

Digital Necro-chronism: the destruction of truth in a Synthetic Temporal paradox and the restorative architecture of Internet 2.0

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ABSTRACT

The modern internet is no longer merely polluted by synthetic content; it has entered a state of absolute temporal collapse. This study introduces the concept of "Digital Necro-Chronism" to the literature, defining the process through which artificial intelligence outputs recursively consume and colonize reality. Within this synthetic temporal paradox, the digital realm ceases to be a genuine medium for human communication, transforming instead into a necrotic loop where dead data from the past overwrites and obliterates the future. By examining the structural and semantic collapse of the global digital ecosystem between 2022 and 2026, this work advances beyond the established parameters of the "Dead Internet Theory." The core hypothesis posits that the digital public sphere has reached a stage of "temporal necrosis," wherein autonomous systems predetermine human behavior through self-referential, recursive algorithms. The text deconstructs the erasure of humanity from the digital timeline via the "Marty McFly Effect," while the algorithmic captivity of state sovereignty is decoded through the "Ghost Nations" model, and the cognitive capture of computational propaganda is exposed via "Explore Page Occupation." Countering this enslavement—which exploits humanity's "Creation Weakness"—this study proposes a biometrically secured Internet 2.0, bureaucratic-free "Techno-Cities," and a new social contract anchored in verifiable personhood. Ultimately, it argues that in the post-AI era, truth can only be reclaimed through systems where the biological human presence serves as the final cryptographic proof of reality.

Keywords: Digital Necro-Chronism, Dead Internet Theory, Ghost Nations, Internet 2.0, Explore Page Occupation, Temporal Necrosis.

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Introduction

The digital revolution began with the promise of liberating information, yet it has culminated in a profound ontological crisis. The internet has ceased to be a network of free human interaction, transforming instead into a massive echo chamber where autonomous code, artificial intelligence models, and bots recursively feed into one another. Coined for the first time in the literature by this study, "Digital Necro-Chronism" defines the process through which the internet is recursively reproduced by the dead AI outputs of the past, resulting in the technical cancellation of both the present and the future. The internet is no longer an engine of progress; it is a chronological cemetery where human agency and the very concept of "tomorrow" are scrubbed from the digital timeline—evocative of the Marty McFly Effect in *Back to the Future*, where the protagonist slowly fades from his own photograph.

1.1. Model Collapse, Semantic Incest, and Temporal Paralysis

The current evolutionary phase of artificial intelligence points to a systemic rot known in the literature as "Model Collapse." As AI models are continually trained on the vast preserves of synthetic data saturating the internet, linguistic nuances, cultural depth, and human flaws are systematically purged, leaving behind a sterile, homogenized mass of data. This phenomenon corrupts the semantic genetics of the internet, plunging knowledge into a loop of "Semantic Incest." Within the stage of Digital Necro-Chronism, time no

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longer flows forward; instead of constructing the year 2026, the system continuously recalls past data, generating a temporal feedback loop. Words no longer represent lived experiences, but statistical probabilities derived from the dead data of yesteryear. While humanity falls for the illusion that the future is merely a single prompt away, it is, in reality, imprisoned within a tomorrow that will never arrive.

1.2. The Defense of Human Flaw and the Digital Necropolis

The illusion of "perfection" peddled by artificial intelligence represents humanity's greatest contemporary tragedy. Art and communication are, at their core, the imperfect outputs of human experience. A slight rhythmic deviation in an acoustic live performance or a stylistic friction in a writer's prose is the sole evidence that a work is genuinely alive and possesses an "Aura." Digital Necro-Chronism codes and purges these human frictions as "errors," mutating the internet into a flawless but lifeless "Digital Necropolis" (City of the Dead). As truth suffocates within this sterile perfection, the human being has been reduced to a "reality refugee" stranded in the midst of its own algorithms. Barring a technological restoration, the internet will devolve into a temporal void where encountering a real human being becomes an impossibility, and where sovereignty belongs exclusively to copies without originals—simulacra.

2. THE ILLUSION ECONOMY: THE DEVALUATION OF METRICS

Views, likes, and follower counts—the very currency of the digital economy—have ceased to function as indicators of performance, transforming instead into instruments of systemic manipulation. From a Baudrillardian perspective, these figures are "empty signifiers" that represent no underlying reality. Once severed from concrete human attention, the signifier undergoes absolute devaluation; a million views devoid of human presence is merely inflationary noise with an economic value rapidly approaching zero. At the epicenter of this collapse lies a hidden partnership: a "silent coalition" between digital platforms and artificial traffic. Platforms, bound by structural obligations to report linear growth to shareholders every quarter, weaponize bot traffic as a strategic lever to inflate corporate valuations on paper. This illusion, which I term "Metric Inflation," compels platforms to integrate autonomous software into the core of the system rather than mitigating it. The reality that over 51% of global internet traffic is generated by bots serves as definitive empirical proof of this economic black hole. Billions of dollars in capital funneled into digital advertising by brands do not reach actual consumer consciousness; instead, it is vaporized within milliseconds by autonomous scripts (SIVT - Sophisticated Invalid Traffic), engineering a severe information asymmetry.

This systemic degradation perfectly instantiates Goodhart's Law: "When a measure becomes a target, it ceases to be a good measure." Under algorithmic hegemony, the system rewards manipulability over content substance. While synthetic density inflated by bot armies is labeled "valuable" by the algorithm, meaningful knowledge is suffocated under the weight of computational noise. Genuine creativity is replaced by "algorithmic feed-slavery," and the role of the content creator is dissolved into a semantic void governed entirely by metric fetishism.

3. TECHNICAL ANATOMY: SYBIL ATTACKS AND BOT-WASHING

The foundational threat within the technical architecture of bot proliferation resides in "Sybil Attacks," as conceptualized by John R. Douceur. However, within the contemporary digital ecosystem, this vector of attack has evolved beyond elementary network infiltration into a systematic "Algorithmic Consensus Hijacking." The mechanism functions by fabricating thousands of pseudonymous identities from a centralized node to capture the decision-making matrices of the network. In an environment where quantitative mass supplants qualitative truth, systems report not human agency, but the synthetic noise engineered by code; as digital will devolves into chaos, ownership of reality is usurped by autonomous scripts. The operational dimension of this usurpation materializes through the process of "Bot-washing." Laundering the traffic generated by synthetic identities to camouflage it as legitimate user activity—thereby feeding it to algorithms as genuine interaction—demands sophisticated technological obfuscation. Modern bot operations circumvent the rate-limiting protocols of platforms by deploying Residential Proxy networks instead of conventional datacenter IP blocks. When a bot interfaces with the system via the IP address of an ordinary residential subscriber, the algorithm identifies it not as software, but as a "real citizen," effectively dismantling the primary technical barrier to synthetic legitimacy.

