MO-12 The Internet's own governance: rough consensus, running code and ICANN

The governance of the early Internet stands as one of the most expansive, polycentric, and non-state administrative experiments in human history. Operating without a central sovereign authority, it successfully scaled coordination from a handful of academic researchers in the 1970s to a planetary infrastructure connecting eight billion people. As an artifact for understanding governance in a post-state, post-industrial collapse, the Internet provides highly documented, quantifiable laboratories of institutional evolution. It presents a profound paradox that must be unpacked before attempting to rebuild societal structures: the governance of the underlying technical protocols (the rules of connection) remained largely open, resilient, and distributed, while the governance of the overlying platforms (the spaces of interaction and artificial scarcity) rapidly consolidated into oligarchic monopolies and bureaucratic battlegrounds.

This report examines five distinct institutional arrangements that emerged to govern the digital commons: the Internet Engineering Task Force (IETF), the World Wide Web Consortium (W3C) and Open-Source Software Commons, the Internet Corporation for Assigned Names and Numbers (ICANN), Regional Internet Registries (RIRs), and Wikipedia. Through the lenses of institutional economics and organizational sociology, this analysis dissects the scales at which these mechanisms functioned, how they were captured by dark-triad actors exhibiting narcissism, Machiavellianism, and psychopathy, and what physical, offline analogs can be salvaged when the digital substrate vanishes. Crucially, this analysis strictly avoids the naturalistic fallacy and the romance of the primitive; the historical record demonstrates that small, community-driven organizations are not inherently fair, and bottom-up architectures are frequently captured by those with the stamina to weaponize informal procedures.

1. The IETF: Protocol Governance via Rough Consensus and Running Code

The Internet Engineering Task Force (IETF) is a voluntary, non-membership organization responsible for developing the Internet's core technical standards. It operates without a formal board of directors, without voting, and without a static membership roster. In 1992, MIT computer scientist David Clark summarized its foundational ethos: "We reject: kings, presidents and voting. We believe in: rough consensus and running code"[1].

The IETF eschews majoritarian voting, operating instead on a mechanism of "rough consensus," codified in 2014 by Pete Resnick in RFC 7282, *On Consensus and Humming in the IETF*[2]. In physical meetings, consensus is tested not by a show of hands, but by "humming"—participants emit a low acoustic hum to indicate their position. Resnick's document emphasizes that rough consensus is not about finding unanimous agreement, but rather measuring the lack of disagreement[3]. If a choice prompts a loud hum of opposition, the working group chair

recognizes that there are unresolved technical objections. If there is a single holdout whose objections have been heard, examined, and technically refuted by the group, rough consensus is achieved. As Resnick articulates, "issues are addressed, but not necessarily accommodated"[3]. Humming obscures individual identity just enough to prevent interpersonal grudges and visual vote-tallying, while revealing the aggregate sentiment of the room.

Quantitatively, the IETF operates at a massive scale, yet relies on a tiny elite. A 2021 empirical study by McQuistin et al., presented at the International AAAI Conference on Web and Social Media (ICWSM), mapped the IETF social graph by analyzing 2,106,804 emails from 56,733 addresses across 840 mailing lists over a twenty-year period[4]. They identified a highly active core of 22,138 unique participants but found a steep power-law distribution in participation. Approximately 80% of participants had a network degree of less than 15, while an elite 5% to 10% drove the vast majority of interactions and standards development[4].

Regarding its institutional self-perception, the IETF's own people said it functioned as a purely technical meritocracy where the most elegant engineering solutions naturally won out through open debate and demonstrable implementation, or "running code." However, what the historical record shows is that it functioned as an endurance-based technocracy. Those with the most time, institutional backing, and rhetorical stamina dominated the discourse, effectively filibustering opponents by continuously raising minor technical objections. Modern scholarship infers that protocol design is inherently political rather than neutrally technical. Scholars like Laura DeNardis infer that architectural arrangements are explicitly arrangements of power, and that technical infrastructure is routinely co-opted as a proxy for political power and social control[5].

