

Do All Beings Suffer?

Generative Diminishment and Equilibrium in International Relations

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Abstract

This exploratory essay examines how asymmetric power may govern the conditions of value creation, the circulation and return of value, and participants' capacity to revise governing arrangements. Building on Eglash and colleagues' work on generative justice and engaging research on structural power, capabilities, and institutional persistence, it proposes a conditional, pathway-specific mechanism: a rule may erode a participant's capacity for continued generation; that erosion may subsequently diminish the participant's effective ability to inspect, contest, exit, or redesign the rule. The two causal links require distinct evidence, and their conjunction neither demonstrates equilibrium nor establishes injustice by itself. The essay distinguishes persistence from strategic equilibrium and dynamical stability, and examines countercases involving beneficial concentration, restored capacities without institutional change, and cooperation sustained by safeguards despite distrust. It also connects value return to warranted trust and prospective responsibility without equating unequal exposure with equal suffering. A multiscale discussion considers how aggregate continuity may conceal locally significant losses and how normative judgments depend on representational choices. The question *Do All Beings Suffer?* therefore expresses an open ethical inquiry into unequal benefits, harms, and obligations within interconnected relations. The proposed contribution is a diagnostic synthesis and research programme; it makes no claim to a validated model of international equilibrium or to empirical verification of the mechanism.

Keywords: generative diminishment; generative justice; structural power; international political economy; value circulation; asymmetric equilibrium; trust; multiscale ethics

Discussion Paper Note

This manuscript is an independent exploratory investigation into generative diminishment and the persistence of asymmetric relations in international political economy. It examines how power may shape the conditions of production, the recognition and circulation of value, and participants' capacities to participate in the revision of these arrangements. The analysis draws on the research programme of generative justice developed by Ron Eglash and collaborators, alongside established scholarship in political economy, peace research, and international relations.

The term *generative diminishment* is employed here as a provisional analytical extension inspired by that scholarship. It is not represented as a separate, formally established technical term introduced by Eglash. The manuscript likewise uses *asymmetric equilibrium* as a candidate explanatory object, pending an explicit choice of state variables, transition mechanisms, empirical domain, and stability criterion. The durability of a relation, its strategic equilibrium, and its normative legitimacy are analytically distinguishable.

The paper treats states, institutions, firms, and communities as historically constituted participants in relationships, without proposing a complete ontology or assuming that their capacities can be converted into one common scalar quantity. The historical ordering of generative activities, the capacity to conceive alternatives, and the availability of revisions are matters for inquiry rather than universal features presumed in advance.

The current version contains all nine planned English sections and an expanded bibliography with scoped source-verification records. This completes a conceptual first draft, while validated technical or empirical models, comparative case studies, and a peer-review process remain prospective. Hypothetical cases throughout are analytical illustrations, not empirical comparisons. The English text supersedes the earlier bilingual introduction draft.

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The author welcomes scholarly discussion, critical engagement, teaching, and responsible adaptation. Application of the ideas to diplomacy, international development, economic governance, and peacebuilding should distinguish theoretical proposals, observed institutional mechanisms, causal attribution, and justified normative obligations. References to generative capacity, value return, or system-level balance should preserve the visibility of particular participants, asymmetric harms, rights, and opportunities for redress. A speculative concept of relational equilibrium is not sufficient grounds for interventions affecting others.

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Notices

Publication status. Independent preliminary discussion draft, version 1.6, 23 October 2026. All nine planned sections have been drafted in English. The manuscript has not undergone peer review, and its proposed explanatory mechanisms are neither established equilibrium laws nor results of original empirical tests.

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Independence and evidence. The study represents independent conceptual research. Its examples do not assert findings about identifiable states, organizations, or communities. No institution or cited scholar is presumed to endorse the argument.

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1 Introduction: Generative Conditions in Asymmetric Relations

This section establishes the relational problem motivating the paper: how power in international political economy may affect both the conditions under which value is created and the pathways through which that value circulates, with consequences for participants' capacities to continue creating, cooperating, and revising the structures in which they participate. The central question concerns the persistence of asymmetric arrangements. Some arrangements may endure partly because their normal operation impairs the capacity of less powerful participants to revise the arrangements themselves. The section develops this possibility through an expressly hypothetical production network, situates it in relevant scholarship, and identifies the conceptual, explanatory, and normative tasks for the rest of the inquiry. Its approach is interpretive and mechanism-oriented; neither a general law of international equilibrium nor an empirical estimate of generative loss is presupposed.

The title, *Do All Beings Suffer?*, gives this analysis an ethical rather than a merely classificatory horizon. Within the present paper, *suffering* may refer to lived injury, the impairment of conditions for meaningful activity, or a predicament produced by dependence and responsibility within a relational structure. These senses require careful separation. It remains entirely possible for some positions in a given arrangement to confer substantial and persistent benefits. The question mark therefore guards against a premature assertion of universal or equally distributed suffering. The inquiry is concerned with the structure of interdependence and with the unequal distribution of its opportunities, constraints, harms, and obligations.

The paper advances a question at the intersection of several established approaches rather than introducing structural power, global value-chain governance, or the social ecology of generative justice as new discoveries. Barnett and Duvall already conceptualize power through relations that shape actors' capacities, Gereffi and colleagues analyze capability-sensitive forms of value-chain governance, and Eglash and colleagues theorize generative circulation and multiscale self-governance [3, 12, 7, 8]. A general feedback between agency and institutions is itself no discovery of this paper: Sen links substantive capabilities to the public exercise of agency and to policies that can expand those capabilities, while Greif and Laitin analyse endogenous institutional self-reinforcement and change [28, 14]. The more specific proposal developed here is a *pathway-level diagnostic*: rules affecting the renewal of value may also alter actors' effective means of inspecting, contesting, exiting, or redesigning those very rules. This paper asks when such a mediated mechanism is evidenced, whether it makes different predictions from existing explanations of persistent asymmetry, and what its presence would change in the allocation of prospective responsibility.

Analytical vocabulary. Throughout the paper, *generative capacity* designates situated resources and relations that enable specified activities to be sustained, varied, or reorganized. *Pathway control* denotes effective authority to admit, classify, route, interrupt, or revise the circulation of value. *Revision capacity* denotes an affected participant's practically exercisable ability to obtain relevant information, organize, seek remedies, exit, or alter governing rules. These terms name different empirical objects: income or productivity cannot serve as a proxy for effective institutional voice without additional evidence. *Generative diminishment* is the hypothesized impairment of a specified capacity relative to a justified historical or institutional contrast, rather than a universal deficit score. Whether that impairment is wrongful requires further normative premises.

1.1 Positions and Pathways in Value Creation

Consider a hypothetical production network extending across several societies. A coastal community sustains a historically accumulated set of practices involving labor, ecological stewardship, and craft knowledge. Its members obtain materials from local lands and waters, maintain techniques through intergenerational learning, and exchange their products with distant markets. Other participants occupy pivotal positions in the network: they establish product classifications, certification standards, financing

requirements, market-access conditions, and transport arrangements. These rules may pursue recognizable purposes, including quality assurance, reduction of transaction costs, coordination of supply, and the commercial interests of their designers. The community itself may gain income, technical information, and new opportunities through access to the network.

The analytically important issue arises when those producing value possess limited influence over the conditions under which that value is classified, priced, circulated, and returned. The resources required to renew land, skills, education, and collective organization may depend on rules that local participants have little capacity to revise. A producer could receive a higher monetary return from a particular transaction while losing meaningful control over a subsequent production process, the transmission of knowledge, or the selection of trading partners. Conversely, a policy that limits some short-term production may help maintain the ecological conditions supporting several communities. These possibilities distinguish immediate revenue, the allocation of benefits, the persistence of productive conditions, and the ability to transform those conditions.

The example is a thought experiment, not a claim about an observed supply chain. It assumes neither malicious intention among the better-positioned actors nor continuous net losses among the producers. Its purpose is to separate several objects that can otherwise appear as a single problem of distribution: the kinds of value generated; the authority to recognize or appraise them; the routes along which value moves; the power to redirect, obstruct, or terminate those routes; and the ability of creators to sustain or revise the conditions of subsequent creation. It also directs attention to different forms of value. Money, productive knowledge, ecological regeneration, institutional voice, and durable cooperation may be connected without being interchangeable in any unqualified sense.

International relations are enacted through states, public and private institutions, firms, financial arrangements, communities, and networks whose internal interests and capacities are heterogeneous. Accordingly, an *advantaged* or *disadvantaged* participant designates a position in a specified relationship and domain of activity, rather than a permanent essence attached to a country or population. A participant may have considerable influence over finance while depending on another participant's ecological resources, scientific knowledge, or political consent. The investigation therefore requires a situated account of control, institutional boundaries, historically formed dependencies, and opportunities for collective action. The existence of unequal positions does not by itself identify either the causal mechanism or the proper assignment of responsibility.

1.2 Generative Justice, Structural Power, and Prior Accounts of Harm

Ron Eglash's research on generative justice provides the principal economic and normative foundation for this inquiry. Eglash connects the generation and unalienated circulation of labor, ecological, and expressive value with forms of participation in which value-generating communities retain meaningful capacities to benefit from and help organize their own productive conditions [4]. In this account, value has significance beyond its exchange price, and the organization of its circulation matters to the ability of human and nonhuman systems to reproduce and regenerate. The contribution extends beyond a demand for compensation following extraction: it concerns arrangements through which value generation can become a self-sustaining activity.

Eglash and colleagues subsequently develop a reparative orientation in which creators participate in control of their systems of production, are protected against extractive loss, and benefit from the return and unalienated circulation of the values they generate [7]. Their analysis includes ecological, labor, and social dimensions, and explicitly examines micro-, meso-, and macro-level arrangements. These contributions are substantive predecessors to the present argument. The term *generative diminishment* is used here as a provisional descriptive and analytical extension of the concerns raised by that research. The paper does not attribute to Eglash the formal establishment of a separate technical construct bearing that exact name. It asks how the weakening of a participant's generative conditions might enter the explanation of international power and relational persistence.

International political economy already offers extensive theories of power operating through the

Table 1: Established explanatory resources and the narrower pathway-specific comparison proposed here. This table does not imply that prior scholarship cannot address the questions in the right-hand column.

Prior approach	Established analytical focus	Additional distinction to test here
Eglash and colleagues	Nonalienated value circulation, creator control, regeneration and return	Can a change in value-return rules also change effective power to revise the rules?
Sen's capability approach	Substantive freedom, agency and participation in policy formation	Can capacities for productive renewal be distinguished from capacities for pathway governance?
Structural and network power	Relational constitution of capacities, institutional influence, and control of network access	Does governing a pathway generate identifiable capacity-mediated effects beyond direct exclusion or coercion?
Institutional persistence and change	Increasing returns, self-enforcement and endogenous reinforcement	Does a particular loss of generative support mediate changes in the capacity to alter institutional rules?

background organization of action. Susan Strange's account of structural power emphasizes the capacity to shape the frameworks within which others act, particularly in the interrelated structures of security, production, finance, and knowledge [29]. The perspective directs attention to the organization of options and constraints, extending inquiry beyond individual bargaining victories. Scholarship on global value chains also gives an explicit account of unequal authority within production networks. Gereffi, Humphrey, and Sturgeon identify transaction complexity, the codifiability of information, and supplier capabilities as central variables associated with different governance forms and degrees of power asymmetry [12]. The basic observation that powerful actors influence production, standards, and circulation is therefore an established starting point rather than a discovery of this paper.

Peace research supplies a further indispensable antecedent. Johan Galtung's discussion of structural violence examines arrangements that constrain the realization of human potential, including forms of harm for which no individually identifiable intention to injure supplies an adequate explanation [11]. That contribution requires a precise statement of the present paper's proposed addition. The inquiry focuses on the *conditions for continued generation and transformation*: whether participants can develop knowledge, maintain regenerative ecologies, organize alternative exchange routes, and participate in revising the institutions governing their activities. Such capacities intersect with welfare, capability, resources, and the realization of potential, yet their separate identification and measurement remain matters for future work. The claim is consequently one of possible analytical integration and extension, subject to comparative scrutiny against established approaches.

Together these literatures make several relevant relations visible. Eglash and collaborators examine the regeneration and nonalienated return of value; Strange studies structural positions that shape what actions become available; value-chain scholarship analyzes variations in governance and supplier capability; and Galtung examines harms embedded within social arrangements. The present essay proposes to consider these contributions jointly through a historically situated question: how might control over the generation and circulation of value alter a participant's capacity to continue generating, and how might that alteration affect the participant's capacity to change the relation itself? The cited theories retain their separate concepts, explanatory purposes, and unresolved disagreements. Their juxtaposition does not establish their equivalence. Table 1 states the comparison as a programme of explanatory discrimination rather than a claim of conceptual priority.

1.3 Generative Diminishment and Nonintentional Mechanisms

For the purposes of this inquiry, *generativity* refers provisionally to the historically and relationally conditioned capacities through which a participant can initiate, sustain, revise, and develop activities and

relations. These capacities include skills, resources, ecological conditions, and opportunities for institutional participation, as well as the practical ability to transform some of these conditions. They depend partly on what participants are able to recognize, imagine, learn, and organize in particular circumstances. A complete inventory of future possibilities is neither available nor required for the initial argument. The field of conceivable alternatives may itself evolve through experience, interaction, and epistemic change.

Generative diminishment then designates a process in which identifiable conditions enabling such activity are eroded, foreclosed, or reorganized to the disadvantage of a specified participant or practice. A community might lose secure access to productive resources, opportunities to participate in technical standard-setting, or sufficient returns to sustain knowledge transmission and common infrastructure. The processes may accumulate and reinforce each other, but their presence does not demonstrate a decrease in a universal aggregate of generativity. A restriction on environmentally damaging production, for example, could constrain one activity while protecting the generative conditions of other participants. Normative evaluation must therefore identify the affected agents, domains, rights, available alternatives, and the reparability of particular losses.

A central hypothesis concerns diminishment occurring through the ordinary operation of institutions whose designers or controllers have other aims. A powerful participant may maintain certification procedures, lending rules, intellectual-property arrangements, or commercial standards to coordinate economic activity. Such procedures may possess defensible functional purposes. Yet producers with limited representation, financing, or alternative channels may be unable to develop skills, diversify partners, or preserve regenerative resources under the resulting constraints. The causal inquiry then requires specification of which rules restrict which capacities, what institutional alternatives were available, how decision-making authority is distributed, and whether the disadvantages depend upon the relevant actors' actual control. Intention, causal contribution, foreseeability, benefit, and moral or institutional responsibility are connected dimensions of analysis, each requiring its own evidence and justification.

The diminution of generative conditions could also have a recursive effect. Control over a circulation pathway affects the resources and opportunities retained by creators. The resulting change in capacities may alter their ability to negotiate, create alternative standards, form organizations, or redesign the pathways through which value moves. Where the constraints reinforce existing control over successive rounds of institutional adjustment, they supply a candidate mechanism for the persistence of asymmetric relations. This possibility does not imply that disadvantaged participants are passive or structurally incapable of change. Knowledge innovation, cooperative organization, political mobilization, cross-border solidarity, and revision of legal arrangements may disrupt such feedback. The explanation must remain open to these countervailing generative processes and to cases in which existing inequality fails to reproduce itself.

In this sense, the project asks about both the *distribution of generative conditions* and the *distribution of capacities for revising their distribution*. The second dimension is particularly significant. Material transfers can improve current livelihoods while leaving unchanged the unilateral authority to decide when, where, and by whom future transfers or productive exchanges take place. Conversely, institutional voice without sufficient resources may have limited practical effect. A defensible account of generative autonomy would therefore attend to their interaction and to the possibility that effective forms of agency depend on relationships that are themselves shared and evolving.

1.4 Unequal Predicaments and Relational Responsibility

The ethical question carried by the paper's title requires distinctions among forms and locations of suffering. Participants in relatively weak positions may bear disadvantages in value creation and exchange while having limited ability to revise the rules under which the disadvantages occur. A loss of generative autonomy may also affect the grounds on which trust could reasonably develop. When essential routes can be changed unilaterally, and when compensation, representation, and remedies lack credible institutional guarantees, a demand for unconditional trust shifts the risks of cooperation toward those already exposed to structural constraints. This is a relational explanation of the difficulty of trust; it neither as-

sumes distrust is inevitably justified in every instance nor treats trust as a simple virtue that less powerful participants are obliged to provide.

Advantaged actors, meanwhile, occupy positions of dependence as well as control. Their production, revenues, legitimacy, security, and institutional continuity may depend on the sustained generative activity of others. If the exercise of structural power undermines these supporting conditions, governance costs, conflict risks, and pressures for institutional adjustment may change. Their predicament can therefore concern the maintenance of a relational order within which their own activity is situated. Such a predicament need not entail comparable subjective suffering or a net economic loss. A powerful actor may benefit from an extractive arrangement for a long period, shift many of its costs elsewhere, or avoid significant responsibility in practice. The title's question mark is essential precisely because neither shared interdependence nor asymmetrical control establishes a uniform distribution of pain.

Responsibilities likewise should not be averaged across participants merely because all participate in the same relation. A more discriminating account would examine control over the mechanism producing harm, the information reasonably available to each actor, foreseeable consequences, benefits received, causal influence, and capacities for repair. Greater control may create stronger opportunities to alter the institutions involved and may support greater obligations, although the nature and extent of such obligations still require independent normative reasoning. A relational account of shared conditions is fully compatible with asymmetric responsibility. Recognizing an advantaged actor's institutional costs or dependencies does not excuse an infringement of rights or the imposition of avoidable harms.

The repair and unalienated-circulation framework of Eglash and colleagues offers a particularly relevant starting point for a more practical inquiry [7]. Value return may involve material resources, but also the capacity of creators to participate in determining productive conditions, the recognition of their contributions, and the architecture of circulation. This places the building of trust within a broader field of governance. Verifiable fulfillment of commitments, representation in rule revision, independent remedies, and institutions capable of correction may provide grounds for warranted cooperation that a unilateral promise of benevolence could not provide on its own. The precise design and effects of those mechanisms belong to subsequent examination of governance, international cooperation, and peacebuilding. The present discussion establishes their analytical connection to generative conditions and unequal power.

1.5 Equilibrium, Scale, and Normative Visibility

The term *equilibrium* enters international relations through several distinct traditions. Structural accounts of international politics, including Waltz's theory, investigate the relation between the distribution of capabilities, state security concerns, and patterns of balancing [32]. The present paper examines a related but different set of questions: how control over particular value pathways can persist, why participants might have unequal capacities to change those pathways, and whether the erosion of some participants' generative conditions contributes to the reproduction of the arrangement. Persistence may result from institutional inertia, recurrent bargaining, strategic incentives, or dynamical stability across an identified timescale. An empirical claim of equilibrium or an attractor would require specified state variables, transitions, observations, and criteria of stability. Mere longevity is insufficient.

The use of dynamical language in the generative-justice literature has a relevant predecessor. Eglash and Garvey employ the concept of basins of attraction in discussing social-ecological arrangements conducive to generative justice [6]. The present paper develops a complementary exploratory possibility: under specified conditions, enduring control of value-circulation routes and a diminished capacity to reorganize those routes may help sustain an *asymmetric diminishment equilibrium*. This phrase currently identifies a research hypothesis, not a derived theorem or validated empirical category. A comparative account would have to investigate arrangements that sustain extractive constraints alongside those that enable repair, negotiated revision, and regenerative cooperation. Stable arrangements may be beneficial, harmful, mixed, or contested; stability itself carries no automatic normative endorsement.

The relationship between local and systemic generativity also raises a question of scale. Labor and

knowledge practices at the level of persons, governance within organizations and communities, and international regimes of trade and finance may be represented at different levels of analysis within one historical relational process. An analogy with the study of a heated liquid helps clarify the point: molecular interaction and thermodynamic quantities offer different descriptions appropriate to different questions. Yet the analogy does not prove that the dynamics or ethical categories of political life obey a renormalization group of the physical kind. It invites investigation of which mechanisms remain relevant when descriptions move between local and systemic scales, and which information is lost in the process.

Macro-level indicators of output or institutional stability may conceal the losses experienced by particular groups, including losses of authority to set goals, capacities for exit, or the continuity of ecological and cultural practices. List and Valentini use an analogy with the levels of description in science to argue that political normative facts may operate at a coarser-grained level than facts in moral theory [21]. That work offers a relevant point of departure for two further inquiries: the organization of responsibility across scales, and the ethical significance of choosing a scale, retaining some information, and discarding other information in the construction of a representation. The legitimacy of a macroscopic conclusion depends in part on the normative questions to which the representation is applied.

Effective descriptions at different scales may exhibit emergence, approximation, and feedback. They need not yield equivalent moral evaluations. The loss of a particular community's rights or future-generating conditions may remain normatively significant even where aggregate outcomes improve. In this paper, the proposed unity of systemic generativity and situated generative autonomy concerns their potential participation in a common historical relational process. It leaves open the evaluative irreducibility of particular lives and communities. The multiscale approach consequently sharpens the obligation to make asymmetric effects visible. A more elaborate treatment of normative emergence, scale transformation, and the ethics of coarse-graining is reserved for separate studies.

1.6 Research Programme and Limits of the Present Inquiry

The inquiry proceeds from generative justice and value return to the institutional regulation of pathways, and then to the proposed two-link mechanism of diminishment and restricted revision capacity. Subsequent sections examine persistence, responsibility, warranted trust, and multiscale ethical visibility. This sequence organizes a conceptual investigation; it does not impose a universal causal or temporal order on the represented relations.

Three methodological boundaries remain decisive. A conceptual connection between value circulation and power does not establish a particular causal explanation without further inquiry. The durability or dynamical stability of an arrangement does not demonstrate its ethical legitimacy. And the transformation of descriptions from local to macro-level forms does not itself determine which harms, rights, or obligations ought to matter. Within those boundaries, the question *Do All Beings Suffer?* remains an invitation to investigate a shared yet internally unequal relational condition. It asks how participants may constitute a common system while occupying positions with markedly different capacities, opportunities, losses, and responsibilities. Such discrimination of positions is a condition of an adequate study of generative diminishment and international relational equilibrium.

2 Generative Economy and Unalienated Value Circulation

This section establishes the economic basis for studying generative diminishment. Eglash's generative justice treats the renewal of labor, ecological, and social capacities, together with creators' control over the conditions and circulation of value, as central concerns. The analysis distinguishes products and transfers from the conditions of further creation, examines heterogeneous value and micro-, meso-, and macro-level arrangements, and specifies the narrower question taken up here: how pathways of value circulation affect the ability of differently situated participants to regenerate and revise their relations.

2.1 Generative Value and the Conditions of Its Renewal

Generative economy directs attention to the capacity of human and nonhuman systems to participate in the creation and renewal of value. In Eglash's formulation, the relevant domains include labor, ecology, and social or expressive activity. Skilled making, shared knowledge, living soil, community solidarity, and the institutions that enable meaningful participation can produce benefits while also contributing to the conditions for further productive activity. Eglash's historical account of makers and unalienated production places these possibilities within a longer discussion of the extraction of value from labor and nature, while his account of generative justice gives particular importance to bottom-up circulation among value-generating participants [5, 4]. This orientation contributes an economic and ethical vocabulary for asking whether productive arrangements preserve the sources upon which their achievements depend.

An initial distinction concerns the *product* of an activity and the *capacity* to continue or transform that activity. A crop, a machine, a musical work, or a technical service may be priced and exchanged. Its creation, however, may depend on living ecosystems, accumulated skills, relations of care, institutional access, and cooperative knowledge that are only partly reflected in its transaction price. In some cases these enabling conditions are renewed through the activity itself. In others, the activity uses up conditions for whose maintenance another participant must bear the cost. The relation between value creation and regenerative capacity is therefore an object of analysis in its own right.

Eglash's account is unusually helpful because it treats human labor, ecological relations, and social life as interconnected sources of unalienated value. The discussion of regenerative ecology includes activities that return nutrients and sustain soil systems. Labor-oriented examples attend to makers' capacity to shape their work, share knowledge, and benefit from what they produce. The social dimension includes forms of cooperative organization, expression, and democratic participation that can sustain the communities in which value is created [4, 7]. These are established features of the generative-justice research programme, rather than new categories introduced here. The present paper inherits their attention to the reproduction and revision of productive conditions, while asking how the unequal regulation of those conditions enters international relationships.

A generator of value need not be imagined as an isolated person, an autonomous nation, or a single physical site. Productive practices are sustained through changing relational configurations that may extend across families, workplaces, ecological systems, public institutions, and transnational networks. The description of a particular *creator* is thus indexed to a question and a scale of analysis. An exporter may create a marketable product while depending on care work, shared infrastructure, ecological processes, and inherited knowledge. Identifying the exporter as the contractual seller does not by itself identify the whole set of contributing sources. Conversely, identifying a broad community as the beneficiary of an activity does not settle which persons or groups possess legitimate authority to represent it. Questions about attribution and standing require their own evidence and normative reasoning.

