

Background Independence and Emergent Normativity: An Invariance-First Generative Relational Political Philosophy

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Abstract

This paper develops a generative relational (GR) approach to political philosophy. Its central proposal is that political subjects, freedoms, constraints, power relations, truths, normalities, evaluative capacities, and concepts of justice need not be treated as fixed primitives of political inquiry. GR instead studies how such objects and categories emerge, stabilize, transform, and sometimes disappear within historically evolving relational systems. The framework extends the historicizing and relational impulse of historical materialism while declining to assign permanent ontological privilege to production, class, the human individual, or any single scale of explanation. Relations are generalized beyond human-human and production relations to heterogeneous human, institutional, artificial, material, ecological, symbolic, and sub-personal domains. Effective political reality is treated as recursively generative: relations can produce new entities, observables, evaluative distinctions, generative mechanisms, and spaces of possibility that later condition further generation.

Two foundational commitments organize this reconstruction. First, GR adopts a background-independent orientation: subjects, relation types, state spaces, observables, and normative coordinates are not assumed to remain fixed across historical transformation. Political change may therefore alter not only states within a given space but the effective space of possible political relations itself. Second, GR provisionally adopts an invariance-first ontology. Symmetry and invariance are treated as revisable postulates for continuity, comparison, and transformation without requiring persistent substances; historical differentiation may then be studied through realization, stabilization, and symmetry breaking. These commitments do not imply that social systems literally instantiate the equations of fundamental physics.

Modern physics and algebra enter GR as an integrated research language rather than as isolated metaphors or imported techniques. Dynamical systems, criticality, field-theoretic reasoning, symmetry, geometry, topology, and algebraic composition provide differentiated vocabularies for relational and historical transformation. The paper uses this architecture to reconstruct core problems of political philosophy and to compare GR with major lineages including liberalism, republicanism, Marxism, genealogy, critical theory, feminist and postcolonial thought, process philosophy, and pragmatism. Its broader implication is meta-philosophical: because ontology, epistemology, aesthetics, ethics, normativity, and decision are coupled within generative relational histories, GR may function as a candidate common language across philosophical domains without reducing those domains to one another. This ambition is presented as a research programme rather than a completed universal theory.

Keywords: generative relational theory; political philosophy; background independence; invariance; symmetry; emergent normativity; historical materialism; Marxism; relational ontology; generativity; dynamical systems; political epistemology; political aesthetics; justice

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Status. This working draft develops Generative Relational theory as a political- philosophical research programme. Its background-independent orientation, invariance-first ontology, formal vocabulary, lineage comparisons, and account of emergent normativity remain open to criticism and revision. The manuscript distinguishes descriptive or genealogical accounts of how evaluative categories emerge from the separate problem of their normative validity. References to physical and mathematical structures are intended as explicitly delimited formal resources unless a stronger correspondence is independently established. The paper does not endorse or oppose any political party, candidate, government, movement, or contemporary political choice.

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Statement on the use of language models. The exploratory discussions and preparation of this paper involved OpenAI’s ChatGPT. ChatGPT supported exploratory dialogue, formal reconstruction, source discovery followed by verification, argumentative criticism, and drafting in $\text{\LaTeX}$. The author selected the research questions, theoretical commitments, framework boundaries, and epistemic status of the claims, and bears sole responsibility for the manuscript, including its definitions, assumptions, formal constructions, arguments, conclusions, and errors. Authorship credit remains with the human author.

1 A Generative Relational Reconstruction of Political Philosophy

Political philosophy ordinarily begins by asking what political arrangements are just, what forms of coercion are legitimate, what freedom requires, how power should be constrained, or what citizens owe one another. These questions remain indispensable. Yet each already presupposes a field of objects and distinctions through which political judgment becomes possible: there are subjects to whom freedom is attributed, institutions whose legitimacy can be assessed, actions that count as constraints, relations that count as domination, facts that can be admitted as evidence, and evaluative concepts under which something can be recognized as just or unjust. Different traditions contest these objects and distinctions in different ways. Liberal theories prominently organize

political justification around persons understood as free and equal and around principles governing the basic structure of society (Rawls 1999; Rawls 2005). Republican theories recast freedom through structural relations of domination and dependence rather than through non-interference alone (Pettit 1999). Marxian traditions historicize social forms and reject an abstract individual detached from the ensemble of social relations (Marx 1845). Genealogical approaches investigate how subjects, normalities, practices, and regimes of truth are historically constituted (Foucault 1977). Process philosophies, in turn, challenge substance-centered metaphysics by granting becoming, occurrence, and emergence ontological priority (Whitehead 1978). These traditions already make it impossible to portray political philosophy as uniformly static, individualistic, or ahistorical.