The strongest case against the IETF model was presented by Phil Agre in his 1994 work *The Internet and Public Discourse*[7]. Agre criticized the myth of pure technical neutrality, asserting that standards design is collective, cumulative, and nothing short of a political process. Critics building on Agre argue that the IETF's informal, supposedly non-hierarchical structure masks deep power asymmetries, privileging corporate engineers funded by technology giants who can afford to participate full-time, thereby marginalizing independent actors who cannot sustain the unpaid labor required to achieve rough consensus.

Capture Test: The IETF Model

A faction driven by Machiavellian traits captures this arrangement via "filibuster by exhaustion." Because the IETF requires that all technical objections be addressed, a well-funded sociopathic actor can continually raise slightly altered objections, grinding the consensus process to a halt until opponents experience severe burnout and abandon the working group. Historical cases show corporate blocs routinely stalling privacy or security protocols that threaten their business models by weaponizing the consensus requirement. However, the feature that powerfully resisted total capture was the absolute requirement of "running code." A dark-triad actor could manipulate a debate, but they could not force the broader network of independent engineers to adopt a broken or malicious protocol if a better, functional alternative already existed in the wild.

Scale Ledger: IETF Rough Consensus and Running Code

Scale Rung	Status	Reason / Viability
Household (4 to 10)	Failed	Over-formalized. Generating physical prototypes ("running code") to resolve minor domestic disputes is inefficient; informal conversation suffices.
Hamlet (30 to 50)	Optimal	Works excellently. Acoustic humming obscures individual identity just enough to prevent the hardening of interpersonal factions while revealing group sentiment.
Village (150 to 500)	Optimal	Highly viable if mediated by a trusted chair who can accurately judge the acoustic weight of a hum and manage objections without forcing a vote.
Parish (1,500 to 5,000)	Strained	"Running code" scales perfectly, but rough consensus requires too many voices. Requires strict delegation to small, specialized working groups.
Town (15,000 to 50,000)	Strained	Fails without layered representative hierarchies. Direct humming becomes impossible to measure.
Region (0.5 to 5 million)	Failed	Never attempted directly at this scale without digital intermediation and mailing

		lists.
Nation (50 to 500 million)	Failed	Cannot operate without a formal state apparatus to enforce the standards on physical infrastructure.
Planet (8 billion)	Worked	Paradoxically worked via digital aggregation, where a working group of 100 engineers acted as an un-elected technical proxy for the planet.

2. The W3C and Open-Source Commons: Modularity and the Power of the Fork

While the IETF managed the routing and transport layers, the World Wide Web Consortium (W3C) managed the application layer, relying on a slightly more formalized consensus model. The W3C defines consensus as a substantial number of individuals supporting a decision with no sustained objection[10]. Unlike the IETF, if a dissenter is dissatisfied with a W3C decision, they can register a "Formal Objection," which invokes an onerous appeal process managed by a formal Council[10]. Between 2022 and 2024, the W3C transitioned into W3C Inc., establishing a formal Board of Directors elected by the membership to handle its personnel, finance, and governance, representing a shift toward traditional corporate non-profit governance to manage its increasing scale[11].

However, the most robust governance mechanisms of the application layer emerged in Open-Source Software (OSS) commons. In their 2012 foundational work *Internet Success: A Study of Open-Source Software Commons*, Charles M. Schweik and Robert C. English applied Elinor Ostrom's Institutional Analysis and Development (IAD) framework to OSS[13]. They empirically analyzed an unprecedented sample size of 145,475 projects hosted on the SourceForge portal[13].

Their quantitative findings shattered several foundational myths of the Internet era. The success rate of open-source projects was a mere 17%, while 83% failed[15]. Crucially, their logistic regression models demonstrated that having a source of financial funding was not correlated with project success[15]. Instead, the addition of programming staff, clear leadership, and the presence of strictly modular tasks significantly increased the probability of success[16]. The vast majority of failures were not dramatic community schisms, but rather quiet abandonments due to a lack of sustained attention.