The relevant temporal terms also require restraint. A capacity for further generation is not simply a future stock that already exists and can be counted in advance. Its exercise depends on institutions, ecological contingencies, new knowledge, and the ways a relationship may be continued or transformed. An account of generativity may accordingly compare historically situated conditions for continuation and modification without presupposing a complete inventory of possible outcomes. This distinction will matter when a later section considers whether a particular arrangement diminishes a participant's capacity to reorganize its productive relations.

2.2 Alienation, Extraction, and Regenerative Return

The distinction between value circulation and value extraction is central to generative justice. In Eglash's earlier work, alienation concerns the separation of value from those whose labor, ecological activity, or social expression generates it [5, 4]. Eglash and colleagues subsequently state the reparative objective in institutional terms: value generators should be able to influence the conditions of their production, protect what they generate from destructive extraction, and participate in forms of unalienated circulation that

benefit their originating human and nonhuman communities [7]. The emphasis lies on relations capable of supporting continued generation, not solely on the destination of a financial transfer.

A consequential nuance deserves explicit attention. Material movement away from its point of origin is not necessarily an instance of harmful extraction. Eglash and colleagues distinguish taking material from a system from alienating value in a manner that damages the system's self-generative abilities [7]. Harvesting, trade, or the circulation of knowledge may form part of arrangements that sustain productive relations through reciprocal contribution, replenishment, and negotiated exchange. The relevant evaluative question is how these activities affect the conditions of continued generation, including the distribution of control over those conditions. An interpretation that classified every outward flow of money, goods, or information as loss would obscure precisely the forms of interdependence that the generative-justice literature seeks to understand.

Consider a hypothetical coastal fishery whose catch is sold to distant markets. In one arrangement, harvest rules, replenishment practices, reliable payment, and collective participation in decisions allow the fishery's ecological and social conditions to be maintained. In another, market-access requirements and short contractual cycles encourage production patterns that weaken those conditions while providing little authority to the fishers who bear the consequences. The same physical direction of trade may appear in each arrangement; the organization of return, risk, decision-making, and ecological renewal differs. Neither configuration can be evaluated adequately from export revenues alone. Both are hypothetical and require ecological, institutional, and social evidence before being assigned an actual regenerative or extractive character.

Value return can take several forms. Monetary proceeds may finance livelihood and reinvestment. Knowledge return may equip producers to adapt techniques or maintain independent expertise. Institutional return may include meaningful participation in rules governing certification, market access, or the use of local knowledge. Ecological return may include restorative practices that sustain the living conditions upon which production depends. The practical adequacy of one form cannot simply be inferred from the amount of another. Compensation may be substantial while the authority to determine productive conditions remains concentrated elsewhere. Similarly, a nominal grant of decision-making authority may have little effect if the corresponding technical and material capacities are unavailable.

This is why the reparative perspective of Eglash and colleagues reaches beyond the transfer of resources. Their 2024 study examines technologies and organizational arrangements intended to support producers' control over production and enable circular, nonalienated forms of exchange [7]. Such proposals should be assessed as substantive predecessors for the present inquiry. The new question pursued here concerns the international consequences of unequal capacities to secure, redirect, and govern these forms of return. The issue is especially important when the distribution of control over circulation pathways is itself an outcome of earlier rounds of productive activity.

2.3 Circulation Pathways as Institutional Arrangements

A value pathway is an analytically identified sequence or network of relationships through which resources, goods, knowledge, services, rights, or other benefits become available to participants. Its organization may involve technical infrastructures, contractual terms, regulations, standards, reputational mechanisms, transport links, platforms, and financial intermediaries. Different pathways can coexist, intersect, or become unavailable as their governing institutions change. The concept of a pathway is consequently broader than a physical transport route or a monetary payment chain.

The possibility of *return* depends partly on what pathways permit. A producer may receive payment while lacking access to downstream design knowledge. A community may contribute a cultural practice to a commercial product while obtaining limited influence over its reinterpretation or licensing. A public institution may subsidize infrastructure that enables exchange while facing limited capacity to revise the terms under which the infrastructure is used. Each example directs attention to a distinct interface between creation, circulation, and the ability to determine the conditions of participation. The relevant question concerns the distribution and exercise of authority at particular interfaces, not a presumed in-

Table 2: Analytical dimensions of generative value circulation and their evidentiary limits.

Dimension	Analytical question	Evidence and caution
Generation	Which practices and relations sustain the creation of value?	Productive, ecological, care, and knowledge contributions may be dispersed across actors.
Recognition	Who can define, classify, value, or authorize contributions?	Formal prices and classifications may omit relevant sources and meanings.
Circulation	Which pathways move benefits, and who can route or interrupt them?	Trade and payment flows alone do not establish control or harm.
Return	Which benefits support creators and their conditions of activity?	Compensation, ecological repair, knowledge, and governance rights may differ.
Revision	Who can challenge rules, create alternatives, or change participation?	Effective influence depends on institutions, resources, and enforceable protections.

tention to injure among the participants occupying them.

Existing international political-economy research offers indispensable analyses of these mechanisms. Strange's account of structural power emphasizes the capacity to shape frameworks in which production, finance, knowledge, and security are organized [29]. Gereffi, Humphrey, and Sturgeon examine how characteristics of transactions and supplier capabilities relate to different forms of global value-chain governance and unequal authority among firms [12]. These contributions already establish that decisions about standards, market access, and production coordination can involve substantial asymmetries. The specific extension proposed in this paper concerns how such asymmetries bear upon the capacity of producers and communities to maintain, reinterpret, or change their generative conditions.

A useful preliminary distinction separates the circulation of a given benefit from the authority to modify the conditions under which that benefit circulates. The distinction also clarifies why an apparently favorable transaction may coexist with long-term dependence. An actor may receive a high price for a product while depending on a single certification regime, financing system, or platform whose requirements it has little capacity to influence. Alternatively, the same actor may maintain several viable routes, retain knowledge needed to change production, and participate in the governance of shared infrastructure. These situations may differ in their capacity for adjustment even when observed trade volumes appear comparable.

Table 2 summarizes the analytical dimensions that the paper carries forward. The categories identify questions for inquiry; they do not provide a validated index of generative justice or a completed measurement procedure.

The dimensions in Table 2 also caution against substituting control over exchange for control over production. A participant may influence pricing without determining how ecological costs are borne. Another may own a productive asset yet lack the institutional authority to change the terms of market entry. Power can operate at several interfaces, and different participants may hold different kinds of control. Section 3 examines these relationships in detail; the present distinction explains why circulation alone is an incomplete measure of renewal.

2.4 Heterogeneous Value and Incomplete Commensurability

Labor, ecological regeneration, knowledge, and social expression need not be reducible to a common unit for their circulation to have political and economic significance. A community may exchange a product for money while maintaining relationships that make the product possible. A technique may pass between institutions while remaining embedded in tacit practice and local expertise. An ecological intervention may impose a financial cost while supporting biodiversity, water quality, or other living conditions. The evaluation of these effects depends on the question asked, the participants recognized,

and the kinds of value under consideration.

The distinction resembles the three domains of generative justice, while allowing more fine-grained inquiry into the relations through which particular benefits are produced and transformed. Eglash's work identifies labor, ecological, and expressive or social sources of unalienated value [4, 7]. Robinson and colleagues further develop community-based economic arrangements that link ecological, labor, and social value, with principles of prefigurative design, generative circulation, and solidarity [27]. These frameworks give substantive guidance about regeneration and participation; they do not authorize the assumption that every value conflict admits a numerical solution.

For example, a producer may gain revenue by licensing inherited knowledge, while some community members regard the manner of circulation as inconsistent with legitimate stewardship. Other members may value the new resources and access that the agreement provides. A purely monetary account could miss both the cultural and institutional dimensions of the disagreement. Yet the presence of heterogeneous values does not settle which parties should prevail. The inquiry requires attention to representation, informed participation, affected interests, and the institutions through which disagreement can be expressed and revised. The ethical evaluation remains a distinct task from identifying the circulation of value.

Heterogeneity also complicates the interpretation of *diminishment*. Declining revenue may accompany stronger ecological renewal or increased autonomy. Increased revenue may accompany weakened ecological or institutional conditions. The direction of change may vary across participants, domains, and scales. A responsible analytical account must therefore specify the affected generative capacity, its relevant relationships, and the sense in which its modification constitutes a loss. Where empirical comparison is attempted, the choice of baseline and counterfactual is itself consequential. The present paper will not impose a universal scalar measure of total generativity on these diverse phenomena.

The circulation of heterogeneous value is also a locus of potential conflict among legitimate interests. A rule that constrains pollution may reduce some actors' productive opportunities while maintaining the ecological conditions of other actors and communities. A requirement to share certain information may strengthen public oversight while creating risks to privacy or intellectual autonomy. Such examples show why a decline in one participant's available actions cannot, by itself, establish an unjust generative diminishment. The relevant normative reasoning must address rights, standing, accountability, and the unequal capacity to participate in specifying the terms of exchange.

2.5 Micro-, Meso-, and Macro-Level Economic Arrangements

Generative circulation can be organized at several interdependent scales. Eglash and colleagues' 2024 study explicitly distinguishes micro-level support for productive practices, meso-level connections among enterprises and institutions, and macro-level prospects for alternative economic networks [7]. Their account of experimental technologies, participatory processes, and community-based economic infrastructures is both conceptually and practically relevant. The reported work begins from situated collaborations, particularly artisanal and worker-owned enterprises, and describes the development of means for supporting more autonomous and regenerative exchange. It does not claim to have demonstrated a general international equilibrium mechanism.

Subsequent research by Robinson, Eglash, and colleagues elaborates a sociotechnical framework for community-based economies, emphasizing prefigurative processes, generative circulation, and solidarity across scales and domains [27]. This work is an important antecedent for the present paper's attention to multiscale value return. Its implications extend beyond immediate compensation: the institutional and computational arrangements through which participants exchange resources can also influence whether they retain practical capacities for cooperative decision-making, adaptation, and mutual support. The cited authors' specific empirical settings and normative commitments remain distinct from the international political-economy hypotheses considered here.

Ostrom's research on the governance of common-pool resources provides a complementary institutional point of reference. Her case analyses examine how resource users establish, monitor, and modify

rules for managing shared resources through varied institutional arrangements [24]. The relevance to generative economy is the practical possibility of rule-making by participants who depend on the resource system and must respond to its changing conditions. The cases do not supply a ready-made model for every international institution, and their transfer across domains would require examination of differences in scope, membership, authority, and enforceability.

At a local productive scale, an arrangement may permit a maker or cooperative to retain meaningful control over tools, techniques, working practices, and distribution. Across organizations, the coordination of transport, financing, certification, and information exchange may create either diverse routes for participation or concentrated points of dependence. At wider scales, legal systems, cross-border institutions, trade agreements, and financial infrastructures can establish conditions under which narrower arrangements are formed and revised. These descriptions identify nested or overlapping governance relationships, though they do not yet demonstrate that a physical renormalization-group formalism applies to them. Such a formalization would require an explicit coarse-graining map and criteria for what remains significant across scales.

The interdependence of scales creates a distinctive normative challenge. An intervention that improves an aggregate indicator may coexist with losses concentrated among particular creators. Conversely, an arrangement designed around one small group may create constraints or externalities for neighboring groups. The recognition of value at one scale therefore requires an inquiry into which sources and affected participants remain visible at another. Detailed treatment of the ethics of scale selection and representation belongs to the accompanying research programme on multiscale normative ethics and the ethics of renormalization. For present purposes, this observation places a limit on inferences from national export growth, sectoral productivity, or institutional endurance to the regenerative condition of participating communities.

2.6 Generative Diminishment as an Analytical Extension

The foregoing literature establishes that value circulation may either sustain or impair the conditions through which value is generated, and that the ability of creators to participate in governing those conditions carries normative significance. The present article uses *generative diminishment* as a provisional name for a more specific relational process: an identifiable impairment of a participant's capacity to sustain or transform value-generating activity, occurring through the organization and operation of relationships in which that participant is situated. The term is inspired by generative-justice scholarship, but it is introduced here as an analytical extension rather than attributed to Eglash as a separately formalized construct.

The hypothesis includes several potentially distinguishable dimensions: impairment of productive or ecological capacities; loss of practical access to alternative participation routes; weakened ability to revise institutional rules; and reduced capacities to maintain knowledge, cooperation, or other conditions required by a specified activity. These effects may be coupled without being identical. Their identification requires a stated focal system, an account of the capacity at issue, evidence of the relevant transformation, and a defensible comparison. In particular, attribution of diminishment to an unequal power relation requires more than noting that the disadvantaged participant has fewer resources. It requires an explanatory connection between the relational arrangement and the alteration of its generative conditions.

An impairment may arise without a participant intending to impose it. A dominant intermediary could apply uniform commercial standards that serve its organizational purposes while imposing adjustment costs on producers who lack access to compatible equipment, expertise, or alternative markets. The outcome could reduce some producers' practical freedom to maintain or change production methods, even if individual transactions remain voluntary in the narrow contractual sense. This possibility is consistent with established analyses of structural power and global value-chain governance [29, 12]. Whether the relevant arrangement actually produces generative diminishment would require evidence about viable alternatives, benefits received, constraints encountered, and the distribution of governance

authority. Intentional wrongdoing and structural causal contribution should be investigated separately.

The reverse possibilities must remain visible. A uniform standard may expand market access, increase safety, or reduce uncertainty. A restriction on some extractive activity may create conditions for broader ecological and social regeneration. A wealthy actor might create routes that allow other participants to develop independent capabilities, while a locally controlled arrangement might reproduce exclusion within the community. Accordingly, the presence of unequal authority, a restriction on choice, or an outward value flow is not sufficient to establish the normative status of a relationship. The objects of evaluation include the actual effects of the arrangement, the rights and interests involved, and the distribution of capacities for contestation and repair.

A distinct possibility motivates the next stage of the inquiry. If participation in a pathway affects a creator's ability to develop alternative routes, obtain independent knowledge, and revise the rules governing exchange, then the pathway may help reproduce the power relations through which it operates. Under some conditions this recursive effect could contribute to the persistence of an asymmetric arrangement. The claim remains provisional: persistence is not by itself a proven equilibrium, and generative diminishment does not necessarily stabilize a system. Empirical investigation would need to consider institutional safeguards, changing coalitions, alternative opportunities, collective action, and the possibility of abrupt or gradual transformations.

The extension pursued here concerns how circulation arrangements condition participants' capacities to revise them. This places Eglash's generative-economy account in dialogue with scholarship on power and institutional change, without claiming either foundation as novel.

3 Power over Generative Conditions and Pathways

This section specifies how power operates through conditions of value generation and the rules governing circulation. Structural and network-power scholarship already explains forms of institutional constraint and strategic leverage; the focus here is on what follows for creators' regenerative capacities and their effective authority to revise pathways. Admission, routing, valuation, return, and rule revision must be examined separately because control over one function neither establishes control over another nor proves that a participant has suffered harm.

That distinction entails a further evidential separation. A participant may control network entry while possessing little influence over downstream pricing; another may set technical standards without deciding how returns are distributed; a third may determine adjudication procedures while depending on independent producers to maintain the underlying knowledge and ecological inputs. The effect of one control right cannot be inferred from the existence of another. In a concrete institutional history, the analyst should therefore specify which decision right is exercised, by whom, through what enforceable procedure, with what feasible alternatives, and how its exercise changes the conditions of subsequent value creation. This decomposition avoids treating positional centrality as a sufficient indicator of generative diminishment.

3.1 Power within the Conditions of Generation

The analysis begins with a conception of power that includes the ability to shape the conditions under which other participants can act. Susan Strange's account of structural power is a central predecessor. Her treatment of security, production, finance, and knowledge concerns the organization of the international political economy and the ability to influence the frameworks within which economic and political possibilities are constituted [29]. In this perspective, authority may operate through the provision of a necessary resource, the definition of a market rule, or control of access to expertise. An observer attending solely to commands issued by one government to another may consequently overlook significant sites at which the conditions of action have already been shaped.

Barnett and Duvall develop a related, though analytically distinct, account of power as the production of effects through social relations that shape actors' capacities to determine their circumstances. Their

taxonomy distinguishes compulsory, institutional, structural, and productive power, and directs attention to direct and diffuse relations of interaction and constitution [3]. This literature already includes the insight that power affects capacities. The extension proposed here therefore requires greater specificity: the relevant capacities concern the continued generation of heterogeneous forms of value and the ability of their creators to participate in governing the relationships through which those values are produced, recognized, circulated, and renewed. The extension concerns an additional object of analysis, not the discovery that power can have constitutive effects.

Consider a hypothetical network of producers who rely on a shared certification system to sell a specialized product. The certified standard may improve safety, comparability, and the credibility of exchange. Its governing body also influences which techniques count as acceptable, how compliance can be demonstrated, what evidence is recognized, and which organizations may participate in revising the standard. Some producers may thereby acquire new opportunities for learning and participation. Others may face compliance burdens that their current relationships cannot readily support. Both effects can arise from one institutional arrangement. A useful analysis would investigate the rule's public purposes, the affected producers' capabilities, the availability of assistance and alternatives, and the distribution of authority over revision.

A generative condition can accordingly be a material resource, an ecological relation, a technical competence, a pattern of trust, a legal entitlement, or a capacity for coordinated decision-making. Conditions are historically situated and partially dependent on one another. Technical knowledge can expand market access while depending upon institutions that determine whose expertise is certified. Ecological renewal may support long-lived productive practices while depending upon obligations extending beyond a contractual buyer and seller. Governance can sustain some such relations while constraining others. To identify a power effect, the analyst must specify the focal participants, the conditions at issue, and the mechanisms through which those conditions become more or less available.

3.2 Admission, Routing, Conversion, and Return

Circulation pathways are governed at several distinguishable points. *Admission* concerns the conditions for entering a network, using a platform, obtaining finance, or receiving institutional recognition. *Routing* concerns which intermediaries, exchanges, infrastructures, and jurisdictions a flow must traverse. *Conversion* concerns the rules by which one kind of contribution becomes a legally recognized product, a credential, a monetary claim, an intellectual-property right, or another form of value. *Retention and return* concern who may keep benefits, who bears the costs of reproduction, and which arrangements enable value to contribute again to its originating relations. *Revision* concerns the ability to challenge, renegotiate, or transform these arrangements. These dimensions are analytical distinctions; in observed institutions they may be bundled in contracts, infrastructures, organizational routines, or public law.

An advantage over admission can permit an actor to require safety guarantees and strengthen confidence in a transaction. It may also permit exclusion based on costs or requirements that only well-resourced participants can meet. Advantage over routing can make a network efficient by concentrating transport, settlement, or verification functions. Concentration can simultaneously reduce the availability of independent channels. Control of conversion can authorize socially useful standards, yet it may also determine which knowledge is visible as expertise and which labor is recognized as economically valuable. Control over return can affect the renewal of equipment, communities, and ecosystems even when the formal price of the final product appears acceptable. Revision rights influence whether the participants can change the pathway when its effects become evident.

The governance of global value chains provides an established point of comparison. Gereffi, Humphrey, and Sturgeon associate distinct forms of value-chain governance with transaction complexity, codifiability, and supplier capabilities, and analyze variation in explicit coordination and power asymmetry [12]. The present paper does not reinterpret these categories as measures of generative justice. It asks a supplementary question: given a governance arrangement of some describable kind, what happens to the situated capacities of suppliers, workers, affected communities, and ecological

Table 3: Analytical sites of power over value pathways and their possible generative significance. The entries identify questions for inquiry, not observed effects or a ranking of institutional forms.

Site of power	Illustrative governing operation	Generative question requiring evidence
Entry and recognition	Setting credentials, standards, eligibility, or documentation	Who can participate, and what support and alternatives are available?
Routing and access	Selecting intermediaries, gateways, settlement, or transport routes	Can participants reach other pathways and reorganize exchange?
Valuation and conversion	Defining accepted outputs, quality, data rights, or conversion rules	Which contributions gain recognition, and which lose visibility?
Retention and return	Allocating revenues, risks, knowledge, or restorative obligations	Are conditions of further generation sustained and governed by creators?
Revision and contestation	Assigning voice, veto, appeal, audit, and rule-making rights	Can affected participants influence and transform the pathway?

systems to sustain productive activity and participate in governing its terms? Table 3 summarizes the proposed sites of inquiry and the evidence that would be needed to investigate them.

The table emphasizes a distinction between *using a pathway* and *having influence over its constitution*. Access to a market may produce substantial material benefits while leaving the entrant dependent on decisions that it cannot challenge. Conversely, a formally granted right to participate in governance may remain ineffective if the participant lacks time, finance, technical information, or collective organization. A satisfactory evaluation therefore attends both to nominal entitlements and to their practical exercise. It also considers the interests of those whose value-generating contributions are omitted from contractual documentation, including workers, care networks, and ecological relations.

The contribution of network position to a theory of generative diminishment requires a further, separately evidenced step. Farrell and Newman analyze how jurisdiction over central hubs, together with domestic institutions, can permit information-gathering or denial of access [9]. A demonstration of either network mechanism would not, on its own, establish that value-generating participants have lost capacities for further creation or institutional revision. This article asks whether and how that additional effect occurs under particular rules, alternatives, and histories.

3.3 Network Position, Interdependence, and the Capacity to Redirect Flows

Power over circulation frequently depends on the organization of networks rather than ownership of all their components. Farrell and Newman analyze *weaponized interdependence* through the position of central nodes in global economic and informational networks. They distinguish a panopticon effect, involving privileged access to information, and a chokepoint effect, involving the capacity to deny access to essential flows under specified jurisdictional and institutional conditions [9]. Their contribution provides a concrete account of how network structure may generate asymmetries of power across states. It also helps establish a necessary distinction for this paper: deliberate coercive use of a network position is one possible mechanism, while unequal consequences of routine administration constitute a different, separately investigable possibility.

A hypothetical settlement network illustrates the latter question. Suppose several productive communities can accept payment for their goods only through a small number of recognized intermediaries. An intermediary changes its documentation or compliance procedures to satisfy legitimate organizational requirements. A well-resourced exporter adapts readily, whereas a smaller cooperative encounters delays, fees, and risks of interrupted payment. The intermediary may have sought consistency or legal compliance, with no intention to impair the cooperative's productive capacity. Nevertheless, the cooperative may need to redirect labor away from production, defer investment, or withdraw from a beneficial exchange. Whether these changes amount to generative diminishment depends on their magnitude, reversibility, effects on further productive activity, and the availability of other viable arrangements. The

scenario is illustrative and makes no empirical allegation about a particular settlement infrastructure.

Centrality alone, however, does not establish arbitrary domination. A node may be technically necessary, legally constrained, collectively governed, and subject to review. Its scale may lower costs and permit widespread access. Nor is decentralization always an improvement. Duplicated infrastructure can impose burdens on smaller communities, while fragmentation can weaken protection, interoperability, or ecological coordination. The practical significance of a gateway therefore depends on the interaction of technical position, legal authority, institutional purpose, accountability, and the capabilities of those relying upon it. A network description that records only graph-theoretic centrality would leave these dimensions unresolved.

The distinction between a current route and the capacity to redesign routes is particularly important. Participants may possess an acceptable contract today while having little influence over a revision of standards, payment conditions, or data access rules that determines the continuation of their activities. A historically dependent participant can therefore be vulnerable even when observed exchanges seem mutually advantageous. Such vulnerability should be established through counterfactual and institutional analysis: what alternative arrangements were accessible, what resources were needed to adopt them, and how would the participant's generative conditions have differed? The mere existence of dependence does not settle these questions.

For causal inquiry, pathway power should be disaggregated into at least three functions: authority to set conditions of admission, authority to allocate or interrupt flows under current rules, and authority to redesign those rules. These functions may be held by different institutions. A buyer with strong price-setting leverage may have limited power over public technical standards; a standards body may govern eligibility without receiving the resulting profits; and a regulator may possess revision authority while lacking the resources to enforce it. The analytical distinction prevents the conflation of central network position, effective domination, and the receipt of distributive advantage. It also identifies circumstances in which concentrated control can protect producers or ecological conditions, rather than diminish them. The consequences of power therefore depend on identifiable rights, enforcement capabilities, alternatives, and the uses to which authority is put.

3.4 Recognition, Conversion, and the Politics of What Counts as Value

The authority to organize circulation also includes the authority to recognize particular contributions as valuable. Commercial quality grades, scientific accreditation, procurement criteria, data licences, and measures of productivity translate complex activities into forms accepted by institutions. These translations often enable cooperation among otherwise distant participants. At the same time, the chosen categories can affect which productive relations receive investment, compensation, or protection. Knowledge that resists codification, contributions shared without formal titles, and regenerative practices whose benefits emerge across organizations may be underrepresented in a particular scheme of accounting.

Such effects should be evaluated in light of the heterogeneous sources of value emphasized in generative-justice scholarship [4, 7]. A community may create ecological, technical, economic, and expressive value through one intertwined activity. A contract may recognize a monetary component with considerable precision while providing limited institutional visibility to the ecological replenishment or local knowledge upon which the activity depends. The issue concerns the fit between a representation and its purpose, the participation of affected parties in constructing the representation, and the consequences of the resulting institutional decisions. A valuation scheme may be useful for exchange while remaining insufficient as a complete account of regenerative well-being.

