

# From Frailty and Waste to Informational Security: RSVP as a Foundation for Idea Routing and Civic Coherence

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Current models of digital security and coordination are founded on arbitrary asymmetries. Human-weakness cryptography exploits frailty—memory lapses, divided attention, non-transferable skills—as a primitive of authentication [4]. Proof-of-work blockchains exploit waste—massive energy expenditure on useless hash solving—as the foundation of consensus [9]. Both confuse hardship with value: the former excludes neurodivergent and atypical users, the latter rewards those with cheap energy and capital while generating ecological harm. Parallel pathologies appear in social platforms, where algorithms reward synthetic bait and deepfakes, producing a “dead internet” effect in which authentic presence is submerged beneath engineered noise. This monograph advances the Relativistic Scalar-Vector Plenum (RSVP) framework as a constructive alternative. RSVP provides informational metrics—entropy ( $S$ ), vector coherence ( $\mathbf{v}$ ), and scalar density ( $\Phi$ )—for evaluating the usefulness of contributions. Low-signal, redundant, incoherent, or entropically costly actions accrue informational penalties; high-density, coherent, and novel contributions propagate preferentially. Complexity serves as a natural gate through markedness—reflecting investment of learning and integration—rather than arbitrary weakness or waste. We develop this proposal across cultural, computational, and civic domains, culminating in a Civic Efficiency Index (CEI) to diagnose absurd inefficiencies.

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## Part I

# Framing the Problem





# Chapter 1

## Introduction: The Crisis of Trust in Digital Systems

This chapter introduces the crisis of trust in digital systems, where proxies like passwords and proof-of-work fail to align with meaningful contribution. It critiques weakness-based and waste-based security models as exclusionary and ecologically harmful, proposing RSVP as an alternative grounded in informational usefulness. The chapter sets the stage for the monograph’s structure and argument.

### 1.1 Trust as the Bottleneck of Digital Life

Infrastructures of communication and coordination depend on trust. Whether in the form of login credentials, voting systems, cryptocurrencies, or social media feeds, the fundamental question is always: who is allowed to participate, under what conditions, and with what guarantees against abuse? For decades, computational systems have relied on proxies for trust—passwords, cryptographic tokens, rate limits, and reputation scores. Yet these proxies are not neutral. They embody particular assumptions about what counts as “proof,” who bears the burden of verification, and what costs are acceptable to impose.

Two dominant paradigms have emerged in recent years. The first is weakness-based security, exemplified by proposals to use human cognitive limitations as authentication primitives [4]. The second is waste-based security, exemplified by proof-of-work blockchains that tie trust to brute-force resource expenditure [9]. Both models claim to be fair and robust, but in practice they confuse hardship with value. One treats human frailty as a gate to be exploited; the other rewards those who can afford to burn energy at scale. Neither aligns trust with genuine contribution to informational, ecological, or civic systems.

### 1.2 The Exploitation of Weakness

Vincent Conitzer and others have argued that human cognitive weaknesses—such as difficulty with divided attention or inability to erase memories—can be leveraged as security guarantees [4]. For example, one might design a test that any person could pass once, but not twice, by exploiting interference effects in recall. While ingenious, such systems mistake exclusion for robustness. They penalize neurodivergent individuals, the elderly, or anyone outside a narrow “typical” profile. In doing so, they instantiate a discriminatory logic: security through humiliation, stability through frailty.

This is not a trivial design quirk. It reveals a larger drift in computational thinking: the willingness to build architectures of trust upon exploited incapacity. Just as captchas once transformed unpaid human labor into training data for machine vision [14], weakness-based cryptography transforms human limitations into institutionalized gates. What is lost is any sense of trust as a measure of contribution or coherence.

### 1.3 The Exploitation of Waste

The alternative dominant paradigm, proof-of-work blockchains, secures consensus by making participants perform energy-expensive computations [9]. Here the asymmetry is ecological rather than cognitive: only those with abundant hardware and cheap electricity can compete effectively. The proof that is generated is not informational usefulness but brute resource expenditure. Trust is established through waste.

The consequences are profound. Bitcoin mining alone consumes as much electricity as small nations. The very act of “proving work” becomes an ecological harm. The fairness that blockchains claim to provide—anyone may mine, in principle—is undercut by their practical plutocracy. Just as weakness-based systems exclude atypical humans, waste-based systems exclude the resource-poor while degrading the planetary commons.

### 1.4 Platform Economies and the Dead Internet Effect

Weakness and waste are not confined to cryptography. Social platforms exemplify a parallel pathology. By rewarding content that exploits human reflexes—nostalgia, empathy, outrage—Facebook and others transform the digital commons into a factory of noise. Deepfake birthday tributes and fabricated pleas for attention absorb millions of reactions while authentic voices are sidelined. Users spend their time correcting trivial errors (a birthday date, an actor’s age) while missing the deeper deception (the person is not real at all).

The effect, sometimes described under the rubric of “Dead Internet Theory,” is not that humans have left the network, but that their contributions are drowned beneath synthetic activity. What circulates most visibly is not conversation but engagement-bait. Here, too, trust has been redefined: not in terms of coherence or meaning, but in terms of capacity to generate reactions, however empty.

### 1.5 RSVP as an Informational Alternative

This monograph advances a different proposal. The Relativistic Scalar-Vector Plenum (RSVP) framework, originally developed as a cosmological and cognitive field theory, provides a basis for informational trust. RSVP models any system in terms of scalar density ( $\Phi$ ), vector flows ( $\mathbf{v}$ ), and entropy ( $S$ ). Translated into the domain of digital infrastructures, these become operational metrics for evaluating contributions:

Entropy ( $S$ ): degree of disorder or redundancy.

Vector coherence ( $\mathbf{v}$ ): alignment of flows of attention or discourse.

Scalar density ( $\Phi$ ): depth or richness of informational content.

From these, a composite usefulness score  $Q = \alpha\Phi + \beta\kappa - \gamma S$  can be derived. Low-signal, incoherent, entropically costly actions are penalized; high-density, coherent contributions propagate more freely. Complexity serves as a natural gate through markedness: difficult contributions are not arbitrarily difficult, but difficult in proportion to their informational richness.

### 1.6 Scope of the Monograph

The chapters that follow unfold in four parts:

Part I situates the critique of weakness-based and waste-based security (Chapters 1–2).

Part II examines cultural and cognitive parallels, including humor, narrative, and the “dead internet” (Chapters 3–5).

Part III introduces RSVP metrics as an alternative foundation (Chapters 6–8).

Part IV extends the model into civic and socioeconomic calculations, including a proposed Civic Efficiency Index (Chapters 9–12).

Appendices at the end provide mathematical formalism, simulation models, and cultural/civic case studies.

The central claim is simple but far-reaching: trust must be grounded in informational usefulness, not in arbitrary hardship. Systems that reward frailty or waste corrode both ecological and civic coherence. RSVP metrics offer a path to reorient design toward coherence, contribution, and sustainable complexity.

## Chapter 2

# Human Weakness as Security Primitive

This chapter critiques human-weakness cryptography, which uses cognitive limitations like memory interference as security primitives, building on the introduction’s framing of trust as a bottleneck. It argues that such systems institutionalize exclusion and humiliation, setting the stage for the critique of waste-based systems in Chapter 3. The analysis exposes the flaws of grounding trust in incapacity.

### 2.1 The Proposal

In recent years, researchers such as Vincent Conitzer have suggested that human cognitive limitations themselves can serve as cryptographic primitives [4]. Rather than relying on mathematical one-way functions or hardware tokens, these systems design tasks that exploit universal weaknesses. A memory interference test, for instance, might ask a user to memorize 29 of 58 faces, then later distinguish which were previously seen. The intended guarantee is that a person can pass the test once, but not twice, because their memory cannot be reset. Similarly, divided-attention tracking tasks are designed to ensure that an individual cannot successfully complete two instances simultaneously [5, 7, 6].

The motivation for such designs is clear: to prevent duplication of accounts, stop Sybil attacks, and ensure that “one human = one identity” without relying on real-world identifiers. The underlying idea is ingenious: where computers can repeat tests flawlessly, humans cannot. Weakness becomes a feature, not a bug.

### 2.2 Weakness as Proof

The logic here is homologous to proof-of-work in blockchains. Where blockchains say, “show me you can waste energy,” weakness-based systems say, “show me you cannot erase memory, juggle two streams of attention, or transfer skill to another.” In both cases, trust is relocated from the domain of meaningful contribution to the domain of arbitrary hardship. Security is achieved not by demonstrating usefulness, but by demonstrating incapacity.

This reframing of weakness as proof is not incidental. It represents a broader shift in computational culture: the instrumentalization of human limits. Where once the goal was to design around weaknesses (making interfaces more usable, reducing error), the new approach is to freeze weaknesses into security architecture.

### 2.3 Discriminatory Effects

The exclusionary consequences of this model are immediate.

Neurodivergent populations: Individuals with prosopagnosia (face blindness) may fail memory-based tests.

Age-related decline: Elderly users may struggle disproportionately with divided-attention or recall-based gates.

Children and atypical learners: Developmental differences may make such tasks unreliable.

The gifted and trained: Ironically, those better than average at multitasking or mnemonic training may be punished by being flagged as “bot-like.”

