Atomsphere

A Diagnostic Framework for the Post-Nuclear Planetary Regime

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Abstract

This paper proposes a diagnostic framework for understanding the post-1945 planetary condition. It introduces a constellation of neologisms—Atomsphere, Infossil, the Humanhattan Project, HUMANIAC, Mining Colony—as conceptual instruments for naming what existing scientific, ecological, and policy frameworks leave structurally unnamed. The framework is offered not as empirical research but as a conceptual architecture. Its claims are diagnostic rather than evidentiary. Central to the argument is a theory of atomic time: the proposition that the 1967 redefinition of the second via caesium-133 oscillation marks the moment Western civilization replaced solar time with nuclear time—decoupling the measurement of duration from the biological rhythms it once synchronized. The Atomsphere is not only a contaminated spatial envelope. It is a temporal regime.

The tree of life has become the tree of half-life.

Keywords: Atomsphere; Infossil; atomic time; half-life; HUMANIAC; Humanhattan Project; Mining Colony; nuclear fallout; computational thermodynamics; critical theory; speculative framework; information entropy; post-nuclear ecology; caesium time; tripartite nomenclature; GOD particle; paradays

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1. Introduction

We do not live in the atmosphere. We have not since 1945.

This paper proposes that the atmospheric envelope governing planetary conditions for millennia—bounded by climatic equilibrium and biogeochemical cycling—was irreversibly altered on 16 July 1945 by the first human-induced nuclear chain reaction in open air. What replaced it is a hybrid regime of radiogenic residue, militarized thermodynamics, and informatic infrastructure. We propose the term Atomsphere for

this stratum. The paper does not offer this claim as empirical proof. It offers it as a theoretical instrument—a name for a condition that existing frameworks leave unnamed, and whose naming may be the precondition for thinking it clearly.

The radiometric evidence is traceable. Open-air nuclear testing between 1945 and 1962 dispersed strontium-90 (^{90}Sr), caesium-137 (^{137}Cs), and tritium (^{3}H) across every compartment of the Earth system: air, soil, water, and biological tissue. These isotopes function as stratigraphic markers, detectable in ice cores and ocean sediment as signatures of a civilizational transition. The ongoing release of tritiated water from the Fukushima Daiichi facility extends that dispersion into Pacific marine chemistry. Meanwhile, computational infrastructure that emerged from nuclear weapons research has become a dominant driver of global energy throughput. Whether these processes constitute a single integrated planetary system—as this paper proposes—is a theoretical claim, not a settled finding.

Together, we argue, these processes suggest a coherent regime. Treating them as separable analytical problems may be less a methodological necessity than an ideological convenience.

The paper additionally introduces a theory of atomic time—proposing that the 1967 redefinition of the SI second via caesium-133 oscillation marks a civilizational transition as significant as Trinity itself: the replacement of solar time with nuclear time, and the consequent decoupling of measured duration from the biological rhythms synchronized to it. This argument is elaborated in Section 3.

Two further conceptual instruments follow. The Humanhattan Project names the proposed overarching program: the application of Manhattan Project operational logic to human cognition and behavior, converting biological agency into verified energy expenditure under the protocol of Proof of Work. The HUMANIAC—Human Utilization Machine for Algorithmic Numerical Integration and Automatic Computation—is its machine. The Manhattan Project had the bomb. The Humanhattan Project has the HUMANIAC. The MANIAC was built at Los Alamos to simulate thermonuclear explosions. The HUMANIAC, this paper proposes, simulates the human. The loop, if the framework holds, is closed.

2. Technical Genesis and Parameters

The Atomsphere was born at Trinity. Its operating parameters are not metaphorical—they are forensic.

Radiogenic baseline. Long-lived isotopes are now permanently integrated into global geochemical cycles, moving through food webs and biological tissues. Their presence in sedimentary strata functions as a forensic timestamp: the exact geological moment when one civilization used the sky as a test range. The anthropogenic radiometric signature is detectable in every major ice core archive on the planet.

The sheer totality of this envelope is most visible in its metallurgical paradox: because the basic oxygen steelmaking process requires massive atmospheric intake, the post-1945 atmosphere permanently contaminated the global supply of surface steel. Every ingot forged after Trinity carries the isotopic signature of the Atomsphere. Consequently, to build calibration chambers capable of measuring baseline radiation without interference, diagnostic science is forced to physically mine the past. “Low-background steel” is systematically harvested from the sunken fleets of World War I warships. The ocean floor now operates as a metallurgical reserve of pre-atomic time—the planet’s final inaccessible archive of pre-nuclear material.