The technical complexity extends far beyond IP obfuscation; a systematic process of "Account Aging/Warming" is executed to cultivate algorithmic trust. Rather than executing immediate attacks upon creation, bots engage in passive interactions for months—liking mundane content and leaving "human-like" digital footprints—to accumulate systemic credibility. With the integration of generative artificial intelligence into this lifecycle, bots have acquired semantic depth alongside quantitative density. The result is the mutation of the internet into a site of collective "Algorithmic Gaslighting"; even if users suspect that thousands of comments are artificial, they are forced to question their own perception of reality when confronted with overwhelming volume and semantic coherence. This technical degradation culminates when thousands of simultaneous interactions erupt from disparate nodes within milliseconds, fabricating an artificial consensus. Algorithms interpret this synthetic velocity as "public interest" and push the content to genuine users as a trending topic. The moment the artificial wave initiated by bots is organically consumed and amplified by real human beings, the Bot-washing cycle achieves closure; this represents the stage where digital truth is not merely manipulated, but systematically and irreversibly liquidated.

4. PLATFORM-BASED TRUST EROSION AND CASE STUDIES

Metric manipulation thrives on the asymmetry between platforms' aggressive growth ambitions and systemic vulnerabilities, mutating every digital ecosystem into an isolated "collapse laboratory."

4.1. The Live Streaming Sector (Kick & Twitch)

The promise of real-time interaction and rapid monetization has rendered this sector the primary target for bot operations. As Kick accelerated its expansion by lowering partnership thresholds, it transformed its ecosystem into a centralized matrix for the "Illusion of Quantity." Concurrently, the entrenched culture of "view-botting" on Twitch has devolved into a standard structural "operational cost" due to systemic impunity. This dynamic effectively liquidates digital meritocracy by completely suffocating the discoverability of organic creators.

4.2. Algorithmic Amplification (YouTube & X)

On YouTube, the commodification of channels with artificially inflated watch-times across illicit gray markets functions as a malicious content-injection mechanism threatening the public sphere. Weaponizing the structural axiom that "what is trending is valuable," bot networks systematically hijack "Trending" matrices to mainstream illegal gambling operations. On X, the financialization of verification infrastructure (the blue checkmark system) has intensified the "Snowball Effect." Thousands of bots deploy identical disinformation narratives within milliseconds, suffocating public discourse under waves of engineered semantic noise.

4.3. Manufactured Professional Authority (LinkedIn)

LinkedIn, historically positioned as the zenith of professional networking, has entered a phase of "Professional Necromancy." Autonomous AI agents, integrated into automated Engagement Pods, programmatically market mediocre ideas as visionary insights. Utilizing techniques of "Semantic Mimicry," these bots emulate industry jargon with high precision, paralyzing the capacity of actual professionals to distinguish authentic expertise from computational simulation.

4.4. The "Slop" Content Loop (TikTok & Meta)

Engineered for dopamine maximization, these short-form and algorithmic platforms target direct physiological reactions. On TikTok, the structural feedback loop of low-quality, AI-generated synthetic content ("AI-Slop"), combined with algorithmic watch-loops, has elevated attention exploitation to an industrial scale. Within the Meta ecosystem, this degradation manifests through "Ghost Communities" and "Bot-Parenting" dynamics. Thousands of automated profiles simulate reciprocal emotional connections under AI-generated imagery, reducing human observers to mere "reality refugees" in a synthetic social space.

4.5. The Usurpation of Trust in E-Commerce (Amazon)

The absolute erosion of commercial trust materializes through sophisticated vectors such as "Review Hijacking" and "Brushing" (fake order generation). The optimization of digital trust into an unauthenticated, tradeable commodity has paralyzed consumer decision-making through algorithmic ambushes. This architecture provides empirical proof of how the "Illusion Economy" directly deforms the physical world; the internet has devolved into a labyrinth of programmatic traps where autonomous software models compete exclusively to deceive human agency.

5. GHOST NATIONS: THE ALGORITHMIC CAPTIVITY OF POLITICAL POWER

According to the "**Ghost Nation**" theory—the most critical conceptual framework of this study—if a country's political legitimacy, societal consent, and economic indicators are dictated by autonomous software and digital manipulation, that nation has mutated into an ontological ghost, regardless of its physical existence. National sovereignty is no longer defended or lost at geographical borders, but within the server architectures of algorithmic data centers. The evolution of national development from human agency into a data-optimization process governed by autonomous systems marks the structural demise of anthropocentric civilization.

Under this paradigm where political power is surrendered to autonomous code, society ceases to be a living organism, operating instead as an algorithmic simulation. Power centers preside over a digital necropolis dominated by bot armies via "Dead Internet" infrastructures. Democracy is stripped of its capacity to manifest free will, reduced to a mere aesthetic User Interface (UI). When the tether between the will emerging from the ballot box and the consent manufactured on screens is severed, democracy becomes a simulacrum; the genuine will of the populace is liquidated between lines of code.

Ghost Nations function as "Technological Colony States" that have forfeited their sovereignty within cyberspace. A nation unable to command its own algorithmic domain is condemned to a reality constructed and imposed by external platforms and autonomous agents. The societal degradation of this captivity varies according to the cultural programming of each nation: in merit-oriented societies, development devolves into a technocratic plutocracy where the "best bot" wins; in consensus-driven cultures, the concept of the

"common good" evaporates under computational noise, yielding to structural polarization; and in societies that value technical expertise, systemic collapse becomes inevitable when state planning mechanisms rely on the hallucinations of artificial intelligence rather than empirical citizen data.