The present paper therefore does not begin from the claim that political philosophy has failed to notice relations, history, process, or emergence. Its point of departure is narrower and, at the same time, more demanding. It asks what follows if the *background of political philosophy itself* is made systematically revisable: if the relevant subjects, relation types, observables, evaluative categories, state spaces, and even mechanisms of generation are not guaranteed to remain fixed across the history being studied. Generative Relational theory (GR) is developed here as one possible answer. GR treats political reality as an historically evolving generative-relational system in which relations can produce new relata, new relation types, new observables, new evaluative capacities, new generative mechanisms, and new spaces of possibility. The products of one stage of generation may subsequently re-enter the system as conditions of later generation. Political ontology, epistemology, normativity, and action are therefore not independent layers placed one above another; they can become recursively coupled dimensions of the same historical process.

Claim 1.1 (The reconstructive aim of GR). GR does not replace familiar political-philosophical questions with a single new master question. It reconstructs their background conditions by asking how the subjects, freedoms, constraints, powers, truths, normalities, evaluative capacities, and normative spaces presupposed by political judgment are generated, stabilized, transformed, and sometimes rendered unavailable within evolving relational systems.

This reconstruction is motivated by two foundational commitments and three substantive extensions. First, GR adopts a *background-independent orientation*: structures required for political description should not be treated as permanently non-dynamical merely because a particular model needs to hold them fixed. The expression is borrowed from philosophy of physics, where background independence is itself contested and admits multiple formulations rather than a single universally accepted definition (Belot 2011; Read 2023). GR therefore does not claim to transfer a settled physical doctrine into political theory. It uses the idea heuristically and formally to ask which political structures are being held fixed, which can be made dynamical, and what changes when a former background becomes part of the system under analysis.

Second, GR provisionally adopts an *invariance-first ontology*. This is an assumption of the framework, not a declaration that ultimate reality has been metaphysically proven to consist of symmetry. The working proposal is that continuity through transformation is often better sought in invariances, equivalence structures, and transformation rules than in permanently persistent substances. Particular agents, institutions, norms, and relation types may then be treated as effective realizations of deeper structural constraints rather than as primitives guaranteed in advance.

Third, GR generalizes the relational domain beyond human–human social relations and beyond relations of production alone. Human–institution, human–currency,

human–AI, human–environment, human–religious-object, organism–environment, neuron–neuron, institution–institution, and cross-scale relations may all become legitimate objects of analysis when they participate in the generative process under study. Fourth, GR gives the term *generative* a stronger meaning than temporal succession or historical change: relations can alter the mechanisms by which future relations form, and can generate new effective objects and possibility spaces that were not represented as meaningful alternatives at an earlier stage. Fifth, GR treats modern physics and algebra as an integrated research language for differentiating types of transformation—attractors, bifurcations, critical transitions, phase changes, symmetry breaking, metastability, hysteresis, field effects, representation, equivalence, and transformations of transformations—without claiming that political systems literally instantiate the equations of fundamental physics.

Principle 1.2 (Systematic conjunction rather than isolated novelty). The proposed distinctiveness of GR lies primarily in the systematic conjunction of background independence, provisional invariance, generalized relationality, recursive generativity, multi-scale emergence, and an integrated formal language connecting ontology, dynamics, observability, evaluation, and action. None of these ingredients should be presented as unprecedented in isolation.

The qualification in Principle 1.1 is essential. Nonlinear dynamics, complex adaptive systems, mathematical history, and formal modeling already have substantial histories in the social sciences (Lansing 2003; Page 2015; Turchin 2003). Likewise, relational, processual, genealogical, materialist, feminist, pragmatist, and postcolonial traditions have long challenged atomistic and ahistorical pictures of political life. GR should therefore be judged not by whether it can attach a new physical metaphor to an old political problem, but by whether it supplies a sufficiently coherent theoretical grammar to connect questions that are usually treated separately: what exists politically, how it becomes observable, how relations change, how new realities emerge, how evaluative capacities are formed, how normative judgments can remain critical without pretending to stand outside history, and how intervention alters the future space of political possibilities.