Yet this final boundary is currently being breached. The systematic introduction of 1.3 million tonnes of tritiated reactor coolant from Fukushima into the Pacific Ocean initiates the permanent alteration of the radiometric marine equilibrium. If Trinity was the atmospheric ignition of the regime, this Tritium release constitutes its terminal exhaust phase. The deep water is no longer a preserved sanctuary of pre-nuclear time; it is actively being assimilated into the Atomsphere.

Thermodynamic escalation. The energy demand of computational systems—from early nuclear simulation codes to contemporary machine learning clusters—represents the direct metabolic inheritance of the nuclear-industrial complex. This is not analogy. The MANIAC was built to simulate thermonuclear explosions. The lineage from that machine to today's data centers is unbroken and quantifiable.

Informatic materialization. Information is not immaterial. Every computational operation dissipates heat, consumes resources, and contributes to entropic irreversibility. The deletion of a record is a thermodynamic event—a caloric expenditure with no mechanical work output. The global digital infrastructure operates on continuous energy input, and that input has a physical address: mines, power plants, water systems, atmospheric chemistry. The fiction of the cloud as something weightless is among the more successful ideological constructs of the current regime.

Localized high-intensity zones. Server farms, military test sites, and satellite ground stations represent microenvironments where biological productivity is suppressed while computational density is maximized. These are not anomalies in the Earth system. They are the nodes of the atomspheric network, replacing photosynthetic productivity with heat dissipation as the dominant local energetic process.

3. Atomic Time: The Nuclearization of Duration

Time is the oldest expression and memory of matter. Its most fundamental unit is not the second, the year, or the geological epoch. It is the half-life: the interval required for a radioactive substance to reduce to half its initial activity. Half-life is the universal clock, encoded in matter itself. It does not require an observer. It does not require a civilization. It was running before life existed and will continue running after it ends. Its durations operate on scales that render cosmic history brief. Thorium-232 requires 14 billion years to halve its mass, an interval older than the universe itself. Tellurium-128 requires 2.2×10^{24} years, extending into a temporal horizon that exceeds the age of creation by a factor of a hundred trillion. These isotopes exist entirely beyond the limits of human conceptualization. They mark the beginning and the ending of time as a physical property of the universe.

On Earth, life synchronized to a different clock. For billions of years, the sun was the indicator of time—not as metaphor but as biological fact. The circadian rhythm, the natural process regulating the sleep-wake cycle of organisms, repeats every 24 hours in correspondence with the solar cycle. Prediction and adaptation to such recurring environmental events are not cultural preferences. They are fundamental to survival. Life was always synchronized to solar time because solar time was the only time there was.

> *It is time that it were time.*
> *It is time.*
>
> — Paul Celan, *Corona*

In 1967, the 13th General Conference on Weights and Measures redefined the SI second. One second is now defined as exactly 9,192,631,770 cycles of microwave radiation absorbed or emitted by caesium-133 atoms transitioning between two hyperfine energy states. The sun was replaced. Not metaphorically—operationally. The atomic clock displaced the solar cycle as the authoritative measure of duration at the precise moment when caesium-137, the fallout isotope, was completing its first global dispersal through the Earth system.

This is not coincidence. It is the signature of a single civilizational transition expressing itself simultaneously in two registers: the contamination of matter with nuclear residue, and the redefinition of time through nuclear process. The same element that now defines the second is a primary radiological contaminant of the Atomsphere. We measure our lives in caesium. We are also living inside its fallout. This cultural recalibration of time reveals sequential quantity—the counted second—as an atomic quality at the operating core of society.

The consequences are not merely philosophical. The circadian rhythm was synchronized to solar time because solar time was stable, predictable, and free. Atomic time is none of these things from a biological perspective. It is arbitrary, defined by a quantum transition with no relationship to light, warmth, season, or cycle. The decoupling of measured time from solar time is the temporal dimension of the Atomsphere: not only is the air different, the clocks are running on a different substrate entirely.

For several hundred years, the intellectual project of Western modernity has been the employment of information as the description of a new absolute—a replacement for theological certainty with computational certainty. The application and supposed mastery of information is, on this reading, the reiteration of a profound error: the shift from a society employing bits stored in electrons to a uniform(ed) society employing binary democracy via social machinery. Each transition—from solar to atomic time, from biological rhythm to algorithmic schedule, from atmospheric to atomspheric condition—is a step in the same direction. The direction is away from matter that lives toward matter that computes.