Regarding its institutional self-perception, the open-source movement's own people said it was a romanticized, egalitarian "bazaar" where disparate, altruistic hackers spontaneously self-organized to build software for the public good. What the historical record shows, however, is a harsh evolutionary environment where the vast majority of projects died of starvation, and the few successful projects relied heavily on strict module ownership, highly centralized leadership by a "benevolent dictator," and massive amounts of dedicated, often unpaid labor[15]. Modern scholarship infers that OSS is an Ostrom commons without the tragedy of subtraction. Because code is a non-rivalrous good (one person using it does not prevent another from using it), the primary threat to the commons is not over-harvesting, but under-provisioning and maintainer burnout[13].

The strongest case against the open-source governance model is that it is fundamentally exploitative. Leading critics argue that the model relies entirely on the uncompensated, burnout-inducing labor of a few key maintainers. This dynamic effectively subsidizes trillion-dollar technology corporations, who consume the freely available infrastructure without contributing commensurate labor or financial support back to the commons, leading to catastrophic security vulnerabilities when an under-provisioned module fails.

Capture Test: The Open-Source Model

A Machiavellian corporate entity captures an open-source project by inserting paid developers into a successful volunteer project, gradually taking over maintainer roles through sheer volume of labor. Once in control, they shift the licensing to a proprietary model or steer the architecture to uniquely benefit their commercial products. Historical cases show repeated attempted corporate captures of foundational libraries. However, the ultimate resisting feature of this arrangement is "The Fork." Because the resource (the code) is public, if a dark-triad actor captures the governing body, the community can flawlessly duplicate the entire resource, rename it, and continue independently under new leadership. The hostile actor is left having captured an empty institutional shell.

Scale Ledger: Open-Source Modularity and Forking

Scale Rung	Status	Reason / Viability
Household (4 to 10)	Optimal	High trust allows for rapid iteration and shared understanding of goals.
Hamlet (30 to 50)	Optimal	Works seamlessly. Modularity allows different individuals to work on discrete tasks without colliding.
Village (150 to 500)	Optimal	Highly viable. The ability for

		a dissatisfied faction to "fork" (build an identical, competing tool) prevents tyrannical leadership.
Parish (1,500 to 5,000)	Optimal	Scales efficiently due to the strict separation of technical modules and clear maintainer hierarchies.
Town (15,000 to 50,000)	Worked	Functions well for non-rivalrous goods (information, designs) but struggles when coordinating rivalrous physical labor.
Region (0.5 to 5 million)	Worked	Massive coordination is achieved by dividing the community into highly specialized sub-projects.
Nation to Planet	Worked	Uniquely scales because the digital good is perfectly non-rivalrous. This does not translate to physical goods (like wheat or water) which cannot be perfectly duplicated by a dissenting faction.

3. ICANN, the IANA Transition, and Multistakeholder Capture

The Internet Corporation for Assigned Names and Numbers (ICANN) manages the Internet's Domain Name System (DNS). Unlike the IETF or open-source software, ICANN oversees an artificial scarcity. There can be only one root directory for the Internet for domain names to resolve universally.

In 2016, the United States government formally relinquished its historical oversight of the

Internet Assigned Numbers Authority (IANA) to ICANN[17]. To ensure ICANN did not become a rogue, unaccountable global monopoly without U.S. oversight, the community designed the "Empowered Community" framework. Because ICANN is a non-profit incorporated in California, the community was forced to rely on the California Corporations Code. They established the Empowered Community as a "Sole Designator" (an unincorporated association of legal persons representing the various stakeholder groups), granting it statutory powers under California law to reject budgets, recall the entire Board of Directors, and block fundamental bylaws changes[19].

The fragility of this baroque multistakeholder model was violently exposed during the 2019–2020 attempted sale of the .ORG domain registry. The Internet Society (ISOC) attempted to sell the Public Interest Registry (PIR), the subsidiary managing .ORG, to a newly formed, secretive private equity firm named Ethos Capital for $1.13 billion[17]. Ethos Capital was closely connected to former ICANN CEO Fadi Chehadé, highlighting severe conflict-of-interest concerns[22]. The sale would have transferred control of the second-largest generic top-level domain from a non-profit institution to a for-profit entity, newly freed from historical price caps by ICANN[17].