1.1 Political Philosophy and Its Presupposed Objects

Every political theory must begin somewhere. Even theories explicitly hostile to metaphysical foundationalism require a working vocabulary capable of distinguishing actors, practices, institutions, claims, reasons, harms, or forms of power. Such starting points are not necessarily errors. Without provisional stabilization, inquiry would be impossible. The difficulty appears when provisional analytical objects are silently promoted into permanent ontological furniture.

Consider freedom. A theory may ask whether a person is free from interference, whether she enjoys non-domination, whether she possesses capabilities required for effective agency, or whether social arrangements secure equal basic liberties. These are substantive disagreements, and several already place freedom in a richly relational setting. Yet a further question remains available: how did the relevant subject, field of options, structure of dependence, and vocabulary of freedom become constituted in the first place? A choice can be formally available within a space whose boundaries were historically produced. A person can be legally unconstrained while depending upon relations that substantially determine which choices remain viable. Conversely, constraints can be constitutive: linguistic rules, institutional procedures, educational disciplines, and legal forms may close some possibilities while generating capacities and coordinated possibilities that would otherwise not exist.

The same issue appears with power. A dyadic representation,

$$A \longrightarrow B,$$

may be useful when the object of analysis is direct control. It becomes insufficient when power changes the conditions under which future relations are formed. An institution can alter not only the behavior of agents but the categories through which behavior is recorded; a legal regime can create new types of persons and transactions; an epistemic infrastructure can determine what becomes visible as evidence; a platform can reorganize the topology through which social relations are formed. In such cases, the politically relevant effect is not exhausted by a transition from one state to another. The process may change the space in which later states and relations become possible.

The problem can be stated schematically. Conventional modeling often assumes

$$x_t \in M, \quad \dot{x} = f(x; \theta), \quad (1)$$

where M is a fixed state space, f a specified dynamical rule, and θ a parameter set. This structure can already generate highly nonlinear behavior. GR asks when the more appropriate description is instead

$$x_t \in M_t, \quad \dot{x} = f_t(x), \quad (M_t, f_t) \longrightarrow (M_{t+\Delta t}, f_{t+\Delta t}), \quad (2)$$

so that state space and generator can themselves become historically variable. Equation (2) is not asserted as a universal mathematical model of politics. It marks a methodological possibility: what one theory treats as background may, under a deeper analysis, become an object of generation.

Definition 1.3 (Political background). A *political background* is any structure that a given analysis must hold fixed in order to identify its relevant entities, relations, observables, transformations, or evaluative coordinates. Depending on the inquiry, a background may include a subject ontology, a set of relation types, a state space, a classification system, an epistemic infrastructure, a normative vocabulary, or a rule determining which transformations count as admissible.

Remark 1.4 (Backgrounds are model-relative). Calling a structure a background does not imply that it is unreal, illegitimate, or theoretically naive. Background status is relative to a level and purpose of analysis. GR requires only that such status remain open to revision when the historical process under study changes the structure itself.

This point is especially important for political philosophy because its central terms are not only descriptive. “Citizen,” “property,” “harm,” “evidence,” “normality,” “freedom,” and “justice” organize perception and action. Once institutionalized, they participate in producing the reality they describe. A legal category can create new rights-bearing positions; a monetary category can reorganize exchange relations; a diagnostic or administrative category can shape who is recognized as normal or deviant; a normative vocabulary can make a previously obscure injury politically salient. Foucault’s analyses of discipline and normalization are one major precedent for treating such categories as historically productive rather than merely descriptive (Foucault 1977). GR retains this historicizing orientation but seeks a more general grammar capable of representing how categories, observables, relations, and generative mechanisms can recursively transform one another.

Distinction 1.5 (Analytical stabilization and ontological fixation). Analytical stabilization temporarily fixes objects or categories so that inquiry can proceed. Ontological fixation treats those same objects or categories as permanently fundamental. GR permits the former and resists making the latter a default assumption.

1.2 The Shift from Fixed Categories to Generative Problems

The conceptual shift proposed by GR can be expressed as a movement from questions of allocation within a fixed ontology toward questions of generation across changing ontologies. Political philosophy often asks how goods should be distributed among persons, how institutions should constrain already identified powers, or how rights should be assigned to already recognized subjects. GR retains these questions but adds a prior and subsequent layer: how did the relevant goods, persons, powers, institutions, rights, and evaluative categories become available as political objects, and how will acting upon them transform what can emerge later?

