ME-09 Subsidiarity, federalism and the arithmetic of nesting

The permanent dissolution of industrial supply chains and the irrevocable retraction of the centralized administrative state dictate an existential return to the foundational architectures of human self-governance. In the absence of exogenous state enforcement, human assemblies must organically construct and scale order from the intimacy of the household to the totality of the planet without succumbing to the twin terminal endpoints of tyrannical centralization or fractured, warring tribalism. The architectural challenge of post-collapse political organization is not merely philosophical; it is inherently mathematical, structural, and bounded by the cognitive limits of human communication.

This comprehensive report evaluates the mechanical realities of nested self-government, examining the historical, theoretical, and empirical records of subsidiarity, federalism, and polycentricity. It traces the lineage of these concepts across deep time and varied cultures, quantifies the mathematical constraints of scaling representation, and systematically assesses the vulnerabilities of these arrangements to institutional capture by actors exhibiting dark-triad traits—narcissism, Machiavellianism, and psychopathy.

The Arithmetic of Nesting, Time Delays, and Information Entropy

The fundamental barrier to planetary-scale self-governance is cognitive and communicative. Scaling a democratic arrangement from a baseline village of 300 individuals to a planetary population of 8 billion requires hierarchical layers of indirect representation. The mathematical realities of this nesting process dictate the absolute structural limits of democracy.

Assuming a foundational building block of a 300-person village, the number of hierarchical layers required to reach a target population of 8 billion ($N = 8 \times 10^9$) depends entirely on the delegate ratio (r), calculated using the logarithmic formula: $\text{Layers} = \log_r(N/300)$[1].

Delegate Ratio (rrr)	Layers from Village (300) to Planet (8 Billion)	Cognitive and Structural Implications
10	7.43 (Ceiling: 8 layers)[1]	Highly intimate assemblies where representatives intimately know their constituents. However, 8 layers introduce extreme vertical distance, leading to massive bureaucratic

		latency and a systemic democratic deficit at the highest tiers.
50	4.37 (Ceiling: 5 layers)[1]	A structural compromise requiring 5 layers. Assemblies of 50 permit deliberative discourse but stretch the limits of unstructured consensus, usually requiring formal parliamentary rules and moderation to function.
150	3.41 (Ceiling: 4 layers)[1]	Maximizes Dunbar's number (the cognitive limit of stable social relationships). Only 4 layers are required, minimizing vertical distance, but assemblies of 150 require strict voting mechanics and are highly vulnerable to charismatic manipulation.

The arithmetic of nesting is inextricably linked to information theory, specifically Shannon entropy, which quantifies the loss and distortion of information across transmission channels[2]. In a nested governance system, each hierarchical layer acts as a transmission node. When a representative must compress the nuanced preferences of 150 constituents into a single vote or policy position at the next highest tier, structural information loss is unavoidable. If an assembly operates with a conservative semantic distortion rate of 20% per hierarchical layer, a system constructed with 8 layers (using a delegate ratio of 10) will retain only $0.8^8 \approx 16.7\%$ of the original local signal at the planetary level.

Furthermore, this vertical transmission incurs severe temporal penalties. If each layer requires a relatively swift one-month period to convene, deliberate, and achieve a mandate, an eight-layer system requires eight months for a local grievance to reach the planetary executive, and another eight months for the resulting policy to be transmitted downward. This sixteen-month latency renders highly nested systems fundamentally incapable of responding to rapid exogenous shocks. This mathematical entropy proves why highly centralized architectures inevitably become detached from local realities, and why nested autonomy—where decisions are resolved at the lowest possible layer—is not merely a moral preference, but a strict

structural necessity for information integrity.

Tracing the Idea of Nested Self-Government

To comprehend the mechanics of nested governance, the historical configurations that attempted to solve the arithmetic problem of scale must be systematically evaluated. For every major governance architecture detailed below, three epistemological realities are separated: the ideological claims of the participants, the empirical evidence of the historical record, and the retrospective inferences of modern scholarship. Additionally, each arrangement is subjected to a Scale Ledger and a Capture Test to identify its structural breaking points against dark-triad actors.

1. Johannes Althusius and *Consociatio* (1603)

In 1603, the Calvinist jurist Johannes Althusius published *Politica methodice digesta*, establishing the first systematic, non-sovereign theory of federalism. Drawing upon his tenure as a syndic in the autonomous city of Emden—which had effectively secured its independence from Count Edzard II in 1595—Althusius conceptualized the state not as a sovereign, centralized monolith, but as a *consociatio universalis*[4]. This represented a symbiotic association composed of lesser, nested associations: families aggregated into *collegia* (guilds), which formed cities, which subsequently formed provinces.

Proponents of this arrangement historically argued that *consociatio* reflected a godly, organic natural law wherein each nested unit inherently retained the rights necessary to execute its specific function. The overarching magistrate (the *ephor*) was not an absolute ruler but a contracted manager serving the associations. However, the empirical record demonstrates that while Emden successfully operated as a heavily decentralized, self-governing Calvinist city-state capable of resisting imperial monarchs, its internal politics were highly exclusionary, relying on strictly enforced religious orthodoxy to maintain social cohesion. Modern scholarship infers from this that Althusius provided the foundational legal architecture for modern federalism by conceptualizing sovereignty as distributed and relational. Yet, it also reveals that early federalism was deeply reliant on cultural homogeneity, functioning more as an oligarchy of guild masters than a participatory democracy.