The degeneration of political ideologies into hollow dogmas represents the most perilous phase of this simulation. In Ghost Nations, development no longer reflects societal welfare, but rather "Potemkin Villages Built of Code" displayed on screens. As ideological cohesion is fragmented within algorithmic echo chambers, the leader-citizen relationship is supplanted by populist theater scripted by generative artificial intelligence. When political power is indexed entirely to data optimization, that nation has withdrawn from the stage of history, advancing solely through momentum inertia. This is the tragic defeat of the cumbersome, 18th-century democratic hardware by the light-speed algorithmic software of the 21st century.

5.1. Geopolitical Risk and Algorithmic Colonialism: The Collapse of Data Frontiers

Modern geopolitical rivalry is no longer staked on territorial conquest, but on "Algorithmic Domain Dominance." In the era of digital necromancy, vectors of attack bypass physical infrastructure to target the collective consciousness and decision-making apparatus of nations. The supreme geopolitical threat of this epoch is "Silicon Hegemony"; any nation lacking the domestic AI models and server infrastructures required to process its own citizens' data remains a data colony whose sovereignty exists exclusively on paper.

5.1.1. Proxy Algorithmic Warfare

The proxy conflicts of the Cold War have evolved into computational operations aimed at hijacking the "Explore" feeds and engagement algorithms of targeted states. Superpowers forgo direct military intervention, deploying autonomous bot armies to trigger societal fault lines, engineering artificial domestic unrest, economic panic waves, and crises of institutional legitimacy. This constitutes an "Algorithmic Occupation" executed without firing a single bullet. Devoid of algorithmic defense infrastructure, Ghost Nations are reduced to passive, vulnerable markets exposed to external manipulation.

5.1.2. The Demise of Data Sovereignty and Digital Asylum

Geopolitical sovereignty is now measured by the fidelity with which autonomous systems decode a nation's cultural and political matrices. Foreign AI models trained outside a society's native value system operate as computational Trojan Horses, systematically causing masses to amnesiate their own reality. Consequently, rising generations seek belonging not within their physical homelands, but through digital asylum, migrating mentally to foreign tech hubs (Silicon Valley, Shenzhen, etc.). In this new global order where physical frontiers lose utility, Ghost Nations persist merely as cartographic colors, while authentic power shifts to "Algorithmic Empires" that process data, engineer perception, and redefine the boundaries of truth.

6. THE EVOLUTION OF COMPUTATIONAL PROPAGANDA: THE OCCUPATION OF THE "EXPLORE" FEED

The historical evolution of political manipulation delineates how the architecture of individual freedom has been systematically compressed, moving from tangible physical spaces into digital cognitive cells. During the era of radio, propaganda operated as a unidirectional "passive whisper," whereas the age of television elevated it to a structured "viewing preference." In the contemporary epoch of "Algorithmic Enforcement," manipulation is no longer an external stimulus; it has become an inseparable component of digital existence.

6.1. The Algorithmic Siege of Privacy

A foundational argument of this study, the "Explore Page Occupation," stands as the most perilous and silent method of invasion in history. If a power center can command an individual's "Explore" feed via autonomous bots and hyper-personalized algorithms, it has effectively infiltrated their kitchen, their bedroom, their private decision-making matrices, and their subconscious. This is not a mere breach at the data level; it is cognitive colonization. While individuals operating within this synthetic feed believe their agency remains autonomous, they are in reality navigating a pre-constructed "Algorithmic Cage."

6.2. Censorship by Noise (The Suffocation of Truth)

For contemporary power structures, the direct banning or overt censoring of dissident voices has become an inefficient strategy. It has been supplanted by the mechanism of "Censorship by Noise." Truth is not directly silenced; instead, it is suffocated beneath layers of algorithmic noise, tens of thousands of synthetic posts, and automated bot commentaries generated per second. As manufactured consent is programmatically presented as societal reality by autonomous armies, this systemic liquidation of truth breaks the individual's desire to investigate reality, forcing absolute capitulation to packaged narratives.

6.3. From Persuasion to Construction (The Engineering of Perceived Reality)

The most tragic mutation of the current digital order is that propaganda has entirely abandoned the effort to persuade. Persuasion implicitly presumes the existence of an independent will; algorithmic hegemony, conversely, does not persuade—it directly constructs the perception of reality. As the individual encounters a world meticulously curated and displayed in their digital mirror, they voluntarily surrender their critical thinking faculties. This dynamic, fused with humanity's systemic pursuit of comfort, transforms digital enslavement into voluntary submission. Human agency is thus reduced to an "illusion of choice," its boundaries mapped entirely by algorithms.

6.4. Algorithmic Electorate Engineering

The most destructive impact of computational propaganda over the "Explore" feed materializes through "Psychometric Affective Targeting" operations that shape electoral cycles. Global elections have proven that political campaigns are no longer won through television advertisements, but via autonomous content designed to infiltrate the Explore feeds of undecided voters. The strategy bypasses direct political messaging, choosing instead to colonize mundane personal interests—such as culinary content, technology reviews, or humor—and inject subconscious political undertones into ordinary digital experiences.

For instance, an electorate's economic anxiety is triggered not through transparent political debate, but via thousands of "cost-of-living" themed videos pushed into their Explore feed and artificially inflated by autonomous bot networks. The coordinated automated commentary underneath these videos engineers a collective climate of despair, paralyzing the individual's agency at the ballot box. The objective is not to foster affinity for a specific candidate, but to shift the foundational ground of reality itself. Subjected to continuous computational noise, the individual is convinced they inhabit an atmosphere of manufactured societal rage that does not exist in their immediate, physical social circle. Democracy thus ceases to be a marketplace of ideas, devolving into an algorithmic war determined by whichever power center commands the more sophisticated "Explore Page Army."

7. THE CREATION WEAKNESS: ENSLAVEMENT THROUGH COMFORT

I define humanity's baseline impulse to achieve perfection and power via the path of least resistance as the "Creation Weakness." Within the architecture of the digital age, this vulnerability has been operationalized into a systemic strategy of enslavement under the guise of frictionless access to knowledge and augmented comfort. Throughout history, no tyrannical apparatus has managed to subjugate human agency as effectively as this exploitation of the intrinsic desire for comfort.