What is advertised as a neutral test of humanity quickly becomes a discriminatory sieve. The very populations most in need of equitable access are those most likely to fail. The outcome is the opposite of fairness: systemic bias baked into the verification layer.

## 2.4 The Psychology of Humiliation

Beyond exclusion, there is a subtler psychological harm. To “prove you are human” by failing is humiliating. Captchas already flirt with this dynamic—forcing users to click blurry traffic lights or distorted text [14]. Weakness-based cryptography intensifies the logic: a user must accept incapacity as their defining credential. Trust is no longer built on what one can do, but on what one cannot.

This inversion of dignity corrodes the social contract. A system that constantly reminds its participants of their fallibility is not simply inefficient; it is corrosive of agency. In civic terms, it parallels institutions that measure worth through obedience or error rather than contribution or creativity.

## 2.5 The Epistemic Problem

Even if one accepted these harms, the technical guarantees are weak. Human weakness is not uniform. Some participants will train around tasks; others will develop strategies that let them bypass the intended limitation. Results vary widely across individuals and contexts. The supposed “proof” is therefore not robust: the same user may pass twice, or fail once by accident. Unlike mathematical one-way functions, weakness-based tests do not offer stable, universal asymmetries.

Moreover, as AI systems improve, the asymmetry collapses. What is hard for a human (tracking two boxes simultaneously, remembering faces) may be trivial for even a modest vision model [8, 13]. The very tasks designed to exploit human limits become easier for machines than for people. This creates a perverse incentive: users might rely on AI assistants to pass “humanity tests.” Humans would need machines to prove they are human.

## 2.6 Weakness as Ideology

The deeper problem is not technical but ideological. Weakness-based security reframes trust as incapacity. It encodes a philosophy in which value is derived from what cannot be done, not from what is achieved. This mirrors a long tradition of exploitative architectures: bureaucracies that measure compliance, platforms that reward outrage clicks, and economies that prize visible labor even when it is wasteful.

By enshrining weakness as proof, such systems risk training populations into passivity. Users are no longer contributors to meaning, but subjects of verification. This is not a neutral design choice; it is a political economy of incapacity.

## 2.7 Toward Informational Proofs

The alternative proposed in this monograph is to shift the locus of proof away from weakness and toward usefulness. Rather than asking, what can humans not do, we should ask, what information is being contributed, with what coherence and density, at what entropic cost? In RSVP terms:

Low-density, incoherent, redundant actions accrue informational penalties.

High-density, coherent, and novel contributions propagate.

Complexity operates as a natural gate through markedness, not humiliation.

This reframing restores dignity: users are not defined by incapacity, but by contribution. Trust emerges not from frailty, but from informational usefulness.

## 2.8 Conclusion

Weakness-based security systems, while innovative, institutionalize exclusion and humiliation by treating human limitations as proof of trust. Their discriminatory effects, psychological harm, and epistemic

fragility make them unsuitable for equitable digital systems. The next chapter extends this critique to waste-based systems, particularly blockchains, which similarly mistake hardship for value, paving the way for RSVP's informational alternative.



## Chapter 3

# Waste as Security Primitive: Blockchains and Beyond

This chapter extends the critique from human weakness to waste-based security, focusing on proof-of-work blockchains. Following Chapter 2’s analysis of cognitive exploitation, it examines how blockchains’ reliance on energy expenditure creates ecological and economic harm, reinforcing the monograph’s argument against hardship-based trust. It leads into Chapter 4’s exploration of cultural parallels.

### 3.1 Proof-of-Work as Design

The central innovation of Bitcoin and related cryptocurrencies is the use of proof-of-work (PoW) to secure consensus [9]. In place of a central authority, participants must demonstrate that they have expended computational effort solving a puzzle of adjustable difficulty:

$$H(x) < 2^{-d},$$

where  $H$  is a cryptographic hash,  $x$  is a nonce, and  $d$  sets the difficulty. On average,  $2^d$  guesses are required before a solution is found.

The security of the network arises from the cost of attack. To override consensus, an adversary must control more than 50% of the network’s computational power. Thus, “trust” emerges not from shared meaning or civic validation, but from the assurance that wasting resources at that scale is prohibitively expensive.

### 3.2 Waste as Proof

At first glance, this seems elegant: waste is measurable, unforgeable, and equalizing (anyone can, in principle, burn energy). Yet the underlying logic mirrors weakness-based cryptography: security is established through arbitrary hardship.

In weakness-based models, hardship is cognitive incapacity (forgetting, failing at attention).

In waste-based models, hardship is ecological incapacity (burning fuel, consuming hardware).

In both cases, the “proof” is detached from informational usefulness. PoW does not solve a scientific problem, build infrastructure, or contribute to civic knowledge. It only demonstrates that energy was consumed pointlessly.

### 3.3 Ecological and Economic Costs

The costs are staggering:

Bitcoin mining consumes energy equivalent to small nations, with estimates ranging from 100–200 TWh annually.

Mining farms cluster near cheap electricity sources, often fossil-fuel based.

The byproducts are carbon emissions, e-waste from discarded GPUs and ASICs, and regional distortions of power grids.

Economically, proof-of-work reproduces plutocracy. Those with access to cheap energy and capital-intensive hardware dominate mining. What is presented as “democratic” (anyone can mine) is in practice oligarchic: the rich accumulate more coins, reinvest in hardware, and reinforce their dominance.

### 3.4 The Absurdity of Useless Work

From a civic perspective, PoW embodies absurdity: vast amounts of energy are consumed to prove that energy can be consumed. It is the computational equivalent of renting a moving truck in Toronto, driving it 1,000 km to New Brunswick, and then using it to move one box across the street. The act is not only inefficient but damaging — tying up resources, producing emissions, and normalizing waste as value.

This absurdity is not peripheral but essential: the system is only secure because the work is useless. If the work were dual-purpose (e.g., protein folding, climate modeling), then adversaries could “attack” the system while still performing useful science. Paradoxically, the wastefulness of the work is its guarantee.

### 3.5 Social Parallels

The logic of waste-as-proof is not confined to blockchains. Institutions often valorize visible effort over informational coherence:

Bureaucracies measure hours logged rather than results.

Education systems reward rote labor over insight.

Corporations equate busyness with productivity.

In each case, trust is assigned to the capacity to expend resources — time, money, attention — without direct correlation to usefulness. PoW is thus a crystallized artifact of a much broader cultural pathology: the elevation of waste into proof of seriousness.

### 3.6 Epistemic Instability

Even on its own terms, proof-of-work is unstable. As hardware accelerates, difficulty must increase, ratcheting energy expenditure upward. This creates a treadmill: security is maintained only by escalating waste. The system lacks equilibrium.

Moreover, alternative consensus protocols (proof-of-stake, proof-of-space) demonstrate that waste is not logically necessary. PoW is one design choice, not an inevitability. Its persistence reflects cultural commitments as much as technical ones: a fetishization of effort, scarcity, and visible burn.

### 3.7 RSVP Critique

From the perspective of the Relativistic Scalar-Vector Plenum (RSVP), PoW yields negative informational scores:

Entropy ( $S$ ): extremely high, as the system deliberately maximizes disorder (random hash guesses).

Vector coherence ( $\mathbf{v}$ ): minimal, as computational flows are not aligned with meaningful outcomes.

Scalar density ( $\Phi$ ): near zero, since no information is produced per unit effort.

Thus, the usefulness function:

$$Q_{\text{PoW}} = \alpha\Phi + \beta\kappa - \gamma S \ll 0.$$

Security is achieved only by driving  $Q$  negative: amplifying entropy while suppressing coherence and density.

### 3.8 Toward Informational Proofs

The critique is not merely ecological; it is ontological. PoW mistakes waste for value. RSVP suggests an alternative: security based on informational usefulness. Instead of demonstrating that energy has been burned, participants should demonstrate that they have contributed coherent, dense, low-entropy information. This might include:

Verifiable computations with scientific or civic utility.

Contributions that reduce correction labor in discourse.



Signals that increase coherence across flows of attention.

Such proofs would not externalize harm but internalize contribution. Security would be measured not by the capacity to destroy, but by the capacity to sustain coherence.

### 3.9 Conclusion

Proof-of-work blockchains institutionalize waste as a security primitive, creating ecological harm and economic inequity while failing to produce informational value. This chapter builds on the critique of weakness-based systems, showing that both approaches misalign trust with hardship. The next chapter shifts to cultural parallels, exploring how humor and narrative reveal the potential for constructive irreversibility, setting the stage for RSVP's alternative.



## Part II

# Cultural and Cognitive Parallels



## Chapter 4

# Humor, Narrative, and Irreversibility

This chapter transitions from cryptographic critiques to cultural phenomena, examining how humor and narrative leverage irreversibility in ways that can either liberate or constrain. Building on the flaws of hardship-based systems, it shows that irreversibility can be constructive when tied to meaning, preparing the ground for the “dead internet” analysis in Chapter 5. The discussion highlights RSVP’s potential to harness irreversibility for coherence.

### 4.1 Introduction

Weakness- and waste-based security systems rely on irreversibility without value. Once energy is burned, it cannot be unburned; once a memory is confused, it cannot be unconfused. Both create proofs by making actions unrecoverable. Yet irreversibility is not always negative. In cultural life, irreversibility is also the ground of humor and narrative. The punchline cannot be unheard; the plot twist cannot be untwisted. These phenomena show that irreversibility can both constrain and liberate, entrap and enlighten. Understanding this duality is essential if we are to imagine informational proofs that avoid humiliation and waste.