Despite a massive outcry from millions of non-profit registrants, the Electronic Frontier Foundation, and technical pioneers, ICANN's internal accountability mechanisms—the vaunted Empowered Community—proved entirely paralyzed[17]. The sale was only halted in April 2020 when the California Attorney General intervened. Wielding traditional sovereign state regulatory power over charitable trusts and public benefit corporations under the California Corporate Code, the Attorney General threatened legal action, forcing the ICANN Board to reject the sale[17].

What ICANN's own people said the arrangement did was provide a resilient, non-sovereign, bottom-up democracy that balanced the needs of civil society, governments, and the private sector, holding corporate power in check through the Empowered Community[17]. What the historical record shows is that the Empowered Community is a bureaucratic labyrinth utterly incapable of rapid action against well-funded corporate maneuvering. As legal scholar Paul Rosenzweig noted, the accountability promised in the IANA transition remains a promise unfulfilled[17]. Modern scholarship, notably Milton Mueller, infers that ICANN is a site of constant regulatory capture by the domain industry, masking aggressive industry self-regulation and rent-seeking behind the diplomatic rhetoric of global multistakeholderism[24].

The strongest case against ICANN was formalized by Milton Mueller in *Ruling the Root* (2002) and *Will the Internet Fragment?* (2017)[24]. Mueller's critics argue that the institutionalization of the root zone created a centralized choke point that inevitably diminished the freedom of cyberspace, transforming a distributed network into a hierarchical apparatus easily exploited by state surveillance and corporate monopolists[24].

Capture Test: The ICANN Model

Narcissistic and Machiavellian actors exploit this arrangement through bureaucratic arbitrage and sheer complexity. They rely on the fact that civil society stakeholders are underfunded volunteers who cannot match the legal and financial resources of private equity firms. A

dark-triad faction embeds itself in the policy-making apparatus, orchestrates the removal of price caps, and then attempts to purchase the underlying asset (as seen in the Ethos Capital bid for .ORG)[17]. The internal governance mechanisms wholly failed to resist this capture. The only feature that reversed the capture was external: the sudden, coercive intervention of a traditional sovereign state (the State of California)[17].

Scale Ledger: ICANN Multistakeholderism

Scale Rung	Status	Reason / Viability
Household to Village	Failed	Fatally over-formalized. Creating a "Sole Designator" mechanism to check a governing board for 300 people is an absurd bureaucratic burden that invites malicious proceduralism.
Parish (1,500 to 5,000)	Strained	Feasible for managing scarce communal resources (e.g., water rights or land parcels), but highly vulnerable to factionalism and legalistic paralysis.
Town (15,000 to 50,000)	Optimal	Functions similarly to a municipal zoning board, balancing the competing interests of commercial developers and residential civil society.
Region (0.5 to 5 million)	Worked	Can effectively manage shared regional infrastructure if backed by external legal enforcement.
Nation to Planet	Strained	Subject to extreme corporate capture. At this scale, the "stakeholders" cease to represent human

		constituents and instead represent massive, heavily weaponized capital blocs.

4. Regional Internet Registries (RIRs) and the Governance of Scarcity

The Internet relies on IP addresses to physically route traffic. Initially distributed freely based on need, the sequential exhaustion of the IPv4 address space between 2011 and 2020 turned these numerical coordinates into highly lucrative artificial real estate[30]. They are managed globally by five polycentric Regional Internet Registries (RIRs): ARIN (North America), RIPE NCC (Europe/Middle East), APNIC (Asia Pacific), LACNIC (Latin America), and AFRINIC (Africa)[33].

RIRs were established as bottom-up, member-driven organizations. Members propose policies, debate them on regional mailing lists, and implement them via consensus, operating under the foundational principle that IP addresses are leased resources, not owned property[32]. However, the exhaustion of the free pool of IPv4 fundamentally altered their institutional nature.