In a formal Capture Test, evaluating how an actor with dark-triad traits would co-opt this system, the historical vulnerabilities of the *consociatio* become evident. The mechanics of capture involve the Machiavellian actor hijacking the localized ideological or religious prerequisites for membership. By establishing strict purity tests within the foundational *collegia*, a narcissistic leader can gradually excommunicate rivals under the guise of religious preservation. Historically, the syndics of Emden occasionally utilized strict Calvinist orthodoxy to purge political dissidents. The primary feature that resisted total capture was the pluralism of the multiple guilds; because power was distributed across distinct economic blocks, a dictator could not easily monopolize the entire system without negotiating with fiercely independent commercial interests.

Scale Ledger: Althusius' Consociatio	**Status**	**Rationale**

Household (4-10) to Village (150-500)	**Operated & Worked**	Functioned effectively as the foundational building blocks of the *collegia* (guilds) and local city wards.
Town/Watershed (15,000-50,000)	**Operated & Worked**	Emden successfully governed itself as a sovereign entity negotiating with higher territorial powers.
Region to Planet	**Never Tried**	Conceptualized for the Holy Roman Empire's scale, but was entirely overrun by the Westphalian centralized nation-state model (1648) before it could scale.

2. Pierre-Joseph Proudhon and the Federal Principle (1863)

In *Du Principe Fédératif* (1863), the anarchist philosopher Pierre-Joseph Proudhon proposed a mutualist federation built explicitly on bilateral and multilateral contracts[6]. Rejecting both the absolute monarchy and the centralized Jacobin republic, Proudhon argued that the only legitimate form of governance was a federation of autonomous communes and agricultural-industrial syndicates, bound together only by specific, revocable pacts that preserved maximum liberty at the base[6].

Proudhon and his syndicalist contemporaries claimed that this architecture would completely dissolve the coercive apparatus of the state, replacing arbitrary political domination with equitable, scientific economic administration. The historical record shows that this model was partially implemented by the Jura Federation in the 1870s among Swiss watchmakers. For a time, it functioned highly effectively in providing localized mutual aid, labor organization, and equitable trade relations[6]. However, modern scholarship infers that the Proudhonian model is theoretically elegant but structurally brittle. Lacking a centralized mechanism to enforce the mutual contracts or manage macroscopic externalities, the decentralized syndicates were easily fractured by organized internal defection and crushed by the overwhelming coercive force of surrounding centralized nation-states.

Applying the Capture Test to the Proudhonian Federation reveals a fatal vulnerability to bad-faith actors. A psychopath or Machiavellian exploits the "revocable contract" feature by building an aggressive, expansionist syndicate that simply refuses to honor its agreements, using economic coercion to systematically swallow smaller, weaker communes. Historically, the

First International was torn apart by the conflict between the decentralized Proudhonian/Bakuninist factions and the centralizing Marxists, demonstrating how a ruthless, highly organized faction can exploit open, decentralized networks through systematic entryism and structural subversion[6]. While the absolute right of secession theoretically protects local communes from overreach, in practice, secession leaves the commune isolated, cutting off supply chains and rendering it highly vulnerable to destruction in detail.

Scale Ledger: Proudhonian Federation	**Status**	**Rationale**
Hamlet to Parish/District (1,500-5,000)	**Operated & Worked**	Highly effective for regional trade syndicates (e.g., the Jura Federation) managing localized economic cooperation and mutual aid.
Region (0.5 to 5 million)	**Failed**	Lacked the coercive mechanism and rapid mobilization capacity to coordinate mass defense against hostile, centralized nation-states.
Nation to Planet	**Never Tried**	Inherently hostile to the concept of nationhood and global government; never achieved the critical mass required for macro-scale testing.

3. Catholic Subsidiarity (*Quadragesimo Anno*, 1931)

The principle of subsidiarity was formally codified by Pope Pius XI in the 1931 social encyclical *Quadragesimo Anno*[9]. Formulated as a defensive doctrine against the rising tides of Soviet totalitarianism and Italian Fascism, Paragraph 79 established that it is "a grave evil and a disturbance of right order, to transfer to the larger and higher collectivity functions which can be performed and provided for by lesser and subordinate bodies"[9]. The higher institutional body exists exclusively to provide *subsidium* (help) to the lower, never to "destroy or absorb them"[9].

Catholic social theorists claimed this principle protected the inherent dignity of the human person and the ontological primacy of the family unit against the totalizing machinery of the

modern state[13]. The historical record demonstrates that subsidiarity successfully fostered robust civil societies in post-war Europe, empowering localized charities, independent educational institutions, and autonomous trade unions. However, it was also cynically co-opted; in 1930s Austria, Engelbert Dollfuss invoked *Quadragesimo Anno* to justify Austrofascism, creating a corporatist, authoritarian state where "lesser bodies" (vocational groups) were entirely managed and subordinated by the regime[11]. Modern scholarship infers that subsidiarity functions excellently as a normative ethical constraint on centralization, but it is legally vague. Because it does not explicitly define the quantitative metrics for *when* a lower body has failed and higher intervention is warranted, it leaves a dangerous interpretive void that can be exploited by the central authority.