Power over recognition can become power over continuation. If access to finance depends on a short-range revenue measure, participants may reorganize activity around what can be shown through that measure. If the costs of renewing soil, expertise, or cooperative trust remain outside the recognized accounts, the associated capacities may receive inadequate support. This causal possibility warrants empirical investigation, including whether supplementary governance mechanisms already compensate for the omitted dimensions. The formal representation of a value should not be conflated with the existence

or worth of the relationships through which it arises.

There is a further reflexive question. Any scholarly inquiry into *generative diminishment* itself selects categories of capacity, value, and impairment. The proposed framework thus has no privileged exemption from the politics of recognition that it analyzes. Researchers must state why some actors, practices, and pathways are included, and remain open to objections from differently situated participants. This observation anticipates the accompanying studies of multiscale normative ethics and the ethics of renormalization, where the choice of a scale and the erasure of locally significant information become explicit normative problems.

3.5 Revision Power, Exit, and the Practical Meaning of Choice

The capacity to alter governing rules deserves attention alongside the capacity to participate under existing rules. Hirschman's distinction between *exit* and *voice* illuminates how participants respond to deterioration in organizations and other arrangements, and how the availability of one response may change the effectiveness of the other [18]. In international political economy, the analogous responses may include changing buyers, switching settlement channels, organizing collective representation, challenging a certification decision, negotiating a standard, or creating a shared alternative institution. These activities differ materially in feasibility and legitimacy. Their comparison should consider the practical resources required, as well as the costs that different participants incur when exercising them.

For a powerful participant, leaving an arrangement may be one available strategy among several. For a resource-constrained participant, exit may interrupt livelihoods, technical access, or cooperation that has developed through substantial cumulative investment. Voice may likewise require expertise, recognized standing, and protection against retaliation. A rule that formally permits appeal can offer meaningful review under appropriate conditions; an appeal process that is prohibitively costly may provide little effective recourse. The relevant dimension of freedom is therefore the situated capacity to take part in revising a relation, including through collective action and institution-building. That capacity is not adequately represented by the number of nominal options appearing in a contract.

Ostrom's research on the governance of common-pool resources establishes important antecedents for studying participants' involvement in making and monitoring rules, although its institutional findings concern particular kinds of resource settings and should not be mechanically generalized to interstate relationships [24]. The present inquiry treats collectively governed pathways, shared monitoring, negotiated thresholds, and accessible dispute-resolution procedures as candidate institutional arrangements requiring contextual assessment. Their potential benefits include the development of participants' capacities to govern the sources of value upon which they depend. Their potential risks include exclusion of less organized members, unequal representation, and the capture of ostensibly participatory processes by actors with greater resources.

Consider two otherwise comparable procurement arrangements. Both pay a supplier a substantial price and impose the same technical requirement. In the first, the purchaser alone controls the requirement, including future revisions. In the second, suppliers and affected communities have meaningful procedures for proposing changes, receiving technical support, and contesting decisions. The immediate financial returns could be identical. The relationships may nevertheless differ in the extent to which creators can sustain, adapt, or redirect their activities. This thought experiment isolates a possible effect of institutional agency; it does not establish in advance that the second arrangement will perform better in every setting. Governance procedures themselves carry costs, can be dominated, and require evaluation against other obligations.

3.6 Routine Rule-Making and Non-Intentional Generative Diminishment

The analysis can now identify a candidate sequence of relations. An actor or institution with significant authority establishes or maintains a rule for production or circulation. The rule changes the costs, options, recognized contributions, or revision capacities of differently situated participants. Under some conditions, those changes impair the maintenance or transformation of particular generative capacities.

The impairment may then influence the participants' ability to challenge the rule or establish alternative pathways. This sequence specifies a possible mechanism of *structural generative diminishment*. Its elements require separate evidence, and the sequence should not be treated as a law applying to asymmetric systems generally.

A distinctive feature of the hypothesis is the independence of causal effects from a demonstrated purpose to harm. Institutional actors can pursue legal compliance, predictability, efficiency, safety, or organizational survival while sustaining arrangements that impose disproportionate adjustment costs on less powerful participants. The analytically relevant questions include whether adverse effects were foreseeable, whether affected participants had practical alternatives, what authority the governing actors exercised, whether the rule was justified by competing public purposes, and what forms of revision or remedy were accessible. Questions about intention, causation, normative responsibility, and remedy should remain distinct even when they are considered together. Structural accounts of violence and harm provide a broader intellectual precedent for examining adverse conditions whose explanation is not exhausted by the identification of an individual aggressor [11].

Power asymmetry alone supplies insufficient evidence of generative diminishment. A dominant participant may transfer technology, support ecological restoration, provide predictable demand, or finance alternatives that expand the capacities of less powerful participants. Conversely, a formally egalitarian arrangement may undermine regeneration through short-term incentives, collective-action failures, or ecological ignorance. Regulations that prevent harmful extraction can restrict particular activities while preserving other lives and productive relations. The normative judgment must consider rights, the distribution of benefits and burdens, the available alternatives, and effects at multiple relevant scales. An impairment of one actor's unconstrained option set need not imply a net diminution of ethically relevant generativity across all affected participants.

A careful causal study would compare concrete arrangements rather than contrast an observed outcome with an imagined world free of power. It could examine institutional change, differences between comparable pathways, revisions of standards, shifts in the distribution of returns, and participants' documented experiences of access and contestation. Historical evidence could establish how an asymmetry developed and what forms of collective knowledge or infrastructure depend upon it. Quantitative data might describe fees, delays, investment, participation, or environmental conditions; qualitative evidence would be needed to interpret what those measures signify to affected creators. Together, these methods could assess whether a proposed relationship actually contributed to the loss or renewal of generative capacity.

3.7 Reciprocal Dependence and the Boundaries of Pathway Power

The relative advantage of a powerful actor does not remove its dependence on the productive and social relationships through which the pathway functions. A dominant purchaser may require suppliers' knowledge and continued investment. A financial intermediary may depend on users' confidence and compliance. A state that influences transnational standards may depend on the cooperation of firms, agencies, workers, and foreign institutions. Such dependencies can create incentives to sustain participants' regenerative conditions. They can also be obscured by the ability to substitute one supplier for another, externalize costs, or transfer risks to those with weaker bargaining positions. The existence of interdependence therefore leaves open how burdens and benefits are distributed.

This point offers an initial interpretation of the paper's title. The less powerful participant may experience restricted access, diminished control, and fragile conditions of value return. The more powerful participant may face costs of administering networks, maintaining legitimacy, responding to the consequences of their deterioration, or managing dependencies that cannot be removed without cost. Yet these predicaments are neither necessarily simultaneous nor comparable in severity. Some advantaged actors may obtain sustained benefits with little experienced hardship. The term *suffering* consequently functions as an open normative question about situated predicaments, while *responsibility* concerns the separate issue of what obligations arise from authority, causal influence, knowledge, and the availability

of reasonable alternatives.

Network structures may themselves evolve through responses to existing authority. Communities can share standards, form cooperatives, develop alternative institutions, or negotiate new terms. Dominant actors can provide channels for participation or resist changes they perceive as threatening. Additional states, social movements, enterprises, and international organizations may transform the effective rules. These processes make any account of pathway power historically contingent. Such historically contingent shifts motivate a separate account of capacity erosion, pathway foreclosure, and relational reconfiguration in Section 4. Persistence and responsibility then require their own causal and normative assessments.

4 Structural Power and Generative Diminishment

Generative diminishment is developed here as a situated analytical hypothesis: an impairment of capacities, feasible pathways, or relational conditions necessary for continued creation and institutional revision. The task is to distinguish these possibilities from changes in income alone, trace mechanisms through routine institutional operations, and formulate causal and normative tests. Neither unequal power nor an observed loss by itself identifies structural causation, unjust harm, or the responsibility of a particular institution.

4.1 The Situated Unit of Generative Capacity

The language of generativity can be deceptively expansive. A country produces goods, a scientific community produces knowledge, a family reproduces forms of care, and an ecosystem enables cycles of renewal. These activities involve different agents, relations, evaluative commitments, and material conditions. A finding that a country's exports increased therefore provides limited information about whether the communities producing those exports gained the capacity to maintain their practices or govern their productive conditions. Conversely, the closure of one production process may be accompanied by substantial improvements in public health, ecological renewal, or the capacities of other participants. An analytical claim of diminishment must identify its situated object.

For present purposes, the *generative capacity of a participant in a specified domain* designates the historically constituted ability to initiate, sustain, adapt, and participate in shaping processes that produce or reproduce forms of value. A participant may be a person, an organization, a political community, or an emergent set of relations defined by the question under study. A domain may concern livelihood, scientific inquiry, ecological maintenance, cultural expression, or the governance of productive institutions. The designation is relational: productive ability depends partly upon access to other participants, infrastructures, knowledge, social recognition, and environments. It is also open to revision, since a participant's identity and productive practices may themselves change with those relations.

This proposal has identifiable intellectual neighbors. Sen's capability-oriented account places substantive freedoms and the real opportunities available to persons within the evaluation of development [28]. Galtung's account of structural violence directs attention to arrangements that constrain realizable human potential [11]. Eglash's generative justice locates regenerative conditions in ecological, labor, and social value circulation, with particular attention to the control exercised by value generators over productive systems [4, 7]. These frameworks already oppose an exclusively output-based assessment. The present inquiry asks a more restricted, complementary question about the *continued organization and transformation of value-generating relations* under asymmetrical power. It does not assume a decisive conceptual separation from the established capability, structural-harm, and generative-justice traditions. Whether the proposed category yields additional analytical discrimination remains a matter for comparative research.

This inquiry must separate three comparisons. A descriptive comparison establishes whether the capacity in question changed for a specified participant and activity. A causal comparison considers whether an identified institutional rule or exercise of authority contributed to that change relative to

credible alternatives. A normative comparison asks whether the resulting constraint was unjustified in light of protected interests, the rights of affected parties, external effects, and practicable institutional alternatives. The first comparison cannot by itself resolve the second, and the first two cannot settle the third. A restriction that reduces a firm's immediate discretion may preserve the ecological renewal and substantive freedoms of others; in such a case a reduction in one activity's feasible options is insufficient to establish generative injustice.

Three specifications are necessary for a meaningful assessment. First, the investigator should identify whose generative conditions are at issue, including actors whose activities are excluded from formal contracts or national accounts. Second, the relevant forms of value and reproduction should be described without presuming that ecological continuity, political agency, cultural meaning, and monetary return share a natural unit. Third, the inquiry should explain the basis on which a change counts as a loss or disadvantage. Participants' judgments, basic rights, institutional commitments, and the effects upon others may each be relevant, and may conflict. A descriptive inventory of curtailed options alone cannot resolve every normative disagreement.

4.2 Capacity Erosion, Pathway Foreclosure, and Generative Reconfiguration

A provisional taxonomy distinguishes three related forms of change. *Capacity erosion* concerns the weakening of enabling conditions within a recognizable practice. It may take the form of depleted soil, degraded equipment, loss of specialist knowledge, shrinking reserves for reinvestment, or deterioration in relations of care and cooperation. Capacity erosion can occur while gross production remains high, particularly when maintained output is financed by the consumption of reserves or unpaid reproductive work. Its empirical identification requires more than observing a disadvantageous exchange rate. The investigator must show changes in particular enabling conditions and establish their significance for the continuation or adaptation of the practice.

Pathway foreclosure concerns the loss of feasible routes through which participants can create, exchange, recognize, or return value. Examples include an inability to use alternative payment infrastructure, restrictions on access to knowledge necessary for independently developing a technology, or exclusion from the procedures through which an industry standard can be revised. The key distinction is between possessing several nominal options and having the practical conditions to exercise them. Information, financing, legal status, collective organization, and time may each determine whether an ostensible alternative functions as a genuine route. The relevance of exit and voice is established in Hirschman's account of organizational responses to decline [18]. The specific extension here concerns the ability to create *new* routes, rather than merely selecting among routes already authorized by others.

Generative reconfiguration concerns changes in the organization through which further capacities and pathways can arise. A shift in procurement rules may redirect the formation of skills; a new platform may alter the relations among researchers, funders, and data owners; a restructuring of land rights may change who can initiate ecological practices. Reconfiguration can expand the powers of some participants and narrow those of others. In certain cases, its effects may include the disappearance of a practice, the emergence of a new collective subject, or a redistribution of the authority to determine what qualifies as value. These possibilities make it misleading to infer a single scalar change in a system's total generativity from a visible change in a limited set of indicators.

The three forms can coincide. Consider a hypothetical coastal production community whose access to an export market is mediated by a single certification and logistics network. Higher documentation costs may divert funds from maintaining equipment (capacity erosion). Exclusive contracts may impede movement to a different distributor (pathway foreclosure). A shift toward standardized, externally prescribed techniques may make certain locally developed skills less useful and affect who participates in production decisions (generative reconfiguration). None of these effects follows necessarily from centralization or certification. The institutional rule could improve food safety, reduce destructive practices, and secure more reliable income. Assessment requires evidence about the actual combination of outcomes, affected participants, and feasible institutional arrangements.

Table 4: Provisional dimensions of generative diminishment and their evidentiary implications. The distinctions are conceptual and do not constitute mutually exclusive empirical classes.

Analytical dimension	Illustrative locus of change	Evidence and interpretive caution
Capacity erosion	Resource renewal, technical skill, care relations, investment capacity	Trace enabling conditions across a defensible comparison; distinguish temporary adjustment from enduring impairment.
Pathway foreclosure	Payment routes, alternative partners, standard-setting access, appeal	Assess practical alternatives, required switching resources, and participants' ability to create or revise routes.
Generative reconfiguration	Changed authority, organization of production, recognition of knowledge	Examine heterogeneous winners and losers, emergent practices, and changes in who defines value.

Table 4 identifies the observations required to examine each dimension. It also warns against treating a decrease in one measured capability as an adequate representation of the entire relation. A restriction can be protective, coercive, redistributive, or jointly several of these, depending on its context and effects. In evaluating any dimension, the inquiry should distinguish changes to the existence of an option, its affordability, its effective exercise, and the participant's authority to reconstitute the option itself.

4.3 Diminishment through Ordinary Institutional Operations

Structural power can affect generative capacities without a decision-maker's purpose of producing a loss. International production and financial arrangements are sustained through many linked acts of standard-setting, procurement, certification, lending, licensing, and administration. Individually defensible rules can interact in ways that concentrate the costs of participation among actors with limited reserves or institutional representation. The outcome may be distributed across organizations, each of which sees only a small part of the causal process. An explanation that looks solely for a hostile command may therefore miss the organization of the relation in which disadvantage is recurrently produced.

The distinction between harmful effects and hostile intentions has important antecedents. Galtung's formulation of structural violence draws attention to social arrangements through which avoidable impairment can occur without identifiable personal violence [11]. Young's social connection model treats responsibilities arising through participation in structural processes that generate injustice and distinguishes those responsibilities from an exclusively fault-based model of liability [34]. The present paper draws on these insights while concentrating on a specific question: when a structure disadvantages some participants, does it also alter their ability to maintain the resources, relations, and institutional powers through which they can change the structure? This focuses attention on the possible *recursiveness* of structural impairment.

Suppose a cross-border research consortium adopts a uniform data-curation requirement to improve integrity and interoperability. Institutions with sustained technical staffing can satisfy the rule through routine workflows. A smaller laboratory may have to redirect substantial research time toward compliance, while receiving little authority over the standard's design. The resulting burden could limit training, independent inquiry, and continued participation. That conclusion remains conditional: the same rule might also provide indispensable quality assurance or facilitate shared use of knowledge. The relevant questions concern design alternatives, the proportionality and distribution of costs, training support, representation in revision, and the ways compliance changes the laboratory's research activities. A legitimate collective purpose and a harmful distribution of effects may coexist.

In such examples, at least four analytically distinct propositions must be examined: a rule or institution has a particular operational effect; the effect contributes causally to a change in specified generative conditions; the change disadvantages the relevant participants under stated normative considerations;

and particular agents or organizations bear responsibilities in relation to the process. Establishing one proposition does not automatically establish the others. The institution's stated purpose may illuminate intention without settling causation. Evidence of burden may warrant concern without providing a complete account of alternatives. The identification of structural effects may support responsibilities for review or repair while leaving questions of individual legal fault unresolved.

4.4 Mechanisms, Counterfactuals, and the Identification of Structural Effects

The proposed category will be useful only insofar as claims of generative diminishment can be made accountable to evidence. Mechanism-based social explanation offers a methodological point of departure. Hedström and Ylikoski survey the relation between social mechanisms, explanation, and causal inference, emphasizing the need to specify processes capable of generating observed outcomes [17]. A claim that an international production regime reduces a community's autonomy should accordingly identify the relevant rules, the situated actions through which they operate, their effects on productive relations, and the evidence connecting those effects to the stated outcome.

Consider a hypothetical procurement system that introduces an exclusive intermediary. A proposed mechanism might identify a change in eligibility rules, a loss of alternative buyers, an increase in the cost of adapting production, a decrease in resources available for technical training, and diminished capacity to establish an independent distribution channel. The mechanism is a sequence of interacting dependencies to be investigated, rather than a causal law assumed to hold in every setting. Rival interpretations could point to changes in demand, ecological conditions, internal governance, technological obsolescence, or decisions made independently of the intermediary. A satisfactory explanation would assess such alternatives instead of assuming that the actor with greater bargaining power caused every adverse outcome.

Counterfactual comparison offers one way to organize the inquiry. For a specified participant or practice i , domain d , and admissible institutional arrangement r , let $C_{i,d}(r; h)$ denote a set of relevant generative conditions associated with a historically described relational setting h . The semicolon marks the role of the represented history without requiring a universal time coordinate. A comparison of $C_{i,d}(r; h)$ and $C_{i,d}(r'; h)$ asks which aspects of the generative conditions may differ under a defensible alternative arrangement r' . The two descriptions are interpretive and potentially set-valued: they need not support a single numerical subtraction. Their causal interpretation requires explicit assumptions concerning background conditions, interference between participants, institutional feasibility, and the ways a change of arrangement may transform the participants themselves. Such comparisons can guide case selection and evidence gathering, but the notation alone supplies neither an identified counterfactual nor a measure of loss.

A defensible inference requires more than selecting a preferable hypothetical arrangement after observing an unfavorable outcome. At minimum, the comparison should specify the decision or rule whose effect is questioned, the participant and domain of interest, a historically admissible alternative, and the mechanism expected to connect the rule with a change in generative conditions. The comparison should also identify relevant confounders and the evidence that would count against the proposed explanation. Differences in participant preferences or baseline capabilities may explain both their pathway choices and later outcomes; unmeasured ecological shocks may alter regenerative conditions independently of the governing institution. A counterfactual assessment can consequently be informative without isolating a single numerical "amount" of diminishment. Its task is to discriminate between plausible causal accounts at an explicitly described level of analysis.

It would be especially problematic to select as the sole comparator an imagined condition of unlimited autonomy or frictionless exchange. Useful alternatives may include a feasible revision of a standard, a collectively governed clearing arrangement, an appeal procedure, or a carefully specified counterfactual history. Historical investigation can reveal why the relevant arrangement came to exist and what options were actually within the reach of differently situated participants. Interviews and participatory inquiry can establish how actors interpreted and navigated choices. Institutional records, budgets, contracts,

and technical documentation can help track changing rights and dependencies. Comparative or quasi-experimental approaches may be appropriate where identification conditions and suitable data exist. The methods are complementary, and their credibility depends on the object being investigated.

The possible indicators are also heterogeneous. Training expenditures, equipment maintenance, ecological recovery, bargaining opportunities, the number of practicable distribution channels, and the effectiveness of a grievance procedure can each illuminate a particular aspect of generativity. They do not automatically form a coherent index. A rise in revenue can coexist with diminished power to revise contracts; a decline in one technology may coincide with the emergence of safer or more sustainable techniques. Indicators should therefore be tied to described mechanisms, relevant standards of interpretation, and the testimony of affected participants. Aggregation should be a justified decision, not an unexamined premise.

4.5 Historical Dependence and the Reproduction of Asymmetry

Generative diminishment becomes particularly significant for a theory of international relations when an impairment alters the participant's ability to respond to the relation that produces it. A supplier whose retained earnings are insufficient for independent certification may become increasingly reliant on a purchaser's compliance services. A research community deprived of authority over technical standards may invest in meeting external requirements at the expense of building its own governing institutions. An ecological community experiencing depletion may confront urgent demands that reduce its practical capacity to negotiate longer-term restorative arrangements. These examples suggest distinct ways in which a relational effect may modify the conditions of subsequent participation, although their strength and direction remain empirical questions.

Tilly's analysis of durable inequality offers a major predecessor concerning the reproduction of categorical disparities through organizational processes and relations of dependence [30]. For the present inquiry, the distinctive analytical emphasis is the relation between *the circulation of value* and *the ability to generate and govern alternative circulations*. A participant's weak position may contribute to diminished returns; diminished returns may constrain investment in alternative pathways; reduced capacity to change pathways may help reproduce the initial asymmetry. Each link needs a separate causal account. The presence of unequal outcomes across several observations does not establish that this full recursive process exists.

Historical dependence also means that the boundaries of the participant and of the activity being assessed cannot always be held fixed. A displaced practice may give rise to a new institution; a community may reorganize through collective action; an apparently dominant organization may lose control when its partners coordinate. This is a reason to examine historical relations and transformations without presuming that a participant possesses an immutable identity or that an unrealized possibility is merely an event waiting to occur. In the present framework, a *continuation* names an admissible generative transformation under specified conditions, while a *represented history* records the situated relations invoked as evidence. No metaphysical distinction between a privileged present and an already determinate future is presupposed by the analysis.

Three forms of interruption are plausible. Participants may secure new sources of knowledge, organization, or finance that change their position in negotiation. More powerful actors may revise pathway rules, extend the sharing of returns, or make their decisions contestable. Third parties may change the effective structure through law, collective agreements, international institutions, or technological innovation. These interventions can also produce new constraints or inequalities. Their significance lies in the possibility that the reproduction of asymmetry depends on changeable relations, rather than on a universal tendency for disadvantaged positions to deteriorate.

4.6 Normative Evaluation, Competing Generativities, and Responsibility

The identification of generative diminishment is not exhausted by a causal description. A restriction on a polluting activity, for example, may impair the continuation of one firm's production while protecting

the health, livelihood, and ecological conditions of other communities. A prohibition on an exploitative contract may restrict the contracting choices of a powerful buyer while enlarging the bargaining powers of dependent producers. An international standard may reduce short-run autonomy while supporting learning, safety, or valuable interoperability. Evaluative disagreement can remain even where causal relations are well documented. The analyst should therefore state who benefits, whose practices are constrained, which rights and public purposes are at issue, and which losses may be reversible, compensable, or incompatible with the relevant ethical commitments.

Eglash and colleagues' approach to generative justice offers a substantive standard concerning value generators' control over production, protection from extraction, and the sustaining circulation of value across human and non-human communities [7]. Yet a difficult question remains when several forms of generativity conflict. Whose capacity to generate should prevail in a dispute over water, land, knowledge, or public health? A general appeal to aggregate generativity could suppress the interests of a small community, while unrestricted autonomy for one producer could compromise the generative conditions of many others. Answers require normative reasoning about rights, responsibilities, unequal power, collective goods, and the institutions through which disputes may be heard and revised. The paper's later discussion of multiscale normative ethics returns to this issue without assuming a universal conversion rate between diverse forms of value.

Responsibility must also be discriminated from suffering. A powerful participant may receive the benefits of the present arrangement and experience limited material or psychological hardship. Its control over a critical pathway can nevertheless create obligations of inquiry, consultation, justification, and repair, depending on its causal involvement, available knowledge, effective capacities, and applicable legal and institutional duties. Young's social connection model provides a precedent for responsibility directed toward the transformation of structurally unjust processes, while leaving questions of blame and liability to additional analysis [34]. The proposed inquiry asks how obligations may be connected to the control of generative conditions and the feasibility of protecting affected participants' capacity for institutional revision. Section 6 develops these responsibility criteria, without equating institutional duties with the experience of suffering.

The inquiry should also avoid treating affected participants as merely passive recipients of loss. Communities can possess substantial practical knowledge, collective organizational capacity, and moral authority while facing severe disadvantages within a particular network. They may reject offered compensation that reinforces dependency, or prefer arrangements that protect control over land, data, skills, and institutions. A description of diminishment should remain sensitive to these differences and incorporate informed participation in the definition of the relevant generative goods. Failure to recognize agency would reproduce, within the analysis itself, the reduction of participants to variables controlled by others.

4.7 Adversarial Cases for the Diminishment Diagnosis

A generative-diminishment diagnosis should be exposed to cases in which the apparent indicators point in different directions. Consider a producer collective whose discretionary earnings decline after adoption of an expensive environmental standard. That observation might indicate erosion of an investment resource. It might also accompany cleaner water, reduced health burdens, transferable certification skills, and greater access to future purchasers. A defensible assessment would specify which actor's capacity, which admissible activities, which ecological relations, and which period or historically justified ordering are being compared. Net income alone cannot determine the direction of the generative change. The converse problem arises where monetary payments increase while access to local knowledge, independent infrastructure, or revision procedures deteriorates. Such a case might supply evidence of pathway foreclosure, but only if the relevant restrictions and practical consequences are documented.