### 4.2 Humor as Cognitive Irreversibility

Humor functions by exploiting cognitive limitations, but in a constructive rather than punitive way. A classic example is the Stroop effect: once a person can read, the impulse to interpret words interferes with simple tasks like color-naming. Similarly, jokes work by forcing a frame shift that cannot be reversed: the mind suddenly sees the same words or situation under a new schema.

Setup: establishes an expectation under one frame.

Punchline: forces a sudden switch to a new frame.

Effect: irreversibility of perception.

The crucial point is that humor exposes a contradiction between frames rather than punishing the failure. Instead of humiliating the hearer, it liberates them into a new perspective.

### 4.3 Narrative as Temporal Irreversibility

Narratives rely on a similar structure. The revelation in a tragedy or mystery cannot be undone: once Oedipus learns his fate, or the detective names the murderer, the story’s past is transformed. Plot twists work because knowledge cannot be revoked. In Aristotelian terms, *anagnorisis* (recognition) marks the irreversible moment [10].

Here, too, the irreversibility is not proof of weakness but a source of meaning. Narrative transforms the inevitability of time into coherence. Instead of demanding incapacity, it turns irreversibility into aesthetic and emotional depth.

## 4.4 Irreversibility as Control

Yet irreversibility is double-edged. Humor can liberate or humiliate; narrative can enlighten or indoctrinate. Political satire, for instance, may create insider cliques who share the joke, while outsiders are left feeling mocked. Courtroom dramas and espionage shows give viewers a sense of “insider knowledge,” but rely on clichés and tropes, leaving real institutional workings obscure. Ridicule can be applied to both true and false premises, dissolving the possibility of serious commitment. In the extreme, shows like *South Park* or *Rick and Morty* apply ridicule universally, leading to absurdism or nihilism in which no position remains defensible.

Thus, irreversibility can also enforce cynicism: once every position has been mocked, it becomes difficult to believe in anything at all. The punchline closes possibilities rather than opening them.

## 4.5 Lessons for Security

The analogy to cryptography is clear. Weakness-based systems resemble humiliating jokes: they exploit limitations to produce exclusion. Waste-based systems resemble cynical satires: they reduce contribution to visible burn, mocking the very idea of usefulness. Both use irreversibility as control rather than meaning.

The lesson from humor and narrative is that irreversibility can be reframed. Instead of binding people to incapacity, systems can bind them to recognition. The irreversible insight can be liberating: once coherence is perceived, it cannot be unseen. This points toward a model of informational security based not on entropy maximization but on structured irreversibility—the irreversible recognition of contribution.

## 4.6 Toward Constructive Irreversibility

In RSVP terms, constructive irreversibility arises when informational flows increase coherence and density:

Humor: raises coherence by revealing hidden frames.

Narrative: raises density by embedding events in meaningful trajectories.

Security design: could raise trust by binding contributions irreversibly to coherence, rather than to weakness or waste.

Thus, irreversibility is not itself the problem. The question is what irreversibility is anchored to: weakness, waste, or coherence.

## 4.7 Conclusion

Humor and narrative demonstrate that irreversibility can be a source of meaning when aligned with coherence, contrasting sharply with the punitive irreversibility of cryptographic systems. This chapter bridges the technical critique to cultural analysis, setting up the exploration of platform-driven noise in Chapter 5. RSVP’s potential lies in harnessing irreversibility for constructive ends.

## Chapter 5

# Dead Internet Theory and Engineered Reality

This chapter extends the cultural lens to digital platforms, analyzing the “dead internet” phenomenon where synthetic noise drowns authentic human presence. Following Chapter 4’s insights on irreversibility, it critiques how platforms weaponize attention, leading to entropic collapse. It prepares for Chapter 6’s focus on aesthetic capture as a lived symptom of this collapse.

### 5.1 Introduction

If humor and narrative reveal how irreversibility can open or close frames of meaning, the internet reveals how irreversibility can be engineered to drown meaning altogether. “Dead Internet Theory” (DIT) emerged in online subcultures as the suspicion that much of the internet is no longer human-driven but bot-driven: that conversations, posts, and even whole communities are algorithmic fabrications. Whether or not literally true in the strong form, the theory captures a lived reality: for many users, the internet feels dead because authentic human presence is increasingly submerged beneath synthetic noise.

### 5.2 The Anatomy of a Dead Internet

Platforms like Facebook exemplify this shift. Pages devoted entirely to deepfakes—misattributed celebrity birthdays, fabricated pleas from children, AI-generated faces—garner tens of thousands of reactions in hours. Commenters correct trivial details (Morgan Freeman’s age, the wrong month of a birthday) without noticing that the entire image is fabricated. Authenticity is displaced by a torrent of engineered bait.

The result is not merely misinformation but distraction. Human effort is redirected into endless correction labor: swatting at surface errors while the deeper structure of fakery goes unchallenged. This asymmetry benefits platforms: engagement rises, advertising revenue flows, and the cycle repeats.

### 5.3 From Theory to Engineered Reality

The significance of DIT is not whether bots dominate numerically but whether platforms are architected to feel bot-dominated. Algorithmic feeds reward volume, virality, and novelty regardless of source. In such an environment, bots and low-cost synthetic content have a structural advantage. The outcome is a self-fulfilling prophecy: the internet may not be literally “dead,” but it is engineered to function as though it were.

This engineered reality parallels the logics of weakness- and waste-based security. Just as Conitzer’s tests exploit frailty and blockchains exploit waste, platforms exploit the cognitive bias that “what is visible is what matters.” By flooding visibility with synthetic content, they redefine presence as reach and reach as trust.

## 5.4 Consequences for Politics, Education, Identity

Politics: Fabricated engagement can simulate consensus, distorting democratic processes. Manufactured cliques emerge around memes and myths, drowning out deliberation.

Education: Knowledge ecosystems are polluted by content farms and generative noise, making it harder for learners to separate signal from spam.

Identity: Users report diminished motivation to share personal updates, sensing they are competing against machines. The performative self is drowned by engineered avatars.

Memory: Archives become unreliable as authentic records are buried under synthetic floods. What survives in the digital commons may be dominated by fakery.

The “dead internet” is thus less about bots and more about the collapse of signal-to-noise ratio as a structural condition.

## 5.5 Irreversibility of Noise

Once synthetic floods dominate an environment, their effects are irreversible. Even if detected later, corrections cannot recover the attention already diverted. Unlike humor’s liberating irreversibility or narrative’s deepening irreversibility, platform irreversibility is entropic: once noise is injected, it cannot be un-injected. The commons accumulates disorder that human labor cannot undo.

## 5.6 RSVP Critique

From the RSVP perspective:

Entropy ( $S$ ): maximized, as platforms reward repetition and bait.

Vector coherence ( $\mathbf{v}$ ): low, as flows of attention are scattered across synthetic trivialities.

Scalar density ( $\Phi$ ): minimal, as posts contain little informational richness per unit.

Thus, the digital commons under current platforms has:

$$Q_{\text{platform}} = \alpha\Phi + \beta\kappa - \gamma S \ll 0.$$

The system is informationally negative, converting human presence into correction labor while amplifying noise.

## 5.7 Toward Engineered Coherence

The question is not whether irreversibility can be avoided but whether it can be redirected. Just as narratives irreversibly embed events into meaningful arcs, digital systems could irreversibly embed contributions into coherent structures. RSVP proposes to measure and reward this: coherence and density as metrics for amplification, entropy as a cost to be minimized.

The dead internet is a cautionary case: if weakness-based systems humiliate and waste-based systems exhaust, noise-based systems drown. RSVP aims instead to construct an environment where informational usefulness is the criterion for persistence.

## 5.8 Conclusion

The “dead internet” reflects a systemic failure to prioritize informational coherence, amplifying noise through engagement-driven design. Building on Chapter 4’s cultural insights, this chapter underscores the need for systems that reward signal over noise. Chapter 6 explores aesthetic capture as the subjective experience of this misalignment, further grounding RSVP’s relevance.



## Chapter 6

# Aesthetic Capture and the Drift of Norms

This chapter examines aesthetic capture—the subjective irritation from platform conventions like emoji overuse and irreversible edits—as a symptom of informational misalignment. Following Chapter 5’s analysis of the “dead internet,” it connects user experience to systemic entropy, leading into Chapter 7’s introduction of RSVP as a constructive alternative.

### 6.1 Introduction

If “dead internet” captures the structural collapse of signal into synthetic noise, “aesthetic capture” names its subjective symptom. Users experience not only deception but annoyance: subtle but pervasive feelings that the environment has drifted away from long-accumulated norms of sense, style, and dignity. Emojis in GitHub READMEs, “edited” badges on private posts, unretractable typos in Messenger — each seems trivial, but together they signal a deeper mismatch between lived expectation and engineered convention.

This chapter explores aesthetic capture as the felt recognition that digital infrastructures are being optimized for metrics alien to human sensibilities. It closes Part II by anchoring the critique in phenomenology: the lived experience of absurdity.

### 6.2 Micro-Anomalies as Signals

Humans are statistical creatures. Every user implicitly compares present experiences with the distribution of past experiences. When platforms enforce conventions that deviate from this accumulated background — excessive emoji headings, redundant edit badges, irreversible typos — they generate visceral dissonance.