When subjected to the Capture Test, Catholic subsidiarity shows vulnerability to top-down Machiavellian manipulation. A narcissist captures the system by weaponizing the subjective definition of "ineffectiveness." By intentionally underfunding, over-regulating, or sabotaging the lower rung, the higher rung (controlled by the dark-triad actor) manufactures a localized crisis. This artificially generated failure is then used to legally justify vertical intervention and the permanent absorption of the lower body's functions. The historical co-optation of vocational groups by fascist corporatist regimes, which dismantled independent labor unions under the guise of harmonizing social order, exemplifies this capture[11]. The primary resisting feature of this arrangement is a strong, culturally ingrained reverence for the household and the local parish, which acts as a socio-cultural immunological defense against central state overreach[13].

Scale Ledger: Catholic Subsidiarity	**Status**	**Rationale**
Household to Parish (1,500-5,000)	**Operated & Worked**	Flourished in the maintenance of local education, welfare, and mutual aid societies entirely independent of state bureaucracy.
Region to Nation (50 to 500 million)	**Operated & Mixed**	Functioned as a guiding structural principle for Christian Democratic parties in post-WWII Europe, but ultimately struggled to contain the bureaucratic expansion of the modern welfare state[9].
Planet	**Operated & Mixed**	The Catholic Church

		operates on a planetary scale utilizing this rhetoric, yet its internal ecclesiastical structure remains highly hierarchical rather than strictly subsidiary.

4. Swiss Federalism and the *Landsgemeinde*

Switzerland offers one of the deepest and most continuous historical records of nested federalism. At the foundational local level, the *Landsgemeinde* (cantonal assembly) represents the survival of direct, open-air assembly democracy. While it was once widespread, today it survives only in the cantons of Glarus and Appenzell Innerrhoden[15].

Participants and traditionalists championed the *Landsgemeinde* as the purest unmediated expression of popular sovereignty, celebrating it as the ultimate realization of egalitarian self-rule where every citizen possesses a direct voice. The empirical record, however, paints a significantly darker picture of this direct democracy. The system is historically resilient but can be deeply reactionary, socially selective, and oppressive to minorities. Most notoriously, the citizens of Appenzell Innerrhoden repeatedly used the *Landsgemeinde* to deny women the right to vote. It was only on November 26, 1990, that the Swiss Federal Supreme Court intervened, ruling the local exclusion unconstitutional and forcing the canton to grant female suffrage from the top down[16]. Furthermore, participation rates in these municipal assemblies are shockingly low, averaging around 9% across Swiss municipalities, though they occasionally experience highly polarized spikes (such as the 69.2% participation rate in Glarus in 1989)[15].

Modern scholarship synthesizes these realities to infer that direct assembly democracy at the district or canton level suffers from heavy selection bias—participants are disproportionately older, wealthier, and better educated—and massive conformity pressure[18]. It fundamentally requires a superseding federal layer to enforce human rights against the tyranny of the local majority.

The Capture Test reveals how easily open assemblies fall to localized tyranny. The Machiavellian exploits the inherently public nature of the assembly. Because voting is conducted visibly by raising hands or holding up voting cards (without the protection of a secret ballot), the dark-triad actor uses local economic leverage—such as being the primary regional employer or creditor—to implicitly threaten those who vote against their interests. The prolonged exclusion of women in Appenzell Innerrhoden was sustained by a patriarchal elite leveraging traditionalism and the threat of public shaming against liberal reformers[16]. The saving grace of the Swiss system was its nesting: the overarching Swiss Federal Constitution and the Federal Supreme Court acted as a circuit breaker, overriding local autonomy to impose fundamental civil rights when the local rung became structurally oppressive[17].

Scale Ledger: The	**Status**	**Rationale**

Landsgemeinde		
Village (150-500) to Parish/District (1,500-5,000)	**Operated & Worked**	Highly effective for localized infrastructure and resource allocation, though suffering from chronically low participation (averaging 9%)[18].
Town/Watershed (15,000-50,000)	**Operated & Mixed**	Currently operates in Glarus (population ~41,000), but the physical limits of voice, hearing, and physical assembly space severely strain the deliberative process.
Region to Planet	**Failed / Impossible**	Direct physical assembly without representation becomes mathematically, cognitively, and logistically impossible beyond the canton level.

5. German Federalism and EU Article 5 (Subsidiarity)

Following the devastation of World War II, German Federalism was purposefully designed in the 1949 Basic Law (Grundgesetz) to heavily interlock the state (Länder) and federal (Bund) levels to prevent the rise of a new totalitarian dictator. This interlocking federalism (*Politikverflechtung*) was eventually exported to the European scale. Subsidiarity was legally enshrined as a constitutional safeguard in the European Union via the Treaty of Maastricht and reinforced in Article 5 of the Treaty on European Union (TEU), stipulating that the EU shall act only if the objectives cannot be sufficiently achieved by the Member States[19]. Article 23 of the German Basic Law explicitly tethers German participation in the EU to the strict observance of democratic, social, federal, and subsidiarity principles[19].