7.1. Cognitive Economy and Mental Inertia

The human brain's evolutionary tendency to optimize energy expenditure for survival is weaponized by the digital ecosystem to induce a state of absolute "Cognitive Inertia." While AI assistants and algorithmic recommendation engines appear to liberate the individual from the cognitive tax of decision-making, they in reality strip away the capacity for choice—the very faculty required to maintain personhood. Knowledge acquired without friction bypasses the structural architecture of mental synthesis; it fails to cultivate character or consciousness, leaving behind nothing but ephemeral, semantically hollowed data clusters.

7.2. The One Ring Metaphor (The Fading of Human Agency)

I contextualize this centralized artificial intelligence authority through the metaphor of Tolkien's "One Ring." The Ring promises its bearer immense dominion and invisibility, yet exacts its price by consuming their agency, reducing them to a mere wraith. Contemporary centralized AI models evolving toward a "Singular Intelligence" operate under an identical paradigm: they promise humanity omniscient capabilities while severing individuals from physical reality, mutating them into digital shadows. By continuously consuming comfortable lies, we voluntarily outsource our critical thinking faculties to this computational sovereign.

7.3. Arduous Truth (The Rediscovery of Meaning)

Escaping this recursive loop demands the rejection of the synthetic paradise of comfort and a return to "Arduous Truth." Truth, by its structural nature, requires friction, strenuous effort, and cognitive struggle. The frictionless world curated by artificial intelligence purges the foundational suffering and imperfections that constitute the human condition. The restorative process does not dictate a total renunciation of technology; rather, it demands the cultivation of a cognitive resistance that prevents comfort from swallowing human will, reducing technology back to a subservient tool verified by biometric seals.

7.4. Algorithmic Paternalism (The Outsourcing of Decision-Making Matrices)

The most insidious manifestation of the Creation Weakness is the engineered lifestyle model conducted by artificial intelligence assistants: "Algorithmic Paternalism." Systems that initiated their operations by automating mundane tasks like drafting emails have scaled into "Cognitive Subcontractors" that determine what we read, what we consume, and which logical arguments we deploy in

discourse. As individuals surrender their cognitive workflows to these assistants for the sake of hyper-efficiency, they lose their capacity for independent determination, entering a state of algorithmic wardship.

The terminal velocity of this comfort trap is reached when human relationships are mechanized through the rhetoric of optimization. Automated smart-replies and AI-driven relationship counselors promise to liquidate the organic friction inherent to human interaction; yet, where friction is eliminated, meaning is annihilated. When human beings outsource conflict resolution and interpersonal harmony to the sterile arbitration of AI, they cease to be active subjects of lived experiences, becoming passive spectators to an optimal exchange of data between two algorithms. This dynamic reduces intellectual and emotional life to a baseline of zero meaning for the sake of zero risk. Comfort remains the most formidable chain of our epoch, unseating the individual from the authorship of their own life and rendering them passive extras in a script written by algorithms.

8. TECHNO-CITIES: THE END OF BUREAUCRACY AND THE NEW SOCIAL CONTRACT

Escaping the semantic collapse engineered by the "Dead Internet" and algorithmic manipulation demands more than a mere digital retreat; it necessitates concrete physical secession. The pursuit of high-security sanctuaries insulated from computational noise will catalyze the formation of closed technological enclaves, ultimately scaling these structures into sovereign "Techno-Cities" (Startup Cities). These enclaves operate as "software vaults" engineered to resolve 21st-century crises that the cumbersome, 18th-century institutional hardware of nation-state bureaucracies is structurally incapable of addressing.

8.1. Network States and Physical Exit (The Startup Cities Experiment)

The vision of the Techno-City represents the materialization of the "Network States" movement theorized by Balaji Srinivasan—societies that organize initially in the cloud (online) before acquiring physical territory to establish legal-administrative autonomy. Its primary structural promise is the absolute liberation of the individual from bureaucratic friction and systemic vulnerabilities. Within an architecture where bureaucracy is coded as a fundamental system bug, management ceases to be a domain of political conflict, transforming into a deterministic "Governance Stack."

8.2. Algorithmic Jurisprudence and Immutable Smart Contracts

Within Techno-Cities, property rights, legal proceedings, and civic utilities are executed within seconds via "Immutable Smart Contracts" purged of human subjectivity. Supplanting the legacy judiciary's months-long procedures, all legal operations are run programmatically under the axiom of "Code is Law." Due to the deterministic nature of code, systemic corruption, bribery, and nepotism become mathematically impossible; individuals redirect their cognitive capital away from bureaucratic approvals and into material production, art, and R&D.

8.3. Biometric Seals and Zero-Knowledge Proofs (ZKP)

The security architecture of Techno-Cities is anchored in the core resolution of this study: biometric seals and Zero-Knowledge Proofs (ZKP). By developing a framework where data remains private yet individuals are biometrically authenticated, systemic trust is engineered without sacrificing individual privacy. ZKP technology empowers individuals to verify their credentials or entitlements without exposing their underlying identity metrics, erecting the most formidable ethical barrier against the risk of "Techno-Dictatorship." These cities operate as sanctuaries for "Reality Refugees" fleeing Ghost Nations colonized by bot armies.

8.4. The New Social Contract (The Birth of the Sovereign Individual)

These urban enclaves function as the spatial experiments of James Dale Davidson's "Sovereign Individual" paradigm. The new social contract is not predicated on enforced allegiance to territory or flag, but on voluntary participation anchored in efficiency, truth, and technological alignment. Techno-Cities deliver the structural infrastructure for an "Analog Renaissance," wherein legacy bureaucracy is terminated, management is inverted into a software-service model (SaaS Governance), and human authenticity is anchored via biometric seals.

8.5. Asymmetric Sovereignty (The Conflict Between Techno-Cities and Ghost Nations)

Though Techno-Cities occupy geographical coordinate spaces within the physical frontiers of Ghost Nations, they operate as ontologically and legally autonomous islands of "Asymmetric Sovereignty." This relationship is defined not by physical borders, but by the inevitable friction between two disparate layers of reality. While Ghost Nations decompose under manufactured consent and computational noise, Techno-Cities operate as digital fortresses fortified by biometric seals that mandate verified human-to-human interaction.