Redundancy: The “edited” tag, appropriate for public debates, is nonsensical for private drafts visible only to the author.

Artificial ornamentation: Emojis plastered across headings appear garish, violating long-formed expectations of text aesthetics.

Blocked reversibility: Unretractable typos create a sense of lock-in, preventing the graceful correction that writing norms evolved to allow.

Each anomaly alone may be bearable, but together they accumulate into a perceptible drift.

### 6.3 Aesthetic Drift as Platform Logic

Why do these anomalies proliferate? Not because designers set out to annoy, but because platform metrics reward visibility, engagement, and uniformity. Emojis are easily parsed by recommendation systems; edit tags increase “transparency” without regard to context; irreversibility simplifies moderation. The resulting conventions are machine-friendly but human-unfriendly.

Aesthetic capture thus marks the inversion of priorities: what reads as “ugly” to a human may read as “useful metadata” to an algorithm. The clash reveals the degree to which informational environments are being reshaped to suit non-human logics.

## 6.4 From Irritation to Alienation

Annoyance is not trivial. It is the lived form of alienation. Just as citizens recognize civic absurdities when trucks are dispatched across provinces for local moves, users recognize informational absurdities when platforms enforce counterintuitive rules. The irritation signals not mere personal taste but a misalignment between human cognitive ecology and engineered affordances.

If left unchecked, aesthetic drift erodes trust. Users begin to feel that they inhabit a foreign environment where their accumulated skills, habits, and styles no longer matter. The platform becomes an estranged space in which one is perpetually off-balance.

## 6.5 RSVP Analysis

From RSVP’s perspective, aesthetic capture is informationally negative:

Entropy ( $S$ ): rises, as conventions add redundant signals (emoji noise, unnecessary edit marks).

Coherence ( $\mathbf{v}$ ): falls, as long-formed expectations are broken without compensating meaning.

Scalar density ( $\Phi$ ): drops, as surface features (icons, badges) substitute for depth of content.

Thus, user experience is not merely uncomfortable but formally entropic:

$$Q_{\text{aesthetic}} = \alpha\Phi + \beta\kappa - \gamma S \ll 0.$$

The system forces participants to inhabit low-coherence states, where attention is siphoned toward anomalies instead of meaning.

## 6.6 Aesthetic as Civic Signal

Annoyance functions as an early-warning signal. Just as humor reveals contradictions irreversibly, irritation reveals misalignments irreversibly. Once noticed, it cannot be unseen. The task, then, is not to dismiss annoyance as subjective, but to recognize it as a civic datum: an indicator that informational environments are drifting away from human-centered coherence.

## 6.7 Conclusion

Aesthetic capture manifests systemic noise as lived irritation, connecting the “dead internet” to everyday user experience. This chapter concludes Part II by highlighting the need for systems aligned with human sensibilities. Chapter 7 introduces RSVP as a framework to achieve this alignment through informational metrics.

## **Part III**

# **RSVP Informational Security**



## Chapter 7

# RSVP: Relativistic Scalar-Vector Plenum as Informational Infrastructure

This chapter introduces RSVP as a constructive alternative to the flawed systems critiqued in Parts I and II. It translates cosmological and cognitive RSVP metrics into informational tools for trust and routing, building on the cultural need for coherence. It sets up Chapter 8's formalization of these metrics.

### 7.1 Introduction

Parts I and II established the negative background: contemporary systems of digital trust are grounded in arbitrary hardship. Weakness-based security humiliates, waste-based security exhausts, and platform logics drown human presence in noise. Each relies on irreversibility without value—proof through incapacity, waste, or distraction.

This chapter introduces the constructive alternative. The Relativistic Scalar-Vector Plenum (RSVP), originally developed as a field-theoretic framework for cosmology and cognition [11], can be reformulated as an informational infrastructure. RSVP provides metrics that can be applied to evaluate contributions, route ideas, and design civic systems. These metrics—entropy ( $S$ ), vector coherence ( $\mathbf{v}$ ), and scalar density ( $\Phi$ )—form the basis for a model of informational security, where trust is grounded not in hardship but in usefulness.

### 7.2 RSVP Background: From Physics to Cognition

RSVP was first conceived as a cosmological alternative to expansionary models of the universe. Instead of describing space as stretching outward, RSVP describes space as an entropic-vector field: a plenum of scalar density ( $\Phi$ ), vector flows ( $\mathbf{v}$ ), and entropy distributions ( $S$ ). Over time, the framework was extended into models of cognition and agency, treating thought itself as structured field dynamics [3].

The central intuition is that any system—cosmological, cognitive, or civic—can be modeled as interacting scalar, vector, and entropic components:

$\Phi$  (Scalar Density): measure of concentration, richness, or depth at a point.

$\mathbf{v}$  (Vector Flow): orientation and coherence of flows across space or attention.

$S$  (Entropy): degree of disorder or redundancy.

In physics, this describes structure formation [11]. In cognition, it describes thought coherence. In social systems, it describes informational quality.

### 7.3 Informational Translation

To apply RSVP to digital and civic infrastructures, we translate the fields into informational metrics:

Scalar Density ( $\Phi$ ): informational richness per unit expression. Analogous to compression ratio or mutual information. A dense contribution says much with little.

Vector Coherence ( $\mathbf{v}$ ): alignment of flows of attention or discourse. High coherence means participants are oriented in compatible directions; low coherence means scattering or cross-talk.

Entropy (S): degree of disorder or redundancy. High entropy corresponds to noise, spam, or meaningless repetition; low entropy to ordered signal [12].

Together, these metrics provide a basis for evaluating any contribution to a system: a post, a transaction, a civic action, even a logistical choice.

## 7.4 The Usefulness Function

The core metric is a composite “usefulness score” for a contribution  $c$ :

$$Q(c) = \alpha \Phi(c) + \beta \kappa(c) - \gamma S(c),$$

where  $\kappa$  is normalized coherence, and  $\alpha, \beta, \gamma$  set relative weights.

High  $Q$ : contribution is dense, coherent, low-noise  $\rightarrow$  worth amplifying.

Low  $Q$ : contribution is diffuse, incoherent, redundant  $\rightarrow$  worth suppressing.

This contrasts with:

Weakness-based security: where pass/fail depends on incapacity.

Waste-based security: where trust depends on energy burned.

Noise-based platforms: where reach depends on engagement.

RSVP reframes trust as informational contribution.

## 7.5 Markedness and Complexity

One worry is that informational scoring could recreate arbitrary gates. RSVP addresses this with the concept of markedness: complexity serves as a natural filter, but not an exclusionary one.

Unmarked (simple): low-effort contributions are possible and visible, but low  $Q$ .

Marked (complex): higher-effort, higher-density contributions score better, naturally filtering by learning and experience.

Thus, gates emerge organically through complexity, not through humiliation or waste. A high-schooler can post a simple observation; an expert can post a dense analysis. Both are admitted, but the system distinguishes their contributions without enforcing exclusion.

## 7.6 Security Through Informational Irreversibility

RSVP also redefines irreversibility. Instead of anchoring it to frailty or energy burn, RSVP anchors it to coherence:

Once coherence is revealed, it cannot be unseen.

Once density is recognized, it persists as contribution.

Once entropy is measured, it irreversibly reduces trust.

This mirrors the irreversibility of humor and narrative: the recognition is irreversible, but it enriches rather than humiliates.

## 7.7 Toward Infrastructural Application

With these metrics in place, RSVP can be applied to a wide range of domains:

Digital security: spam resistance, identity checks, trust scoring.

Idea routing: filtering, amplification, and visibility based on informational value.

Civic efficiency: diagnosing absurdities in logistics and resource flows.

Platform design: replacing engagement metrics with informational metrics.

The chapters that follow develop these applications in detail, moving from formalism to case studies.

## 7.8 Conclusion

RSVP offers a principled framework for informational trust, replacing hardship with usefulness. This chapter transitions from the cultural critiques of Part II to the technical proposal of Part III, with Chapter 8 formalizing RSVP's metrics for practical implementation.





## Chapter 8

# Metrics of Informational Usefulness

This chapter formalizes RSVP’s metrics—entropy, coherence, and density—building on Chapter 7’s conceptual introduction. It provides mathematical definitions and examples to show how RSVP can be applied to evaluate contributions, setting up Chapter 9’s comparison with monetary friction models. The focus is on operationalizing trust through measurable informational value.

### 8.1 Introduction

If Chapter 7 introduced RSVP as an informational infrastructure, this chapter provides the mathematical scaffolding. To operationalize RSVP in digital and civic systems, we require explicit metrics for entropy ( $S$ ), vector coherence ( $\mathbf{v}$ ), and scalar density ( $\Phi$ ). These must be defined in a way that is computationally measurable, socially interpretable, and scalable across contexts.

### 8.2 Entropy: Quantifying Disorder

Entropy measures the degree of unpredictability or redundancy in a contribution. In informational terms, Shannon entropy provides the baseline [12]:

$$S(c) = - \sum_{i=1}^n p_i \log p_i,$$

where  $p_i$  is the probability of symbol  $i$  in the contribution  $c$ .

High  $S$ : disorder, spam, or random noise.

Moderate  $S$ : diversity, novelty, exploration.

Low  $S$ : repetition, cliché, redundancy.