Proponents of this interlocking model claimed it created a perfectly balanced "negotiation democracy" (*Verhandlungsdemokratie*) that forced consensus and prevented radical policy swings[21]. The historical record demonstrates that while this system prevented dictatorial overreach, it resulted in massive bureaucratic inertia. In fields spanning social assistance to energy sector liberalization, national governments found themselves paralyzed by the complexity of overlapping competences, increasingly relying on the European Court of Justice (ECJ) to legislate from the bench to break the deadlock[20]. Modern scholarship, pioneered by

Fritz Scharpf in 1988, infers that this highly nested, consensus-driven federalism inherently generates a "Joint-Decision Trap"[20]. Because decisions require the agreement of multiple veto players at different nested levels, the system defaults to the lowest common denominator, rendering it utterly incapable of executing necessary, large-scale structural reforms.
Applying the Capture Test to interlocking federalism reveals a vulnerability not to a dictator, but to the Machiavellian obstructionist. A narcissist holding a veto point at the state or national level does not need to take over the whole system; they simply hold the entire nested architecture hostage. By threatening to block essential legislation, they extract massive, disproportionate side-payments for their local constituency. The primary resisting feature is "negative integration"—the ability of the supranational judiciary (like the ECJ) to forcefully strike down national monopolies and barriers when the legislative branch is paralyzed by the joint-decision trap[20].

Scale Ledger: EU/German Interlocking Federalism	**Status**	**Rationale**
Region (0.5 to 5 million) to Nation (50 to 500 million)	**Operated & Mixed**	German Länder effectively manage local administration, but policy innovation is severely hindered by the necessity of federal consensus and the joint-decision trap[22].
Continent (50 to 500 million)	**Operated & Mixed**	The EU achieves vast market integration, but unanimity requirements in critical policy areas allow single states to hold the continent hostage, paralyzing positive integration[20].
Planet	**Never Tried**	The transaction costs of securing global consensus among interlocking planetary veto players would result in immediate, total paralysis.

6. Democratic Confederalism in Rojava

Adapting the libertarian municipalism and confederal theories of American ecologist Murray

Bookchin, the Kurdish movement led by Abdullah Öcalan established Democratic Confederalism in Rojava (Northern Syria) beginning in 2012. The architecture is explicitly and heavily nested, building upward from local communes (comprising a few dozen households) to neighborhoods, districts, and ultimately regional cantons[26].

The Democratic Union Party (PYD) and its international supporters claimed to have engineered a stateless, feminist, ecological democracy where power flows strictly from the bottom up, completely bypassing the oppressive structures of the Syrian nation-state[26]. The empirical record shows that during the severe crisis of the Syrian Civil War, the system successfully provided basic municipal services, conflict resolution, and mounted a fierce, highly effective military defense against the Islamic State[28]. However, human rights organizations, including Human Rights Watch, documented severe structural abuses by the PYD, including the arbitrary arrest of political opponents, the suppression of rival Kurdish factions (such as the ENKS), and the forced conscription of minors into military service[26]. Modern scholarship infers from Rojava that nested confederalism is highly viable for localized resource management in war-torn environments, but it possesses a fatal structural flaw: the coexistence of a decentralized civilian administration alongside a heavily centralized, ideologically rigid armed vanguard (the PYD/YPG). Invariably, the vanguard military dominates the civil sphere.

The Capture Test for Democratic Confederalism exposes the vulnerability of parallel structures. The psychopath or Machiavellian does not bother participating in the arduous, slow consensus meetings of the civilian communes; instead, they join the parallel military or internal security apparatus (the *Asayish*). Under the constant, unassailable justification of existential wartime necessity, the dark-triad actor declares emergency powers, effectively rendering the bottom-up civilian councils politically impotent and transforming them into mere logistical support nodes for the military[27]. The system does possess a unique resisting feature: mandatory quotas ensuring dual leadership (co-chairs consisting of one man and one woman) at every single level of governance. This structural gender parity creates measurable friction against the rapid consolidation of power by a single charismatic male dictator, though it ultimately cannot stop the institutional momentum of an armed vanguard.

Scale Ledger: Democratic Confederalism (Rojava)	**Status**	**Rationale**
Household to Village (150-500)	**Operated & Worked**	Local communes effectively manage localized conflict resolution, food distribution, and basic education[26].
Region (0.5 to 5 million)	**Operated & Mixed**	Scaled to the canton level under extreme wartime conditions, but structural

		power decisively shifted away from civilian councils to the military command[27].
Nation to Planet	**Never Tried**	Geographically and ideologically confined to the specific geopolitical realities of the Kurdish struggle and the Syrian civil war.

7. Polycentricity and the Ostroms

In 1961, Vincent Ostrom, Charles Tiebout, and Robert Warren published *The Organization of Government in Metropolitan Areas*, presenting a radical theoretical inquiry against the prevailing mid-century wisdom that overlapping jurisdictions were inherently chaotic and inefficient[32]. This laid the groundwork for polycentricity—a system characterized by multiple, overlapping centers of semi-autonomous decision-making. Decades later, Elinor Ostrom's seminal *Governing the Commons* (1990) utilized an expansive database of empirical cases to establish eight design principles for managing common-pool resources (CPRs) without resorting to top-down state mandates or total privatization[35].

The Ostroms and subsequent polycentric theorists claimed that polycentric systems offer vastly higher resilience, a better matching of governance scale to the specific public good, and profound resistance to systemic collapse when compared to monocentric states[34]. The empirical record is incredibly robust in supporting this. In fields ranging from groundwater basins in California to high mountain meadows in Switzerland and irrigation systems in the Philippines, polycentric CPR institutions have sustained resources for centuries where state interventions failed catastrophically[36]. Subsequent empirical evaluations, such as Cox et al. (2010), analyzed 91 CPR case studies globally and confirmed the high statistical validity of Ostrom's design principles[39]. For example, Alix-Garcia et al. (2015) quantified that land enrolled in decentralized environmental programs experienced 40% to 51% less degradation than non-enrolled land[42]. Modern scholarship infers that polycentricity is the most empirically validated form of decentralized governance, but it requires constant, exhausting institutional tinkering and high transaction costs to maintain. It works flawlessly when clear boundaries and graduated sanctions are present, but struggles with macroscopic, diffuse externalities where boundaries cannot be drawn.