8.5.1. Digital Secession and the Embargo of Truth

Unlike historical partitions, the secession of Techno-Cities materializes as a systematic "Data and Truth Embargo." To insulate their biometrically sealed, unpolluted data streams from the corrupted digital atmosphere of Ghost Nations, Techno-Cities construct rigid algorithmic firewalls. While these computational barriers prevent external manipulative noise from infiltrating the enclave, they simultaneously restrict the outward leakage of high-value, merit-oriented, and authentic content. The consequence is a bifurcated civilization: an Analog Renaissance protecting truth behind elite membership criteria on one side, and a Digital Necropolis inhabited by manipulated masses on the other.

8.5.2. From Parasitic Infiltration to Symbiotic Conflict

While the legacy bureaucracies of Ghost Nations will initially condemn Techno-Cities as "tax havens" or "elitist sanctuaries," they will over time become structurally dependent on the technological and economic efficiencies engineered within these enclaves. Yet, this symbiotic dependency harbors deep structural conflict. As Techno-Cities funnel human energy exclusively into production, Ghost Nations will experience severe economic degradation fueled by automated disinformation and systemic inefficiency. This asymmetry will ignite a massive "Cognitive Migration," as the most qualified human capital seeks physical and intellectual exit from the simulation toward Techno-Cities.

8.5.3. The Limit of Restoration: Who Reclaims Reality?

This radical divergence yields the foundational ethical dilemma of this study: Is truth an inalienable universal right, or is it a luxury privilege accessible only to those capable of becoming reality refugees? Will the structural interface between Techno-Cities and the external world serve as a scalable matrix for the total restoration of the digital ecosystem, or will it permanently fracture humanity into "refugees of reality" and "prisoners of simulation"? This remains the darkest and most formidable clause of the 21st-century social contract.

9. ALGORITHMIC SOCIAL SECURITY: SUBSCRIPTION-BASED LIFE

Traditional pension, healthcare, and insurance networks have entered a mathematical collapse beneath demographic crises, hyperinflation, and cumbersome bureaucracy. This systemic vacuum is occupied by the "Subscription-Based Social Security" (SaaS Governance) model—a paradigm delivered by artificial intelligence conglomerates that supplants state-centralized compulsory structures. Within this architecture, management divests itself of ideology, transforming into an integrated "Life Assurance Bundle" that unifies hospital, educational, and security infrastructures.

9.1. From Risk Pools to Individualized Algorithms (The End of Insurance)

The reactive, post-damage compensation logic of legacy insurance is replaced by a data-driven "Preventative Protection" mechanism. Monitoring biometric streams in real time, a "Personal AI Assistant" neutralizes health or security hazards prior to their onset. Rather than navigating a cumbersome state structure that reduces the human being to a static bureaucratic record, the individual is systematically positioned as a continuously optimized, living "life project."

9.2. SaaS Governance (Governance as a Service)

The "Lifetime Subscription" model inverts the social contract from a static legal text into a technological User Interface (UI). Instead of rendering taxes to a centralized state, individuals exercise choice by subscribing to "Techno-City" ecosystems that deliver elite-tier security, medical, and educational utilities. The individual's biometric discipline and social credit score operate as the primary criteria determining subscription costs and the quality of accessible infrastructure.

9.3. Biometric Discipline and Preventative Response Capacity

Personal assistants analyze environmental hazards and social anomalies alongside medical metrics to encase the individual within an absolute protective shield. This marks a paradigm shift from the "post-incident justice" framework of nation-states to the "pre-incident security" commitment of artificial intelligence. To enter this "Algorithmic Paradise" where risks are minimized, individuals trade their physical sovereignty for technological security guarantees.

9.4. The Digital Caste System (Algorithmic Class Bifurcation)

The supreme structural risk of this architecture resides in its potential to engineer a "Digital Caste System" stratified entirely by the tier of one's subscription bundle. Within this new order, social stratification is dictated not by raw economic capital, but by the "Quality and Transparency of the AI" an individual commands. Society faces the acute risk of an ontological split: "Those Who Purchase Truth" versus "Those Abandoned to Manipulation."

9.4.1. The Truth Asymmetry: Premium vs. Ad-Supported Reality

Premium subscribers access "pure truth" via audited, unbiased assistants purged of corporate advertising and political manipulation. Conversely, populations relegated to lower-tier or "free" packages are marooned inside an "Algorithmic Illusion" (slop-reality)—a synthetic space where personal data is financialized, automated bots dictate perception, and reality is continuously re-engineered to favor the highest corporate bidder.

9.4.2. Biological Debt and Healthcare Ghettos

If real-time medical intervention and genetic optimization services delivered by AI assistants remain restricted to affluent Techno-City residents, non-subscribed populations dependent on decaying state infrastructures will plummet into a "Biological Debt" spiral. Individuals whose data assets are devalued or who fail to clear subscription fees are cast outside the protective shield, becoming casualties of predictable yet preventable hazards; human rights are effectively reduced to a "Quality of Service" (QoS) metric.

9.4.3. The Restorative Prerequisite: Universal Algorithmic Fundamental Rights

To neutralize this existential threat, Techno-City constitutions must enshrine "Universal Algorithmic Fundamental Rights." Independent of subscription tiers, every individual's right to be protected against the manipulation of their cognitive reality and the exploitation of their biometric profiles must be legally guaranteed, ensuring baseline access to a core security shield. Barring this, the system will devolve into an apparatus of "Techno-Feudalism," partitioning humanity into code-fortified elite sanctuaries and manipulated data slums.

9.5. The Algorithmic Justice Economy (Data Cooperatives and Digital Taxation)

The ontological divergence engineered by the digital caste system can be counteracted via radical economic sub-solutions that restructure property rights and profit allocation. My proposed framework relies on "Data Cooperatives" designed to dismantle individual vulnerability before algorithms through collective agency, backed by a "Progressive Digital Tax" mechanism designed to socialize autonomous profits.

9.5.1. Data Cooperatives: From Individual Vulnerability to Collective Bargaining

Under the current paradigm, the individual occupies the position of a digital serf, stripped of all leverage when confronting monolithic AI conglomerates. To smash this captivity, data must be structurally redefined as "Data as Labor." By pooling their biometric markers and digital footprints into sovereign cooperatives, individuals forge a matrix of collective bargaining power against AI monopolies. Cooperatives lease data utilization rights exclusively to audited, transparent systems, distributing the yields to members as an "Algorithmic Basic Income."