A more serious rival concerns institutional voice. A less powerful producer can lose financial reserves and nevertheless acquire effective influence through collective organization, public legal aid, a new standards coalition, or the demonstrated indispensability of its specialized knowledge. If actual in-

1053 spection, negotiation, or revision capacities expand under such conditions, the proposed link from lost
1054 resources to lost pathway agency is contradicted for that case. Conversely, a producer may possess
1055 substantial income and expertise yet face an enforceable exclusion from rule-making. Institutional in-
1056 capacity in that setting may be explained by legal authority or coercion without a capacity-mediated
1057 effect. The proposed categories of erosion and foreclosure identify different objects precisely so that
1058 their association does not become an automatic causal inference.

1059 For these contrasts, the relevant evidence includes a baseline description of the generative activity,
1060 an independently observed change in its enabling relations, comparison cases with plausible alternative
1061 rules, and documentation of actual opportunities to exercise voice and exit. The comparison must also
1062 account for the ability of affected participants to define which activities and values matter; an analyst's
1063 preferred indicator of productivity cannot settle that question. A framework that labels every unfavorable
1064 event as diminishment, and every favorable event as an offsetting form of generativity, would evade em-
1065 pirical refutation. The diagnosis earns explanatory force through its capacity to reject such classifications
1066 as well as to support them.

1067 **4.8 Research Boundaries and the Transition to Equilibrium Analysis**

1068 The proposed dimensions of diminishment are neither exhaustive categories nor validated common met-
1069 rics. A structural explanation requires independent evidence of pathway effects, while an ethical as-
1070 sessment requires separately articulated rights, harms, and duties. Neither income change nor a rule's
1071 persistence suffices to establish both.

1072 The hypothesis that follows is conditional: pathway control may diminish the capacities required
1073 to revise a pathway and thereby contribute to the persistence of asymmetry. Collective organization,
1074 alternative infrastructure, legal protection, or institutional reform may interrupt the relation. A claim of
1075 equilibrium would additionally require a defined state space, transition mechanisms, and an appropriate
1076 criterion of stability. The distinctive object retained here is the unequal capacity for further creation and
1077 revision, which a purely distributive description can conceal.

1078 **5 Persistence and Equilibrium of Asymmetric Relations**

1079 The central explanatory question is whether diminishment can contribute to the continuation of asymmet-
1080 ric institutional relations by also weakening affected participants' capacity to revise them. This section
1081 distinguishes observed persistence, strategic self-enforcement, and dynamical stability; specifies the two
1082 empirical links required for a recursive account; and considers rival mechanisms, counterconditions, and
1083 pathways of institutional change. The vocabulary of equilibrium remains conditional upon the kind of
1084 evidence and model actually available.

1085 **5.1 Persistence, Strategic Equilibrium, and Dynamical Stability**

1086 The proposition that an asymmetric international relationship persists can be understood in several ways.
1087 *Observed persistence* concerns a recurrent pattern of authority, resource dependence, or constrained
1088 pathway choice across a specified sequence of observations. An international purchasing network may
1089 repeatedly allocate price-setting authority to one group of organizations while assigning production and
1090 adjustment costs to another. Such a pattern may remain recognizable while contracts, prices, partici-
1091 pants, and technologies change. Persistence supplies a phenomenon to explain; by itself it gives limited
1092 information about the mechanisms producing that phenomenon.

1093 *Strategic equilibrium* requires a specification of participants, available choices, information, and the
1094 consequences that guide those choices. In a stylized situation, a dominant intermediary may prefer the
1095 existing contractual network to a voluntary relinquishment of its control rights. A dependent producer
1096 may prefer continued participation to an expensive or uncertain exit. The resulting arrangement could
1097 be self-enforcing under those particular alternatives even when its participants regard it as unequal. The

weaker participant's continued participation would then signify the comparative attractiveness or feasibility of available responses, rather than satisfaction with the arrangement. Hirschman's account of exit and voice offers an established starting point for examining organizational responses under constrained alternatives [18]. An inquiry into international relations needs to distinguish formal permission to exit from an effective ability to finance, coordinate, and govern an alternative pathway.

Dynamical stability requires a different analytical commitment. A model specifies a state, a transformation law, a class of admissible disturbances, and the extent to which transformed states remain near or return toward a reference configuration. These features may involve financial allocations, pathway-control rights, resource-renewal conditions, institutional rule-making capacities, and relations of dependence. A stable pattern need not be stationary: a cycle, recurrent institution, or evolving region of admissible configurations may provide a more suitable representation. Mathematical stability also depends upon the state variables and scales selected by the investigator. Calling an actual international arrangement an attractor therefore requires more than observing several repeated outcomes.

A minimal illustration helps separate the latter two ideas without offering a measured model. Let x_n represent an explicitly selected set of institutional and generative conditions at observation index n , let θ encode fixed assumptions of the model, and let Φ_θ be an effective transformation between observations. A fixed-point representation has the property stated in Equation 1.

$$\Phi_\theta(x^*) = x^*. \quad (1)$$

The index n labels an ordered family of represented observations or institutional adjustments; it does not commit the account to an independent universal clock or to an ontologically privileged present. A fixed point is locally attracting under the additional condition that suitable perturbations of x^* generate represented trajectories approaching that reference state. In sufficiently smooth finite-dimensional discrete models, spectral conditions on a local linearization can sometimes establish such attraction. Neither a state space nor an empirically grounded transformation law has yet been identified for the international relationships discussed here. Equation 1 therefore clarifies what a stronger claim would demand, while leaving the existence of an actual equilibrium unproved.

The normative implications of the three notions also differ. Repetition may perpetuate injustice, a strategic equilibrium may be sustained by restricted alternatives, and a dynamically stable system may deplete the ecological or social conditions upon which particular participants depend. Conversely, an unequal distribution of capacities may remain comparatively stable while institutions provide meaningful contestation, protective standards, and viable pathways for value return. The question is consequently which relational mechanisms and affected capacities a description of equilibrium preserves, rather than whether a pattern can simply be called stable.

5.2 Recursive Coupling between Generative Capacity and Pathway Control

The proposed generative mechanism begins with two analytically distinct relations. First, governance of production and circulation affects the resources, knowledge, ecological conditions, and institutional access available for further creation. Second, these generative conditions affect the ability of participants to influence the governance arrangements to which they are subject. Together, they allow a possible recursive connection between distributive consequences and the capacity for institutional revision. This connection is consistent with scholarship on durable relational inequality and structural power, while introducing a focused question concerning the regeneration of the ability to alter value pathways [30, 29, 3].

The recursive claim should be treated as a conjunction of two empirical propositions, each of which may fail independently. First, alteration of pathway rules must affect the conditions required for further generation or institutional action, relative to a defensible comparison. Second, a change in those conditions must affect the participant's feasible influence over the pathways or their governing institutions. Observed concentration together with declining returns cannot establish either link. The mechanism is not uniquely identified by an institutional actor's advantages or by a producer's capability deprivation:

structural power, capabilities, and recursive institutional change are all established analytical categories [3, 28, 14]. The proposed contribution lies in isolating whether a *specific change in the conditions of generative renewal* mediates a later change in *effective pathway-revision agency* rather than merely accompanying it. The researcher should also distinguish a relation repeatedly reproduced through strategic responses from a locally attracting dynamical regime, since the latter requires a specified state description and transition rule. Empirical sequences can be reconstructed with evidence of decision-making and institutional change without presupposing a universal clock or one privileged causal ordering for every domain.

Imagine an association of producers supplying goods through a network controlled by a small number of intermediaries. Compliance with external certification, financing, and logistics arrangements may be valuable: it can improve safety, reduce uncertainty, or provide buyers that would otherwise remain inaccessible. Yet suppose the contractual terms leave producers with too few freely disposable resources to maintain cooperative storage, acquire independent knowledge about alternative purchasers, or participate in standards development. Their capacity to organize an alternative route may then weaken even as the export network continues to operate. When the capacity to revise contracts depends on that same organizational infrastructure, the consequences of an unequal flow of returns can reinforce the institutions shaping the flow.

The mechanism has several separable links. A pathway-governing institution shapes the distribution and control of returns. Particular allocations affect the renewal of resources and collective capacities. These capacities help determine how effectively participants can engage in voice, exit, negotiation, or rule modification. Responses to those opportunities affect the durability and revision of the governing institution. Each link requires its own evidence. The resulting cycle is a *hypothesized feedback structure*, whose direction and intensity may vary across conditions. A high level of inequality can coexist with vigorous collective bargaining; a momentary loss may prompt innovation; and an intervention that initially limits production may improve ecological and economic renewal. Thus the recursive account offers a mechanism to investigate, not a law that inferior power invariably implies increasing diminishment.

An additional distinction concerns the continuation of *productive activity* and the continuation of *the power to create productive pathways*. A participant can sustain output through a single licensed technology while losing the ability to acquire alternatives or influence technical standards. In another case, a reduction in current revenue may be accompanied by meaningful investments in shared knowledge and independent infrastructure. These outcomes have different implications for institutional change. An inquiry restricted to net transfers may miss the second-order effects through which value circulation either expands or contracts participants' powers over subsequent arrangements. The proposed analytical gain of generative diminishment lies in identifying these second-order effects with sufficient empirical specificity, while recognizing that capability-based agency, structural power, and institutional self-reinforcement are already substantial literatures. If the purported feedback merely renames familiar observations about poverty, bargaining weakness, or path dependence, it supplies no independent explanatory gain. It becomes informative only if its mediating variables, counterfactual contrasts, and scope conditions enable distinctions that a less elaborate account would miss.

Recursive reinforcement also need not be deliberate. Rules may be maintained through bureaucratic routines, risk management, professional conventions, contractual templates, or a collection of individually defensible decisions. Advantageous institutions can survive without a coherent collective intention to deprive weaker participants. Nevertheless, an absence of hostile intention does not establish the absence of causal responsibility. The later analysis of relational responsibility will differentiate causal position, knowledge, control, available alternatives, and obligations to change processes that foreseeably undermine the capacities of affected parties.

5.3 Strategic Dependence, Outside Options, and Institutional Lock-in

Strategic interaction complicates the relationship between diminished capacity and persistence. Participation in an asymmetric agreement can remain rational when the alternatives are prohibitively costly.

An export community may accept a narrow share of returns because it needs access to existing logistics, emergency credit, or regulatory certification. A powerful buyer may continue to operate under the same conditions because its current sourcing model is profitable and replacement arrangements impose transition costs. Neither party needs to regard the arrangement as fair or desirable across all dimensions. Local decisions reflect the constraints and information available to the decision-makers, and they may reproduce an institutional pattern with which many participants remain dissatisfied.

The practical status of an outside option is therefore central. Legal entitlement to negotiate or trade independently may coexist with insufficient financing, knowledge, transport infrastructure, political protection, or collective organizational capacity. Capacity erosion and pathway foreclosure can increase the cost of developing outside options, further reducing their effectiveness as bargaining resources. In Hirschman's terms, voice may require capacities accumulated through prior participation, while exit may be technically permitted yet difficult to exercise [18]. The proposed extension concerns how unequal circulation of value can affect the production and maintenance of those capacities themselves.

Political-economic research already provides important precedents for this interpretation. Acemoglu and Robinson show how the distribution of de facto political power can help preserve elite-favoring economic institutions even when formal political rules change; their model explicitly permits institutional persistence through different channels of power [1]. This is an established account of institutional reproduction, and the present paper does not claim to discover persistence through asymmetric power. Its narrower proposal is that losses in the capacities for creating and governing pathways may help specify one family of processes through which de facto power is maintained in transnational settings. Such a proposition must be differentiated from other explanations, including coercion, ideology, macroeconomic incentives, and organizational coordination problems.

Institutional lock-in also has a historical dimension. Pierson's account of increasing returns clarifies how timing, sequence, adaptation, and accumulated investments can make established political pathways increasingly difficult to reverse [26]. Greif and Laitin further show how the reproduction of institutions may change the very quasi-parameters that support continued adherence, producing both self-reinforcement and endogenous erosion [14]. These approaches caution against a purely static equilibrium analysis. A structure that reproduces existing advantage may also create new organizations, competencies, vulnerabilities, or conflicts that change the conditions supporting its continuation.

Path dependence is therefore neither inevitability nor moral destiny. Resources can be mobilized from outside the dominant network; a new cooperative arrangement can redistribute the cost of switching; regulatory reform can alter access to infrastructure; and technological change can reduce dependence on an established intermediary. Powerful actors may also have incentives to support these transitions when the deterioration of partner capacities threatens reliability, quality, supply continuity, or social legitimacy. Conversely, a powerful actor may remain profitable despite severe losses elsewhere. The ethical relevance of a mechanism cannot be deduced from a claim that self-interest will eventually compel the dominant party to repair it.

5.4 Generative Diminishment and the Stability of Asymmetry

A specific hypothesis can now be stated in conditional form. Where the dominant regulation of value pathways materially diminishes the capacities by which affected participants can finance alternatives, coordinate collective action, contest rules, or participate in institutional design, such diminishment may contribute to the persistence of asymmetric arrangements. Its strength is expected to depend upon available countervailing institutions, resource renewal, substitute pathways, and the distribution of rule-making authority. Persistence may be reinforced when the costs of revising an arrangement rise as the capacities available for revision decline. The resulting relation could remain stable within a limited range of conditions while carrying important losses for those within it.

It is useful to distinguish *self-reinforcing asymmetry* from *depletion-driven instability*. In the former, the constrained participant retains sufficient capacity to continue production and exchange, while lacking the resources or institutional position to alter their terms substantially. In the latter, declining capacities

jeopardize the activity upon which even the powerful participant depends. An arrangement may then face withdrawal, failure of supply, environmental damage, political resistance, or reconfiguration by an external institution. The same mechanisms that help preserve power at one level can undermine the conditions supporting its exercise at another level. This is one reason the title's language of suffering should remain interrogative: positional responsibilities and relational exposures are analytically important, but the actual distribution of hardship is variable and may remain highly unequal.

The contrast also illuminates different meanings of system-wide generativity. A transnational production network may increase total output while exhausting local knowledge systems and reducing alternative means of livelihood. A national economy may report gains while a small community loses control over the ecological conditions that support its continued practice. A stable international standard may enable interoperability while excluding otherwise competent groups from meaningful participation in its revision. Evaluating these outcomes requires an explicit choice of focal participants, values, and dimensions of renewal. A single aggregate indicator could conceal substantial local diminishment; a local account could fail to capture protective benefits or adverse externalities elsewhere. The multiscale problem is therefore present within the analysis of equilibrium itself, even while its extended normative treatment is reserved for Section 8.

Eglash and Garvey have already brought the language of attractor basins into generative-justice research, exploring social ecologies that support self-organizing patterns of egalitarian and regenerative value circulation [6]. The present discussion takes this precedent seriously. A hypothetical *diminishment-supporting region of persistence* is not offered as a newly established class of attractor. It names a possible empirical target: a set of configurations in which restricted pathway agency and diminished renewal repeatedly reproduce each other. Demonstrating an attraction basin would require a specified state space, perturbation model, transition rules, and evidence that relevant initial conditions yield sustained proximity to or recurrence within such configurations. Changes in institutional categories and participant identities could also make an ordinary fixed-state analysis inadequate.

These qualifications matter because a social process may have multiple partially overlapping trajectories. A community can acquire political representation even as ecological resources deteriorate. A regional alliance can reduce exposure to coercion while concentrating financial power in new institutions. A beneficial technological standard may preserve shared capabilities while narrowing the autonomy of certain developers. Labeling the entire relation stable or unstable without specifying the observed variables risks flattening the distinct relations in which generative capacities are enabled, diminished, or transformed. The inquiry therefore treats equilibrium as a question about identifiable relational mechanisms and scale-specific effective descriptions, with ethical evaluation remaining a separate but closely connected task.

5.5 Institutional Revision and Alternative Generative Pathways

The reproduction of unequal pathways invites investigation of the conditions under which affected participants acquire the practical ability to alter those pathways. A change in formal rules is one possibility, but the effective distribution of organizational resources and infrastructural control may outlast that reform. Acemoglu and Robinson's analysis demonstrates the importance of distinguishing formal political authority from de facto power when studying institutional persistence [1]. Similarly, a newly negotiated procurement rule could leave an exclusive payment network or indispensable certification database under the same authority. An assessment of institutional transformation should trace changes in practical control alongside changes in legal entitlement.

There are at least four analytically distinct routes for modifying an asymmetric arrangement. *Replenishment* improves the resources and capabilities of existing value generators, such as durable access to knowledge, ecological restoration, or investments in locally controlled production. *Pathway diversification* enlarges the range of practically available partners, technologies, and circulation infrastructures. *Institutional voice* changes whose claims and knowledge can influence rules and how objections are heard, negotiated, and remedied. *Rule revision* changes the authority and procedures through which admission,

valuation, circulation, and returns are governed. These categories overlap, and none offers a universal recipe. Their significance lies in separating assistance that leaves underlying control unchanged from interventions that alter the conditions of future collective action.

Generative justice places particular weight on the circulation of value back to those who generate it and on the ability of creators to exercise meaningful control over productive processes [4, 7]. Applied to an international arrangement, a transfer of funds may support resource replenishment without securing pathway diversification or institutional voice. Conversely, granting representation in a committee may have little material effect if participating communities lack the time, technical support, and resources required to exercise that role. The relevant governance challenge is to align value return with feasible agency over the conditions and paths of creation. Whether this alignment develops justified trust, or instead preserves dependency in a more acceptable form, remains a substantive question for Section 7.

Powerful participants may encounter a further dilemma when the institutional reforms that sustain a wider relational ecology also redistribute some of their discretionary control. It is plausible that preserving the generative conditions of a system and enabling constituent participants' generative autonomy describe closely connected tasks at different scales. It would nevertheless be premature to claim their practical equivalence. An incumbent institution might preserve aggregate output by suppressing local options, and an unqualified appeal to autonomy could expose other participants to unacceptable harms. An empirically and ethically defensible analysis must identify the scale, the affected capacities, the conflicts among rights and values, and the authority through which competing claims are decided. The issue will recur in the discussions of asymmetric responsibility and multiscale normative ethics.

5.6 Contrasting Histories of Persistence and Change

Three schematic histories clarify the conditional character of the proposed mechanism. They are thought experiments concerning institutional possibilities, rather than descriptions of particular countries or estimates of their likely evolution. Each concerns a network in which a central intermediary governs an important market-access pathway and a producer association has a weaker position in rule-making.

In *History A*, export contracts yield enough income to sustain production but provide few resources for common infrastructure or independent market intelligence. Producers repeatedly accept existing arrangements because the alternatives are costly and uncertain. Rule-making authority remains concentrated, and dependence continues across successive contract revisions. The case illustrates self-reinforcing asymmetry under the maintained assumption that constrained renewal also constrains effective outside options. It establishes neither that every participant is dissatisfied nor that the arrangement has an empirically demonstrated dynamical attractor.

In *History B*, the same network includes a value-return arrangement financed through jointly governed contributions, transferable technical knowledge, accessible dispute resolution, and feasible paths to alternative buyers. Producer groups gradually acquire organizational capacity and become more influential in revising standards and contract terms. The existing network may persist, yet its internal distribution of agency changes. Here institutional continuity coexists with a transformation of the terms on which persistence is achieved. The example illustrates the potential relevance of value return combined with pathway agency, without assuming that the cooperative form guarantees success or resolves all conflicting claims.

In *History C*, a governing intermediary captures immediate gains through contractual and financial restrictions while productive conditions deteriorate. Reinvestment becomes insufficient to maintain quality or ecological renewal, and disruptions increase. The resulting failures weaken both producer livelihood and the reliability of the network upon which the intermediary depends. A later intervention may restructure the network, or the affected communities may bear most of the losses while the intermediary relocates to other suppliers. In either case, diminished generativity does not imply a stable asymmetric equilibrium. The scenario shows why a theory of structural diminishment must also attend to instability, displacement of costs, and the replacement rather than reform of particular relations.

Table 5 highlights why both value renewal and pathway agency matter. Its columns do not imply a

Table 5: Three schematic histories with different relations between value circulation, pathway agency, and institutional persistence. These histories are conceptual counterfactuals, not empirical observations or forecasts.

History	Value renewal	Pathway agency	Institutional pattern
A: Reinforcement	Output continues; limited discretionary resources for renewal	Alternatives and rule revision remain costly	Persistent asymmetry under constrained responses
B: Revision	Jointly governed return supports capacity development	Voice, alternatives, and revision capacities expand	Institutional continuity with redistributed agency
C: Breakdown	Productive and ecological conditions deteriorate	Participants face disruption or forced adjustment	Instability, replacement, or displacement of losses

standardized measure of generativity, and its narratives do not claim that one history is more probable than another. They display alternative configurations that a historical or comparative study could attempt to differentiate. They also expose the causal ambiguity of institutional persistence: a network may retain its formal identity while changing its power relations, and an apparently stable arrangement may be maintained by mechanisms that weaken the capacities of some participants to shape the conditions of continued participation.

5.7 Causal Inquiry, Observable Implications, and Rival Mechanisms

A serious empirical application would need to operationalize the hypothesized feedback while making the relevant historical assumptions visible. Evidence of asymmetrical profits, market concentration, or continuing participation would be insufficient on its own. The analyst would need to identify control rights and actual decision practices, trace the flow and use of returns, and examine changes in the resources and institutions through which affected participants can create, maintain, and revise circulation pathways. The chosen observation sequence, its relevant causal ordering, and the comparability of the units under study would require justification. These requirements are consistent with the general emphasis on specifying mechanisms in social-scientific explanation [17].

Potential observable implications include changes in the availability of independent infrastructure, cumulative costs of switching, organizational membership and bargaining capacity, the distribution of technical knowledge, actual influence in standards procedures, and the frequency and disposition of appeals to governing institutions. Such indicators are neither uniformly desirable nor interchangeable. Collective membership, for example, may increase without effective influence; an abundance of nominal trading partners may provide little protection if all require access to the same bottleneck. Ecological and cultural capacities can also be poorly represented by transactional data. A defensible inquiry would combine historical process tracing, institutional documentation, participants' accounts, and quantitative evidence appropriate to the particular domain.

The proposed mechanism has identifiable rivals. Persistent inequality could arise predominantly from coercive enforcement, inherited legal rights, geography, macroeconomic shocks, technical specialization, or conflicts among participant preferences, with diminishment of revision capacities playing a minor role. Alternatively, diminished renewal could result from ecological or commercial processes relatively independent of the governing intermediary. One should also distinguish concentration that facilitates legitimate cooperation from concentration whose design or operation generates unjustified burdens. The analytical task is to establish whether pathway regulation causally changes generative conditions and whether those changes, in turn, affect the capacity to revise pathway regulation. Both relations should be investigated independently before a recursive explanation is accepted.

A particularly discriminating comparison would begin with two arrangements that generate similar observed production and monetary returns but differ in independently enforceable rights to inspect

rules, establish alternative routes, or challenge unilateral revisions. If the latter rights improve but organizational capacity and effective influence remain unchanged, a claim that rights automatically enhance generative autonomy would fail. Conversely, two arrangements with similar formal revision rights but different resources for independent legal, technical, and collective action can help test whether productive renewal mediates the actual exercise of voice. A result in which unequal governance persists despite substantial improvements in both renewal and effective voice would favor a direct institutional, coercive, or political account over the proposed capacity-mediated reinforcement. These comparisons are conceptual designs requiring identification, not evidence already obtained.

One feasible research design would use two distinct institutional contrasts rather than a single comparison of high- and low-power cases. For the first link, the investigator could compare changes in a specified circulation rule across otherwise comparable producer groups while recording prior capabilities, exposure to demand shocks, and external financing. For the second, the investigator would trace whether independently documented changes in the producer groups' organizational, technical, or legal capacities altered their actual ability to negotiate, appeal, exit, or modify rules. The second comparison must not define revision capacity merely as retained income: the effective exercise of voice and rule change requires separate institutional evidence. When an intervention affects both returns and formal representation directly, the two causal channels must be disentangled before the observed change is attributed to a capacity-mediated feedback loop. A credible rival is that concentrated authority reproduces itself through law or coercion even when producer generativity improves.

Evidence capable of challenging the hypothesis is equally important. Where constrained participants accumulate effective rule-revision capacity despite low retained returns, where alternative pathways remain affordable and robust, or where reforms to generative conditions fail to affect the distribution of institutional control, the proposed feedback may be absent or weaker than expected. Where power asymmetry persists through unrelated mechanisms after affected participants gain substantial pathway agency, the theory should restrict its explanatory reach. Such findings would refine the scope conditions rather than be treated as exceptions to an assumed universal law. A further research programme might compare institutions with similar levels of market concentration but differing arrangements for value return, voice, and independent infrastructures, while addressing selection effects and other sources of confounding.