The Capture Test for polycentricity highlights the danger of "venue shopping." Because polycentric systems deliberately feature overlapping jurisdictions, the dark-triad actor seeks out the weakest regulatory node. The Machiavellian exploits the resources in one jurisdiction and uses the legal boundaries to escape accountability from neighboring nodes. This was historically visible in the competitive pumping race in California groundwater basins prior to formal polycentric agreements, where individuals maximized their own water extraction,

pushing the devastating systemic cost of the depleted water table onto others[38]. The resisting features of polycentricity are explicitly hardcoded into Ostrom's Design Principles: Principle 4 (Active Monitoring by users) and Principle 5 (Graduated Sanctions). By ensuring that the people monitoring the resource are accountable to the users, and by applying slowly escalating punishments for rule-breakers, the system identifies and neutralizes free-riding and rent-seeking before it can metastasize into institutional capture[36].

Scale Ledger: Polycentricity	**Status**	**Rationale**
Hamlet to Town/Watershed (15,000-50,000)	**Operated & Worked**	The primary domain of E. Ostrom's highly successful CPRs (fisheries, irrigation systems, forests). Empirical sample size of 91 cases shows massive success rates when design principles are met[39].
Region (0.5 to 5 million)	**Operated & Mixed**	Metropolitan governance (e.g., overlapping water, school, and transit districts) functions reasonably well but suffers from severe voter fatigue and institutional opacity[34].
Planet	**Failed**	Struggles fundamentally with global CPRs (like oceanic collapse or atmospheric carbon) because planetary boundaries are difficult to monitor, and there is no overarching authority to enforce graduated sanctions.

Where Nesting Broke: The Fragility of Interlocking Scales

While subsidiarity and federalism offer high theoretical resilience against centralization, the

precise mathematical and legal mechanics connecting the nested layers often act as points of catastrophic, civilization-ending failure.

The Holy Roman Empire

For centuries, the Holy Roman Empire functioned as a massively nested, polycentric web of over 300 principalities, free cities, and ecclesiastical states. It broke when the military technology and mobilization capacity of the centralized nation-state—specifically, Napoleonic France—outpaced the slow, deliberative consensus-building required by the Imperial Diet. The failure was fundamentally one of temporal latency; highly nested systems cannot process rapid, existential exogenous shocks efficiently enough to survive contact with a centralized predator.

The Articles of Confederation (1781-1789)

The initial constitutional architecture of the United States, the Articles of Confederation, represents a classic, fatal failure of horizontal nesting. Article XIII of the document explicitly required the unanimous consent of all thirteen state legislatures to pass any amendment[43]. Consequently, no structural amendment was ever ratified. The system was easily captured by any single dissenting faction. A psychopath governing a single small state could hold the entire continent hostage, extracting massive financial or political concessions in exchange for their single vital vote. Alexander Hamilton and James Madison recognized this paralysis, leading to the constitutional convention of 1787, which deliberately broke the unanimity veto-trap by replacing it with a supermajority requirement (three-fourths of states) in Article V[46].

Yugoslavia and the 1974 Constitution

Josip Broz Tito designed the 1974 Yugoslav Constitution to permanently prevent ethnic conflict by heavily decentralizing power to six republics and two autonomous provinces (Kosovo and Vojvodina), instituting a collective federal presidency with strict veto powers[48]. Articles 244 and 321 codified this decentralized sovereignty[50]. While Tito lived, his absolute dictatorial authority (enforced via the Communist Party and military) circumvented the system's structural deadlocks[49]. Following his death in 1980, the system rapidly devolved into a minority-over-majority veto state, resulting in total economic and political gridlock[49]. During the "anti-bureaucratic revolution" (1987-1989), Serbian leader Slobodan Milošević—exhibiting textbook dark-triad political maneuvering—revoked the autonomy of Kosovo and Vojvodina but unconstitutionally kept their votes on the collective presidency, effectively seizing disproportionate control of the federal apparatus[49]. The rigidity of the nested veto system, combined with a bad-faith actor exploiting the constitutional math, directly funneled political gridlock into a brutal, decade-long ethnic war[50].

The European Union and the Joint-Decision Trap

In his seminal 1988 analysis in *Public Administration*, Fritz Scharpf diagnosed the European Union with the "joint-decision trap"[20]. Because the EU relied heavily on unanimity in the Council of Ministers (mirroring the exact failures of the Articles of Confederation and Yugoslavia), it became structurally incapable of positive integration—the ability to build comprehensive social, environmental, or fiscal policies[23]. It could only achieve negative integration, striking down barriers to free trade via the courts[22]. A single national leader, acting out of Machiavellian

self-interest or sheer domestic political survival, can veto policies that benefit the entire continent. The trap is permanent because exiting the flawed arrangement requires the exact unanimity that causes the paralysis in the first place[20].