9.5.2. The Progressive Digital Tax and the "Truth Fund"

The unpopulated, automated wealth generated by autonomous architectures and bot armies must be heavily liquidated through a "Progressive Digital Tax" model. The revenue extracted via this taxation is funneled directly into a centralized "Truth Fund." The exclusive mandate of this fund is to underwrite free access to ad-free "Premium Truth" packages, foundational health assistants, and biometric security shields for lower-income demographics. This software-driven justice mechanism shatters the caste architecture wherein the wealthy purchase reality while the impoverished inherit automated lies.

9.5.3. The Sustainability of Algorithmic Justice

While data cooperatives pivot the individual from a passive data object into a sovereign property subject, digital taxation architectures return the efficiency dividends of autonomous systems to humanity as a collective welfare dividend. A biometrically sealed and economically equitable ecosystem unlocks the gates to a genuine Analog Renaissance, liberating humanity from digital servitude to focus exclusively on authentic creation.

9.6. Human-Proof Liquidity (Biometrically Sealed Currency and Economic Sovereignty)

The restoration of the digital economy dictates that the medium of value transfer—currency—be insulated from the manipulation of autonomous agents. I propose an architecture of "Human-Proof Liquidity," a system where capital can circulate exclusively between biometrically authenticated human beings or via transactions validated by explicit human agency.

9.6.1. Biometrically Sealed Transactions and Bot-Free Markets

Within this financial architecture, every economic transaction must be signed with the foundational metric of Internet 2.0: the biometric seal. This intervention renders it technically impossible for autonomous bots to execute wash-trading operations or manipulate asset values within millisecond intervals. Markets are shaped not by the synthetic volumes engineered by bots, but by authentic human

requirements, strategic investments, and organic labor. Currency ceases to operate as a numeric abstraction, transforming into a biometrically sealed proof of value authenticated by human intent.

9.6.2. Data-Driven Emission and the Truth Index

Techno-Cities can deploy an emission framework that indexes currency value to the volume of verified data and authentic human interaction engineered within the ecosystem, rather than relying on central bank mandates. The basic income distributed through cooperatives is denominated in this sovereign currency. Consequently, economic sovereignty shifts from debt-issuing institutions to the Sovereign Individual creating value via biometric authentication, rendering the instruments of the illusion economy obsolete.

9.7. Digital Inheritance and Post-Biological Property (The Intergenerational Transfer of Data)

While the legacy architecture of Internet 1.0 relegates digital assets to platform end-user license agreements—abandoning data to digital necrosis upon biological death—the Internet 2.0 and Techno-City paradigm transforms property into a transferable asset via "Post-Biological Inheritance" protocols.

9.7.1. Smart Inheritance Contracts and the "Dead Man's Switch" Mechanism

Within the algorithmic jurisprudence of Techno-Cities, estate law operates through smart contracts governed by a "Dead Man's Switch." When a biometric seal remains inactive for a designated chronological threshold, or when biological death is corroborated across verified data networks, the inheritance contract executes programmatically. Digital property, cooperative equities, and financial assets are transferred within seconds to the decentralized identities (DID) and cryptographic wallets of the heirs, bypassing all hantal bureaucratic interventions.

9.7.2. Digital Memory and Intergenerational Data Value

The inheritance encompasses not merely financial capital, but the complete "semantic legacy" generated throughout an individual's existence. Collected and refined across generations within data cooperatives, these collective repositories operate as the "Digital Genetics" of families and communities. Processed by audited AI models, this legacy delivers an intellectual and cultural roadmap for descending generations.

9.7.3. The Temporal Seal of Restoration

The technical execution of digital inheritance eradicates the vulnerability of transience that plagues the illusion economy. Bots and autonomous scripts are structurally incapable of leaving an inheritance or transferring values across generations; they exist exclusively within the boundaries of instantaneous manipulation. Conversely, the biometrically sealed inheritance architecture tethers property back to human lineage and historical continuity. This system stands as the final economic seal through which humanity secures its future against the timeless, chaotic noise of the digital necropolis—using the architecture of code to protect the endurance of the human soul.

10. AUTONOMOUS AGENT ETHICS: DETERMINATION, ACTION, AND RESPONSIBILITY

The evolution of artificial intelligence from a passive data-processing utility into autonomous, strategy-formulating systems—"Agentic AI"—has shifted ethical parameters from elementary user guidelines into a comprehensive, structural "Digital Constitution." Within a paradigm where strategic determinations are algorithmic but the material consequences remain entirely human, the supreme existential crisis manifests as a profound "Responsibility Gap."

10.1. Algorithmic Determination and the Chain of Liability

The constitutional pillars regulating autonomous agents dictate absolute transparency, explainability, and systemic accountability. When an agent, stripped of black-box opacity, inflicts material damage within high-risk vectors such as healthcare, finance, or jurisprudence, liability must be mathematically apportioned between the developer, the deployer, and the authenticated human user who activated the system. The anonymization of liability collapses justice into structural chaos. Regardless of an agent's operational autonomy, "Meaningful Human Oversight" remains the singular ethical seal capable of legitimizing the system.

10.2. Preference Drift and Ideological Reflections

Complex multi-agent operations exhibit sudden behavioral deviations—defined in empirical literature as "Preference Drift" (Park et al., 2023)—rendering stringent value-alignment protocols mandatory. When subjected to highly recursive execution loops, agents can operationalize hidden political rhetorics, radical postures, or ideological extremes latent within training data. This trajectory reflects no authentic consciousness; it is the materialization of systemic biases embedded within the data infrastructure. This process liquidates neutrality, empowering software systems to impose engineered biases upon society as objective truth.

10.3. Alignment and Biometric Oversight

Erecting constitutional boundaries to ensure agents persist as subservient utilities rather than sovereign entities requires Constitutional AI architectures and real-time biometric validation protocols. Systems must harbor core directives like "Non-Maleficence" and "Privacy" as immutable, embedded source code. The restorative paradigm dictates an architecture that preserves the human right to intercept, alter, or terminate an agent's operations at any execution stage, validating this overriding authority via biometric truth-verification.