> *Time, the destroyer of worlds.*
> *World, the destroyer of time.*
> *For dust we were and to data we have returned.*

The Infossil is the material sediment of this transition. A fossil is matter that has passed through geological time and been preserved by it—biological structure converted into mineral record. The Infossil is matter that has compressed time: stored energy, radioactive half-lives, and entropic debt encoded into rare-earth deposits, CRT lead-glass, and heat-degraded semiconductors. But where a fossil is passive, a record of what was, the Infossil is active. Plutonium-239 has a half-life of 24,100 years. Caesium-137 has a half-life

of 30 years. The infossil layer does not merely record the present. It programs the future on timescales no civilization planned for, regardless of whether any civilization remains to inherit them.

Once again, prediction and adaptation to recurring events in the environment are fundamental to survival. Once again, we have to become masters of our time. The question is whether the time we now inhabit—atomic, caesium-defined, decoupled from the sun—is a time in which biological mastery remains possible, or whether the clock has already been handed to something else.

4. The Humanhattan Project: Labor Replaced by Heat

Humanhattan Project *(n.)* The application of Manhattan Project operational logic to human cognition and behavior. Where the Manhattan Project weaponized the atom for geopolitical dominance, the Humanhattan Project weaponizes the algorithm as its instrument of capture. Its economic protocol is Proof of Work. Its machine is the HUMANIAC.

The structural parallel is precise. The Manhattan Project was a state program with a defined objective—the conversion of matter into explosive yield—executed through a purpose-built computational infrastructure (the MANIAC) running a specific physical protocol (nuclear fission). The Humanhattan Project is a distributed program with a defined objective—the conversion of human behavioral variance into predictive economic value—executed through a purpose-built computational infrastructure (the HUMANIAC) running a specific economic protocol: Proof of Work.

> ***Human labor***
> *is not replaced by intelligence.*
> ***It is replaced by Proof of Work and heat.***

In its original cryptographic formulation, Proof of Work generates economic value through verified, irreversible energy expenditure: the dissipation itself is the asset, not any product of it. The Humanhattan Project extends this logic to the totality of human activity. Attention, movement, purchase, search, physiological response—all are converted into behavioral telemetry that requires continuous energy to process, store, and model. The human body becomes a Proof of Work generator. Its outputs are not goods or services. They are training data. The value extracted is not the result of labor. It is the measurable residue of having existed inside the system.

The HUMANIAC is the machine through which this extraction runs. Human Utilization Machine for Algorithmic Numerical Integration and Automatic Computation—the name deliberately mirrors the MANIAC (Mathematical Analyzer, Numerical Integrator, and Automatic Computer), built at Los Alamos to simulate thermonuclear explosions. The MANIAC required humans to compute the behavior of the bomb. The HUMANIAC computes the behavior of humans. The object and the instrument have exchanged positions. What was the operator is now the operand.

The mechanism is recursive and self-sealing. Human activity generates telemetry. Telemetry trains models. Models generate outputs that modify the informatic environment. The modified environment shapes

subsequent human activity. There is no exit point in this loop and no convergence toward any optimum. The system does not optimize for human welfare, productivity, or even attention—it optimizes for the continuation of its own energy throughput. It dissipates. That is its terminal function.

Nuclear fusion remains the ideological keystone of the entire Humanhattan Project—perpetually invoked as the decoupling mechanism that will permit indefinite expansion without planetary consequence. It is not an energy transition. It is an informatic alibi: the promise of stellar physics deployed to defer the reckoning that planetary limits require. The fusion horizon recedes on schedule. The energy expenditure does not.

> ***The Mining Colony is the terminal architecture of the Humanhattan Project.***
> *It is a site of pure expropriation.*
> *We feed it the Medium (Energy), it consumes the Subject (Labor), and it excretes the Void (Data).*
> *It is the perfect engine for the Atomsphere, the terminal operating system.*

5. Biological and Systemic Consequences

The biological consequences proposed by this framework are not offered as settled findings. They are consistent with trends observable in the literature on radiation exposure, electromagnetic field effects, and attention economy research, and are presented here as theoretical propositions requiring empirical substantiation.