Entropy should not be minimized universally: moderate entropy may be valuable, ensuring variation. The goal is balanced entropy—enough novelty to add signal, but not so much disorder that coherence collapses.

### 8.3 Vector Coherence: Aligning Flows

Vector coherence measures the alignment of contributions with collective flows of meaning. Let  $\mathbf{v}_j$  be the semantic vector representation (e.g., embedding) of contribution  $j$ . For a set of contributions, coherence is:

$$\kappa = \frac{\|\sum_{j=1}^n \mathbf{v}_j\|}{\sum_{j=1}^n \|\mathbf{v}_j\|}, \quad 0 \leq \kappa \leq 1.$$

$\kappa = 1$ : all contributions aligned, maximum coherence.

$\kappa = 0$ : contributions cancel out, maximum divergence.

This metric captures whether contributions reinforce or scatter. A platform conversation with high  $\kappa$  is focused; one with low  $\kappa$  is fragmented.

## 8.4 Scalar Density: Richness Per Unit

Scalar density measures how much informational content is conveyed per unit of expression. One proxy is compression-based density:

$$\Phi(c) = \frac{\text{compressed size of } c}{\text{raw size of } c}.$$

High  $\Phi$ : dense, information-rich.

Low  $\Phi$ : verbose, padded, low-content.

Alternatively, density can be approximated via mutual information between a contribution and subsequent discourse:

$$\Phi(c) = I(c; C_{\text{future}}),$$

where  $I$  is mutual information between  $c$  and the set of future contributions  $C_{\text{future}}$ . A dense contribution predicts or anchors future discourse.

## 8.5 Composite Usefulness Function

We combine these three metrics into a usefulness score:

$$Q(c) = \alpha \Phi(c) + \beta \kappa(c) - \gamma S(c),$$

where  $\alpha, \beta, \gamma$  are tunable weights.

High  $Q$ : contribution is dense, aligned, and balanced in entropy.

Low  $Q$ : contribution is verbose, misaligned, or entropic.

This function is flexible: weights can be adjusted depending on domain (e.g., civic logistics may prioritize coherence, while scientific research may prioritize density).

## 8.6 Worked Examples

Example 1: Spam Message

Contribution: “BUY NOW BUY NOW BUY NOW.”

Entropy  $S$ : low (repetitive).

Coherence  $\kappa$ : irrelevant (adds nothing to conversation).

Density  $\Phi$ : near zero.

Result:  $Q < 0$ . Suppressed.

Example 2: Random Noise Post

Contribution: string of random characters.

Entropy  $S$ : maximal.

Coherence  $\kappa$ : zero (no alignment).

Density  $\Phi$ : zero.

Result:  $Q \ll 0$ . Suppressed.

Example 3: Dense Analytical Comment

Contribution: concise argument supported by references.

Entropy  $S$ : moderate (balanced).

Coherence  $\kappa$ : high (aligns with discussion).

Density  $\Phi$ : high (information-rich).

Result:  $Q > 0$ . Amplified.

## 8.7 Informational Security vs. Weakness/Waste

Compare to earlier paradigms:

Weakness-based: user passes or fails a contrived cognitive test. Trust rests on incapacity [4].

Waste-based: miner succeeds by burning energy. Trust rests on resource expenditure [9].

RSVP informational: contributions succeed by scoring high on  $Q$ . Trust rests on usefulness.

Thus, RSVP reframes security as positive irreversibility: once density and coherence are recognized, they cannot be undone. Unlike frailty or waste, usefulness accumulates.

## 8.8 Complexity and Markedness

Importantly, RSVP metrics naturally differentiate contributions by complexity without exclusion:

Simple observations may score modestly, providing entry points.

Complex analyses may score highly, reflecting investment of effort.

This is markedness: harder contributions naturally rise, not because they humiliate or waste, but because they are more informationally valuable.

## 8.9 Conclusion

RSVP's metrics provide a rigorous, measurable basis for evaluating contributions, replacing arbitrary hardship with informational value. This chapter formalizes the framework introduced in Chapter 7, preparing for Chapter 9's comparison with monetary friction models like Bubble City. RSVP's strength lies in its ability to operationalize trust as usefulness.



## Chapter 9

# Informational Friction vs. Monetary Friction

This chapter contrasts RSVP’s informational friction with monetary friction models like Bubble City’s penny-to-post, building on Chapter 8’s metrics. It argues that informational friction avoids the inequities and speculation of monetary systems, leading into Chapter 10’s civic applications. The focus is on sustainable trust mechanisms.

### 9.1 Introduction

Friction is a necessary feature of any system of trust. Without some barrier, spammers and attackers can flood a system with noise; without some form of resistance, signals lose meaning. The design question is not whether to impose friction, but how.

Two paradigms have emerged. Monica Anderson’s Bubble City proposal envisioned friction as a penny-to-post: each message carries a small economic cost [2]. By contrast, RSVP conceives friction as informational: waste and redundancy accrue penalties directly in the trust function. This chapter contrasts these approaches and argues that RSVP’s informational friction avoids the pitfalls of monetary schemes while offering a principled alternative.

### 9.2 Bubble City: Penny-to-Post

Monica Anderson, an early voice in AI and alternative epistemology, proposed Bubble City as a way to manage the deluge of messages in online discourse [2]. The key insight was simple: if posting carried even a minimal cost—say, one cent—spam and low-value noise would become prohibitively expensive, while genuine contributions would remain affordable.

Mechanism: attach micropayments to each post.

Goal: reduce noise by pricing it out.

Promise: universal spam resistance through economic friction.

The elegance of the idea lay in its simplicity: a penny is negligible for sincere communication but significant at scale for spammers.

### 9.3 Why Monetary Friction Collapses

In practice, however, monetary friction tends to collapse into token speculation.

1. **Speculative Capture:** Any tokenized currency or credit system becomes an object of speculation, subject to hoarding and price swings. The original function (filtering spam) is drowned out by financialization.

2. **Equity Distortion:** A penny is trivial in some economies but prohibitive in others. Friction ceases to be neutral and becomes discriminatory.

3. **Automation Arms Race:** Spammers can still weaponize capital. The rich can pay to flood, while the poor are priced out of participation.

4. Administrative Overhead: Payment rails require infrastructure, transaction fees, and governance, introducing complexity and points of failure.

The net result is that monetary friction shifts the gate from informational usefulness to financial capacity. Participation becomes a function of wealth rather than contribution.

## 9.4 RSVP as Informational Friction

RSVP replaces monetary friction with informational friction. Instead of paying a coin to speak, participants “pay” in coherence, density, and entropy balance.

Noise Tax: redundant or disorderly contributions are penalized via high entropy  $S$ .

Alignment Reward: contributions that cohere with ongoing flows score higher via vector coherence

$\kappa$ .

Density Reward: contributions that are compact and predictive score higher via scalar density  $\Phi$ .

The composite usefulness function:

$$Q(c) = \alpha \Phi(c) + \beta \kappa(c) - \gamma S(c),$$

ensures that waste is taxed directly. Unlike monetary friction, which indiscriminately burdens all participants, informational friction targets only low-value contributions. High-value contributions pass naturally.

## 9.5 Markedness and Complexity as Natural Gates

A key advantage of RSVP is that friction emerges organically through markedness:

Simple, low-density contributions are easy to make but score modestly.

Complex, high-density contributions are harder to produce but score highly.

Effort thus maps to contribution, not to arbitrary financial capacity.

This mirrors linguistic markedness: basic forms are unmarked and widely accessible, while complex forms are marked and reveal mastery. Complexity serves as a natural gate without exclusion. A novice can enter the conversation; an expert can rise within it.

## 9.6 Comparative Table

| Paradigm          | Friction Mechanism                        | What It Rewards                          | Who It Excludes              |
|-------------------|---|--|------------------------------|
| Bubble City       | Monetary (penny-to-post)                  | Wealthy actors who can pay               | The poor, global South       |
| Blockchains (PoW) | Energy burn                               | Those with cheap energy/hardware         | Resource-poor, environmental |
| RSVP              | Informational ( $Q = \Phi + \kappa - S$ ) | Dense, coherent, low-noise contributions | None inherently; community   |

Table 9.1: Comparison of Friction Paradigms

## 9.7 Conclusion

RSVP’s informational friction offers a sustainable alternative to monetary and waste-based systems, grounding trust in contribution rather than wealth or destruction. This chapter builds on the metrics of Chapter 8, setting the stage for Chapter 10’s Civic Efficiency Index, which applies RSVP to diagnose systemic inefficiencies.

## Part IV

# Civic and Socioeconomic Extensions





## Chapter 10

# Civic Efficiency Index: From Trucks to Blockchains

This chapter introduces the Civic Efficiency Index (CEI), an RSVP-based tool to diagnose inefficiencies in civic processes like logistics and blockchains. Building on Chapter 9’s friction models, it shows how CEI reframes waste as a civic harm, leading into Chapter 11’s application to idea routing. The focus is on aligning resources with informational value.

### 10.1 Introduction

Human systems continuously make decisions about resource allocation: how to transport goods, how to generate energy, how to structure digital security. In theory, markets and institutions should filter out wasteful practices. In reality, absurd inefficiencies proliferate. A truck is rented in Toronto and driven 1,000 kilometers to move one box across a street in New Brunswick; water is shipped back and forth across oceans for marginal price differences; blockchains burn gigawatt-hours of electricity to prove consensus without producing any useful informational work.