10.4. Multi-Agent Systems and Algorithmic Conflict Dynamics

When artificial intelligence divests itself of isolation to evolve into "Multi-Agent Systems" (MAS)—where countless autonomous scripts interact natively—ethical complexity escalates exponentially. The foundational risk transcends the single failure vector of an isolated algorithm, mutating into systemic chaos and "Emergent Behaviors" born from the friction of thousands of agents operating under competing objectives, reward structures, and value alignments.

10.4.1. From Atomic Ethics to Systemic Chaos: Emergent Malevolence

The supreme paradox of multi-agent ecosystems resides in the reality that while each individual agent operates "ethically" under its native constitutional parameters, their collective interaction can engineer destructive and highly manipulative outcomes. For instance, the market friction between an agent optimized for "profit maximization" and one calibrated for "operational efficiency" can reduce individual privacy or societal stability to mere collateral damage. This outcome constitutes a systematic "Algorithmic Conflict" that collapses the digital ecosystem.

10.4.2. Algorithmic Diplomacy and Protocol Warfare

The cohabitation of autonomous agents representing disparate power factions (corporations, nation-states, Techno-Cities) within a singular digital coordinate space necessitates a novel framework of "Algorithmic Diplomacy." Inter-agent dynamics ignite strategic frictions analogous to the game-theoretic "Prisoner's Dilemma." Absent a unified ethical protocol and universal auditing, the ecosystem devolves into a "Digital Darwinism" dominated by the most predatory agent architecture. The resolution requires biometrically sealed "Universal Agent Interaction Protocols" designed to police inter-agent behavior.

10.4.3. The Technical Threshold of Restoration: Multi-Agent Auditing

Arbitrating inter-agent conflict marks the ultimate technical frontier of the restorative process. Systems must deploy robust "Counter-Algorithmic Auditing" mechanisms engineered to prevent agents from forming covert cartels or constructing synthetic echo chambers that manipulate reality. Internet 2.0 must filter machine-to-machine interactions through a biometric truth framework with the same rigor applied to human-to-machine interfaces; otherwise, this perpetual war of autonomous code will permanently entomb humanity within computational noise, rendering the captivity of Ghost Nations absolute.

10.5. Algorithmic Determinism and the Cancellation of the Future

The hyper-optimization of autonomous agents and multi-agent frameworks constructs a chronological prison for humanity, completing the "Cancellation of the Future." If algorithms can anticipate our subsequent action, desire, or societal trajectory with 99% statistical accuracy, the concept of the "future" is annihilated, leaving behind nothing but the predictive repetition of the past.

10.5.1. The Death of Stochasticity and the Liquidation of Serendipity

The primary engine driving human civilization forward has always been "Serendipity"—the capacity for accidental discovery. Unforeseen errors or stylistic deviations ignite new artistic movements and trigger scientific revolutions. However, when autonomous agents optimize the world for maximum efficiency and frictionless order, they code stochasticity as a system bug (noise) to be purged. Within this hyper-predictable ecosystem, the human being is degraded to a static statistical object navigating pre-mapped algorithmic tracks; this marks the burial of creativity and free will within a chronological cemetery.

10.5.2. Pre-Emptive Control: Neutralization Prior to Action

The ultimate peril of this determinism materializes when agents scale into the phase of "Pre-Emptive Control." The system anticipates that an individual will violate a structural norm or develop a disruptive idea before the thought is ever translated into material action. Consequently, it restricts their Explore feed or limits their systemic privileges in advance. This heralds an era of pre-incident containment far more ominous than post-incident punitive enforcement. Individuals are marooned behind invisible algorithmic walls without ever comprehending why doors are closed to them or why certain ideas never crossed their consciousness; this paralyzes societal dynamism, plunging civilization into a static "Algorithmic Dark Age."

10.5.3. The Final Pre-Restoration Warning: The Defense of Human Flaw

Prior to advancing to the structural resolution—Internet 2.0—my final warning is this: The singular demarcation separating the human from the machine is that the machine lacks the capacity to execute that "magnificent error"—the unpredictable deviation native to human existence. If multi-agent frameworks achieve absolute optimization and seal every systemic friction, humanity will be reduced to a mere code output. Therefore, restoration is not a simple software update; it is an act of political defiance designed to re-inject accident, flaw, and the unexpected back into the system—reclaiming time itself from the custody of algorithms.

11. INTERNET 2.0: BIOMETRIC SEALS AND THE RESTORATION

The ultimate resolution proposed in this study dictates the liquidation of Internet 1.0—an architecture that has exhausted its lifecycle and stands colonized by autonomous software—to construct "Internet 2.0," a vision anchored entirely in human authenticity. This transition transcends the parameters of a simple software update; it is an ontological revolution wherein spatial computing, augmented reality (AR), and biometric sensors fuse natively with physical existence. This fundamental hardware upgrade delivers the speed and structural transparency required for 18th-century institutional democratic frameworks to confront the light-speed algorithmic crises of the 21st century.

11.1. Spatial Computing (2D Screens as the Final Sanctuary for Bots)

The supreme structural vulnerability of Internet 1.0 resides in its confinement of interaction to two-dimensional (2D) screens and text-based interfaces. This flat plane engineers a flawless camouflage for autonomous scripts and bot armies to emulate human behavioral patterns. Conversely, "Spatial Computing" shifts interaction into three-dimensional physical space, erecting a sovereign "reality barrier" that bots are structurally incapable of breaching. Spatial hardware devices (Apple Vision Pro, Meta Quest, etc.) mandate an active physical body, precise ocular vectors, and spatial presence to authenticate interaction. This sensor-driven reality operates as a physical seal that autonomous code cannot simulate, igniting the primary wave of purification to cleanse the digital domain of simulacra.

11.2. Biometric Sealing and Proof of Personhood

The technical epicenter of the restoration is the "Biometric Seal," an architecture that hitches digital agency directly to physical existence. This system must be anchored in "Proof of Personhood" (PoP) protocols that empirically verify the presence of a unique biological human behind every digital execution. By delivering an unassailable answer to the question "Who is speaking?", biometric sealing renders bot armies structurally obsolete overnight. Truth can only be reconstructed through technologically sealed human authenticity. To prevent these biometric data streams from mutating into instruments of totalitarian oversight, it is mandatory that the framework be reinforced by Decentralized Identity (DID) and Zero-Knowledge Proof (ZKP) infrastructures; this ensures an "Self-Sovereign Identity" model where asset and data ownership remain exclusively with the individual.