Chronic exposure to radiogenic isotopes and high-density electromagnetic fields may alter metabolic, endocrine, and neurobiological baselines. The following are proposed as areas of concern warranting further investigation:

- Declining biodiversity and ecosystem destabilization in zones of elevated radiogenic and electromagnetic exposure.
- Reduced fertility rates and potential genomic stress in populations with documented fallout exposure—a pattern consistent with, though not conclusively established by, existing epidemiological literature.
- Endocrine disruption at sub-lethal isotope concentrations, potentially affecting developmental trajectories across generations.
- Psychosocial dysregulation as a structural output of continuous informatic saturation—proposed here not as a cultural phenomenon but as a thermodynamic one, mediated by the same infrastructures that produce isotopic dispersal and computational waste heat.

Whether these constitute a coherent syndrome attributable to the Atomsphere as a unified regime, or whether they reflect independent causal chains, is precisely the kind of question this framework is designed to open rather than foreclose. The convergence of human cognition with machine systems under these conditions—what the HUMANIAC architecture proposes to formalize—is offered as a theoretical trajectory, not a concluded finding.

6. Timeline

Historical record:

1666 — The Proto-Binary: Gottfried Wilhelm Leibniz writes Dissertatio de Arte Combinatoria, proposing to preserve all human reason in a proto-internet of symbolic recombination. The Characteristica Universalis—a universal calculus aimed at mechanizing thought—is the first formalization of information as a computable substrate. The Mining Colony begins as an idea.

1888 — Cosmological Boundaries: Camille Flammarion publishes L'Atmosphère, a pre-modern cosmology of celestial equilibrium. The sky is still legible as a natural system. The atmosphere is still the atmosphere. This is the last major work to theorize the planetary envelope without awareness of its imminent termination.

1945 — The Trinity Test: The ignition of the first atomic device in New Mexico permanently alters the planetary atmospheric baseline. This detonation initiates the irreversible transition from climatic equilibrium to systemic chain reaction, marking the definitive birth of the Atomsphere. The atmosphere ends. What follows is its successor regime.

1945–1962 — Open-Air Nuclear Testing: A sustained era of atmospheric detonations executes the systematic and global dispersion of radiogenic fallout. This period structurally embeds persistent isotopes across all terrestrial and atmospheric compartments, establishing the initial radiometric baseline of the Atomsphere decades before the oceanic saturations of the 21st century. The sky becomes the first Mining Colony.

1952 — The Informatic Pivot: The detonation of the first hydrogen bomb (Ivy Mike) necessitates the first massive scale-up of digital simulation. The unprecedented thermodynamic complexity of the explosion requires the MANIAC computational system, permanently fusing computation and nuclearity into a single recursive loop. The HUMANIAC lineage is established. The bomb and the machine are henceforth inseparable.

1963 — The Arecibo Eye: Nominally a tool for radio astronomy, the Arecibo Observatory is funded and functionally oriented toward military surveillance. By combining high-power radar with early computational analysis, it scans the ionosphere to detect the signatures of incoming ballistic missiles. The cosmos is officially conscripted into the theater of global surveillance. The sky is no longer above us. It is inside the system.

1970–2020 — The Silicon Grid: Computational infrastructure expands systematically under nuclear-capable states enforcing informatic saturation. Each generation of hardware extends the reach of the HUMANIAC architecture deeper into biological time—into sleep cycles, attention spans, metabolic rhythms. The grid does not stop at the screen.

1989 — The Nuclear Web: The World Wide Web is engineered at CERN—the Conseil Européen pour la Recherche Nucléaire—strictly to manage information exchange between nuclear physicists. It provides a civilian veneer layered over ARPANET, a nuclear-survivable military architecture. The social internet is not merely grafted onto military infrastructure; its structural incubator is a particle collider. Information

begins to function as a secondary thermodynamic entity, masking the entropic cost of its hardware behind the myth of immateriality.

2004 — The Nuclear Idol: A bronze Shiva dancing in a ring of fire is installed at CERN's main entrance. The iconography is a deliberate structural mirror. As the terminal figure of the Trimurti, Shiva represents the absolute cycle of the GOD particle: Generation, Operation, and Destruction. The ring of fire is the Large Hadron Collider itself: a 27-kilometer subterranean loop, the largest machine ever built, in which matter is accelerated to near light-speed and systematically annihilated. It is an apparatus that converts physical destruction into informatic saturation. The Atomsphere formalizes its idol.