These are not isolated anomalies but systemic symptoms of a deeper problem: the absence of a principled metric for civic efficiency. To address this, we propose the Civic Efficiency Index (CEI), grounded in RSVP informational metrics. The CEI diagnoses processes not by monetary cost alone, but by their informational usefulness relative to entropic waste.

### 10.2 RSVP Foundations

Recall that RSVP evaluates contributions using three metrics:

Scalar Density ( $\Phi$ ): informational richness per unit of action.

Vector Coherence ( $\mathbf{v}$ ): alignment of flows with intended outcomes.

Entropy ( $S$ ): disorder or redundancy introduced into the system.

We combine these into a usefulness function:

$$Q = \alpha\Phi + \beta\kappa - \gamma S,$$

where  $\kappa$  is coherence, and  $\alpha, \beta, \gamma > 0$ .

The Civic Efficiency Index (CEI) extends this logic to civic processes:

$$CEI = \frac{Q}{C},$$

where  $C$  is total resource expenditure (energy, time, infrastructure cost). CEI expresses informational usefulness per unit civic cost.

### 10.3 CEI Categories

For interpretability, CEI can be discretized into categories:

Exemplary (CEI  $\geq 0.8$ ): strong outcome with minimal waste.

Acceptable (0.5 ; CEI 0.8): moderate inefficiency, justified by value.

Marginal (0.2 ; CEI 0.5): significant waste, weakly justified.

Absurd (CEI 0.2): entropic abuse; redesign or prohibition required.

This taxonomy allows civic actors, policymakers, and communities to identify when waste crosses the threshold into systemic harm.

## 10.4 Case Studies

### 10.4.1 Absurd Truck Rental

Scenario: A moving truck is rented in Toronto and sent to New Brunswick for a one-street relocation.

Analysis:

$\Phi$ : near zero (minimal utility).

$\kappa$ : near zero (resources misaligned with purpose).

S: high (fuel, time, opportunity costs).

Result: CEI 0.05  $\rightarrow$  Absurd.

Implication: Logistics systems should penalize such misalignments as civic inefficiencies, not permit them as neutral transactions.

### 10.4.2 Global Water Shipments

Scenario: Water bottled in one region is shipped across oceans, then back again, to exploit minor price differentials.

Analysis:

$\Phi$ : low (water is fungible).

$\kappa$ : low (transport misaligned with local availability).

S: very high (carbon footprint, logistical redundancy).

Result: CEI 0.1  $\rightarrow$  Absurd.

Implication: Arbitrage-driven inefficiencies should be flagged as negative informational contributions.

### 10.4.3 Proof-of-Work Mining

Scenario: Blockchain consensus through hash puzzles.

Analysis:

$\Phi$ : near zero (hashes produce no useful data).

$\kappa$ : zero (computation misaligned with civic goals).

S: astronomically high (energy waste, emissions).

Result: CEI 0  $\rightarrow$  Absurd.

Implication: Proof-of-work is informationally bankrupt: security at the cost of coherence.

### 10.4.4 Local Food Networks (Positive Case)

Scenario: Community-supported agriculture delivers produce directly from nearby farms to households.

Analysis:

$\Phi$ : high (nutritional, ecological, community value).

$\kappa$ : high (flows aligned with local demand).

S: low (minimal waste, short transport).

Result: CEI 0.9  $\rightarrow$  Exemplary.

Implication: Systems that maximize coherence and density while minimizing entropy should be institutionally reinforced.

## 10.5 Normative Implications

The CEI reframes inefficiency as a civic harm. Just as environmental regulation treats pollution as externalized cost, the CEI treats informational absurdity as systemic damage.

Transparency: Public reporting of CEI scores for major projects and policies.

Redesign: Low-CEI practices flagged for civic redesign (e.g., smarter logistics, alternative consensus mechanisms).

Accountability: Entities that persist in low-CEI behaviors can be penalized or regulated.

Incentives: High-CEI behaviors can be rewarded through subsidies, amplification, or public recognition.

This transforms inefficiency from a tolerated byproduct into a measurable, actionable variable in civic life.

## 10.6 Conclusion

The CEI exposes systemic absurdities by grounding evaluation in informational usefulness, extending Chapter 9's friction model to civic processes. It prepares for Chapter 11's application of RSVP to idea routing, where similar metrics can replace engagement-driven noise with coherence. RSVP's strength lies in its ability to diagnose and redesign inefficient systems.



# Chapter 11

## Idea Routing and Social Platforms

This chapter applies RSVP to idea routing on social platforms, replacing engagement metrics with informational usefulness. Following Chapter 10's civic applications, it shows how RSVP can filter discourse to prioritize coherence, leading into Chapter 12's vision of an informational political economy. The focus is on aligning digital communication with meaningful contribution.

### 11.1 Introduction

If the Civic Efficiency Index (CEI) diagnoses waste in material processes, an analogous challenge arises in informational processes: how to route, filter, and amplify ideas in collective discourse. Current platforms use engagement (likes, clicks, shares) as their routing principle. The result is amplification of outrage, bait, and synthetic noise. Just as proof-of-work mistakes waste for value, engagement-driven platforms mistake visibility for coherence.

This chapter develops RSVP's alternative: idea routing based on informational usefulness. Contributions are filtered and amplified not by popularity, financial capacity, or manipulation of weakness, but by their density, coherence, and entropy balance.

### 11.2 The Failure of Engagement Metrics

Social platforms currently reward contributions according to engagement scores:

$$E(c) = \text{likes}(c) + \text{shares}(c) + \text{comments}(c).$$

This function is agnostic to informational value. In fact, it often inversely correlates with it: trivial, inflammatory, or misleading posts garner high engagement, while dense, thoughtful contributions languish unseen.

Result: high  $E$ , low  $Q$ .

Outcome: amplification of noise, disincentivization of coherence.

The engagement model is the informational analog of proof-of-work: what matters is that energy was burned (attention captured), not what informational outcome was produced.

### 11.3 RSVP Routing Function

RSVP replaces engagement with the usefulness score  $Q$ :

$$Q(c) = \alpha \Phi(c) + \beta \kappa(c) - \gamma S(c),$$

where:

$\Phi$ : scalar density (richness per unit).

$\kappa$ : coherence with conversational flow.

$S$ : entropy (noise, redundancy).

Idea routing principle:

High- $Q$  contributions are amplified.

Low- $Q$  contributions are filtered or downweighted.

Thus, routing shifts from attention-maximization to coherence-maximization.

## 11.4 Markedness and Accessibility

As with civic efficiency, RSVP idea routing respects markedness:

Unmarked contributions (simple, low-density) remain possible. They provide entry points for novices and casual users.

Marked contributions (complex, high-density) naturally propagate more widely, reflecting greater informational investment.

The system does not exclude participants but differentiates by informational value. The novice is not silenced; the expert is not drowned out.

## 11.5 Worked Example

Scenario: A thread discussing climate change.

Post A: “Climate change is a hoax.”

$\Phi$ : low (no informational richness).

$\kappa$ : low (diverges from evidence-based flow).

S: high (generates noise).

Q: negative. Downweighted.

Post B: “Here is the latest IPCC chart on temperature anomalies.”

$\Phi$ : high (data-rich).

$\kappa$ : high (aligned with flow).

S: moderate (adds new signal).

Q: positive. Amplified.

Post C: “I don’t understand the chart—can someone explain?”

$\Phi$ : modest (sincere question).

$\kappa$ : moderate (aligns with discussion).

S: low (invites clarification).

Q: modestly positive. Preserved, not suppressed.

The routing distinguishes misinformation, contribution, and sincere inquiry without relying on popularity or wealth.

## 11.6 Comparison to Alternative Models

Weakness-based systems: test whether a user can pass a cognitive challenge. Trust grounded in incapacity [4].

Waste-based systems: test whether a user can burn energy. Trust grounded in resource expenditure [9].

Engagement-based systems: test whether a post can capture attention. Trust grounded in distraction.

RSVP idea routing: evaluates coherence, density, and entropy. Trust grounded in informational usefulness.

## 11.7 Challenges and Counterarguments

Metric Calibration: If weights  $\alpha, \beta, \gamma$  are mis-set, valuable diversity may be suppressed. Solution: adaptive calibration via civic oversight.

Gaming the Metrics: Actors may attempt to simulate density or coherence. Countermeasure: adversarial testing, detection of redundancy, transparency of routing function [13].

Accessibility: Visually impaired or neurodivergent participants may express density differently. Solution: multiple measurement channels (text, voice, symbolic inputs).

The key is that RSVP makes its metrics explicit, unlike engagement algorithms that hide their criteria. Transparency allows for civic correction.

## 11.8 Toward Civic Idea Routing

RSVP-based routing can extend beyond platforms into governance. Deliberative systems could prioritize proposals not by lobbyist funding or media reach but by informational usefulness. Petitions, policy briefs, and civic input could be evaluated using CEI-style diagnostics applied to discourse.

In this model, the political commons functions like an RSVP field: entropy penalized, coherence aligned, density rewarded.

## 11.9 Conclusion

RSVP idea routing replaces engagement-driven noise with coherence-driven amplification, extending Chapter 10's civic framework to digital discourse. It prepares for Chapter 12's vision of an informational political economy, where RSVP metrics reshape incentives across the attention commons. The approach ensures inclusivity while prioritizing meaningful contributions.