5.8 Stability Claims under Countervailing Dynamics

The strongest objection to the proposed account is that capacity–institution feedback has long been an object of research and does not, by itself, establish an additional mechanism. Sen's account of substantive freedom and political participation, Greif and Laitin's approach to self-reinforcing and changing institutions, and Barnett and Duvall's analysis of the productive and structural forms of power already make capacities and institutions mutually consequential [28, 14, 3]. The proposed narrower object is the empirically traced mediation of rule-revision capacity by specific losses in the renewal of value-generating relations. It would add little explanatory value where direct coercion, monopoly rights, or political preferences fully explain the governance outcome without that mediation.

An informative inquiry would examine crossed contrasts rather than selecting only dependent producers with unfavorable outcomes. In one pair, the formal rules of admission, appeal, and revision remain closely comparable while differences in access to regenerated resources, independent technical knowledge, or collective infrastructure are observed. If these differences systematically affect the exercise of pathway agency after appropriate controls, the capacity-mediated channel receives support. In a second pair, effective capacities remain comparable while legal standing and the distribution of rule-making authority differ. If governance outcomes vary mainly with those direct institutional rights, the importance assigned to the proposed mediation must diminish. Neither pairing is an automatic natural experiment: participant selection, strategic anticipation, spillovers, and the historical construction of the categories require attention.

Even a documented two-link feedback does not suffice to establish equilibrium. Feedback may amplify divergence, trigger defection, or redistribute losses until a network is dissolved or replaced. Strate-

gic equilibrium would require specified actors, information, options, and incentives under which unilateral deviation does not improve the relevant outcomes. A dynamical stability claim would require an explicit state space and transformation operator, a specified set of perturbations, and an appropriate criterion for bounded response or attraction. A shift in the variables selected by an investigator can change whether the same historical record appears stable. At the present evidential stage, *persistence supported by a candidate reinforcing mechanism* is the most defensible description of the observed kind of phenomenon that the paper proposes to study.

Three potential findings would require substantial revision of the hypothesis: genuine growth in revision capacity while generative resources contract; durable control concentrated by legal or military means despite significant independent renewal and agency; or institutionally successful coordination that preserves and strengthens the generative conditions of dependent participants. These are positive research obligations, not marginal exceptions. Asymmetric authority can facilitate standards, collective provision, and predictable dispute resolution, and in such settings the relationship between concentration and capacity loss may be weak, absent, or reversed.

5.9 Equilibrium, Relational Predicaments, and the Distribution of Responsibility

The proposed mechanism may support persistence when pathway controls impair resources needed to contest those controls. Whether the result is a strategic or dynamical equilibrium depends on the formal assumptions distinguished in Section 5.1. Persistence alone establishes neither stability nor normative justification.

The distinction sets the stage for the paper's title. Weaker participants may face diminished opportunities for creation, retention, and institutional revision. Powerful participants may face responsibilities associated with their control over common generative conditions, along with potential dependence on the continued productive capacities of others. These exposures and obligations do not produce equal suffering. Certain powerful actors may preserve their advantage through exit, substitution, or the transfer of costs, while weaker actors suffer losses that are difficult or impossible to remedy. Recognition of relational interdependence therefore sharpens, rather than erases, the asymmetries of agency and moral responsibility.

The capacity-mediated account remains falsifiable through the independent institutional and resource comparisons specified above.

6 Asymmetric Predicaments and Relational Responsibility

This section returns to the question in the paper's title by examining the unequal distribution of hardship, dependence, and responsibility within shared relations. Control over conditions essential to others' generative activity can ground prospective duties without implying that powerful participants necessarily suffer, or that weaker participants are passive. Causal contribution, culpability, effective control, and justified remedial duties therefore require separate analysis, especially where appeals to system-level continuity compete with participants' autonomy and rights.

6.1 Unequal Exposure within Shared Relations

The expression *Do All Beings Suffer?* can be read as a question concerning how a relational system distributes the capacities to create, the burdens of sustaining that creation, and the risks attached to changes in its governing arrangements. Its interrogative form is important. Participation in a common system entails neither equal benefits nor equal suffering. A highly influential participant may secure favorable terms over a long interval; another may bear recurrent production costs, declining ecological conditions, or exclusion from decisions that shape its opportunities. Their circumstances belong to an interacting history, but the existence of a connection does not settle the distribution of burdens or its ethical appraisal.

One form of exposure concerns the impairment of established capabilities: the loss of productive tools, knowledgeable collaborators, environmental support, or the means of subsistence. Another concerns pathways that could connect a participant's effort to the results of its effort: access to markets, mechanisms for retaining created value, opportunities to learn, and channels for changing institutional rules. A further form concerns the authority to determine which possibilities receive recognition in the first place. A community may create forms of care, ecological maintenance, or knowledge that contribute substantially to the continuation of social life, while prevailing accounting systems recognize only a narrow range of marketable outputs. The resulting difference concerns valuation and political voice as well as income. Eglash's account of generative justice and unalienated value circulation is directly relevant, since the renewal of the productive source and the return of value to those who generate it are central to that framework [4, 7].

Such exposure may vary within a nominally unified actor. A state may acquire greater export earnings while particular workers, regions, or ecological communities sustain losses that aggregate national indicators obscure. Conversely, new market access may strengthen some producers' independent capabilities even within an unequal trade relation. An analysis of generative diminishment therefore requires an explicit specification of affected subjects, their forms of value creation, and the conditions that enable their continued activity. Sen's capability approach provides a significant predecessor for assessing substantive opportunities rather than relying exclusively on aggregate commodities or income [28]. The present inquiry additionally asks whether affected participants can participate in the alteration of the relational structures that shape their opportunities.

A relational explanation can identify common dependencies without converting them into a presumption of common culpability. The fact that actors participate in an interdependent network does not imply that each had comparable information, bargaining power, causal influence, or access to feasible alternatives. A producer who accepts disadvantageous terms to preserve an immediate means of subsistence may be exercising practical judgment within a constrained choice set. The acceptance of those terms provides weak evidence of consent to the system's wider distribution of control. This distinction recalls Hirschman's analysis of exit and voice: the option to leave or contest an arrangement has practical meaning only in relation to the costs and institutions through which it can be exercised [18].

6.2 Causal Participation, Fault, and Prospective Responsibility

A structural account of generative diminishment needs to distinguish at least three judgments. A *causal judgment* concerns how an actor's conduct, an institutional rule, or a network relation contributes to an identified consequence. A *judgment of fault* concerns the violation of an applicable duty, together with whatever requirements of intention, knowledge, negligence, or lawful excuse that duty specifies. A *prospective judgment of responsibility* concerns the actions reasonably required of participants who can help prevent, mitigate, or transform unjust outcomes. These assessments can be related while remaining distinct. Neither causal participation nor structural advantage by itself determines the whole content of blame, legal liability, or remedial duty.

Galtung's account of structural violence offers an early formulation of how social arrangements can constrain the realization of human potential even when the explanation does not identify a deliberate attacker [11]. Young subsequently elaborates a social-connection approach to political responsibility, addressing the participation of many actors in structural processes with unjust consequences and the collective, forward-looking task of changing those processes [34, 35]. Her work provides a particularly important antecedent to the present argument. Accordingly, the hypothesis that routine international relationships can produce non-intentional harms should be attributed to a longstanding theoretical discussion. The narrower proposed extension here is to investigate how such relationships affect the ability of their participants to *renew generative conditions and revise the paths through which value and power circulate*.

Consider a stylized international procurement arrangement. An organization with extensive access to credit and markets sets delivery schedules, product standards, and prices in order to guarantee reliable

supply. Its decisions may be made in good faith and may deliver valuable goods to consumers. Yet the resulting adjustments may be borne chiefly by dependent producers, whose inability to accumulate reserves or finance alternative production routes becomes persistent. Establishing a causal claim would require evidence concerning actual contracts, prices, adjustment costs, and feasible alternatives. An ethical appraisal would further inquire into basic protections, consent, information, foreseeability, and appropriate standards of fairness. Allocating specific duties would require attention to the organization's control rights, its capacity to change practices, and the roles of other participating institutions.

This differentiation also guards against an indiscriminate enlargement of responsibility. If every distant consequence of a complex network imposed an unlimited obligation on everyone connected to it, the resulting framework would offer little guidance about feasible actions. Young's account instead gives weight to political participation in changing structural processes, and Goodin grounds extended responsibilities in vulnerability to others' choices [35, 13]. A generative perspective can treat these approaches as resources for a disciplined allocation inquiry, while preserving distinctions among moral obligation, institutional competence, and legally enforceable rights.

A prospective responsibility claim must therefore specify its addressee, the relevant domain of control, a foreseeable or reasonably investigable impact, and an institutionally feasible response. A position of advantage alone does not demonstrate responsibility for every loss occurring within a connected network, and responsibility for prevention or remedy does not by itself imply culpability for a prior wrong. Conversely, the absence of proven hostile intention need not settle prospective duties where a participant can materially alter a known risk to the generative conditions of others. Public explanation, access to independent scrutiny, and the ability of affected participants to challenge an institutional decision may be appropriate responses even while causal attribution remains contested. Such measures should be shaped with affected parties rather than presumed to express their interests from above.

The criteria for assigning a prospective duty should not be conflated with the distribution of felt burdens. A rule-making institution may be accountable for foreseeable damage to others' regenerative conditions even if it is insulated from reciprocal losses. Conversely, experiencing the costs of maintaining a system does not itself discharge an obligation to repair a preventable injury. In institutional analysis, evidence of discretionary control, capacity to investigate, effective remedy, and affected participants' standing matters more than a presumption that all positions suffer in analogous ways.

6.3 Power, Dependence, and Grounds of Responsibility

Powerful positions confer several kinds of influence relevant to responsibility. An actor may control admission to a value chain, select permitted routes, establish the terms of valuation, allocate returns, or participate disproportionately in rule revision. Such influence should be investigated at the level of specific decision rights and institutional mechanisms. Strange's analysis of structural power, Barnett and Duvall's account of different forms of power, and research on network chokepoints provide established resources for this investigation [29, 3, 9]. These accounts clarify how the capacity to shape options can matter alongside direct coercion.

At least four considerations may bear on an actor's obligations. *Causal contribution* concerns the role of its actions or rules in producing a relevant outcome. *Effective capacity* concerns whether the actor can reasonably prevent, mitigate, or alter the mechanism. *Dependence and vulnerability* concern the extent to which others' basic interests or continuing capacities are exposed to decisions under its control. *Institutional standing* concerns legitimate authority, agreed commitments, participatory procedures, and the actor's own obligation to respect the rights of those affected. Benefits from an arrangement may provide another relevant consideration, especially when they are connected to avoidable disadvantage, but the bare fact of benefit is insufficient to establish culpability.

Table 6 gathers these considerations as an analytical inventory. The entries specify questions for assessment, rather than a universal ranking or numerical weighting of duties.

A participant's structural position may create an obligation to exercise available power responsibly even when that participant did not intentionally create the dependence in question. Goodin's

Table 6: Candidate dimensions for analyzing responsibility in asymmetric generative relations. The questions are provisional and require context-specific ethical and institutional justification.

Dimension	Relevant inquiry	Normative precaution
Causal participation	Which practices and rules contribute to impaired generative conditions?	Distinguish causal explanation from intention, fault, and legal liability.
Effective control	Which actors can alter admission, routing, valuation, return, or revision?	Assess real alternatives, competence, coordination costs, and limits of authority.
Vulnerability and dependence	Whose capacities and protected interests rely on the decisions of others?	Attend to unequal exposure and to harms obscured by aggregate outcomes.
Participation and remedy	Who can contest rules, obtain reasons, and seek effective repair?	Avoid equating delegated benefits with autonomous participation.

vulnerability-centered argument helps illuminate why duties can extend beyond voluntary promises and contractual agreements [13].

A stronger prospective responsibility claim requires a bounded duty-holder and duty-object. In particular, the capacity to influence a transnational network should be distinguished from direct authority over its standards, discretionary authority to suspend participation, responsibility to provide access to appeal, and practical ability to finance remedial transitions. Where these functions are divided among states, firms, standard-setting organizations, and affected collectives, duties may be differentiated rather than assigned wholesale to a nominally dominant actor. This approach is consistent with Young's structural account of political responsibility, while leaving determinations of legal liability to the applicable legal framework [34]. The distribution of obligations may nonetheless vary with control, knowledge, resources, and the claims of the affected. A government, an intermediary enterprise, a standards organization, and a community association can possess different powers and thus different feasible forms of responsibility within the same arrangement.

The inquiry also needs to distinguish an actor's influence over a relationship from authority to govern the lives of others. A powerful organization's capacity to arrange value circulation does not by itself supply a mandate to decide what another community ought to value. Institutions seeking to protect generative conditions may therefore have reason to expand the affected participants' ability to question, negotiate, and change their own pathways. That consideration leads from the allocation of responsibility to the possible ethical limits on its exercise.

6.4 The Predicament of Concentrated Power

The title's reference to suffering includes the predicament of actors occupying advantageous positions. This predicament has to be specified carefully. Concentrated power can generate obligations, dependencies, and risks associated with the continuation of a shared system. It does not follow that a powerful actor experiences the same level of distress as those exposed to its decisions, or that the powerful actor necessarily experiences distress at all. Some actors may successfully transfer costs, substitute partners, or continue to benefit from arrangements that diminish other participants' capacities. Ethical responsibility remains meaningful under those circumstances.

A powerful actor's dependence can nevertheless be substantial. The authority to purchase, finance, license, transport, or certify value relies on systems of production, knowledge, cooperation, and ecological maintenance located beyond its immediate control. A purchasing organization may determine the terms on which a supplier participates while depending on that supplier's continuing ability to produce reliably. An international institution may shape the availability of development finance while depending on local organizations to maintain the services and practices through which funded activities acquire practical meaning. These examples concern kinds of dependence; their particular extent is an empirical matter.

A first responsibility concerns the protection of generative conditions that others depend upon: avoid-

ing foreseeable degradation of essential capacities, undertaking proportionate risk assessment, and enabling repair when identifiable harms occur. A second concerns the governance of power itself: making consequential rules contestable and allowing affected participants a meaningful role in their revision. The two responsibilities can reinforce one another, yet they can also generate conflict. A dominant intermediary might claim that centralized control is necessary to preserve an efficient network, while a dependent producer might require independent access to markets and decision processes that reduce that intermediary's power. The claimed efficiency of centralized control should be investigated through evidence about alternatives and burden distribution rather than accepted as sufficient normative justification.

The distinction also has a temporal and historical dimension. A present allocation of decision rights may rest on a long formation of infrastructure, contracts, exclusions, and accumulated capabilities. Assigning responsibility requires an explicit account of the relevant history and its available traces, especially when some harms persist through transformed or successor institutions. Responsibility for maintaining current practices, responsibility for repairing an established injury, and responsibility for enabling a different institutional trajectory are related inquiries with different evidentiary and normative requirements. Historical succession cannot be treated as a self-explanatory linear chain; the representation must specify which continuity relations and decision processes matter for the case.

The problem is sometimes described as a choice between sustaining the generative capacities of a whole system and securing the generative autonomy of its participants. A relational approach suggests that these are dimensions of a common process considered at different levels of organization. Yet their ethical evaluations require further care. An increase in aggregate production may coexist with the deterioration of a particular community's indispensable conditions. Conversely, an independent local pathway may initially reduce the measured efficiency of a consolidated network while making the system more adaptive to disruptions or disagreements. System-level stewardship therefore requires explicit consideration of whose capacities enter the accounting, which harms remain visible, and how affected participants can contest the account itself.

6.5 System Stewardship, Situated Claims, and Normative Limits

The idea that system-level renewal and situated generative autonomy concern one relational process offers a way to avoid treating "the whole" and "its participants" as metaphysically isolated objectives. It does not yield an ethical identity between their evaluations. In particular, there is no reason to assume that an increase in total generative output compensates for an infringement of a protected right, that losses borne by one community can be offset by gains accruing to another, or that every activity preferred by an affected community is justified regardless of external consequences. The unity of the represented relation leaves these normative questions open. A system-level claim must identify its affected participants and justify its treatment of their interests before it can support any specific obligation.

Consider a hypothetical river basin in which a public authority limits a profitable industrial activity in order to maintain water quality across several settlements. Restricting that activity can reduce one firm's options while protecting the health and productive conditions of downstream communities. A restriction may be warranted even though it closes an immediate generative pathway; the proper inquiry concerns its legal authority, effects, alternatives, and the distribution of burdens. Consider a contrasting arrangement in which an intermediary appeals to "regional continuity" to exclude a community from inspecting allocation rules, although less restrictive protections are feasible. The same appeal to the whole cannot justify the exclusion without a further argument. Neither case is resolved by summing output, nor by treating local preference as an unconditional veto.

Four questions should therefore be kept analytically separate. First, *protected claims*: which rights, vital interests, and ecological conditions impose constraints on permissible arrangements? Second, *institutional standing*: who is entitled to reasons, information, meaningful participation, and remedy, including affected persons outside a particular contract? Third, *coordination evidence*: which features of concentrated or distributed authority actually sustain relevant generative conditions, under what alternatives and costs? Fourth, *revisability*: can an arrangement be corrected when its evidence, distribution of

effects, or representation of affected participants proves inadequate? These questions do not constitute a universal decision algorithm. They supply an explicit agenda through which a claimed duty to preserve an international system may be appraised, contested, and bounded.

A powerful actor's obligation to support continuation should consequently be understood as a family of context-specific duties grounded in control, foreseeable effects, justified claims, and institutional competence, rather than as a duty to maximize an unspecified quantity named generativity. Young's social-connection model and Goodin's vulnerability-based reasoning offer distinct sources for prospective responsibilities, while the evaluation of local authority can draw on established work on collective self-governance [34, 13, 24]. Under this account, an obligation to preserve shared conditions and an obligation to support meaningful autonomy can concern the same history without having identical addressees, priority rules, or remedies.

6.6 Generative Autonomy, Vulnerability, and Non-Domination

Generative autonomy may be provisionally understood as an actor's historically situated ability to participate meaningfully in the creation, circulation, and governance of value, including the capacity to sustain relevant productive conditions and influence the rules governing its options. Autonomy so described is compatible with extensive mutual dependence. A community may rely on shared infrastructure, specialized suppliers, and cooperative institutions while retaining substantive opportunities for revision and collective decision. The relevant contrast concerns relationships in which other parties hold largely discretionary power over crucial options and in which affected actors have inadequate means of challenge or protection.

Pettit's conception of freedom as non-domination identifies exposure to arbitrary power as a distinct political problem [25]. The proposed notion of generative autonomy is related, although it adds an explicit concern with value creation, regenerative conditions, and power over circulation pathways. It should be assessed alongside Sen's attention to substantive capability, rather than assumed to supplant that literature [28]. An independent capacity to change the terms of participation may matter even when the immediate income or services received under the existing terms are substantial.

Consider two hypothetical arrangements offering producers similar financial returns. Under the first, an intermediary reserves unilateral authority to change payment formulas, impose new compliance requirements, or exclude participants without accessible reasons or meaningful appeal. Under the second, affected producers possess enforceable participation rights, independent information, and credible procedures for challenging revisions. The two arrangements can generate equal measured returns at a particular observation while distributing the capacity to shape further opportunities quite differently. The difference suggests why value return, important as it is to generative justice, must be examined together with pathway autonomy and institutional voice [7, 24].

Vulnerability does not imply incapacity or moral inferiority. A participant can retain considerable knowledge, creativity, and collective agency while lacking financial reserves or legal protection against abrupt pathway changes. Moreover, interventions intended to protect a vulnerable group can become paternalistic if stronger actors reserve exclusive authority to identify its interests, interpret its history, and prescribe its development. Protection of a community's continuing capacities should therefore be linked, where feasible, to participation, accessible remedy, and the ability to revise institutional relationships. The precise institutions depend on the affected rights, the kind of value created, and the wider circumstances of the relationship.

6.7 Trust, Legitimacy, and the Limits of Moral Demands

Trust introduces a further asymmetry. A dependent participant may be asked to accept a powerful actor's assurance that a rule will be fair, that accumulated value will eventually return, or that delegated authority will be exercised responsibly. Yet the costs of misplaced trust may be borne chiefly by the dependent participant. If the more powerful actor can alter contracts, withdraw market access, or redefine

compliance unilaterally, a request for unconditional trust transfers risk without necessarily changing the structure that produces it.

Baier's philosophical account places vulnerability within the analysis of trust and the moral risks of relationships in which others exercise discretion over matters that concern us [2]. O'Neill's work on trust and trustworthiness further cautions against equating the demand for more trust with sound grounds for trusting and questions whether indiscriminate accountability mechanisms necessarily produce trustworthy relationships [23]. These established accounts provide a better starting point than treating trust as a generalized attitude that weaker parties are morally obliged to display.

In the present inquiry, the term *warranted trust* designates a relation in which the party exposed to risk has defensible reasons, appropriate to the context, for relying on another actor's commitments. Such reasons may include verifiable conduct, clear rules, independent oversight, protections against arbitrary revision, and workable means of appeal or compensation. Warranted trust remains defeasible. Repeated compliance can strengthen justified expectations, while documented failures may warrant withdrawal of trust. Cooperation can also proceed through enforceable agreements and independent verification when interpersonal or institutional trust is limited.

A stronger actor's ethical task is consequently to improve the conditions under which reliance can become reasonable. This may involve sharing relevant information, honoring reciprocal commitments, supporting effective remediation, and relinquishing discretionary control over some pathways. Such measures would need to be specified as actual governance arrangements rather than symbolic expressions of goodwill. The United Nations Guiding Principles on Business and Human Rights provide an important, though domain-specific, institutional precedent for distinguishing a state duty to protect, a corporate responsibility to respect human rights, and access to remedy; they also address human-rights due diligence and adverse impacts in business relationships [31]. This document establishes a human-rights framework, not a general legal obligation to maximize generativity, and its specific provisions should not be silently transferred to unrelated international actors.

The fuller treatment of trust formation belongs to Section 7 and the companion paper on governance and relational repair. Here the normative point is bounded: structural vulnerability can make demands for unconditional trust inappropriate, while trustworthiness, contestability, and remedies may alter the actual risks of cooperation. The discussion separates trust as an evaluative attitude, reliance as a practical dependence, and legitimacy as a claim concerning the justification of institutional authority.

6.8 Normative Evaluation across Relational Scales

A governance arrangement can appear productive at one level of description while exposing identifiable persons, communities, or ecosystems to severe losses at another. The responsibility to maintain a functioning international system and the responsibility to protect the participants' autonomy may thus refer to a single relational process represented at different scales. Their connection does not imply that aggregate improvement compensates every local injury. A persuasive ethical assessment must specify both the transformation of the system and the rights, capacities, and vulnerabilities retained in its description.

The analogy with scientific coarse-graining is instructive within limits. A physical system can be represented through molecular interactions or effective thermodynamic properties; those representations preserve different information for different purposes. Likewise, national trade statistics, organizational financial accounts, and local histories reveal different features of a single political-economic relation. But normative judgment introduces additional questions concerning which omissions are permissible, who chooses the variables, and who bears the consequences of misrepresentation. List and Valentini's discussion of different levels of normative facts provides a relevant point of departure for this problem [21]. A rigorous claim of renormalization would require specified transformations and effective variables; this section offers an interpretive analogy rather than a demonstrated renormalization-group model.

A particularly consequential loss can occur when the representation of collective productivity omits local capacity to change rules. Suppose a regional development project increases aggregate output, while an affected community loses control of productive knowledge and access to previously available routes

for sustaining its livelihood. The macro-level gain and the local diminution can coexist. Ethical evaluation then depends partly on whether the loss affects protected interests, whether consent and representation are meaningful, and what alternatives were available. The relevant question concerns the relations between scales, including the ways in which an aggregate report can influence future decisions and thereby alter the conditions it represents.

Attention to scale also applies to the holder of responsibility. Decisions may be distributed across officials, enterprises, intermediaries, professional bodies, and transnational organizations. No single participant may possess complete control over a harmful arrangement. The absence of a single controller does not establish the absence of obligations; it makes the allocation of feasible collective responsibilities a central issue. The social-connection approach and institutional self-governance literature provide existing frameworks for examining these distributed tasks [34, 24]. Whether duties should be allocated through compensation, participatory revision, constraints on discretionary authority, or collective coordination remains a context-sensitive question, to be developed in later sections.

6.9 Relational Responsibility and the Conditions of Transformation

The foregoing discussion gives a qualified meaning to the proposition that those who govern the generative capacities of others bear responsibility for their continuation. Such responsibility may involve identifying foreseeable harm, preventing avoidable erosion of essential capacities, protecting paths through which value can return to its creators, providing reasons and remedies, and making consequential rules open to appropriate challenge. The proposed obligations arise through different moral and institutional grounds, including causal participation, vulnerability, effective control, established commitments, and the rights of affected participants. No single consideration yields a complete formula for every international arrangement.

For weaker participants, the predicament can consist of the simultaneous need to rely on an existing relationship and the loss of capacities needed to revise it. For more powerful participants, the predicament can consist of dependence on the continuing generativity of others, competing institutional responsibilities, and the consequences of exercising concentrated control. The former may entail immediate material or political injury; the latter may entail an ethical obligation without an equivalent personal burden. Consequently, describing both as relational predicaments offers a way to examine mutual implication while preserving differences in suffering, benefit, power, and blame.