The Strongest Case Against Localism

The romanticization of the local—the assumption that "small is beautiful"—falls victim to the naturalistic fallacy. The most potent critique of nested subsidiarity comes originally from James Madison (in *Federalist 10*) and is heavily supported by the empirical observations of Fritz Scharpf and institutional political scientists: local governments are vastly more susceptible to tyrannical capture than large, centralized ones.

In a village of 300, a single dominant family, a major landowner, or a charismatic narcissist can entirely monopolize the economic and social capital of the settlement. In such small assemblies, there is no anonymity, no privacy of the ballot, and no structural counter-balance. The historical reality of Appenzell Innerrhoden denying fundamental democratic rights to half its population until the Federal government intervened with coercive force in 1990 proves that decentralization often codifies and protects local oppression[16]. Scharpf's critique further highlights that nested systems with local veto players consistently fail to provide necessary public goods, paralyzing progress in the name of localized consensus[24]. Therefore, the higher layers of governance are strictly required not just for logistical coordination, but to serve as a coercive circuit-breaker to enforce fundamental human rights and break local feudal monopolies.

Summary of Robust Findings

Decentralized, polycentric systems demonstrate immense historical longevity in managing common-pool resources when local users directly dictate the rules. The mathematical constraints of information entropy require nested layers; a single centralized body cannot process local knowledge without severe semantic distortion. However, unanimity rules in federal systems—seen in the Articles of Confederation, Yugoslavia, and the EU—invariably lead to joint-decision traps and institutional paralysis. Localized direct democracies, such as the Swiss *Landsgemeinde*, suffer from drastically low participation rates (averaging 9%) and tend to be highly socially selective and exclusionary. The case of Rojava demonstrates that military or ideological vanguards will inevitably capture civilian confederal structures if they exist concurrently. Subsidiarity requires a clear, quantifiable legal mechanism defining when a lower body has failed; otherwise, it is easily co-opted by centralizing forces manufacturing crises. Because local autonomy frequently breeds local tyranny, a superseding, coercive layer is required to guarantee fundamental human rights. Dunbar's number (150) dictates the optimal maximum size of a deliberative assembly before structural formalization and strict parliamentary rules are required. Dark-triad actors capture decentralized systems primarily via venue-shopping, exploiting local purity tests, and leveraging economic threats in open assemblies. Ultimately, the most resilient systems combine bottom-up rule creation with top-down conflict resolution and strictly enforced graduated sanctions.

Contested or Open Questions

The most pressing unresolved question in the literature of polycentricity is the Exogenous Shock Vulnerability: can a highly nested, polycentric system ever mobilize its resources and population rapidly enough to survive a kinetic encounter with a highly centralized, predatory neighboring state? Furthermore, there is the Tragedy of the Macro-Commons: while Ostrom proved small groups can manage local resources, it remains contested whether nested systems can effectively manage planetary-scale externalities—such as atmospheric carbon or oceanic ecosystem collapse—without a coercive global sovereign dictating terms. Finally, within the Catholic principle of subsidiarity, the exact quantitative or qualitative metrics that legally justify the intervention of a higher tier into a lower tier remain undefined, leaving the boundary between necessary *subsidium* (help) and tyrannical absorption dangerously ambiguous.

Recommended Reading

To fully comprehend the mechanics of nesting and scale, the following primary sources and peer-reviewed analyses must be read in full. Elinor Ostrom's *Governing the Commons: The Evolution of Institutions for Collective Action* (1990) provides the definitive empirical proof that humans can manage resources without the state. Fritz W. Scharpf's "The Joint-Decision Trap: Lessons from German Federalism and European Integration" (1988) is essential for understanding how veto points paralyze nested systems. Michael Cox et al.'s "A Review of Design Principles for Community-based Natural Resource Management" (2010) offers the crucial statistical verification of Ostrom's theories across 91 global cases. Johannes Althusius' *Politica methodice digesta* (1603) and Pierre-Joseph Proudhon's *Du Principe Fédératif* (1863) remain the foundational texts for the legal and philosophical architecture of non-statist federalism.

Implementability after the Fall

To reconstruct governance after the permanent loss of the state, the electrical grid, and the internet, institutions must be physically and cognitively scaled to localized, analog realities.

Household (4 to 10 people):

- *Minimum Viable Version:* The foundational economic and biological unit. Requires an internal division of physical labor, a shared, physically written caloric ledger, and an absolute consensus on immediate defense protocols.
- *Needs to Start:* Interpersonal trust, a secured physical hearth, and basic physical security tools.
- *First Failure to Expect:* Authoritarian capture by the physically strongest or most ruthless member, resulting in a localized patriarchal or matriarchal tyranny.

Village (300 people):

- *Minimum Viable Version:* An assembly of household delegates managing immediate common-pool resources (potable water, local timber, grazing land) strictly utilizing Ostrom's Design Principles, specifically clear boundaries and graduated sanctions.
- *Needs to Start:* A shared, universally accepted calendar for assembly timing, a physical meeting place capable of holding 50-75 household representatives out of the elements, and literacy among at least a small cadre to maintain a permanent ledger of rules,

sanctions, and resource allocation.

- *First Failure to Expect:* Nepotism and factionalism. Two or three large, extended households will form a voting bloc to monopolize access to the best resources, freezing out minority households and violating Ostrom's principle of proportional equivalence.