In the AFRINIC region, a severe existential crisis emerged in 2020. A Seychelles-registered company named Cloud Innovation Ltd, led by Hong Kong-based businessman Lu Heng, had acquired millions of IPv4 addresses from AFRINIC prior to exhaustion[36]. When AFRINIC attempted to enforce its community-developed out-of-region usage policies and reclaim the addresses for African network operators, Lu Heng unleashed devastating legal warfare. Exploiting the corporate jurisdiction of the Mauritius courts, Cloud Innovation obtained a freezing order on AFRINIC's bank accounts in 2021[36]. This lawfare effectively paralyzed the registry's operations, preventing it from paying staff or legal counsel, and threatened the entire polycentric registry system[37].

What the RIRs' own people said they did was act as collaborative stewards of a shared public good, immune to market speculation. What the historical record shows is that once the resource became scarce and monetizable on secondary markets, RIRs became highly contested battlegrounds for asset extraction, struggling to defend their communal policies against hostile commercial exploitation. Modern scholarship infers that a polycentric system managing a highly valuable, transferable resource cannot survive on informal community consensus alone; it requires robust, state-backed legal armor to survive predatory litigation[26].

The strongest case against the RIR system is that it inadvertently created a massive, unearned wealth transfer. Critics point out that early adopters in North America and Europe hoarded massive /8 allocations for free in the 1990s. When exhaustion occurred, latecomers in the Global South were punished by being forced to buy these previously free addresses on expensive secondary markets, entrenching geopolitical inequality.

Capture Test: The RIR Model

A sociopathic entity views the regional commons solely as an extraction target. Upon encountering resistance from the community's consensus-based rules, they abandon the

consensus process and utilize "lawfare." They overwhelm the community's defensive capabilities through continuous, astronomically expensive litigation in local courts, utilizing injunctions to freeze assets and starve the organization of operational funds. Historical evidence is perfectly demonstrated by the Cloud Innovation vs. AFRINIC legal battle from 2020 to 2022[36]. The resisting features were strict, irrevocable bylaws defining the resource as a non-transferable lease. However, in AFRINIC's case, resisting the capture required years of emergency financial donations and legal defense from the broader global Internet community.

Scale Ledger: RIR Polycentric Resource Allocation

Scale Rung	Status	Reason / Viability
Household to Village	Failed	Too bureaucratic for small groups managing abundant goods.
Parish to Town	Optimal	Excellent for managing the allocation of limited, essential physical resources (like grazing land, timber, or irrigation water) among a known set of actors.
Region to Continent	Strained	Fails when the resource becomes monetizable outside the region. The lack of sovereign enforcement makes the commons vulnerable to capital-heavy external raiders.
Planet (8 billion)	Worked	Survived only because of a historical anomaly of absolute resource abundance during the network's initial growth phase in the 1990s.

5. Wikipedia and the Iron Law of Oligarchy in Peer Production

Wikipedia operates under a model of commons-based peer production. It governs itself without a central technical director, relying instead on thousands of policy pages, graduated administrative privileges, and a supreme court of editors known as the Arbitration Committee (ArbCom)[42].

Administrators (sysops) hold the keys to blocking users, protecting pages from vandalism, and deleting content. To become an admin, a user must pass a Request for Adminship (RfA), a grueling public vetting process requiring roughly 70% to 80% community support.

Quantitatively, Wikipedia's governance is in a state of severe demographic contraction. A massive 2025/2026 empirical study by Zia et al., analyzing 284 language editions and surveying over 3,000 editors, found that while smaller Wikipedias are stable or growing, the largest language editions are experiencing a critical decline in active administrators[44].

The English Wikipedia's active admin count peaked at over 1,000 in 2008 and has steadily declined to roughly 500[47]. More alarmingly, 38% of current English Wikipedia admins reported conducting zero administrative actions in a 30-day period[44]. The RfA process has a success rate of only 49.2%, and the survey data revealed that 36% of current admins view the process as fundamentally unfair, with 52.5% stating it is simply too difficult[44].