The title *Do All Beings Suffer?* thus remains a question. It invites inquiry into how burdens and dependencies emerge through historically specific relationships, while refusing to infer universal suffering from interdependence or uniform responsibility from participation. Understanding the predicament of an actor with considerable power should sharpen analysis of its duties and of the alternatives within its control. It should not diminish the standing of those experiencing exclusion, dispossession, or impaired generative opportunities.

Section 7 will investigate the practical implications of this argument for the return of value to its creators and the formation of warranted trust. The immediate task will be to distinguish material transfers from changes in control over value pathways, and to examine institutional arrangements through which commitments become credible without requiring those most exposed to risk to assume unconditional trust. A generative account of responsibility ultimately requires attention to the conditions under which participants can participate in transforming the structures that shape their lives. This remains a proposal for normative and empirical investigation rather than an accomplished demonstration of a just international equilibrium.

7 Value Return and the Formation of Warranted Trust

This section considers value return and the institutional conditions under which reliance on powerful participants may become warranted. Building on Eglash’s account of unalienated circulation, it distinguishes resources returned to creators from creators’ effective power to inspect, challenge, and change the rules governing those returns. It then considers credible commitments, remedies, institutional stress tests, and relational repair. Cooperation may be possible without interpersonal trust, and a vulnerable participant’s refusal to trust may be reasonable.

7.1 The Object of Return in Asymmetric Value Circulation

A demand that value return to its creators can appear straightforward where a determinate output is sold and a monetary payment can be assigned to a recognized producer. The demand becomes more complex where production depends on accumulated knowledge, care, ecological maintenance, public infrastructure, and the cooperation of several communities. In these circumstances, the identity of a value generator, the form of a return, and the institutional conditions for another cycle of creation are themselves matters of inquiry. Income distributed to one participant may coincide with a decline in the ecological conditions or shared capabilities maintained by others. Conversely, a circulation pathway may legitimately transfer resources beyond the site at which an immediate output originated while strengthening the longer-term generative conditions of that site.

Eglash’s formulation of generative justice addresses precisely the relations between value generation, control over conditions of production, and self-sustaining circulation. Its treatment of labor, ecological, and social value provides an established foundation for examining the sources of value whose continued generativity may be impaired by extractive arrangements [4, 7]. The account of computational reparations by Eglash and colleagues also offers concrete, community-oriented approaches to supporting unalienated value flows, emphasizing participatory transformation rather than an externally imposed allocation alone [7]. The present discussion draws on that foundation. Its proposed extension concerns how power over institutional pathways can affect the *reliability*, *contestability*, and *revision* of value return across asymmetric international arrangements.

In this paper, *value return* provisionally denotes an arrangement through which the material and immaterial fruits of a generative process contribute to the continued capacities, relationships, and environments of the relevant generators. It is a relational description rather than a claim that every component of value possesses a single owner or an objectively calculable price. Determining the relevant generators may require attention to contributors omitted from immediate transactions, including workers providing care, communities transmitting knowledge, and ecological systems affected by extraction or restoration. The language of return does not decide in advance the proper shares, forms of property, or modes of public provision. Those judgments require their own legal, historical, and ethical grounds.

A distinction between the *amount* of return and the *conditions governing return* is especially important. A dependent supplier might receive a favorable payment while an intermediary retains unilateral power to change prices, revoke access to a platform, or prohibit alternative transactions. The favorable return at a particular observation may therefore coexist with vulnerability concerning the conditions of further generation. Alternatively, a producer might voluntarily accept a variable return within a cooperative arrangement that grants enforceable decision rights, shared information, and means of addressing changes in conditions. The present analysis proposes that these arrangements have different generative implications even where a snapshot of net income appears similar. This is a hypothesis about institutional relations, not a conclusion that can be established from income statistics alone.

7.2 Material, Regenerative, Institutional, and Epistemic Return

For analytical purposes, four partially overlapping dimensions of return can be distinguished. They concern distinct mechanisms of renewal and should not be aggregated without an account of their commensurability.

Material return concerns the distribution of financial proceeds, productive resources, essential services, and other identifiable benefits. Such return may enable investment or immediate subsistence, but its amount cannot by itself reveal whether the recipient can determine the future use of its productive capacities. *Regenerative return* concerns the renewal of human and nonhuman conditions supporting creation: the restoration of soils and ecosystems, reproduction of knowledge, care and education, maintenance of infrastructures, and opportunities to cultivate new skills. Some of these benefits can be represented monetarily; other dimensions require qualitatively different forms of evidence.

Institutional return concerns the ability of generators to participate in the rules through which value is recognized, exchanged, retained, and reinvested. Representation, collective bargaining, rule-revision procedures, and protection against arbitrary exclusion can alter the structure through which later returns become possible. *Epistemic return* concerns the recovery and continued availability of knowledge, records, cultural recognition, and interpretive authority that have contributed to a generative process. The recognition and circulation of knowledge can sustain further creation; it can also involve legitimate limits concerning privacy, culturally restricted knowledge, trade secrets, and claims to intellectual property. Treating unrestricted disclosure as inherently emancipatory would therefore be unwarranted.

The quality of a return arrangement can also be assessed under an adverse revision scenario. Suppose a powerful intermediary later changes a technical standard, terminates a contract, or redirects a payment channel. Do creators retain inspectable records of the value generated and returned? Can they invoke independent review, coordinate a collective response, and access feasible alternative routes while a dispute is pending? These questions test institutional robustness rather than reported trust alone. A payment that appears generous under discretionary administration may offer limited security if it can be withdrawn without explanation or remedy. Conversely, a relationship involving little interpersonal trust may support meaningful cooperation when constraints on discretion and procedures for redress remain reliable. The proposed governance inquiry therefore treats warranted reliance and pathway autonomy as independently observable institutional properties.

Table 7 records the analytical distinctions. The examples are candidate mechanisms for case-specific study, rather than a comprehensive catalogue of rights or policy requirements.

Table 7: Dimensions of value return and their institutional questions. The categories can overlap, and the indicated measures require contextual interpretation.

Dimension	Relevant mechanism	Question for assessment
Material	Payments, access to resources, distributive provisions	Which generators receive identifiable benefits, and with what security?
Regenerative	Repair of ecosystems, skills, care, and shared infrastructure	Are the conditions supporting further creation sustained or depleted?
Institutional	Voice, participation, appeal, and authority to revise rules	Can affected participants influence the pathways governing return?
Epistemic	Access to knowledge, recognition, and governance of records	Can contributors retain or contest control over relevant knowledge?

These dimensions bring two normative cautions into view. First, return to an identifiable generator can conflict with other justified claims. A community's preferred productive activity may affect neighboring ecosystems or the rights of people who did not participate in a bargaining process. The legitimacy of return must therefore be assessed alongside affected interests and applicable constraints. Second, the authority to define who counts as a generator may itself be concentrated. A purchasing company, research institution, international organization, or public agency may determine eligibility for benefits while excluding contributors who lack documentation or recognized legal personality. An apparently generous scheme can reproduce diminishment if its classificatory rules systematically deny relevant participation or alternative routes of recognition.

The object of investigation is thus a configuration of relations through which returns are produced, distributed, and governed. The contribution of this paper lies in connecting that configuration to asym-

metric power and the conditions of warranted reliance. It does not propose a universal unit of generative value or a formula permitting direct comparison of labor, ecological integrity, and cultural expression.

7.3 Creators, Nonparticipants, and the Grounds of Return

A value-return claim should not presuppose that the “creator” is a single, bounded owner who can authorize every consequence of production. The conditions enabling creation often involve layered contributions: inherited knowledge, public research, ecological processes, unpaid care, infrastructure, and participation by differently situated groups. Eglash and colleagues expressly locate generative justice in human and nonhuman communities as well as in systems of production and unalienated circulation [4, 7]. Their work provides the conceptual starting point; the additional task here is to identify what institutional claims can legitimately be asserted *across* an asymmetric circulation network when contributors, beneficiaries, and affected parties are not coextensive.

A hypothetical agreement may return most financial revenue to a recognized producer collective while transferring ecological risks to a neighboring community that holds no seat in the agreement. The collective’s improved revenue and stronger bargaining position are genuine changes, but they cannot settle the claims of those bearing the environmental costs. Conversely, an administrator may invoke benefits to an expansive “community” to conceal the exclusion of actual producers from controlling their methods or returns. The category of a beneficiary cannot simply be substituted for that of a contributor or a rights-holder. Contractual consent by one association is likewise insufficient evidence of the consent of every affected person.

For each proposed form of return, analysis should therefore distinguish (i) documented generative contributions, (ii) actual recipients of material or institutional benefits, (iii) parties exposed to positive and adverse external effects, and (iv) the grounds on which any party can claim decision authority, protection, or remedy. Some claims may be grounded in rights or commitments rather than contribution to measurable production. Recognition of contributors does not erase claims associated with vulnerability, ecological interdependence, or the public provision of essential services. An inquiry into a justified distribution should not assume that these interests can all be reduced to shares of a homogeneous value stock.

The resulting governance question is more demanding than how much money returns to a designated producer. It concerns who has authority to define the relevant generators and affected communities, which evidence supports those classifications, which important interests escape them, and whether challenges can be made without exposing already vulnerable participants to disproportionate risk. These conditions may strengthen the credibility of return arrangements, but they do not guarantee trust, consensus, or a particular distributive outcome. They also provide a boundary on any inference that more local control is always sufficient: institutional voice must be assessed together with the rights of affected outsiders and with legitimate coordination needs.

7.4 Trust, Reliance, and Institutional Trustworthiness

International cooperation often requires actors to act while information is incomplete and the conduct of partners cannot be guaranteed. Yet dependence on another actor and trust in that actor have different meanings. A producer may continue delivering goods because no feasible alternative buyer is available. A community may accept a financial arrangement because refusal would jeopardize essential services. Such behavior can demonstrate reliance, strategic accommodation, or constrained compliance without establishing confidence in the counterparty’s goodwill or the legitimacy of the rules. Hirschman’s analysis of exit, voice, and loyalty offers an established vocabulary for distinguishing practical alternatives to continued acquiescence [18].

The philosophical analysis of trust likewise resists its treatment as an unquestioned social good. Baier highlights the vulnerabilities through which reliance on another’s discretion becomes morally consequential [2]. O’Neill argues that the central practical issue concerns grounds for judging trustworthiness and

cautions that formal demands for transparency or accountability can become counterproductive when detached from good institutional design [23]. Hardin develops an account of trust in relation to the trusted party's perceived interest in taking the trustor's interests into account [16]. Levi and Stoker's review of political trust and trustworthiness situates assessments of governments and institutions within research on compliance, participation, and cooperation [20]. These works provide distinct accounts. The present discussion draws on them without claiming that they share a single definition of trust.

For an institutionally warranted reliance claim, the evaluator should therefore name both the promise and its failure mode. A contractual return is exposed if one party can redefine eligible value after production; a procedural right is exposed if appeal bodies depend financially upon the disputed regulator; an exit right is exposed if alternative platforms share the same indispensable bottleneck. Each arrangement may nonetheless support useful cooperation. Evidence of trustworthiness should concern documented performance, independence of review, accessibility of remedies, and the practical consequences of contestation. Surveys of confidence alone cannot demonstrate that an institution deserves confidence, while distrust following historical injury may remain reasonable even after material improvement.

Within this inquiry, *warranted trust* refers to a context-dependent judgment that reliance on another actor's undertaking is supported by reasons accessible to the exposed participant. The reasons may consist of documented conduct, constraints on discretionary authority, feasible independent verification, credible procedures for revising commitments, and workable remedies when obligations are breached. The meaning and sufficiency of these grounds vary with the stakes of the relationship. A small, reversible transaction and a long-term arrangement affecting the ecological basis of a community's subsistence demand different forms of protection.

Trustworthiness is analytically prior to efforts to increase expressed trust. An international institution might solicit declarations of partnership and report favorable attitude surveys while leaving the decision rules governing value circulation unchanged. Such signals could reflect genuine improvement, diplomatic courtesy, institutional dependence, or pressures on respondents. The present theory proposes that assessments of trust formation should examine the relation between expressed confidence and changes in the underlying risks, capabilities, and opportunities for contestation. Increased willingness to cooperate can be desirable, but it is an ambiguous indicator when the capacity to refuse or revise a relationship is diminishing.

A further distinction concerns the possibility of cooperation without extensive trust. Reliable contracts, third-party monitoring, independent arbitration, and transparent methods of calculating returns may enable mutually beneficial activity between actors who retain substantial reservations about each other. These arrangements can create conditions in which trustworthy conduct becomes observable, without requiring any participant to suspend prudence or historical judgment. Their own legitimacy remains contestable: independent oversight may be costly, inaccessible, or controlled by interested parties. Trust building should consequently be understood as a provisional relational process, open to revision when evidence or authority changes, rather than a demand for irreversible confidence.

7.5 Credible Commitments and the Distribution of Revision Power

Promises concerning future value return acquire different practical meaning depending on who has authority to alter the terms, how compliance can be observed, and which remedies affected participants can invoke. A dominant buyer's voluntary policy might provide benefits during favorable market conditions while permitting its unilateral cancellation under commercial pressure. An otherwise similar arrangement might embed obligations in jointly governed contracts, independent auditing, and enforceable procedures. The distinction concerns the allocation of discretionary authority and the reliability of commitments under changing circumstances.

The problem of credible commitment has a substantial theoretical history. North and Weingast examine institutional restraints on arbitrary governmental action in their historical analysis of public commitment and property rights [22]. Greif, Milgrom, and Weingast analyze collective organization and enforcement in medieval trade, showing how institutions can support credible undertakings where rulers

and merchants have different incentives and capacities [15]. These studies establish neither a generative-justice theory nor a blueprint for contemporary international governance. They do demonstrate why goodwill and abstract promises alone cannot explain the reliability of cooperation within asymmetric authority structures.

In a generative account, the credibility of an arrangement must be considered together with the right to challenge its substantive terms. An enforceable contract might reliably maintain an arrangement that provides inadequate returns or excludes important value generators. Conversely, a participatory procedure might allow affected parties to propose revisions but lack the resources to enforce an agreed change. Credibility and contestability are therefore complementary institutional dimensions that can also be in tension. Strong commitments protect participants against sudden opportunism, while appropriate revision procedures allow adjustment when continued compliance would damage essential generative conditions.

The allocation of revision power can be analyzed through several questions. Who may initiate a proposal for change? Who receives the information required to evaluate its likely consequences? Which actors can delay, veto, or impose a revision? What measures protect participants against retaliation for dissent? How are costs distributed if a rule that once seemed workable becomes harmful? When power asymmetry is significant, nominally identical procedural rights may yield unequal effective influence because participants have different legal expertise, reserves, translation access, or capacity to endure prolonged negotiation. Institutional design must therefore be examined in relation to the means of exercising rights as well as their formal recognition.

The relationship to generative autonomy is direct. A value-generating community that possesses only a claim to receive transfers may remain dependent on the continuing discretion of those controlling the channel of distribution. A community possessing effective opportunities to inspect, contest, and revise pathway rules has a different capacity to participate in the formation of its relational conditions. These differences may influence the generation of justified trust, although the direction and magnitude of the influence depend on the history of the relationship and the actual conduct of the parties.

7.6 Governance of Value Return and Relational Repair

The practical implications of this inquiry can be organized as a set of governance functions rather than a single institutional model. An arrangement may need to identify relevant value generators, represent the pathways through which value moves, make decisions and changes intelligible, establish safeguards for essential conditions, and provide ways to address grievances. The appropriate organizational form may range from contractual provisions and cooperative associations to public regulation or transnational agreements. Which design is defensible depends on the affected domains of value, the underlying legal structure, and the available capacities for governance.

Elinor Ostrom's study of collective-action institutions provides a major precedent for analysing participation in rule-making, monitoring, conflict resolution, and nested arrangements [24]. Its empirical and theoretical subject is neither identical to international value circulation nor reducible to the generative-justice literature. It nonetheless supplies a reason to examine governance as an arrangement of situated collective capacities and practical institutional rules. A separate institutional precedent appears in the United Nations Guiding Principles on Business and Human Rights, whose protect, respect, and remedy framework addresses state duties, corporate responsibilities, human-rights due diligence, and access to remedy within its specified domain [31]. The present paper uses that framework as an illustration of institutional differentiation. The Guiding Principles do not impose a general international legal obligation to optimize generativity.

Five governance functions merit particular attention. The first is *traceability with appropriate protections*: affected actors need sufficiently reliable information to identify how value moves and which decisions bear on their productive conditions, subject to legitimate privacy, confidentiality, and security interests. The second is *participatory pathway revision*: creators and affected communities require feasible channels for influence, representation, and challenge, with protections against mere token participation. The third is *regenerative safeguarding*: relevant ecological, labor, knowledge, and social

conditions should be included in assessments of foreseeable institutional effects. The fourth is *effective remedy*: a breach or injury should have accessible routes for correction, compensation, restoration, or other contextually appropriate response. The fifth is *distributed review*: parties should have means to learn from outcomes and amend arrangements when their effects diverge from stated purposes.

These functions can conflict. A requirement for comprehensive traceability can subject vulnerable participants to surveillance, disclose protected knowledge, or shift administrative costs onto those least able to bear them. A uniform participation rule can marginalize small groups unable to attend lengthy negotiations. Restorative payments may alleviate immediate losses while leaving control over essential infrastructure unchanged. A decision procedure intended to secure consensus may entrench the veto of an actor that already controls the principal circulation pathway. Each measure therefore requires an assessment of the power exercised through its implementation, including the possibility that governance designed as a repair mechanism reproduces the conditions of diminished autonomy.

Relational repair has an epistemic dimension. Participants can reasonably disagree about the causal history of harm, the value of particular losses, the boundaries of relevant communities, and the identity of a satisfactory remedy. An accountable procedure should make disagreements examinable and provide forms of participation capable of revising mistaken assumptions. Equal influence over every decision is neither practicable nor invariably justified; the aim is to prevent concentrated discretion from rendering affected participants invisible or unable to challenge consequential arrangements. The normative and institutional details are substantial enough to justify the separate companion paper on generative governance and trust building.

7.7 Contrasting Institutional Histories

A paired hypothetical case clarifies why value return and power over its pathways should be considered together. Consider a regional network in which small producers supply specialized components to a dominant purchasing intermediary. The producers contribute skilled labor and accumulated local knowledge. Their dependence on the intermediary arises through technical certification, transport infrastructure, access to international finance, and limited alternative markets. The network is a conceptual illustration: it is not a representation of an identified country or company, and its outcomes are not empirical findings.

In *Arrangement A*, the intermediary introduces a substantial supplementary payment to producers. The payment improves immediate income and enables some reinvestment. Yet the intermediary retains unilateral authority to change the certification standard, suspend purchases, revise data access rules, and determine eligibility for further support. Producers have limited means to inspect decisions or challenge exclusion. The arrangement can produce genuine material benefit; its long-term generative effect nevertheless remains exposed to discretionary pathway changes. A rise in reported satisfaction would not itself demonstrate that the underlying vulnerability had diminished.

In *Arrangement B*, producers receive a similar supplementary payment and participate in a jointly specified process for reviewing standards, verifying payment calculations, and appealing exclusion decisions. A shared technical programme supports alternative routes to certification, and safeguards protect locally generated know-how. The arrangement can involve greater administrative expense, slower decisions, and conflict over which actors legitimately represent the producers. Its potential advantage lies in the redistribution of practical authority over the conditions governing continuation, not in a guarantee of harmony or equal outcomes. A genuinely independent pathway might also reduce the intermediary's ability to sustain the present network; whether the transition increases system-level generativity requires further examination.

The comparison separates three evaluative dimensions: observable material return, effective ability to revise rules, and the resulting reasons for reliance. The same transfer can have different institutional meaning according to how the parties may alter the arrangement and how its continued operation affects their respective capacities. Nor does Arrangement B necessarily generate greater interpersonal trust. Some participants may remain skeptical because of earlier violations or continuing differences in bargaining strength. In such a case, improved rights and remedies can still make cooperation more defen-

sible. The comparison illustrates a conditional mechanism rather than a universal ranking of governance forms.

A third variation exposes an additional tension. Suppose that the network's current production degrades a shared watershed. Returning a larger proportion of income to the producers, or expanding their authority to govern that particular production channel, may leave neighboring communities exposed to ecological injury. A defensible arrangement must then address affected nonparticipants and the regenerative conditions of the environment. Value return and pathway autonomy cannot be evaluated in isolation from other justified claims. The identification of the relevant relational system is thus a normative as well as an analytical problem.

7.8 Evidence, Evaluation, and the Limits of Trust Metrics

The mechanisms proposed in this section require a research design capable of distinguishing announced reforms from changes in practice. Evidence of material return might include revenues, payment volatility, ownership terms, or access to productive resources. Evidence of regenerative effects might include conditions of ecological maintenance, skill reproduction, research and learning capacity, or the functioning of indispensable local infrastructure. Evidence of pathway autonomy might involve the distribution of rule-setting authority, actual cases of appeal, access to alternative markets, and the ability of affected actors to obtain and interpret the information needed to contest decisions. None of these observations is sufficient alone to establish an ethical conclusion.

Trust-related evidence poses additional problems. Surveys can reveal attitudes, expectations, and reported experience, but expressed trust may reflect dependence, deference, fear of retaliation, or divergent cultural meanings. Contract compliance can demonstrate reliable performance while leaving the terms of the contract unjust or unrepresentative. Institutional transparency can expand public oversight while also enabling intrusive surveillance. The trust literature counsels attention to the distinction between expressed confidence and the grounds on which institutions deserve reliance [23, 20]. An evaluation should therefore triangulate participants' accounts with documented decisions, institutional rules, historical changes, and feasible alternatives.

Causal identification must remain separate from normative judgment. A new cooperative institution may coincide with greater producer independence, yet market shifts, public investment, or technological changes may provide alternative explanations. The relevant inquiry would compare plausible pathways, identify decision points through which power was exercised, and examine how those decisions altered the feasible options of affected participants. A finding of improved output does not demonstrate generative repair when important local harms remain unrecorded. Conversely, documented contestation and conflict can accompany an increase in substantive autonomy, since newly available voice may make previously suppressed disagreements visible.

This caution extends to the history implied by the word *formation*. The analysis should not presume a common clock, a universal sequence from distrust to trust, or the simple restoration of an earlier condition. Relations of confidence, dependence, contestation, and production may evolve along partially ordered, heterogeneous histories. A local institutional repair may change which paths of creation are admissible and what counts as an effective commitment. Representing these differences may call for multiscale methods, but a particular renormalization procedure or dynamical law is beyond the present section's evidentiary scope.

7.9 Cooperation under Warranted Distrust

The proposed institutional account faces a further objection: if trust cannot be presumed, perhaps cooperation and value return should be evaluated without treating the generation of trust as an objective at all. This objection has force. A community can have strong reasons to distrust an intermediary while still participating in a contract that is independently enforceable, narrowly bounded, and materially beneficial. A government may cooperate in a technical regime while retaining safeguards against opportunistic

rule changes. In both cases, cooperation may be defensible even if mutual confidence remains low. Institutional trustworthiness, expressed trust, and sustained cooperation are therefore distinct analytical outcomes.

The more demanding institutional test concerns the position of the vulnerable participant when the relationship becomes adverse. Can an independent reviewer inspect the calculation of returns? Can affected parties challenge an eligibility rule without losing essential access? Are remedies accessible when the stronger participant changes its terms, transfers liabilities, or withdraws from the arrangement? Can a participant decline a proposed repair without forfeiting standing in other domains? The availability of these protections may help justify reliance without guaranteeing that trust will form. Their existence must be established through actual procedures and their use, rather than declarations of shared values. The distinction accords with scholarship that studies trustworthy conduct and the vulnerability inherent in trust, while the particular pathway test is proposed here as an analytical extension [2, 23, 16].

Value return also has a possible paternalistic failure mode. A concentrated institution might unilaterally transfer resources to a recognized group while treating the transfers as justification for excluding that group from deliberation. The resulting benefits may be real, and a beneficiary may rationally accept them, yet the arrangement leaves the authority to alter or terminate the pathway intact. At the same time, a demand for direct participation in every technical decision could make an essential network unworkable or disadvantage less organized affected parties. The governance inquiry should therefore distinguish decisions that require shared authority, those appropriate for delegated expertise, and those requiring accessible contestation and remedy. No single institutional procedure follows universally from the value-return principle.

7.10 Generative Trust within Asymmetric International Relations

The argument of this section is an invitation to assess international cooperation through the conditions that render participants capable of sustaining and revising their relations. Value return matters because the continued generation of economic, social, ecological, and epistemic value may depend on its circulation to the relevant creators and their supporting environments. Warranted trust matters because cooperation exposes participants to other actors' decisions, sometimes under sharply unequal conditions of control. Pathway autonomy matters because the terms of value return and reliance can themselves become objects of political action.

For a participant with concentrated authority, responsible governance may involve stabilizing essential returns, creating mechanisms for contesting decisions, repairing identifiable harms, and sharing effective control where continued unilateral discretion undermines others' generative capacities. The content and allocation of obligations depend on established rights, historical contributions, actual capacities, and foreseeable effects. A participant occupying a weaker position has reasons to evaluate such measures without relinquishing the capacity to refuse, question, or renegotiate. Trustworthiness is a quality to be investigated through conduct and institutional safeguards; trust is a judgment that affected parties may reasonably withhold.

