. To pursue fairness is to rebel wisely.

9 Conclusion: Between Structure and Struggle

John F. Kennedy’s declaration that “the world is not fair” was not a lament – it was an observation. This paper has taken that observation seriously, asking whether fairness is structurally improbable, even across all coherent systemic worlds.

We have examined this proposition through multiple lenses:

- Philosophical traditions that frame fairness as normative rather than natural,
- Systems science, where inequality emerges from feedback and topology,
- Game theory, where fairness is an unstable strategy in adversarial contexts,
- Historical case studies that both confirm and complicate the thesis,
- The politics of perception and the challenge of symbolic equity,
- And reflections on the cost and fragility of intervention.

The result is not fatalism, but clarity. Fairness is not self-sustaining. It is not a default attractor. It is a second-order achievement – fragile, constructed, often temporary.

But that does not render it meaningless.

Fairness, properly understood, is an act of resistance: a stance taken by systems designers, policymakers, and communities who refuse to accept the gravity of accumulation as destiny. It is the pursuit of coherence over collapse, dignity over drift.

We return, then, to our revised axiom:

“The just must remain just, but also live in the world that is not.”

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