This is the sense in which the “G” in GR is irreducible to the observation that history changes. A merely dynamic relation can be represented as

$$R_t \longrightarrow R_{t+1}.$$

A generative relation can have a richer output:

$$R_t \longrightarrow (R_{t+1}, E_{t+1}, O_{t+1}, G_{t+1}, M_{t+1}), \quad (3)$$

where E denotes effective entities or realities, O observables, G generative mechanisms, and M the effective possibility space. The generated entity may then become a relatum in subsequent relations. Money is an elementary illustration: historically organized exchange and institutional relations can generate a monetary form that subsequently becomes a powerful condition of new human–human, human–institution, and human–currency relations. The same recursive pattern can occur with corporations, administrative categories, technological platforms, political identities, scientific objects, or norms.

Definition 1.6 (Recursive generativity). *Recursive generativity* is the capacity of a relational process to generate structures that subsequently participate in the production, constraint, interpretation, or transformation of later relations. The generated product is therefore not merely an outcome; it can become part of the generative conditions of the next historical stage.

This formulation allows GR to distinguish several kinds of historical change that are often compressed into a single language of development or contradiction. Some systems move within one attractor basin; others undergo attractor switching. Some reorganize at a bifurcation; some display critical amplification, hysteresis, or metastability; others change through learning, institutional recombination, technological mediation, or the formation of a new field of interaction. Marxian and dialectical traditions already supplied a powerful intuition that historical development can be nonlinear and that quantitative accumulation may be associated with qualitative transformation. GR does not claim priority for this intuition. Its methodological extension is to pluralize the possible mechanisms and ask what specific dynamical structure, if any, makes a qualitative historical transition intelligible.

That pluralization also protects the theory from turning “dialectic” or “criticality” into an all-purpose explanation. A phase transition, a bifurcation, a symmetry-breaking process, and a path-dependent institutional lock-in are not synonyms. Each carries different assumptions about state spaces, control parameters, stability, perturbations, and observables. Physics and mathematics become useful to GR precisely when they force those distinctions rather than when they provide impressive vocabulary.

Formal Analogy 1.7 (Quantity–quality and differentiated transition mechanisms). The dialectical motif of quantitative accumulation followed by qualitative transformation can motivate, but does not determine, a formal model. Depending on the case, the relevant

structure may be represented by a bifurcation, critical transition, symmetry-breaking process, attractor change, metastable escape, or another mechanism. GR treats these as candidate model classes whose applicability must be independently justified.

The generative shift also changes the meaning of historical novelty. If M is fixed, novelty can only mean reaching a previously unoccupied point in an already defined space. Background-independent generativity permits a stronger possibility:

$$a \notin M_t, \quad a \in M_{t+1}.$$

Here a need not have been an excluded option at time t ; it may not yet have been a meaningful political possibility. New technologies, legal forms, epistemic infrastructures, collective identities, and institutional arrangements can generate actions and normative problems that earlier worlds could not formulate in the same way. Political creativity and political danger both belong to this enlarged category of novelty.

Claim 1.8 (Generation of political possibility). Historical transformation can change not only which political possibilities are realized but which possibilities can be meaningfully represented, recognized, or enacted. A theory of political change is therefore incomplete when it models only motion among fixed alternatives in cases where the space of alternatives is itself historically generated.

1.3 Generative Relational Theory as a Political-Philosophical Framework

The framework developed in this paper can be summarized by the schematic tuple

$$\Theta_t = (\mathcal{S}, M_t, \mathcal{R}_t, \mathcal{G}_t, \mathcal{O}_t, \mathcal{E}_t, \mathcal{N}_t), \quad (4)$$

where $\mathcal{S}$ denotes the provisionally assumed invariance structure; M_t the effective state or possibility space; $\mathcal{R}_t$ the relational configuration; $\mathcal{G}_t$ the generative mechanisms through which relations form and transform; $\mathcal{O}_t$ the available observables and classificatory distinctions; $\mathcal{E}_t$ the effective emergent ontology; and $\mathcal{N}_t$ the available normative and evaluative structure. The tuple is heuristic rather than exhaustive. Its purpose is to prevent theoretical slippage between different layers of a generative system.