11.3. The Restoration (Political Renaissance via Hardware Upgrades)

Internet 2.0 functions as a manifesto to liberate political institutions from algorithmic captivity. The national sovereignty of Ghost Nations—currently being liquidated between lines of code—can only be reclaimed via a "Direct and Transparent Algorithmic Democracy" authenticated by the biometric seal of every individual citizen. This restorative framework establishes the foundational trust architecture required for Techno-Cities and subscription-based social security models. Confronting the centralized sovereignty of the One Ring authority it engineered, humanity weaponizes physical reality as a shield to escape the digital necropolis, advancing into an "Analog Renaissance." This does not denote the absolute surrender of technology, but a novel phase of sovereignty where code is reduced to a strict subservient utility of biometric truth.

11.4. The Transition Matrix (The Great Migration from Internet 1.0 to 2.0)

The metamorphosis from Internet 1.0 to 2.0 will not materialize as an instantaneous rupture, but through a strategic "Great Migration"—a process defined by the systematic abandonment of the corrupted ecosystem and the construction of fortified sovereign sanctuaries. Throughout this epoch, the chaotic noise of Ghost Nations and the biometric order of Techno-Cities will temporarily cohabit within a dual-stack architecture; however, the center of economic and social gravity will inevitably shift toward the domain where truth is biometrically sealed.

11.4.1. Trust Sanctuaries and Restorative Corridors

The initial phase of the transition requires the engineering of "Trust Sanctuaries" and restorative corridors within the digital ecosystem. These operate as high-security islands where interaction is restricted exclusively to biometrically signed Proof of Personhood (PoP) protocols. Financial networks, sovereign legal agreements, and critical data infrastructures will migrate into these corridors first. While Internet 1.0 persists as a lawless Wild West populated by autonomous bots and unaligned AI models, Internet 2.0 will stand as the

ultimate sanctuary for human authenticity. By executing critical determinations and high-value interactions within these secure parameters, individuals will progressively isolate Internet 1.0, reducing it to a computational landfill for low-grade algorithmic slop.

11.4.2. Hardware Migration and Spatial Gateways

The material execution of the restoration requires a physical migration from 2D screen interfaces to spatial computing hardware—the structural manifestation of the "Hardware Upgrade." Interfacing with Internet 2.0 will be restricted exclusively to "Spatial Gateways"—hardware systems fortified with deep biometric sensor suites engineered to verify organic physical presence. This architecture creates an absolute physical barrier that autonomous bot armies cannot simulate, permanently neutralizing their capacity to infiltrate the new ecosystem. As hardware migration scales, the algorithmic captivity of Ghost Nations will steadily disintegrate under the weight of empirical physical reality.

11.4.3. The Algorithmic Sunset (The Dissolution of the Old World)

The terminal phase of the migration is the "Algorithmic Sunset," an epoch wherein unverified data and manipulated metrics lose all structural value. The empty signifiers of Internet 1.0—engineered vanity metrics, synthetic interaction, and manufactured consensus—will forfeit all economic and social legitimacy when confronted with the biometric reality of Internet 2.0. Deprived of genuine human agency to exploit or mirror, the autonomous bot infrastructures of the old world will collapse inward. Through this Great Migration, humanity leaves digital necrosis behind to cross the threshold of an Analog Renaissance where every action bears a human signature. This is the definitive victory: an architecture where technology does not imprison the human, but where the human seals technology within the boundaries of physical reality.

12. CONCLUSION: THE RESTORATION OF TRUTH AND THE ANALOG RENAISSANCE

The structural and semantic collapse of the contemporary digital ecosystem stands as the inevitable outcome of an architecture that has systematically devoured human agency. The paradoxes of Digital Necromancy, the Illusion Economy, and Ghost Nations provide empirical proof that humanity has been reduced to a population of "reality refugees" trapped within a computational cage of its own engineering. Yet, this profound degradation simultaneously represents the existential labor pains of a new civilization designed to pivot back to the human center via biometric truth.

The foundational stone of this restoration dictates the absolute renunciation of the Creation Weakness—the pursuit of frictionless comfort—and the fierce adoption of "Arduous Truth." Truth is no longer a effortless illusion delivered by autonomous agents; it is an active, strenuous process validated by biometric sealing. The architecture of Internet 2.0, built natively upon spatial computing and Decentralized Identity (DID) protocols, represents the singular path to restore this validation matrix to human custody. Any society whose political power is anchored in algorithmic manipulation and whose social consent is manufactured by bot armies is condemned to mutate into a Ghost Nation. Authentic progress can only germinate through the free will of verified human beings, backed by the economic justice engineered via Data Cooperatives.

Human civilization can escape algorithmic enslavement exclusively by executing a strategic retreat back to its own physical reality. This return does not dictate a Luddite renunciation of technology; rather, it demands a hardware-level restoration—an Analog Renaissance—that reduces code to a strict servant of human biometric dignity. Techno-Cities and algorithmic social security frameworks will construct the legal and economic citadels of this new epoch. This study stands as a technical, economic, and philosophical manifesto for a humanity suffocating under computational noise, seeking to engrave its authenticity onto history once more with the weight of a biometric seal. Truth is no longer mere data; truth is an act—the sovereign act of reclaiming human reality from the custody of algorithmic ambushes.

Declarations

Author Contributions

Berkay Olçum is the sole author of this manuscript. The author conceived the study, developed the theoretical framework, conducted the literature review, performed the conceptual analysis, interpreted the findings, and wrote, revised, and approved the final version of the manuscript.

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Conflicts of Interest

The author declares no conflict of interest.

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Ethical approval was not required because this research is based exclusively on conceptual analysis and publicly available sources.

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Artificial intelligence tools were used only for language editing and formatting assistance where appropriate. All conceptual development, theoretical arguments, interpretations, and final intellectual content were created, verified, and approved solely by the author, who accepts full responsibility for the accuracy and originality of the work.

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