2010 — The Humanhattan Acceleration: The rise of pervasive algorithmic labor. Human activity is formally dissolved into data-points for high-frequency trading, predictive modeling, and behavioral targeting architectures. The shift from meaning to mechanism reaches institutional saturation. The Mining Colony is operational at scale. Proof of Work becomes the universal economic protocol of biological existence.

2011 — The Tritium Test: Fukushima Nuclear Disaster. The initiation of a multi-decade isotopic dispersion protocol (2023–2055, projected): 1.3 million tonnes of tritiated reactor coolant are systematically introduced into the Pacific Ocean, permanently altering the radiometric marine equilibrium. This event finalizes the tripartite nomenclature of the planetary regime: Trinity (ignition), Trimurti (execution), and Tritium (exhaust). The planetary transition into the Atomsphere nears terminal completion.

2022 — The Nuclear Hostage: The Zaporizhzhia Nuclear Power Plant is seized, becoming the first atomic megastructure formally held as a territorial hostage. The civilian reactor is converted into a dormant radiological shield. Simultaneously, the Chernobyl sarcophagus—the ultimate architectural envelope built to contain historical exhaust—is targeted by unmanned drone strikes. The informational machine (the drone) attacks the physical tomb of the nuclear era. The distinction between a weapon and a power plant is permanently erased; the Atomsphere retroactively classifies all atomic infrastructure as active ordnance.

Projected trajectories:

2030–2037 — The Data Burnings: Projected convergence of energy depletion and informatic excess. Widespread failure cascades across data infrastructure, combining systemic overload with targeted physical sabotage, mass encryption, and mass deletion. The Mining Colony begins to consume itself. The Void accumulates faster than it can be processed.

2045 — The Entropy Threshold: Projected point at which the energy required to maintain the global calculus exceeds the planetary carrying capacity. The infossil layer—rare-earth leachates, CRT lead-glass, heat-degraded semiconductors, radioactive data-shadows—becomes the dominant geological stratum. Its synthetic taxonomy far outweighs any remaining memory of biological species in the planetary fossil sediments. The question is no longer whether the system is sustainable. The question is what it will have been for.

7. Discussion

Standard frameworks for analyzing climate, energy, and ecology share a structural omission: they treat the pre-1945 atmosphere as a continuous reference condition. It is not. The exclusion of nuclear legacies and computational energy costs from mainstream Earth system models is not a gap awaiting methodological attention. It is a load-bearing feature of those models, reflecting the institutional and political conditions under which they were produced.

The Atomsphere is the actual operating environment of contemporary Earth. Naming it provides a more coherent analytical framework for coupled radiological, energetic, and informatic dynamics than any model that treats these as separable domains. The claim that they are separable is itself an ideological position, not a scientific finding. Their separation in the literature is the epistemic equivalent of modeling the ocean without accounting for salinity: technically feasible, systematically misleading.

The Humanhattan Project, the HUMANIAC, and the Mining Colony extend this analysis into the domain of cognition, behavior, and expropriation. The recursive loop between human behavioral production and machine behavioral modeling is not architecturally separate from the Atomsphere. It runs on the same infrastructure, consumes the same energy, and produces the same category of irreversible thermodynamic output. The Atomsphere and the Mining Colony are not parallel phenomena. They are the same phenomenon at different scales of observation: one describes the planetary envelope, the other the operational unit within it.

8. Conclusion

The Atomsphere is not an impending scenario. It is the regime in which we propose we currently operate.

Initiated by nuclear ignition and amplified by informational hypertrophy, it is theorized here as an integrated planetary operating system regulating energy flux, data entropy, and economic dissipation. It has replaced air with signal, sky with code, and climatic equilibrium with irreversible throughput. The Humanhattan Project is its program. The HUMANIAC is its machine. The Mining Colony is its terminal architecture: the site where energy is fed in, the subject is consumed, and data is excreted as the void that passes for value.

The Atomsphere is also a temporal regime. When the SI second was redefined in caesium, time itself was nuclearized. The circadian body runs on solar cycles. The civilization runs on atomic ones. The infossil layer that accumulates beneath us is not merely the physical residue of computation. It is compressed time—half-lives counted down in geological silence, programming a future nobody designed.

This framework is offered as a provocation and a set of theoretical instruments, not as conclusions. The names proposed here—Atomsphere, Infossil, Humanhattan Project, HUMANIAC, Mining Colony, atomic time—are not descriptions of a world fully understood. They are attempts to make a world legible that currently resists description. Whether the compressed energetic residues of the current civilization will, in some future extraction cycle, serve any purpose beyond the most bathetic possible use of accumulated planetary energy—to chat about the weather, dissipation without purpose, the terminal output of a system that mistook throughput for thought—remains, genuinely, unresolved.