A political transformation may alter one component while leaving others approximately stable. A deeper transformation may change several simultaneously. GR becomes most distinctive where it permits the coupled evolution

$$\Theta_t \longrightarrow \Theta_{t+\Delta t}, \quad (5)$$

so that the objects through which politics is described are themselves part of political history.

The role of $\mathcal{S}$ requires particular care. GR does not simply replace substances with relations and then declare relations ontologically final. If relation types, relata, and relational spaces can themselves change, then a theory that treats one particular relational graph as fundamental has only shifted the background. GR therefore provisionally places invariance prior to particular relational realization. The intended intuition resembles the role that symmetry and transformation structures play in modern mathematics and physics: continuity can be specified through what remains invariant under a class of transformations even when the manifest configuration changes. Yet the paper does not infer from the success of symmetry in physics that social ontology literally shares the same fundamental structure. The invariance-first position is a revisable postulate whose philosophical value must be demonstrated by what it makes intelligible.

Postulate 1.9 (Provisional invariance). GR provisionally assumes that some structure of invariance, equivalence, or admissible transformation can be specified prior to a particular effective political realization. This postulate supplies a working basis for comparison and continuity across transformation, but it remains revisable and does not claim to identify the final ontology of reality.

The term *background independence* should be read with the same restraint. In philosophy of physics, background independence is neither a simple binary property nor a concept with one uncontested definition (Belot 2011; Read 2023). In GR it functions as a methodological demand: identify what the analysis treats as fixed, justify the fixation at the relevant scale, and remain prepared to endogenize that structure when the historical process makes it variable. The result is not a theory with no assumptions. It is a theory that makes the status of its assumptions visible.

GR's generalized relational domain follows from this architecture. A political system is not exhausted by human-human relations even when humans remain central normative subjects. Currency, infrastructures, algorithms, legal documents, environments, religious objects as practically experienced, institutions, and sub-personal processes can all acquire causal and interpretive roles within the relations that constitute political life. This does not erase ontological differences among them. A human, a central bank, a landscape, an AI system, and a neuron are not thereby declared equivalent political agents. The framework merely refuses to decide in advance that only one ontological type may enter a generative relation relevant to political explanation.

This point separates GR from both simple anthropocentric relationalism and indiscriminate flattening. Relational generalization is not the proposition that everything is the same kind of thing. It is the proposition that heterogeneous things can participate in generative relations whose consequences may cross conventional disciplinary boundaries. Karen Barad's agential realism is one important neighboring project in treating ontology, epistemology, material-discursive practice, and ethics as entangled rather than externally separable (Barad 2007). GR nevertheless develops a different architecture: it emphasizes provisional invariance, explicit background revision, recursive generation of observables and possibility spaces, and a political-philosophical comparison across multiple traditions rather than deriving its framework from quantum theory.

Distinction 1.10 (Generalized relationality and ontological flattening). Generalizing the admissible domain of relations does not imply that all relata possess the same capacities, status, agency, or normative standing. GR expands what may enter explanation while leaving the differences among relational participants to be specified rather than erased.

Political philosophy then becomes one projection of a broader generative cycle. Ontology asks what kinds of effective realities have emerged; epistemology asks what can be observed, reconstructed, and justified as knowledge; aesthetics concerns the historically formed capacities through which patterns become salient as harmonious, beautiful, disturbing, elegant, or intolerable; ethics concerns good, harm, responsibility, and permissible action; political philosophy concerns freedom, domination, legitimacy, justice, and collective ordering; decision theory concerns intervention by agents embedded in the system they alter. GR's meta-philosophical ambition is not to reduce these domains to one formula but to make their coupling explicit.

Principle 1.11 (Coupled philosophical domains). When ontology, observability, evaluative capacity, normativity, and action are historically co-generated, philosophical domains that study them cannot be treated as wholly independent. GR therefore functions as a candidate meta-language by specifying relations among domains without claiming that their substantive questions collapse into one another.

1.4 Central Claims and Contributions

The argument of the paper is organized around five commitments that together define the proposed GR reconstruction of political philosophy.

Claim 1.12 (Background independence). Political subjects, relation types, observables, state spaces, and normative coordinates should be treated as potentially dynamical when the historical process under study transforms them. Political change can therefore include transformation of the background against which political change was previously described.