These observations return the inquiry to the article's equilibrium problem. An asymmetric arrangement may become persistent partly because weakened participants cannot readily exit, exercise effective voice, or sustain alternative pathways. Institutional changes enabling return, contestation, and generative renewal may alter that feedback, although they can introduce new conflicts and burdens. The theory has not demonstrated that such interventions produce a stable, regenerative equilibrium. It has identified mechanisms and conditions whose interaction merits comparative historical and empirical investigation.

Aggregated returns may also conceal local losses of practical independence; Section 8 examines this representational problem.

8 Multiscale Generativity and Normative Ethics

This section examines how the same relational arrangements appear at different levels of description and why aggregate performance can coexist with local generative losses. A qualified analogy with statistical mechanics helps separate coarse-graining from renormalization, while a minimal factorization criterion asks when a simplified representation preserves a specified normative judgment. The purpose is to clarify the connected questions of ethics across scales and the ethics of scale selection, not to assert a validated social renormalization group.

The connection to the preceding sections is substantive. Value creation and its return occur through pathways that cut across persons, organizations, communities, states, and international networks. Power affects these pathways and the ability to revise them. An assessment that identifies a system as productive or stable can therefore coexist with evidence of serious diminishment among particular participants. Conversely, a locally restrictive rule can protect the longer-term regenerative conditions of a broader community. The analytical problem concerns the relations among these descriptions, the judgments that each can support, and the information that an observer retains when moving between them.

8.1 Relational Scales and Emergent Descriptions

A familiar illustration concerns a body of water. At a microscopic level, a model may describe interacting molecules and distributions of kinetic energy. At a macroscopic level, temperature and other thermodynamic quantities provide effective descriptions of collective behavior. Macroscopic variables are related to microphysical processes through statistical and theoretical constructions; they are neither independent substances nor merely rhetorical summaries of individual trajectories. The adequacy of a description depends on the question, observational conditions, and assumptions connecting the levels. Work on scaling in statistical physics provides a rigorous instance of this general methodological insight [19, 33].

The analogy suggests a productive question for international relations. A person's opportunities, a producer cooperative's regenerative conditions, a country's institutional capacities, and an international network's ability to maintain cooperation may be descriptions of overlapping parts of an evolving relational process. These descriptions can be connected without presupposing that all their ethically significant features reduce to a single scalar quantity. The entities themselves are historically constituted and institutionally represented. A person may participate in several organizations; a firm may operate through contracts spread across jurisdictions; a community's ecological conditions may depend on actors who fall outside the unit chosen for national economic accounting. Relational scales consequently need not form a neat tree of disjoint containers.

For the present analysis, a *scale* is a specified level of description or intervention, determined by a selection of relational units, observable distinctions, aggregation rules, and relevant interactions. This working definition leaves open whether a scale is primarily spatial, organizational, temporal, causal, informational, or normative. Scale selection may itself alter which participants become visible and which decision-makers appear to possess effective control. Calling a state a macroscopic unit, for example, does not establish that people and subnational communities are dispensable micro-level variables. The boundaries of the state, its capacities, and its representation in a model require historical and legal interpretation.

Nor is there a single privileged ordering of scales from morally minor individuals to morally paramount systems. A legally binding decision made by one person may transform a transnational network, while a change in global financing rules may reshape an individual's material options. The direction and strength of these relations are empirical and institutional matters. Multiscale analysis should identify the relevant pathways of influence rather than assign ethical rank to organizational size.

8.2 Coarse-Graining, Effective Models, and Renormalization

Coarse-graining selects or combines distinctions within a more detailed representation to construct a description suitable for another analytical purpose. Depending on the model, it may aggregate transactions into sectoral flows, replace a network with summary statistics, group individual acts into institutional practices, or represent diverse testimony under a common administrative category. Such transformations can be indispensable. The detailed description of each transaction in a global production network may be too costly and too fragmented to explain system-level dependencies. A deliberately simplified model may also make a large-scale pattern intelligible to participants who need to act upon it.

Renormalization denotes a more specific family of theoretical procedures. In statistical physics, Kadanoff's block-based scaling construction and Wilson's renormalization-group formulation investigate how descriptions and their effective couplings change with scale, including when fixed-point behavior and scaling relations arise [19, 33]. Their technical results depend on specified models, transformation laws, and mathematical conditions. The use of the word *renormalization* in a theory of international relations should therefore identify additional structure beyond aggregation alone: a coherent family of transformations, an account of effective interactions, and a basis for assessing whether the resulting descriptions retain predictive or explanatory content.

A simple structural candidate clarifies the requirement. Let X be a class of sufficiently enriched relational histories for a stated empirical purpose. Let $R_\ell : X \rightarrow X_\ell$ produce a description at scale ℓ . Let $F : X \rightarrow X$ be a stipulated change operator, and $F_\ell : X_\ell \rightarrow X_\ell$ its proposed effective counterpart. A scale-consistent model might seek the relation in Equation 2.

$$R_\ell \circ F \simeq_\ell F_\ell \circ R_\ell. \quad (2)$$

Here $\simeq_\ell$ is an explicitly chosen relation of acceptable approximation at the target scale. It might concern selected observables, an error tolerance, or a distribution of outcomes. Equation 2 is a *modeling desideratum*; it states neither the existence of an effective operator nor a general law of international development. The operator F denotes an admitted transformation within a declared model. It does not assert a universal time coordinate, an ontologically complete collection of futures, or a privileged present. Historical order, available evidence, and admissible continuations would require separate specification.

Even where effective dynamics can be constructed, explanatory adequacy and ethical adequacy are different tests. A model may predict aggregate trade flows accurately while overlooking which communities retain control over vital ecological conditions. Alternatively, a model suitable for allocating public resources may need fewer micro-level details than an investigation into alleged wrongdoing. The appropriate scale depends partly on what the model is for and on whose claims may be affected by using it.

8.3 Generative Autonomy and System-Level Renewal

Two normative concerns motivated this inquiry: the maintenance of generative capacities across a relational system and the effective autonomy of participants in sustaining or modifying their own generative conditions. They can be understood as linked questions about the same evolving relations. The resources, knowledge, ecological supports, and institutions that enable local creation also contribute to wider networks of production and cooperation. Conversely, a wider system's stability and ability to coordinate may provide critical conditions for local activity. This conceptual unity does not make the resulting normative judgments identical.

Suppose a transnational supply network registers higher aggregate output after adopting a common technical standard. The standard may improve safety, interoperability, or access to certain markets. At the same time, a group of smaller producers may lack the equipment or representation necessary to satisfy or revise it. If their only feasible routes to exchange become inaccessible, the network's aggregate gains can coincide with a decline in the group's capacity to maintain skills, accumulate reserves, or pursue alternative forms of production. These possibilities require empirical examination in a real case. As a

thought experiment, they show why neither aggregate growth nor local hardship alone determines the normative evaluation of an institutional rule.

Consider a contrasting case in which a community restricts a profitable form of extraction to protect a shared watershed. Certain production pathways are closed, but the restriction may sustain ecological conditions on which several groups depend. The analysis must distinguish a loss of one activity from a loss of the conditions for continuing to generate value. Eglash's account of unalienated circulation and protection of regenerative conditions is pertinent here [4, 7]. Yet the normative justification of any actual restriction also requires evidence about affected rights, justified claims, feasible alternatives, and unequal burdens. A state or corporation cannot automatically invoke the language of system-wide generativity to override a vulnerable community's expressed interests.

These two cases suggest that generative autonomy should be specified relationally. It concerns feasible influence over the conditions and pathways through which a participant's generative activity is maintained and transformed. Autonomy can depend on collective institutions as well as individual freedoms. Sen's capability approach is a relevant precedent for evaluating substantive opportunity instead of inferring well-being from income alone [28]. Pettit's account of domination directs attention to exposure to another party's arbitrary power even where actual interference is limited [25]. The present inquiry does not collapse these theories into a unified criterion. It uses them to identify questions that an aggregate productivity measure cannot answer.

The extent to which local autonomy supports wider generativity is therefore an object for historical investigation, not an axiom. Some arrangements of shared authority can improve information, trustworthiness, and adaptive capacity. Others may introduce coordination failures, exclusion within local groups, or collective-action burdens. Systemic renewal and participant autonomy are related through institutions whose performance and legitimacy must be examined rather than inferred from the preferred scale of analysis.

8.4 Cross-Scale Unity without Normative Substitution

A common relational history can be described at several levels without authorizing unrestricted substitution between their evaluative conclusions. A state-level summary, for example, may accurately describe the continuity of a supply network while a community-level account identifies lost access to land, knowledge, or independent channels of exchange. Both can concern the same institutions and activities. Their coexistence presents no logical contradiction, because the descriptions answer different questions about distinct properties of the same relations. Ethical conflict emerges when a decision-maker treats success under one description as sufficient to dismiss an objection formulated under another.

A defensible cross-scale inquiry consequently distinguishes at least three tasks. *Explanatory linkage* asks how a local capacity and a wider institution depend on one another, using evidence adequate for a claimed mechanism. *Representational adequacy* asks whether aggregation preserves information needed for the question at hand. *Normative justification* asks whose claims count, which constraints govern permissible actions, and which procedures authorize a decision affecting those claims. The third task cannot be derived solely from successful performance on the first two. In particular, a technically correct mapping does not identify the rightful institutional decision-maker or establish that an infringement of a protected interest is compensated by other benefits.

The thermal analogy clarifies the issue's limited form. A macroscopic thermodynamic description and a molecular description may capture properties of one physical system without having interchangeable variables or explanatory aims. An analogous relation between collective generativity and situated autonomy can be investigated, but there is no established physical analogue that converts normative legitimacy into a conserved quantity. No universally defined ethical utility function, natural normative cutoff, or privileged "system perspective" is assumed here. The questions of legitimate constraints and decision authority must be argued for the particular relations and institutions under study.

8.5 Normative Facts across Levels of Description

A more direct philosophical precedent is supplied by List and Valentini. They argue that normative political theory can address facts at a more coarse-grained level than moral theory, and that differing lower-level normative facts may support the same political-level characterization [21]. Their proposal is a substantive intervention into the relation between moral and political reasoning. The present paper adopts neither a complete hierarchy of normative facts nor the claim that one level can automatically determine another. It takes their argument as a reason to distinguish the questions posed by different institutional scales.

Generative-justice research also supplies an important direct predecessor to multiscale governance. Eglash and colleagues examine fractal scaling in AI governance as a possible connection between locally emergent self-governance and universal human-rights protections [8]. Their proposal is neither a renormalization-group derivation of social norms nor an argument that all local practices should be reduced to one global metric. It nevertheless demonstrates that generative approaches to the coexistence of local agency and higher-level commitments already exist. The contribution proposed here is more limited: to ask which ethically material distinctions survive a specified representation change, and how selection of that representation may itself be subject to public accountability. The present paper claims no original discovery of multilevel generative governance.

At the scale of an individual encounter, relevant evidence may concern a promise, consent, a particular decision, or a foreseeable injury. At the scale of a production organization, it may concern conditions of collective bargaining, role allocation, ownership, and decision review. At the scale of a national or international system, it may concern legal protections, structural exclusion, cumulative burdens, and institutional mechanisms for contesting power. These objects of evaluation can overlap. They may also require different normative principles, types of evidence, and forms of remedy. A precise statement of which facts are being represented is preferable to treating all levels as instances of one undifferentiated moral score.

Young’s social-connection account of responsibility offers another useful distinction. Participation in structural processes can ground forward-looking responsibilities concerning change even where conventional blame or individual liability does not capture the whole pattern of injustice [34, 35]. In a multiscale setting, an international institution’s duties of oversight may arise from the authority it exercises over a network, while a local actor’s duties may arise from specific commitments or feasible actions. The two forms of responsibility can be connected through institutional design, information flows, and actual leverage. Their content need not be the same, and the existence of one does not cancel the other.

A difficulty appears whenever the representative unit conceals internal asymmetry. The phrase *country A benefits from a rule* may describe a rise in national income, increased fiscal capacity, or an advantage accruing primarily to a small set of firms. Each statement may be meaningful in its own domain. Treating them as interchangeable can wrongly transfer the interests or achievements of one group to the rest of the population. Similar problems arise when *community preferences* are attributed to a group whose dissenters have limited voice, or when *system resilience* describes a network that survives by shifting hazards toward less powerful nodes. Normative evaluation needs an articulated relation between units, beneficiaries, burdens, and the evidence supporting the attribution.

8.6 Normative Information Preservation under Coarse-Graining

The information problem can be given a minimal mathematical expression without assuming that ethical evaluations are numerical. Let H be a set of represented histories enriched with the identities of affected participants, relevant actions, authority relations, material effects, and admissible evidence. Let Q_ν be a set of evaluative outcomes or judgments under an explicitly specified normative context ν , and let $J_\nu : H \rightarrow Q_\nu$ assign such an outcome to each history for which the evaluation is defined. The codomain may be categorical or partially ordered. Let $R : H \rightarrow Z$ be a coarse-graining map into an aggregate representation. An exact aggregate evaluation would require a map $\bar{J}_\nu$ satisfying Equation 3.

$$J_\nu = \bar{J}_\nu \circ R. \quad (3)$$

Equation 3 expresses a factorization condition, not a derivation of the normative function J_ν . Such a function must already be justified independently within its stated domain. On the image of R , a factorization exists exactly when the evaluation is constant on every fiber of R : whenever $R(h_1) = R(h_2)$, we also have $J_\nu(h_1) = J_\nu(h_2)$. Necessity follows because the same aggregate representation receives the same evaluation under $\bar{J}_\nu$. Sufficiency follows by assigning the common value of each fiber to its aggregate image. Nothing is asserted about aggregate representations outside that image unless their evaluation is separately specified.

The criterion applies to a particular evaluation J_ν and a particular representation R . Its truth cannot establish that the evaluation is ethically justified, that every affected subject is represented, or that the historical record is complete. It is also stronger than many practical design requirements: institutions may use a coarse-grained indicator for preliminary allocation and retain disaggregated evidence for appeal. In such a system the appropriate test concerns the entire decision-and-review procedure, including who can access the omitted information, rather than the initial summary alone. Approximate preservation, selective retention, privacy protection, and unequal access to the right to challenge aggregation remain distinct ethical problems requiring their own criteria.

A simple counterexample shows what this criterion excludes. Consider two stipulated institutional histories with the same total production, recorded return to producers, and measured continuation of output. In h_1 , producers can inspect the network's rules, appeal exclusion, and share effective authority over later revisions. In h_2 , an intermediary can withdraw access without an effective appeal, although it has chosen not to exercise that discretion during the observation period. Suppose R records the identical output and transfer quantities while discarding the different decision rights. A normative assessment sensitive to domination or effective pathway autonomy may distinguish h_1 and h_2 . Under that specified assessment, the aggregate record fails the fiber condition. This is an analytical counterexample about representation; its ethical force depends on reasons for treating arbitrary authority and contestability as relevant [25, 23].

A failure of exact factorization has a modest but important consequence. It shows that the selected aggregate variables are insufficient for that particular evaluation. It does not show that aggregation in general is illegitimate, or that a single fully detailed history would settle all normative disputes. Different normative contexts may select different distinctions, and participants may disagree about their importance. A practical response may be to enrich R with information about effective control, distributions of loss, ability to contest decisions, and material pathways of return. Another response may be to retain links to disaggregated records so that an aggregate decision can be challenged. The best response depends on the purpose, available evidence, legitimate privacy claims, and the costs of representation.

Plural evaluation and the limits of a single factorization. The exact condition above pertains to a selected evaluative function J_ν and a selected historical domain. Different affected groups or justified normative approaches may use distinct evaluations J_{ν_1} and J_{ν_2} whose relevant distinctions do not coincide. A coarse representation adequate for one of them may lose information essential to the other. Retaining the information needed to reproduce several evaluations is therefore a problem of jointly specifying those evaluations and the domain of permissible loss, rather than averaging their outputs into a presumed common scale. Likewise, preserving an evaluation under R does not establish that the evaluation is substantively justified, that its users have legitimate authority, or that relevant alternatives have been admitted into the model. Those are separate normative and institutional questions.

8.7 Scale Selection, Epistemic Power, and the Ethics of Renormalization

The preceding test concerns which normative distinctions survive a mapping. It introduces a second question concerning the construction and use of the mapping itself. An analyst, regulatory agency, multinational firm, or international organization may select the units to be counted, establish thresholds, decide which reports are credible, and define the aggregate indicators used to govern a network. These are exercises of epistemic and institutional authority. Where they influence access to resources or remedies, the

Table 8: Selected questions for examining generativity and responsibility across relational scales.

Focus	Local or situated inquiry	Aggregate or institutional inquiry
Generation	Which capacities and ecological or social supports are sustained?	Which conditions allow cooperation and renewal across connected groups?
Circulation	Can creators inspect, contest, and alter effective pathways?	How are bottlenecks, dependencies, and returns distributed through a network?
Responsibility	Which actors exercised control and what alternatives were available?	Which organizations possess leverage, authority, and duties for structural revision?
Normative visibility	Which injuries, exclusions, and justified claims appear in local accounts?	What relevant differences vanish through aggregation or standardized categories?
Correction	Can affected participants seek evidence and effective remedies?	Are aggregate decisions reviewable against disaggregated histories?

design of a representation can become part of the power structure that the representation is intended to describe.

The issue can arise without intentional concealment. A common statistical standard may be adopted for administrative efficiency and comparability. It may nonetheless categorize unlike conditions as equivalent, discount unregistered forms of labor, or obscure environmental harms borne by an excluded community. Conversely, disaggregated monitoring can improve accountability while exposing individuals to surveillance or permitting retaliation. Fricker's analysis of epistemic injustice is relevant where persons are wronged in their capacity as knowers or lack shared interpretive resources through which their experience can be recognized [10]. Her framework does not itself establish that every loss of model resolution constitutes an injustice. A specific judgment requires evidence that the representational practice disadvantages persons in normatively salient ways.

For clarity, the present paper distinguishes two complementary research directions. *The renormalization of ethics* asks how normative objects, evaluative principles, and responsibility structures may transform across levels of description and organization. It is a question about the relations among ethical descriptions, including whether one admits an appropriate effective account of another. *The ethics of renormalization* asks which obligations and injustices may arise through choosing, applying, legitimizing, and revising scale transformations. It treats the practice of constructing an effective description as a potentially consequential institutional act. The term *renormalization* remains provisional in both directions until a sufficiently specified family of transformations and its domain of validity have been developed.

The two directions interact. An institution might choose an aggregate measure that gives greater prominence to system-level continuity than to local capability losses. It may then use that measure to justify policies that alter the very local conditions being summarized. The policies can change what evidence is available for subsequent aggregation, and the resulting record can appear to confirm the value of the initial policy. The possible feedback joins representational authority, political power, and generative capacities. Demonstrating it would require evidence on indicator construction, decision procedures, affected participants, and changes in feasible institutional pathways. Its plausibility as a mechanism does not make it a universal consequence of measurement.

8.8 A Comparative Multiscale Assessment

A practical assessment should distinguish the level at which a claim is made from the level at which its underlying evidence is collected. Table 8 offers a tentative set of questions for comparing representations. The rows identify investigative functions; they do not constitute a validated index or an exhaustive theory of justice.

An assessment of this kind requires attention to how evidence is produced. Official aggregates, institutional reports, participatory testimony, contract records, ecological measurements, and historical

accounts may reveal different aspects of a system. Their disagreements can be substantively meaningful rather than simply measurement error. Independent verification may be necessary, but its structure can reproduce existing imbalances if participants lack access, translation, technical support, or protection against retaliation. The aim is a sufficiently accountable set of representations through which interested and affected parties can evaluate decisions, rather than a complete or final picture of relational reality.

The general insight also qualifies proposals for responsibility at the level of the whole system. A participant with substantial power over network rules may be expected to attend to harms that are difficult to see from its own aggregate reports. This expectation must still be translated into specific duties through applicable law, institutional commitments, causal contribution, feasible capacity, and other defensible normative grounds. A claim to maintain *overall* generativity supplies an object for inquiry, but it does not independently authorize overriding the claims of less powerful participants. The governance literature on participation and nested institutions provides precedents for considering both collective coordination and situated rule-making [24]. The present argument extends those concerns to the informational adequacy of cross-scale generative assessments, while retaining their domain-specific limitations.

8.9 Scope, Historical Dependence, and Research Interfaces

No general empirical metric of generativity is assumed, and a successful aggregate explanation may remain normatively incomplete. Conversely, the omission of some ethically relevant information does not invalidate an aggregate description for a different purpose. The physics analogy neither supplies a social renormalization-group flow nor establishes a preferred historical direction.

Historical dependence matters in a deeper sense. A scale transformation is made by historically situated observers using available evidence, instruments, categories, and institutional authority. It can alter the conditions under which further observation and action become possible. The comparison of descriptions must therefore avoid assuming that all relevant relations can be placed along a shared, natural temporal coordinate. Observed records, causal or procedural partial orders, feasible institutional transformations, and represented continuations are distinct analytical objects. A future-oriented normative judgment should not treat an unrepresented possibility as merely a known event that has not occurred. This caution is compatible with an empirically oriented inquiry into the conditions under which pathway revisions become possible.

Two companion inquiries can develop the present framework further. One would investigate *multi-scale normative ethics*, including how responsibility, relevant value, and normative evaluation can be related across distinct relational representations. Another would examine the *ethics of renormalization*, including the obligations associated with scale selection, retention of normative information, model provenance, and contestability. The minimal factorization criterion in Equation 3 provides one precise interface for these studies, while leaving open the substantive principles and institutional facts needed to evaluate particular cases.

A cross-scale account must therefore examine the effective representation together with the locally relevant rights, losses, and opportunities for challenge. Macroscopic continuity may conceal diminishment, while a local restriction may sometimes protect collective renewal. These possibilities cannot be settled by aggregation alone.

9 The Generation and Transformation of International Equilibrium

This concluding section brings the preceding arguments to bear on the reproduction and transformation of asymmetric international relations. It distinguishes alternative configurations of institutional order, considers the conditions under which return and revision rights might change them, and connects responsibility and trustworthiness with multiscale evaluation. A research agenda then separates potentially observable feedback mechanisms from claims requiring further normative interpretation. Neither durable asymmetry nor structural transformation is treated as an inevitable outcome.

9.1 Generativity within the Reproduction of International Order

An account of international equilibrium ordinarily begins with the distribution of power, the strategic choices available to actors, or the institutional arrangements through which conflict and cooperation are organized. Each remains important. The present inquiry introduces a connected analytical object: the effects of those arrangements on participants' capacities to sustain, redirect, and reorganize the processes through which value is generated and circulated. An international order may distribute recognized benefits while organizing unequal control over the conditions that make further production and institutional change possible. Accordingly, a description of present allocations alone cannot establish how the order contributes to its own continuation.

Generative justice supplies a substantive foundation for this shift of attention. Eglash's account of unalienated value circulation concerns the ability of creators and their associated human and ecological systems to retain the conditions necessary for continued generation [4, 7]. Scholarship on structural power already examines the capacity to shape the frameworks within which others act, while research on global value-chain governance and network interdependence identifies particular forms of authority over production, standards, and exchange [29, 3, 12, 9]. The proposed extension concerns a feedback relationship among these domains. Rules shape the regeneration of capabilities; regenerated or diminished capabilities shape practical access to voice, exit, and rule revision; and the distribution of revision power can affect the continuity of the rules themselves.

The argument adds a specific explanatory question to established political economy rather than a new general definition of power or justice. Neither network centrality nor an unequal allocation of value is sufficient to infer this recursive mechanism. Necessary evidence includes a traced consequence of a pathway rule for a named generative capacity, a separately substantiated effect of that capacity on the ability to alter governance, and an account of how the resulting strategic or institutional responses affect the rule's continuation. Even jointly observed links need not yield equilibrium: positive feedback can destabilize an arrangement, and countervailing regulation, coalition formation, or technological change can interrupt reinforcement. This qualified sequence states both the intended contribution and its limits.

This relationship can be investigated without presuming that an actor occupies a single, enduring position as creator, beneficiary, or regulator. A state may have privileged access to finance while depending on technologies supplied by other states. A firm may coordinate trade while remaining vulnerable to suppliers whose knowledge is difficult to replace. Communities can be advantaged along one pathway and disadvantaged along another. Moreover, an apparent national gain may coexist with diminishment among particular workers, regions, or ecological systems within that state. The relevant configuration is therefore a historically specified network of powers and dependencies, whose boundaries and internal relations require explicit justification.

The term *generative diminishment* is useful here only if it directs inquiry toward losses in the capacity to generate, renew, or alter relations, and does not rename every disadvantage. A reduction in income may be relevant insofar as it damages continued creation; an imposed restriction can preserve long-run ecological renewal; a temporary loss in production may accompany greater control over subsequent production conditions. These distinctions prevent the proposed theory from collapsing into a preference for immediate output or an indiscriminate objection to limits. They also guard against treating the continued operation of a value network as evidence that its participants' generative conditions remain adequate.