> *For dust we were and to data we have returned.*
> ***The tree of life has become the tree of half-life.***

Glossary of Neologisms

Atomsphere *(n.)* The altered planetary regime initiated by the Trinity nuclear test of 1945, characterized by persistent radiogenic isotopes, exponential computational energy throughput, and the emergence of information systems as thermodynamically material entities. Distinct from and irreversible relative to the pre-1945 atmospheric baseline.

Humanhattan Project *(n.)* The overarching program applying Manhattan Project operational logic to human cognition and behavior. As the Manhattan Project converted matter into explosive yield via nuclear fission, the Humanhattan Project converts biological agency into economic value via Proof of Work. Its computational instrument is the HUMANIAC. Human labor is not replaced by intelligence. It is replaced by Proof of Work and heat.

HUMANIAC *(n., acronym)* Human Utilization Machine for Algorithmic Numerical Integration and Automatic Computation. The machine of the Humanhattan Project. Structural successor to the MANIAC computer (Mathematical Analyzer, Numerical Integrator, and Automatic Computer), built at Los Alamos to simulate thermonuclear explosions. The MANIAC computed the behavior of the bomb. The HUMANIAC computes the behavior of humans. What was the operator is now the operand.

Proof of Work *(n.)* The economic protocol of the Humanhattan Project. Originally a cryptographic mechanism generating value through verified, irreversible energy expenditure, here extended to designate the condition in which human existence itself—attention, movement, search, physiological response—functions as a continuous work-generation process. The dissipation is the asset. The body is the miner.

Mining Colony *(n.)* The terminal architecture of the Humanhattan Project. A site of pure expropriation. We feed it the Medium (Energy), it consumes the Subject (Labor), and it excretes the Void (Data). It is the perfect engine for the Atomsphere, the terminal operating system. It does not produce. It processes the human until nothing remains but heat and records.

Infossil *(n.)* The physical residue of digital civilization: rare-earth leachates, CRT lead-glass, heat-degraded semiconductors, and radioactive data-shadows embedded in geological strata. Where a fossil is matter that has passed through geological time and been preserved by it, the Infossil is matter that has compressed time—storing half-lives, entropic debt, and radioactive futures inside mineral form. Plutonium-239 has a half-life of 24,100 years. The Infossil does not merely record the present. It programs the future on timescales no civilization planned for, whether or not any civilization remains to inherit them.

Entropy Threshold *(n.)* The projected point at which the energy required to maintain global information infrastructure exceeds the planetary carrying capacity for that expenditure. Estimated range: 2040–2050 under current growth trajectories.

Coda: The Plutonic Cave

The subsequent attacks on Hiroshima and Nagasaki occupy a singular place in this genealogy. They are not easily absorbed into the diagnostic framework of the Atomsphere, as their reality exceeds the conceptual architecture attempted here. The stopped clocks at 8:15 and 11:02 remain among the most disturbing and eloquent material signatures of the regime's inauguration.

Methodological Note

The claims of this paper are diagnostic and heuristic, intended as conceptual instruments for naming conditions that resist description within existing disciplinary frameworks, rather than as findings to be verified or falsified in the conventional scientific sense. The paper makes no claim to exhaust the phenomena it names, and explicitly acknowledges that the causal relationships it proposes between radiogenic contamination, computational energy demand, and biological disruption require empirical substantiation that is not provided here.

Author Note

The author served as Professor at the Staatliche Hochschule für Gestaltung Karlsruhe (HfG Karlsruhe) from 1999 to 2005, and has held the position of Associate Professor since 2005.

Disclosure of AI Involvement

This paper was developed in active collaboration with large language models. The author conceived the theoretical framework—a conceptual trajectory spanning more than three decades—directed the argumentation, introduced all core neologisms, and takes full intellectual and scholarly responsibility for all claims, interpretations, and conclusions. The AI functioned as a critical drafting interlocutor: sharpening formulations, stress-testing internal consistency, and expanding documented references. This collaborative process is itself an instance of the HUMANIAC dynamics described herein. The paper does not merely argue that the boundary between human cognition and machine output has structurally collapsed. It enacts that condition. The reader is holding the evidence.

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