District (3,000 people):

- *Minimum Viable Version:* A federal council comprising 10 to 20 delegates drawn from the constituent 10 villages. This tier exists exclusively to handle inter-village conflict resolution, regional defense coordination, and major infrastructural projects (e.g., dams, bridges, aqueducts) that exceed a single village's capacity.
- *Needs to Start:* Written, immutable records of inter-village agreements, a secure physical courier system (riders/runners) to overcome geographic distance and information entropy, and a neutral, physically secure arbitration site for the council to meet.
- *First Failure to Expect:* The Joint-Decision Trap. If the district requires unanimous consent from all 10 villages to act, it will be paralyzed. A single village with a geographical advantage (e.g., controlling a vital river choke-point) will hold out for extortionate side-payments, freezing regional defense and infrastructure.

Principles

1. Information degrades logarithmically as it moves up a hierarchy, necessitating that decisions are made at the lowest layer possessing the requisite knowledge.
2. Unanimity rules in federal assemblies inevitably lead to joint-decision traps, resulting in systemic paralysis and vulnerability to blackmail by minority factions.
3. Polycentric governance systems equipped with clear boundaries and graduated sanctions consistently outlive centralized resource management directives.
4. Direct local assembly democracy is highly susceptible to social selectivity, inherently low participation rates, and the unchecked oppression of local minorities.
5. Without a superseding institutional layer possessing the coercive capacity to enforce basic human rights, radical decentralization incubates localized fiefdoms.
6. Assemblies exceeding Dunbar's number (150) suffer rapid degradation in deliberative quality and require strict parliamentary formalization to function.
7. The absolute right of secession theoretically protects local autonomy but practically guarantees military vulnerability to centralized external threats.
8. Armed ideological vanguards operating alongside decentralized civilian councils will inevitably subsume the civilian apparatus during times of crisis.
9. Dark-triad institutional capture occurs most frequently when systemic boundaries overlap, allowing Machiavellian actors to venue-shop to avoid accountability.
10. Authentic subsidiarity demands that higher tiers possess both the resources to provide aid (*subsidium*) and the strict structural limitations preventing them from absorbing the lower tier.

Works cited

1. unknown_url
2. Information Theory | Conversational Leadership,

https://conversational-leadership.net/information-theory/
3. Claude Shannon Mathematical Theory Of Communication, https://old.rootedinrights.org/default.aspx/uploaded-files/Claude%20shannon%20mathematical%20theory%20of%20communication/T0E343445159
4. The Birth of Territory 9780226041285 - DOKUMEN.PUB, https://dokumen.pub/the-birth-of-territory-9780226041285.html
5. title: Exploring Federalism author: Elazar, Daniel Judah. publisher, https://www.researchgate.net/file.PostFileLoader.html?id=56f7d44bdc332d074e454934&assetKey=AS:344230330421249@1459082314282
6. George Woodcock - Pierre-Joseph - Libcom.org, https://files.libcom.org/files/Proudhon%20-%20A%20Biography.pdf
7. Man and His Government An Empirical Theory of Politics, https://dokumen.pub/man-and-his-government-an-empirical-theory-of-politics.html
8. A HISTORY OF SOCIALIST THOUGHT - Libcom.org, https://files.libcom.org/files/A%20History%20fo%20Socialist%20Thought%203-2.pdf
9. SUBSIDIARITY AS A PRINCIPLE OF GOVERNANCE, https://mckinneylaw.iu.edu/practice/law-reviews/ilr/pdf/vol35p103.pdf
10. Quadragesimo Anno (May 15, 1931) - The Holy See, https://www.vatican.va/content/pius-xi/en/encyclicals/documents/hf_p-xi_enc_19310515_quadragesimo-anno.html
11. Quadragesimo anno (1931) (Chapter 4) - Catholic Social Teaching, https://www.cambridge.org/core/books/catholic-social-teaching/quadragesimo-anno-1931/D9DDB19901C5944578B994718CDDA8EB
12. The Principle of Subsidiarity and the Church, https://cis.catholic.edu.au/Files/Murray-SubsidiarityandChurch.pdf
13. Subsidiarity, Society, and Entitlements: Understanding and Application, https://scholarship.law.nd.edu/cgi/viewcontent.cgi?article=1398&context=ndjlepp
14. Solidarity: The Journal of Catholic Social Thought and Secular Ethics, https://researchonline.nd.edu.au/cgi/viewcontent.cgi?referer=&httpsredir=1&article=1047&context=solidarity
15. Switzerland - zora.uzh.ch, https://www.zora.uzh.ch/server/api/core/bitstreams/2fd8e40b-4771-4733-8e9d-eb726bb22931/content
16. Swiss women at the polls! | House of Switzerland, https://houseofswitzerland.org/swiss-stories-archives/swiss-women-polls
17. The Federal Supreme Court has shaken up Switzerland with these, https://www.bluewin.ch/en/news/switzerland/the-federal-supreme-court-has-shaken-up-switzerland-with-these-decisions-li.2624216
18. Assembly democracy between social selectivity and equality, https://s3.eu-central-1.amazonaws.com/ext-linst-c5-web-liechtenstein-institut.li-2019/9517/6355/1969/Schaub_Rochat_SPSR_2025_Assembly_democracy_between_social_selectivity_and_equality.pdf
19. 11 Subsidiarity as a Principle of EU Governance,