9.2 Asymmetric Orders and Their Generative Consequences

Section 5 distinguished persistence, strategic equilibrium, and dynamical stability. At the level of the entire argument, their most important implication is methodological: a relatively durable international arrangement may support several distinct mechanisms of renewal, constraint, and adjustment. The same observed distribution of trade or authority can be compatible with markedly different forms of participation and institutional change. Table 9 records four illustrative configurations that permit a more discriminating inquiry. These configurations are analytical possibilities, not empirically identified types of country or a presumed sequence of historical development.

Table 9: Illustrative configurations of asymmetric relational order and their generative consequences.

Configuration	Relevant relational mechanism	Analytical and normative question
Persistent diminishment	Controlled pathways weaken renewal and the practical capacity to contest governing rules.	Can the weaker participant sustain creation and institute viable alternatives?
Adaptive asymmetric cooperation	Unequal authority coexists with credible safeguards, shared gains, and effective avenues of institutional revision.	Are participation and remedy meaningful despite asymmetry?
Relational recomposition	Participants alter pathway access, returns, and rule-making authority through negotiated or contested changes.	Which capabilities are regenerated, redistributed, or impaired by the change?
Disruptive disintegration	Existing pathways fail or are severed while replacement capacities remain insufficient or unevenly distributed.	Who bears transition losses, and which generative supports are endangered?

In the first configuration, diminished capacity to challenge rules participates in the persistence of those rules. A producer group may be unable to finance alternative logistics, independent verification, or representation in standards bodies, although participation in the prevailing network remains the least damaging available choice. This case captures the paper's principal mechanism: the organization of circulation can reduce the ability to change that organization. Its interpretation requires proof of the intermediate links and consideration of other causes of limited bargaining power.

The second configuration clarifies why power asymmetry and generative injustice cannot be treated as interchangeable. Specialized coordination, public regulation, and the concentration of particular technical capacities may sometimes support extensive cooperation. An institution with considerable power can facilitate renewal if affected participants retain meaningful ways to examine decisions, challenge harmful practices, secure proportionate returns, and influence the revision of governing rules. The relevant inquiry concerns effective freedoms and safeguards in context, not merely the numerical concentration of decision rights. Conversely, formal rights can coexist with prohibitively costly exercise; a seemingly generous distribution of benefits can coexist with unilateral authority to withdraw those benefits.

The third configuration describes a change in the relations governing production, circulation, and revision. It may involve collective bargaining, institutional redesign, shared standards development, new routes of exchange, redistribution of decision authority, or legally supported remedies. None of these instruments automatically produces generative justice. Their effects depend on the affected parties, the ecological and social conditions at stake, and the allocation of costs as well as benefits. The fourth configuration adds a caution: an arrangement that is extractive can also support indispensable coordination. Its sudden breakdown may impose immediate harms upon participants who were already disadvantaged by its ordinary operation. Structural transformation therefore involves the difficult task of preserving vital generative conditions while changing institutions that constrain them.

These configurations support a modest reformulation of the idea of balance. An observed balance of bargaining power, enforcement capacity, or strategic incentives leaves open the question of whose generative activities the arrangement maintains, and at what cost. A generative assessment examines the possibilities for renewal and institutional revision within the same relation. Neither description replaces the other; each makes different consequences visible.

9.3 Conditions of Relational Transformation

The recursive mechanism advanced in this paper does not imply irreversible entrapment. Institutional histories may contain alternative circulation routes, latent capacities for coordination, external legal constraints, ecological thresholds, and changes in what participants recognize as valuable. Research on increasing returns and endogenous institutional change provides established reasons to investigate both

reinforcement and transitions within apparently durable arrangements [26, 14]. The notion of attractor basins in social ecologies has also appeared explicitly in Eglash and Garvey's work on generative justice [6]. The present argument draws upon these precedents while remaining agnostic about whether the illustrative international networks possess mathematically identifiable attractors.

A potential transformation may begin when affected participants acquire practical means to identify the sources of diminished capacity. Transparent accounting, independent research, public access to relevant contracts, and the recognition of previously discounted forms of value can make consequences available for examination. Such epistemic conditions matter because an inability to describe an injury or identify the relevant decision authority can itself obstruct the formation of collective responses. However, greater visibility may expose participants to retaliation or appropriation. Information access is therefore connected to protections governing its use and to participants' authority over its interpretation.

A second condition concerns alternative pathways. Exit has limited force when nominal substitutes depend on the same bottleneck, legal architecture, or inaccessible infrastructure. Investments in cooperative institutions, technical knowledge, mutual support, interoperable systems, and diversified relationships may alter the feasibility of creating and governing value. This possibility resonates with Hirschman's analysis of exit and voice and with research on collective management of common resources [18, 24]. Yet diversification is costly, and not every small-scale alternative can provide the coordination required for safety, ecological stewardship, or complex technical systems. Effective autonomy consequently concerns the quality and adaptability of accessible pathways, rather than the sheer number of formally imaginable alternatives.

A third condition is the allocation of institutional revision power. Consultation can improve understanding while leaving basic rules unaltered. In some settings, meaningful participation may require access to agenda formation, representation in standard-setting, review of evidence, independent adjudication, and the capacity to require or negotiate modifications. Which powers are appropriate depends on legal status, the nature of the relationship, affected rights, and the consequences of each decision. The practical capacity to alter a rule is analytically distinct from receiving favorable treatment under an unchanged rule. This distinction connects pathway governance to generative autonomy.

Finally, transformation involves the problem of continuity. A powerful participant may control resources or infrastructure upon which less powerful parties presently depend. Abrupt withdrawal of that support can undermine the very conditions a reform seeks to preserve. Negotiated transfers of capability, transitional financing, repair of ecological damage, and independent monitoring are possible responses, although their adequacy must be established in each case. The possibility of transition should be evaluated through alternative histories and admissible institutional choices, rather than by imagining that every constraint can be removed at once without consequences. Reforms may create new concentrations of power, and their effects on generativity can differ across locations and scales.

9.4 Relational Responsibility under Unequal Power

The title's question returns most forcefully when the framework is applied to the participants occupying unequal positions within these arrangements. For a less powerful participant, the predicament may include depleted resources, suppressed capacity to negotiate, heightened exposure to institutional discretion, and uncertainty about the terms on which continued cooperation is possible. Such a participant can have strong reasons to avoid extending trust, even if the more powerful participant does not intend injury. The absence of unconditional trust may thus be a reasonable response to the structure of exposure, rather than a moral failure or an irrational obstacle to peace.

The predicament associated with a powerful position is analytically different. Extensive authority over finance, infrastructure, standard-setting, or coercive institutions can generate dependencies on the continued functioning of systems shaped by that authority. The exercise of power can also bring difficult choices concerning system maintenance, protection of vulnerable participants, and the distribution of transition costs. These conditions may create burdens, conflicts, or risks. They do not entail an equivalent experience of suffering. Some powerful actors may enjoy sustained net benefits and successfully

shift costs elsewhere. The paper's account of shared relational involvement therefore leaves open the empirical question of suffering while retaining the normative question of responsibility.

Forward-looking responsibility can be grounded, under different normative approaches, in effective control, contribution to a structural process, vulnerability imposed on others, and practical ability to change institutional arrangements. Young's social-connection account, Goodin's account of vulnerability, and Pettit's analysis of domination provide distinct foundations for examining aspects of these duties [35, 13, 25]. Their principles should not be silently conflated. Nor does the present discussion derive a general legal duty solely from a claim about generativity. Specific obligations and liabilities require attention to applicable law, institutional commitments, the identity of duty holders and right holders, knowledge, causation, and available remedies.

The central ethical suggestion is therefore relational and asymmetric, while leaving the distribution of lived suffering open to historical evidence. Substantial power over others' conditions of generation may create a stronger reason to prevent foreseeable deterioration, investigate complaints, and support feasible means of correction. One manifestation of this responsibility may be the deliberate reduction of unilateral discretion over circulation rules. Such restraint can be compatible with maintaining necessary coordination; the outcome depends on what institutional powers are delegated, shared, reviewed, or subject to independent challenge. A system's continued output cannot by itself establish that the authority used to secure it is legitimate.

This distinction also prevents the language of collective generativity from licensing sacrifice without accountability. A regulator might defend restrictions by pointing to collective ecological renewal, while an enterprise might invoke network continuity to resist independent bargaining. Both justifications raise real questions about coordination, but neither settles whose claims count, which alternatives exist, or whether those affected can contest the decision. Responsibility at one scale is therefore connected to the protection of normatively salient distinctions at others, as Section 8 proposed.

9.5 Normative Conditions of a Claimed Regenerative Equilibrium

A more generative international order cannot be inferred solely from greater aggregate output, a higher rate of value return, or more extensive formal participation. A value-circulation arrangement can improve the resources of designated producers while shifting ecological harms to excluded neighbors; it can increase local voice while leaving dissenters without remedies; or it can stabilize network production by concentrating authority in institutions whose decisions cannot be contested. These are not equivalent outcomes, and their comparison depends on the protected claims, affected subjects, and feasible arrangements identified in the relevant history. System continuity is an object of inquiry, not an independently sufficient standard of normative legitimacy.

The proposal developed across Sections 6–7 therefore puts substantive conditions on any description of a desirable transformation. The claims of affected participants, including those who are not recognized as producers, require an explicit account. Where a participant controls a pathway essential to others, its duties must be linked to an identifiable kind of influence, available alternatives, and grounds of responsibility. A return mechanism should be evaluated for its contribution to regenerative conditions and for the availability of warranted scrutiny, challenge, and remedy. Claims about shared benefits should be checked against disaggregated evidence capable of detecting transferred burdens. None of these conditions prescribes one constitutional or economic form across all settings.

This qualified normative account also constrains the use of the term *equilibrium*. Even a demonstrated stable pattern of mutually adjusted behavior would establish neither its justice nor its desirability. Conversely, an arrangement with contestation and changing rules may protect participants better than a superficially stable one. The analytical problem is to explain persistence and transformation; the normative problem is to assess those processes under defensible and revisable standards. Their connection is historically consequential but not logically automatic.

9.6 Value Return, Trustworthiness, and Institutional Feedback

The transformation of an asymmetric arrangement cannot be evaluated solely by the intentions expressed by its central participants. A stated commitment to reciprocity offers limited reassurance if the committing party also retains unrestricted authority to define value, suspend payments, terminate access, and decide complaints. A stronger inquiry concerns the governance of the conditions under which commitments are made credible and revisable. The account of value return in Section 7 therefore remains central to the proposed explanation of equilibrium transformation.

Value return can include material resources, restoration of productive and ecological conditions, recognition of knowledge and other heterogeneous contributions, and participation in the rules organizing circulation. These domains interact without becoming interchangeable. Increasing monetary payment while maintaining an opaque and unchallengeable dependence may improve welfare yet leave pathways of self-directed generation constrained. A procedural reform may increase voice without supplying the resources required to make participation effective. Their combination can enable a different range of institutional choices, but only if the arrangement provides usable protections and addresses adverse distributional consequences. This use of value return follows the generative-justice emphasis on regenerative circulation while opening the additional question of who possesses authority to redirect its pathways [5, 7].

Trust is an important possible consequence of these arrangements, but it is neither a substitute for enforceable safeguards nor the sole measure of legitimate cooperation. Baier's attention to vulnerability, O'Neill's treatment of trustworthiness, and Hardin's account of relations supporting trust point to different ways of examining the grounds on which reliance is warranted [2, 23, 16]. Participants may collaborate through enforceable contracts, independent dispute resolution, or carefully limited authority while withholding interpersonal trust. Such cooperation may be appropriate where historical injury remains salient or where the consequences of misplaced confidence are severe.

The proposed feedback mechanism is accordingly conditional: reforms can improve the material and institutional bases for continued generation; strengthened capacities can broaden access to voice and feasible alternatives; those alternatives may constrain discretionary pathway control; and observable performance under altered rules can affect subsequent judgments of institutional trustworthiness. Each connection can also fail. Remedial institutions may lack enforcement resources, unequal parties may face retaliation, alternative networks may reproduce extraction, and trust may be undermined by unrelated political events. A programme of inquiry should therefore document these intermediate changes rather than infer relational repair from the presence of a participatory label or an improved aggregate trust score.

9.7 Multiscale Evaluation and Normative Visibility

The account of international equilibrium extends across different relations and scales. A multinational supply network can appear robust while local ecological renewal is impaired. A state can report increasing exports while particular producers lose opportunities to develop independent technical capabilities. A regional agreement can improve aggregate coordination while assigning the burdens of compliance to communities with little representation. Such contrasts motivate attention to both local and aggregate descriptions. They do not establish a single formula for converting all heterogeneous capacities into a common score.

The analogy with statistical mechanics is useful to the extent that it clarifies how different levels of description can refer to the same relational process. It also clarifies the risks of inference from one level to another. The factorization condition in Equation 3 specifies one stringent case in which a normative evaluation could be recovered exactly from a coarse-grained representation. Where ethically distinct histories map to the same description, that precise recovery fails. Institutions using aggregates should consider the possibility of normatively relevant omitted differences, especially when aggregate findings govern eligibility, sanctions, financial transfers, or remedies. An effective aggregate model may remain valuable for its stated task while requiring disaggregated evidence for specific judgments.

The choice of scale is itself situated within power relations. Authorities may select indicators, set

measurement thresholds, choose categories of beneficiaries, and determine who may challenge records. These choices can alter what becomes administratively visible and what avenues for redress can be pursued. Conversely, unrestricted collection of local information may create threats to privacy and autonomy. The ethics of cross-scale representation therefore involves the purposes, provenance, permissions, omissions, and revision procedures of a description. The companion investigations on multiscale normative ethics and the ethics of renormalization can formalize aspects of these problems. The present discussion does not claim to have constructed a social renormalization-group transformation or derived a scale-independent ethical law.

A final implication concerns the word *system*. It is often a useful shorthand for a connected field of relationships, but its boundary is a modeling and institutional decision. Cross-border production may depend on ecological processes, unpaid care, public infrastructure, and knowledge practices excluded from conventional transaction datasets. These conditions may be connected causally to observed circulation while resisting adequate description at the scale used by an international organization. The responsibility to maintain a system's generativity is consequently an incomplete ethical formulation until the relevant participants, generative supports, affected interests, and means of representation are made sufficiently explicit.

An empirical test should specify a matched comparison for each link in the proposed feedback, rather than relying on an observed correlation between inequality and institutional persistence. The first comparison asks whether a defined pathway rule changes a named participant's capacity to renew value under a credible alternative rule. The second asks whether the induced change in that capacity alters effective options for contesting, exiting, or revising the rule, holding relevant rival influences under scrutiny. The comparison should include cases of beneficial concentration or successful contestation, because those observations can narrow or disconfirm the hypothesized reinforcement. These are design requirements for prospective research, not findings reported in this article.

9.8 Empirical Tests, Counterconditions, and Research Design

A theory of generative diminishment in international relations will need to confront evidence beyond conceptual plausibility. The first task is case selection. Research could compare value networks with similar technical functions but different rights of pathway inspection, alternative exchange, decision participation, and remedy. It could also examine institutional changes within a single network, tracing the conditions under which relevant capabilities expanded or contracted. Historical accounts, contracts, balance sheets, administrative archives, ecological measurements, interviews, and process-tracing evidence may offer complementary access to different parts of the mechanism. The relevant units and periodization should be derived from the specific relations under study rather than assumed as fixed properties of a nation-state.

Four provisional propositions offer a focused agenda. *P1, pathway dependence*: where actors controlling crucial circulation channels can revise rules unilaterally, materially similar participants with fewer effective alternatives may have less leverage over the conditions of value return. *P2, recursive diminishment*: where a reduction in retained generative resources impairs organization, knowledge development, or institutional participation, an existing asymmetry in pathway control may become more difficult for affected participants to challenge. *P3, contestable return*: arrangements combining regenerative returns with feasible rights of scrutiny, challenge, and revision may support stronger generative autonomy than arrangements offering comparable immediate benefits subject to unilateral discretion. *P4, cross-scale omission*: aggregate measures of network performance may classify together institutional histories with materially different distributions of harms, capabilities, or procedural rights. These are hypotheses requiring operationalization and attention to context, not propositions established by the manuscript.

The propositions refer to distinct analytical targets and should not be collapsed into a single general assertion of structural injustice. Nor does their conjunction by itself amount to a new general theory of endogenous institutional change, for which Greif and Laitin provide a substantial predecessor [14]. In a

comparison with sufficiently specified conventional models of bargaining, network control, institutional enforcement, and capability deprivation, a pathway-mediated account earns explanatory standing only where the intermediate change in revision capacity helps account for the observed sequence more precisely than those alternatives. A failed incremental test would warrant treating generative diminishment as a useful normative and descriptive vocabulary rather than an independently supported equilibrium mechanism. P1 concerns variation in effective alternatives conditional on otherwise comparable material circumstances. P2 requires a sequence linking losses of generative support to weakened institutional revision capabilities, with pathway control then remaining concentrated. P3 compares the consequences of contestable and discretionary returns while tracking differences in bargaining capacities and background protections. P4 concerns the information preserved by an aggregate representation relative to an explicitly named normative question. In each case, institutional documents, accounts from differently situated participants, and competing explanations should be sought before an ethical verdict is drawn. The framework is useful only insofar as it helps investigators distinguish situations that earlier descriptions treated alike, and recognizes circumstances where established explanations are sufficient.

Each proposition admits alternatives and counterevidence. Asymmetry may persist because it supports coordination that participants knowingly prefer to available substitutes. Diminished income may be offset by collective investment or technological innovation. A nominal opportunity for participation may be captured by local elites, while independent regulation under concentrated authority may protect vulnerable participants effectively. Higher levels of trust can coexist with inadequate oversight, and low trust can coexist with legally secure cooperation. Such possibilities indicate that comparative research should study the relation between formal authority and effective capability, and distinguish measured outputs from the mechanisms producing them.

A particularly demanding causal claim concerns non-intentional diminishment. Evidence that a less powerful participant suffered a loss while a powerful institution benefited does not, by itself, identify the mechanism that produced the loss. Research should establish the rules and decisions at issue, document effects on generative conditions, investigate feasible counterfactual arrangements, and assess competing explanations including ecological shocks, domestic policy, technological change, and choices made within the affected group. Mechanism-based approaches to social explanation can inform this work [17]. Ethical evaluation would require additional attention to who could foresee and alter the relevant consequences, the distribution of rights and duties, and the remedies available. This separation is necessary if the theory is to be useful for both explanation and responsible institutional design.

9.9 Adversarial Assessment and the Boundaries of Explanation

The paper's explanatory proposal should face objections that are capable of changing its scope or defeating its central mechanism. The relevant intellectual predecessors already address constitutive power, institutional self-reinforcement, capabilities, generative-justice circulation, and the role of credible institutions [3, 14, 28, 7]. Table 10 identifies discriminating objections and the evidential burden each creates for this inquiry. It is a research protocol for critical assessment, rather than a list of objections assumed to have been answered.

The first objection concerns incremental explanatory value. A historical narrative can be entirely consistent with the present account while another theory explains the same record with fewer unobserved elements. It is therefore insufficient to show that structural power and constrained agency coexist. The proposed diagnosis makes a narrower claim when independent evidence reveals that the reproduction of a pathway rule runs in part through diminished capacities to inspect, contest, or change that rule. Where this mediation is absent, the explanation should defer to direct institutional, strategic, or coercive mechanisms. This gives the framework a domain of potential application and a domain of acknowledged redundancy.

The second and third objections concern its descriptive and normative boundaries. Generativity is not a common scalar shared by economic earnings, ecological renewal, cultural expression, technical capability, and political standing. An apparent gain can conceal a loss, and a restriction can conserve

Table 10: Adversarial objections and conditions for retaining the proposed explanation. Each row identifies a possible limitation, not an observed international result.

Objection	Alternative account or counter case	Discriminating requirement
Redundant mechanism	Legal coercion, fixed rights, or prior institutional theory explains persistence.	Demonstrate a separately observed capacity-mediated pathway effect beyond direct governance power.
Ambiguous diminishment	Income contracts while knowledge, ecology, or autonomy improves.	Specify situated generative activities and disaggregated changes; test competing interpretations.
Beneficial concentration	Coordination strengthens weaker parties' renewal and enforceable rights.	Compare net generative conditions and independent contestability under alternative feasible designs.
Equilibrium overstatement	Two-link feedback produces exit, rupture, or cumulative divergence.	Specify strategic or dynamical criteria; otherwise claim only historically observed persistence.
Normative substitution	Aggregate output rises while protected local claims are violated.	Evaluate affected parties and rights at adequate scales; justify the normative standard independently.
Compelled trust	Continued participation reflects necessity, not confidence.	Inspect actual refusal, appeal, enforcement, return, and revision opportunities.

generative conditions at another scale. Decision-makers may also exercise concentrated authority for legitimate purposes when delegated coordination includes enforceable constraints and suitable avenues of redress. A descriptive diagnosis of impairment must therefore be stated relative to situated practices and evidence; a judgment of injustice must additionally disclose protected interests, alternatives, and responsibility criteria. Neither judgment follows directly from the numerical magnitude of control.

The fourth objection concerns the paper's title and the proposed international equilibrium. Repeatedly observed asymmetry has an explanatory significance, but the stronger mathematical terms require a model of the relevant transformation. A feedback loop that weakens an institution's revenue base may accelerate breakdown rather than stabilize it. A formally stable aggregate may nonetheless be normatively indefensible. Accordingly, this manuscript identifies a *candidate persistence mechanism*, examines conditional strategic and dynamical interpretations, and withholds a demonstrated stability claim. In future work, institutional comparison should assess both the continuation of an arrangement and the distribution of capacities for changing it.

The final objections concern ethical standing and trust. Beneficial transfers to recognized creators can coexist with uncompensated injury to outsiders, and system-wide regeneration can coexist with violations that cannot be justified by aggregation. Similarly, compliance with a powerful intermediary does not establish trust, particularly where exit and remedy are inaccessible. The practical standard is therefore the quality of accountable relations under disagreement: who can inspect consequences, advance contrary claims, invoke protections, and participate in revision. These criteria are neither an automatic moral formula nor a guarantee of agreement. They specify the evidence and normative deliberation needed to avoid confusing successful coordination with either universal well-being or ethically warranted authority.

A successful explanatory extension would identify a class of historically situated relationships in which the measured capacity-mediated link changes predictions or diagnoses compared with otherwise adequate established explanations. An unsuccessful extension would either find no such differentiating cases or collapse into unrestricted reinterpretation of every possible outcome as evidence of generativity. Both prospects must remain open if the proposed framework is to function as a corrigible research programme.

9.10 The Question of Suffering and the Conditions of Continuation

Do all beings suffer? The question is deliberately open. Interdependence cannot establish a common experience of suffering, and responsibility need not be experienced as a burden by those whose power gives them the capacity to prevent harm. In an asymmetric relation, some participants may obtain durable benefits while others lose capacities necessary for meaningful creation or political revision. These differences must remain visible even when the relation is described as one system.

The essay has considered a particular mechanism by which such inequality might persist: pathway rules may impair the renewal of specified capacities, and that impairment may reduce the practical agency needed to change those rules. This is a testable possibility, not a general law. Concentrated authority may instead support renewal, and participants may gain effective voice despite material losses. Even where the proposed causal links hold, equilibrium requires additional strategic or dynamical specification.

The normative question extends beyond whether the system continues. It asks how its continuation affects those whose labor, knowledge, environments, and cooperation help sustain it; what rights those participants possess; and which powers make protection and remedy feasible. Returning value, enabling contestation, and protecting viable alternatives may supply conditions for warranted cooperation. None authorizes an aggregate assessment to erase a situated claim, or permits trust to be demanded merely from a position of authority.

The relational unity at issue is therefore compatible with irreducible differences in harms and obligations. International balance may be examined not only through the durability of an arrangement but through the generative conditions it supports, impairs, or makes revisable. Where authority can be exercised without intending diminishment, responsibility still requires attention to foreseeable consequences and feasible correction. The question of suffering directs inquiry toward those consequences while leaving the empirical and ethical answers open.

Research Ethics and Source Provenance

Research scope. This is a conceptual discussion paper. The illustrative production networks in Sections 1–9 are thought experiments, with no claim about an identifiable country, enterprise, or community. No original fieldwork, human-participant study, measured international equilibrium, or institutional evaluation is reported.

Source verification. Bibliographic records and selected claim-to-source relationships were checked using publisher, author, and other research sources. The verification ledgers distinguish full-article, abstract, and metadata-level support. The v1.7 source-scope matrix checks selected high-consequence conceptual uses against original scholarly sources and records access depth. Its results are supplementary to the inherited verification ledgers and do not amount to full passage-level certification of all 35 entries or every citation occurrence; unresolved claims require further verification before release.

Responsibility and revision. The author retains responsibility for conceptual judgments, interpretation, citations, and public dissemination. The present version contains the complete nine-section conceptual draft; validated formal models, historical tests, and empirical applications remain prospective. The article's hypotheses require additional historical, institutional, and normative evaluation.

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