In 2014, researchers Benjamin Mako Hill and Aaron Shaw empirically tested Robert Michels' 1915 sociological theory, the "Iron Law of Oligarchy," against 683 wikis[42]. The Iron Law posits that all complex organizations, regardless of their democratic origins, inevitably develop into oligarchies.

What Wikipedia's own people said it did was act as "the free encyclopedia that anyone can edit," representing an open, anti-hierarchical triumph of the wisdom of crowds[50]. What the historical record shows is a highly stratified, heavily bureaucratized organization facing a severe crisis of succession, where new leadership is choked off by an impossibly high barrier to entry[44]. Modern scholarship infers that large peer-production projects do not resist oligarchy; they embrace it. As Hill and Shaw demonstrated, as the wiki grows, a small group of early members monopolizes authority, institutionalizes complex rules that limit new entrants, and shifts the organization's goals toward preservation and risk aversion rather than expansion[42].

The strongest case against Wikipedia's governance model—raised by Hill, Shaw, and internal critics of the RfA process—is that the intense hazing, procedural weaponization, and required "saint-like" perfection demanded during admin elections systematically exclude diverse voices, punish neurodivergent contributors, and permanently prevent the healthy regeneration of leadership[42].

Capture Test: The Wikipedia Model

A faction with narcissistic and Machiavellian traits utilizes "policy lawyering" and procedural gatekeeping to capture the arrangement. By memorizing the thousands of complex bureaucratic rules, they isolate, harass, and ban ideological opponents under the guise of maintaining content neutrality. They make the entry process (RfA) so toxic and punishing that normal, healthy participants refuse to participate. Historical evidence includes the stagnation of the admin pool documented on the English Wikipedia, and outright takeovers by nationalist factions on smaller language wikis (e.g., the capture of the Croatian Wikipedia)[47]. The resisting

feature is the Arbitration Committee (ArbCom), which acts to desysop bad actors, but it is painfully slow and reactive[43]. Furthermore, total transparency (where every edit and debate is permanently logged and visible) prevents hidden sabotage, but ironically enables public harassment and permanent grudges.

Scale Ledger: Peer Production Oligarchy

Scale Rung	Status	Reason / Viability
Household to Hamlet	Failed	Unnecessary bureaucratic overhead.
Village (150 to 500)	Optimal	Works perfectly. The community is small enough that interpersonal social reputation overrides procedural gaming.
Parish to Town	Strained	Requires the institution of formal courts (ArbCom). Factionalism hardens into permanent political parties.
Region to Planet	Worked	Scales technologically, but inevitably triggers the Iron Law of Oligarchy. Early adopters become an immovable, permanent nobility.

Syntheses and Post-Collapse Architecture

Summary of Robust Findings

Governance systems built on measuring the lack of disagreement (humming) prevent the hardening of permanent factions significantly better than majoritarian voting. However, demonstrating physical utility ("running code") is required as a hard check against charismatic but technically incompetent leadership. The Iron Law of Oligarchy is inescapable at scale; egalitarian peer-production platforms reliably stratify into a small elite class and a marginalized majority within a decade. Contrary to economic intuition, capital funding has no statistical correlation with the success of commons-based peer production; dedicated labor and strict modularity do. Multistakeholder models lacking sovereign enforcement are highly vulnerable to

corporate capture via regulatory arbitrage. Furthermore, scarcity destroys informal governance; protocols designed during periods of resource abundance catastrophically fail into lawfare when that resource becomes scarce. Total transparency prevents covert sabotage but enables procedural harassment. Ultimately, the ability to seamlessly "fork" a shared resource is the most robust defense against narcissistic capture, explaining why protocol governance succeeds by pushing execution to the edges, while platform governance fails by centralizing control. Bureaucratic complexity always favors well-resourced, dark-triad actors who have the time to weaponize the rules against volunteers.

Contested or Open Questions

- Can the digital right to "fork" be translated into physical, rivalrous systems (like agriculture, water management, or power generation) without inciting violent conflict over the underlying physical assets?
- Is it mathematically or sociologically possible to design an institutional lifecycle that gracefully "sunsets" early-adopter oligarchies before they paralyze the organization?
- Can a polycentric arrangement defend itself against external, well-capitalized predators without eventually requiring the coercive monopoly of a traditional sovereign state?