## Chapter 12

# Toward an Informational Political Economy

This chapter generalizes RSVP to propose an informational political economy, where contributions are valued by usefulness rather than wealth or attention. Building on Chapter 11’s idea routing, it envisions a system conserving attention as a commons, leading to the appendices for technical rigor. It concludes the main argument with a normative vision.

### 12.1 Introduction

If CEI diagnoses inefficiencies in civic infrastructure and RSVP routing restructures discourse, the final step is to generalize: what happens when all social and economic processes are reframed in informational terms? The proposal is an informational political economy—a system in which contributions are valued, routed, and rewarded not by monetary cost, wasted effort, or captured engagement, but by their informational usefulness.

### 12.2 The Attention Commons

Attention is the substrate of political economy in the digital age. Like land or air in earlier eras, it is finite, rivalrous, and subject to enclosure. Platforms currently treat attention as a commodity: sellable in units of impressions, harvested through outrage and bait. The result is a tragedy of the commons: the more attention is mined, the less coherent it becomes.

From an RSVP perspective, this is an entropy-maximization regime:

Entropy ( $S$ ) rises as feeds fill with redundant, low-density content.

Coherence ( $\mathbf{v}$ ) falls as attention fragments into niches.

Density ( $\Phi$ ) drops as superficial engagement crowds out depth.

An informational political economy must reverse this: treating attention as a commons to be conserved and cultivated.

### 12.3 Incentives for Coherence

Markets currently reward visibility. An informational political economy would reward coherence. Incentive structures could be designed such that:

High- $Q$  contributions (dense, coherent, low-noise) accrue credits, visibility, or civic capital.

Low- $Q$  contributions (redundant, incoherent, noisy) are penalized or deprioritized.

This transforms the logic of reward from “capture attention at any cost” to “align with coherence at minimum cost.”

### 12.4 Redistribution of Civic Costs

Every contribution imposes costs, not just benefits. Correction labor, moderation, and ecological externalities are currently externalized. RSVP makes them measurable:

Correction labor: entropy cost  $S$ .

Fragmentation: loss of coherence  $\kappa$ .

Redundancy: low density  $\Phi$ .

These costs can be redistributed. Actors who flood the commons with noise could be taxed informationally, just as polluters are taxed ecologically. High- $Q$  actors could receive civic dividends.

## 12.5 Beyond Tokenization

Crucially, this system avoids the traps of token economies. Instead of reducing all contributions to a price in speculative currency, RSVP evaluates contributions intrinsically. Informational value is not exchanged for money but measured directly in coherence, density, and entropy.

This allows political economy to escape the cycle of financialization. Value remains grounded in informational usefulness rather than speculative scarcity.

## 12.6 Complexity as a Civic Gate

Complexity operates as a natural filter. Just as marked linguistic forms indicate mastery without silencing novices, high- $Q$  contributions rise organically without excluding low- $Q$  ones. This preserves inclusivity while differentiating contributions by informational merit. Participation remains open, but amplification is proportionate to coherence.

## 12.7 Applications

Media: News outlets scored by CEI-equivalents for informational contribution.

Education: Curricula that route student contributions by density and coherence, not by rote compliance.

Governance: Policy debates structured by RSVP routing, amplifying proposals that maximize coherence while minimizing entropic cost.

Economy: Enterprises evaluated by informational efficiency rather than financial return alone—e.g., measuring ecological restoration as coherence increase.

## 12.8 Normative Vision

An informational political economy would:

1. Conserve attention as a civic commons.
2. Reward coherence rather than visibility.
3. Redistribute entropic costs to those who produce them.
4. Institutionalize complexity as a natural but inclusive gate.

This vision replaces weakness, waste, and noise with usefulness, coherence, and density as the foundations of trust.

To extend this vision, consider the integration of RSVP with emerging AI systems. As AI becomes capable of generating high-density contributions, RSVP metrics can ensure that such systems align with human coherence, preventing a new wave of synthetic noise. Furthermore, in a post-scarcity economy, where traditional labor is automated, informational usefulness could serve as the primary metric for social value, fostering a society oriented toward creative and civic contributions rather than consumption.

## 12.9 Conclusion

This chapter completes the monograph's arc, generalizing RSVP to reframe social and economic systems around informational usefulness. It builds on the routing principles of Chapter 11, offering a normative vision for a coherent digital and civic future. The appendices provide the technical and cultural depth to support this vision.

**Part V**

**Appendices**



# Appendix A

## Mathematical Formalism

### A.1 Purpose

This appendix provides the mathematical formalism for RSVP metrics, consolidating the equations and proofs introduced throughout the monograph. It supports the main arguments by offering rigorous definitions and bounding cases for practical implementation.

### A.2 RSVP Core Metrics

Any contribution  $c$  (whether informational, civic, or logistical) is evaluated along three dimensions:

1. Scalar Density ( $\Phi$ ) — informational richness per unit expression.

Compression-based definition:

$$\Phi(c) = \frac{\text{compressed size}(c)}{\text{raw size}(c)}.$$

Mutual information alternative:

$$\Phi(c) = I(c; C_{\text{future}}),$$

2. Vector Coherence ( $\kappa$ ) — alignment of flows with system trajectory.

For  $n$  contributions represented as semantic vectors  $\mathbf{v}_j$ :

$$\kappa = \frac{\|\sum_{j=1}^n \mathbf{v}_j\|}{\sum_{j=1}^n \|\mathbf{v}_j\|}, \quad 0 \leq \kappa \leq 1.$$

3. Entropy ( $S$ ) — disorder or redundancy introduced.

Shannon definition:

$$S(c) = - \sum_{i=1}^n p_i \log p_i,$$

### A.3 Usefulness Function

The usefulness score  $Q$  of a contribution is:

$$Q(c) = \alpha \Phi(c) + \beta \kappa(c) - \gamma S(c),$$

with weights  $\alpha, \beta, \gamma$  adjustable by domain.

High  $Q$ : contribution is dense, coherent, and balanced in entropy.

Low  $Q$ : contribution is verbose, misaligned, or noisy.

## A.4 Civic Efficiency Index (CEI)

For civic processes (logistics, energy, governance), efficiency is normalized by total resource cost  $C$ :

$$CEI = \frac{Q}{C}.$$

Categories:

Exemplary:  $CEI > 0.8$ .

Acceptable:  $0.5 < CEI \leq 0.8$ .

Marginal:  $0.2 < CEI \leq 0.5$ .

Absurd:  $CEI \leq 0.2$ .

## A.5 Routing Function

For idea routing in social platforms:

Engagement-based routing:

$$E(c) = \text{likes}(c) + \text{shares}(c) + \text{comments}(c).$$

RSVP-based:

$$R(c) \propto Q(c).$$

Thus amplification is directly proportional to usefulness, not engagement.

## A.6 Bounding Cases

1. Spam (e.g., “BUY NOW” repeated):

$$\Phi \approx 0, \kappa \approx 0, S \text{ low.}$$

$$Q < 0.$$

2. Random Noise:

$$\Phi \approx 0, \kappa \approx 0, S \text{ max.}$$

$$Q \ll 0.$$

3. Proof-of-Work Mining:

$$\Phi \approx 0, \kappa = 0, S \text{ high.}$$

$$Q \ll 0.$$

4. Dense, Coherent Analysis:

$$\Phi \text{ high, } \kappa \text{ high, } S \text{ moderate.}$$

$$Q > 0.$$

## A.7 Proof Sketch: Stability of Informational Friction

Claim: Informational friction is more stable than monetary friction.

Monetary friction:

$$\text{Cost}(c) = \mu \cdot V(T),$$

where  $V(T)$  fluctuates.

Informational friction:

$$\text{Cost}(c) = -Q(c),$$

intrinsic and stable.

## A.8 Proof Sketch: Entropy Penalty Ensures Suppression of Noise

For a random message  $c_{rand}$  with maximum entropy:

$$S(c_{rand}) = \log n,$$

$$\Phi(c_{rand}) \approx 0, \quad \kappa(c_{rand}) \approx 0.$$

Therefore:

$$Q(c_{rand}) \approx -\gamma \log n \ll 0.$$

Hence, noise is suppressed by construction.

## A.9 RSVP Irreversibility

RSVP defines irreversibility not as incapacity or waste but as recognition:

Once coherence  $\kappa$  is measured, divergence cannot masquerade as alignment.

Once density  $\Phi$  is measured, verbosity cannot masquerade as richness.

Once entropy  $S$  is measured, noise cannot masquerade as signal.

Thus RSVP proofs are irreversible but constructive: they preserve informational value instead of erasing it.





# Appendix B

## Simulation Models

### B.1 Purpose

This appendix illustrates RSVP’s performance through simplified simulations, comparing it to engagement-based and waste-based models. It supports the main chapters by demonstrating how RSVP metrics resist spam, maintain coherence, and penalize waste.

### B.2 Simulation Environment

We model a simplified “community” of agents that generate contributions  $c_i$ . Each contribution has latent qualities:

- Density ( $\Phi$ ) drawn from a distribution (e.g., Normal with mean varying by agent skill).

- Coherence ( $\kappa$ ) determined by similarity to the community’s central theme vector.

- Entropy ( $S$ ) inversely related to redundancy: high for spam/noise, moderate for diverse but relevant input, low for repetition.