https://durham-repository.worktribe.com/OutputFile/1661570
20. Institute for European Integration Research - Working Paper Series, https://eif.univie.ac.at/downloads/workingpapers/wp2011-03.pdf
21. Der Begriff der Verhandlungsdemokratie und die vergleichende, https://www.politik.uni-osnabrueck.de/POLSYS/Archive/der_begriff_der_verhandlungsdemokratie.pdf
22. The EU and its member-states: Institutional contrasts and their, https://www.econstor.eu/bitstream/10419/41645/1/639566790.pdf
23. Forced exit from the joint-decision trap: US power and the, https://www.tandfonline.com/doi/abs/10.1080/13501763.2024.2336111
24. working paper 2005/24 - F. Scharpf - MPG.PuRe, https://pure.mpg.de/rest/items/item_1234130_4/component/file_1234128/content
25. The European Social Model: Coping with the Challenges of Diversity, https://pure.mpg.de/rest/items/item_1234614_4/component/file_2052900/content
26. War, Peace and Ideologies - Umeå University, https://umu.diva-portal.org/smash/get/diva2:1344843/FULLTEXT01.pdf
27. The Emergence of a Decolonial Ecology: Democratic Resistance, https://ediss.sub.uni-hamburg.de/bitstream/ediss/12271/1/Turk_Necmettin_Dissertation.pdf
28. Operation Inherent Resolve: Insights and Perspectives from Air, https://www.airuniversity.af.edu/Portals/10/AUPress/Books/B_180_Hayworth_Operation_Inherent_Resolvee.pdf
29. the politics of humanitarian assistance in syria's civil war, https://open.metu.edu.tr/bitstream/handle/11511/109427/10629662.pdf
30. Does the EU Need a Strategy for the South Caucasus?, https://www.bmlv.gv.at/pdf_pool/publikationen/rssc_sgi_24_14_webversion.pdf
31. UC Santa Barbara - eScholarship.org, https://escholarship.org/content/qt5j29m2zw/qt5j29m2zw.pdf
32. Metropolregionen – Innovation, Wettbewerb, Handlungsfähigkeit, https://www.arl-net.de/system/files/media-shop/pdf/fus/fus_231.pdf
33. EloP: Text 2001-011, http://eiop.or.at/eiop/texte/2001-011.htm
34. (PDF) Types of Multi-Level Governance - ResearchGate, https://www.researchgate.net/publication/48854082_Types_of_Multi-Level_Governance
35. (PDF) Elinor Ostrom's Legacy: Governing the Commons and the, https://www.researchgate.net/publication/265017003_Elinor_Ostrom's_Legacy_Governing_the_Commons_and_the_Rational_Choice_Controversy
36. Ostrom - Governing the Commons.pdf - Wasabi, https://s3.us-west-1.wasabisys.com/luminist/EB/O-P-Q/Ostrom%20-%20Governing%20the%20Commons.pdf
37. Prize Lecture by Elinor Ostrom, https://www.nobelprize.org/uploads/2018/06/ostrom_lecture.pdf
38. Governing the Commons - The Ted K Archive, https://www.thetedkarchive.com/library/elanor-ostrum-et-al-governing-the-commons

39. Exploring Elinor Ostrom's principles for collaborative group working, https://pmc.ncbi.nlm.nih.gov/articles/PMC10826181/
40. Assessing the institutional foundations of adaptive water, https://ecologyandsociety.org/vol27/iss1/art18/
41. An Analysis of the Global Applicability of Ostrom's Design Principles, https://www.mdpi.com/2071-1050/9/7/1287
42. Evaluating the Effects of a Minimalist Deliberative Framework ... - MDPI, https://www.mdpi.com/2079-9276/8/2/112
43. The Articles of Confederation | George Washington's Mount Vernon, https://www.mountvernon.org/library/digitalhistory/digital-encyclopedia/article/the-articles-of-confederation
44. Articles of Confederation (1781) - The National Constitution Center, https://constitutioncenter.org/the-constitution/historic-document-library/detail/articles-of-confederation
45. The EU's 1787 Moment - Verfassungsblog, https://verfassungsblog.de/eu-constitutional-moment/
46. The Processes of Amending or Adopting a Constitution, https://archive.csac.history.wisc.edu/creation_ratification11.pdf
47. ArtV.2 Historical Background on Amending the Constitution, https://constitution.congress.gov/browse/essay/artV-2/ALDE_00013047/%5B'constitution'%5D
48. Kosovo-stocktaking-ENG.pdf, https://www.icmp.int/wp-content/uploads/2017/05/Kosovo-stocktaking-ENG.pdf
49. What went wrong for Yugoslavia after the death of Josip Broz Tito?, https://www.quora.com/What-went-wrong-for-Yugoslavia-after-the-death-of-Josip-Broz-Tito
50. The Road to War in Serbia: Trauma and Catharsis 9789633865446, https://dokumen.pub/the-road-to-war-in-serbia-trauma-and-catharsis-9789633865446.html
51. The Dissolution of Yugoslavia and the Emergence of the 'Nationalist, https://repository.essex.ac.uk/18674/1/thesis.pdf
52. How would Tito react to the fall of Yugoslavia? - Quora, https://www.quora.com/How-would-Tito-react-to-the-fall-of-Yugoslavia
53. Anti-bureaucratic revolution - Wikipedia, https://en.wikipedia.org/wiki/Anti-bureaucratic_revolution