Essential Literature to Read in Full

To deeply understand these mechanisms, scholars must examine Charles M. Schweik and Robert C. English's *Internet Success: A Study of Open-Source Software Commons* (2012) to grasp how Ostrom's theories apply to non-rivalrous production[13]. Milton Mueller's *Networks and States: The Global Politics of Internet Governance* (2010) and *Will the Internet Fragment?* (2017) are essential for understanding the geopolitical capture of protocol infrastructure[25]. Laura DeNardis's *The Global War for Internet Governance* (2014) exposes how technical architecture operates as a proxy for political power[6]. Aaron Shaw and Benjamin Mako Hill's *Laboratories of Oligarchy? How the Iron Law Extends to Peer Production* (2014) provides the empirical death knell to the romance of egalitarian scaling[42]. Finally, Pete Resnick's *RFC 7282: On Consensus and Humming in the IETF* (2014) provides the practical manual for non-voting consensus[3].

Implementability after the Fall

If industrial supply chains, the electrical grid, and the physical internet permanently vanish, the underlying sociological principles of digital governance must be transmuted to physical constraints.

Minimum Viable Version:

- **The Household (4 to 10 people):** Requires only "running code." Governance is established by whoever successfully builds the functioning system (e.g., the solar still, the root cellar, the water filter). Epistemic disputes are resolved by physical demonstration, not theoretical debate.
- **The Village (150 to 500 people):** Requires "rough consensus" via humming. **What it needs to start:** A shared physical calendar, a designated open-air meeting space, and a highly trusted, emotionally intelligent facilitator. When deciding where to dig a communal well, the facilitator uses the acoustic hum to measure opposition. Formal voting is strictly

banned to prevent the creation of permanent winner/loser factions. If a loud hum of objection occurs, the objectors must provide a technical reason (e.g., "that spot will poison the groundwater").

- **The District (1,500 to 5,000 people):** Requires the "Fork" and strict Modularity. **What it needs to start:** Widespread literacy, a central ledger of records (paper or slate), and explicitly modular physical infrastructure. Governance operates as a polycentric federation. If the central water committee is captured by a narcissistic faction, the physical architecture of the canals must be sufficiently modular that a dissenting village can literally "fork" their segment of the infrastructure, severing the connection and self-managing it without causing catastrophic downstream failure.

The First Failure to Expect:

The first catastrophic failure will occur at the Village level when a Machiavellian actor realizes that "rough consensus" can be stalled by infinite, bad-faith technical objections. Without a digital clock or asynchronous email to enforce debate limits, physical meetings will stretch late into the night. The good-faith, neurotypical actors will eventually go home to sleep. The dark-triad actor will remain, achieving a false consensus through the sheer physiological exhaustion of their peers.

Principles

- **The Principle of Exhaustion:** In systems requiring consensus without voting, power naturally and inevitably accrues to those with the physiological and economic stamina to outlast their peers in debate.
- **The Principle of the Fork:** An institution remains uncapturable only if its constituents retain the unrestricted physical ability to replicate its assets and secede without violence.
- **The Principle of Demonstrated Utility (Running Code):** Epistemic debates over resource allocation and infrastructure design are best resolved by small-scale, functional prototypes rather than theoretical arguments.
- **The Principle of the Iron Law:** Any egalitarian network that scales beyond the village level will inevitably calcify into a risk-averse administrative oligarchy.
- **The Principle of Acoustic Consensus:** Measuring the lack of disagreement (via hum or murmur) is superior to measuring absolute agreement, as it de-escalates binary, winner-takes-all polarization.
- **The Principle of Bureaucratic Vulnerability:** The more complex the procedural rules of an institution, the more easily it can be captured by Machiavellian actors who weaponize those rules against well-meaning volunteer participants.
- **The Principle of Scarce Translation:** Governance protocols and informal norms designed during periods of resource abundance will catastrophically fail into lawfare when that resource becomes scarce.

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