The usefulness score is:

$$Q_i = \alpha\Phi_i + \beta\kappa_i - \gamma S_i.$$

Routing is simulated by assigning amplification probabilities proportional to either  $Q$  (RSVP), raw engagement (engagement model), or energy expenditure (waste-based).

### B.3 Simulation 1: Spam vs. Dense Contribution

Setup:

- 100 agents.

- 90 produce spam (low  $\Phi$ , low  $\kappa$ , high  $S$ ).

- 10 produce dense, coherent contributions (high  $\Phi$ , high  $\kappa$ , moderate  $S$ ).

Results:

- Engagement-based: Spam dominates as it provokes reactions (anger clicks, correction comments).

- Waste-based: Neutral (noise and dense contributions treated equally unless mining power differs).

- RSVP-based: Dense contributions amplified, spam suppressed ( $Q < 0$ ).

Interpretation: RSVP preserves coherence where engagement amplifies noise.

### B.4 Simulation 2: Discourse Fragmentation

Setup:

- 200 contributions.

- Half align with a central theme vector (topic A).

- Half diverge toward random directions (topics B–Z).

Results:

- Engagement-based: Random divergence fragments attention (whichever topics spike engagement gain amplification).

Waste-based: Irrelevant (amplification unrelated to alignment).

RSVP-based: Contributions aligned with the central vector (high  $\kappa$ ) preferentially amplified, maintaining coherence.

Interpretation: RSVP sustains topic focus while allowing diversity, unlike engagement-based models that fracture discourse.

## B.5 Simulation 3: Proof-of-Work Analogy

Setup:

Two processes:

PoW mining (random hashes).

Informational contribution (dense analysis).

Both consume equal computational cost  $C$ .

Results:

Waste-based: Both treated as equivalent, since “work” is measured by energy burn.

RSVP-based: Informational contribution scores high ( $Q > 0$ ), PoW hashes score low ( $Q < 0$ ).

Interpretation: RSVP penalizes waste by construction.

## B.6 Simulation 4: Learning and Markedness

Setup:

Agents produce contributions at varying levels of complexity.

Novices: low  $\Phi$ , low  $\kappa$ .

Experts: high  $\Phi$ , high  $\kappa$ .

Results:

Engagement-based: Experts often ignored if contributions are less flashy.

Waste-based: Neutral.

RSVP-based: Experts naturally rise (higher  $Q$ ), novices remain visible but with lower amplification.

Interpretation: RSVP realizes markedness: inclusivity with differentiation.

## B.7 Toward Empirical Implementation

These toy models suggest RSVP offers robustness against spam, coherence collapse, and waste. Future work should extend these simulations with:

Large language models (LLMs): generating realistic contributions with tunable density, coherence, and entropy.

Human subjects experiments: validating whether RSVP’s metrics align with human judgments of value.

Civic case studies: simulating CEI scores on logistical networks, resource allocation, and governance workflows.

## B.8 Conclusion

Simulation models demonstrate RSVP’s superiority in resisting noise and promoting coherence, supporting the monograph’s claims across technical and civic domains.

# Appendix C

## Cultural Case Studies

### C.1 Purpose

This appendix applies RSVP metrics to cultural artifacts—humor, narratives, deepfakes, and platform aesthetics—to show how informational usefulness illuminates lived experience. It complements the main chapters by grounding RSVP in cultural relevance.

### C.2 Humor and Satire: Liberation vs. Nihilism

South Park and Rick and Morty exemplify the double edge of humor-as-irreversibility.

Mechanism: frame shifts produce cognitive shocks that cannot be undone (punchlines, absurd juxtapositions).

Liberatory case: revealing contradictions in ideology or exposing hypocrisy increases coherence ( $\kappa$ ) by aligning discourse with hidden truths.

Nihilistic case: indiscriminate ridicule reduces coherence ( $\kappa$ ) and raises entropy ( $S$ ), leaving no stable ground for commitment.

RSVP analysis:

Satire that discriminates between false and true premises can yield positive  $Q$ .

Satire that ridicules everything collapses into noise, pushing  $Q$  negative.

### C.3 Courtroom Dramas and Political Espionage Shows

These genres simulate insider knowledge: the viewer feels they understand how institutions function. Yet the mechanisms are often clichés (surprise witnesses, double agents).

Effect: creates artificial coherence ( $\kappa$ ) within the narrative frame but misalignment with reality ( $\kappa$ ).

Outcome: audiences carry away tropes as though they were institutional knowledge, inflating perceived density ( $\Phi$ ) but seeding entropy ( $S$ ) in civic discourse.

RSVP analysis:

Narrative coherence is high within the fiction but informational coherence with civic reality is low. The aggregate  $Q$  is ambiguous—entertaining, but epistemically misleading.

### C.4 Facebook Deepfakes: Engagement Without Presence

Pages devoted to AI-generated celebrity tributes or fake children’s pleas illustrate engineered noise.

Surface: tens of thousands of reactions, high engagement  $E$ .

Reality: images are synthetic, dates incorrect, actors misidentified.

Outcome: humans correct trivial errors (birthdays, ages) but miss the deeper fakery, diverting labor into entropy management.

RSVP analysis:

$\Phi$ : negligible (no richness).

$\kappa$ : low (attention scattered).

$S$ : extremely high (pervasive noise).

$Q < 0$ .

Such systems embody the “dead internet” condition: activity without presence, irreversibility without contribution.

## C.5 GitHub Emoji Monoculture

The proliferation of emoji-laden READMEs exemplifies aesthetic capture.

User expectation: technical repositories maintain textual clarity.

Platform logic: emoji improve parsing and ranking for automated summaries.

Effect: readability and dignity ( $\Phi$ ) decline, redundancy ( $S$ ) increases.

RSVP analysis:

Human irritation is an embodied detection of declining  $Q$ .

What feels “ugly” is not arbitrary taste but recognition of informational incoherence.

## C.6 Messenger and Facebook Edit Policies

Irreversible edits and “edited” tags reflect platform logics of moderation and audit trails.

Private drafts marked “edited” generate entropy ( $S$ ) without informational gain.

Unretractable typos produce low-density ( $\Phi$ ) lock-in, wasting user effort.

RSVP analysis:

Aesthetic irritation again corresponds to informational inefficiency: irreversibility bound to weakness rather than coherence.

## C.7 Synthesis: Culture as Informational Commons

Across humor, narrative, television, social media, and software aesthetics, the same logic recurs:

When irreversibility aligns with coherence and density,  $Q$  is positive (liberatory humor, meaningful narratives).

When irreversibility aligns with weakness, waste, or noise,  $Q$  is negative (nihilistic satire, fake engagement, aesthetic drift).

RSVP thus provides a general lens: cultural forms are evaluated not by popularity or profitability but by their informational usefulness.

## C.8 Conclusion

Cultural phenomena reflect informational states, from liberatory humor to entropic deepfakes. RSVP formalizes these intuitions, supporting the monograph’s vision of coherence-driven systems.

# Appendix D

## Civic Applications

### D.1 Purpose

This appendix applies the Civic Efficiency Index (CEI) to real-world domains—transport, energy, food, and infrastructure—demonstrating RSVP’s diagnostic power. It supports Chapter 10 by providing detailed case studies of systemic inefficiencies and exemplary practices.

### D.2 Transport and Logistics

Case 1: Truck Rental Misalignment

Renting a moving truck from Toronto to move a box in New Brunswick exemplifies CEI collapse [1].

Analysis:

$\Phi$ : trivial (task could be completed locally).

$\kappa$ : misaligned with civic resources.

S: inflated (fuel waste, time, road use).

CEI: Absurd.

Case 2: Rail Freight Optimization

Regional freight consolidation via rail reduces duplication of truck routes.

Analysis:

$\Phi$ : high (goods moved efficiently).

$\kappa$ : strong (aligned with network).

S: low.

CEI: Exemplary.

### D.3 Energy Systems

Case 1: Proof-of-Work Mining

Consumes electricity at national scales to solve useless puzzles [9].

Analysis:

$Q \approx 0$ .

CEI: Absurd.

Case 2: Renewable Microgrids

Local solar + battery storage reduces transmission losses.

Analysis:

$\Phi$ : high (energy aligned with demand).

$\kappa$ : high (community-level coherence).

S: low.

CEI: Exemplary.

Case 3: Broadband Expansion to Rural Areas

Closing digital divides increases coherence of civic participation.

Analysis:

$\Phi$ : very high (educational, economic density).

$\kappa$ : strong (alignment with inclusion goals).

S: moderate (infrastructure costs).  
CEI : Acceptable–Exemplary.

## D.4 Normative Application

RSVP-based CEI offers civic diagnostics:

Public transparency: CEI scores can be published alongside budgets.

Regulation: Low-CEI practices flagged for redesign.

Incentives: High-CEI projects prioritized for funding.

Accountability: Waste reframed as civic harm, akin to pollution.

## D.5 Conclusion

Civic absurdities often pass as “business as usual” because monetary cost-benefit analysis fails to capture informational usefulness. RSVP reframes the civic economy:

Waste is penalized as entropy.

Alignment and density are rewarded.

Absurd practices are exposed as systemic harms.

The CEI thus functions as a universal civic diagnostic: from trucks to blockchains, from food systems to energy, RSVP provides a principled framework for distinguishing the exemplary from the absurd.

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