Claim 1.13 (Invariance-first ontology). GR provisionally seeks continuity through invariance and transformation structure rather than through the permanent identity of substances. Particular political entities and categories are treated as effective realizations unless stronger reasons establish their fundamentality.

Claim 1.14 (Generalized relational domain). Generative political explanation may legitimately include heterogeneous relations extending beyond human–human and production relations, provided that the relevance, scale, and capacities of the relata are explicitly specified.

Claim 1.15 (Recursive generativity). Relations can generate new relata, relation types, observables, evaluative capacities, generative mechanisms, and possibility spaces; these products may subsequently enter the conditions of further generation. Historical reality is therefore potentially recursive rather than merely sequential.

Claim 1.16 (Integrated formal language). Modern physics and algebra contribute to GR not as a source of political authority but as a differentiated language for transformation. Dynamical systems, statistical physics, field-theoretic reasoning, symmetry, representation, geometry, topology, and algebraic composition provide model classes whose political interpretation must be independently justified.

Taken together, these commitments distinguish GR's theoretical ambition from two weaker projects. The first would merely apply an existing mathematical technique to a predefined social variable set. Such work can be valuable and is already well developed in complexity science and mathematical history (Lansing 2003; Page 2015; Turchin 2003). GR instead asks how the variable set, observables, and state space themselves become available. The second would merely state that social reality is relational and historical. GR inherits that insight, especially from historical materialism, but seeks an explicit grammar of relation formation, recursive emergence, background transformation, and cross-domain comparison.

This positioning also determines the paper's relation to Marxism. GR should not be presented as an external correction to a supposedly static or economically simplistic Marx. Marx's critique of the abstract individual and his insistence on practice and social relations are constitutive ancestors of the framework (Marx 1845). Later Marxist traditions further complicated causal priority, subjecthood, ideology, and historical determination. The question pursued here is therefore one of extension: what happens when the historicizing impulse is applied to the remaining backgrounds of analysis, when production ceases to be the only privileged relational domain, when the generator itself can evolve, and when modern dynamical and algebraic languages are integrated into a theory of how effective realities emerge?

Inheritance 1.17 (Marxian inheritance). GR inherits from historical materialism the historical constitution of social reality, the rejection of an isolated transhistorical individual, the centrality of material and social relations, the importance of praxis, and the possibility that apparently natural social forms are historically produced.

Extension 1.18 (Generative relational extension). GR extends the Marxian historicizing impulse by allowing relation domains, generative mechanisms, observables, evaluative capacities, and effective possibility spaces themselves to become objects of historical generation, without assigning permanent explanatory privilege to one relation type, one scale, or one universal mechanism of transformation.

The same comparative generosity will govern the treatment of other lineages. Liberalism is not reduced to atomistic freedom; republicanism is not reduced to non-interference; communitarianism is not treated as if it merely substitutes community for individuals; genealogy is not assimilated to generic social construction; critical theory is not reduced to an ahistorical normativity; feminist, postcolonial, pragmatist, and process traditions are not treated as preliminary versions of GR. The aim is to identify genuine inheritance, overlap, and disagreement. GR's contribution will be credible only if the comparative analysis makes visible both what is already available elsewhere and what the proposed synthesis adds.

Limitation 1.19 (The status of novelty). This paper does not claim that any single GR component is historically unprecedented. Its novelty claim is architectural and programmatic: GR proposes a common framework in which background revision, invariance, heterogeneous relations, recursive generativity, multiscale dynamics, emergent observability, and normativity can be analyzed together and compared across political-philosophical lineages.

A second limitation concerns normativity. If justice, legitimacy, normality, and aesthetic-political salience have histories, a genealogical explanation of their emergence cannot by itself tell us whether they are valid. A stable relation may be oppressive; a widely shared normality may be unjust; an enduring symmetry may encode domination; an emergent evaluative capacity may be epistemically distorted. GR therefore requires a strict distinction between genesis and justification.

Distinction 1.20 (Genesis and justification). The generative explanation of how a normative category, evaluative capacity, or political order emerged is logically distinct from the justification of that category, capacity, or order. In GR,

emergence $\neq$ validity, stability $\neq$ legitimacy, symmetry $\neq$ justice.

This distinction is not an auxiliary caution. It is the point at which GR becomes political philosophy rather than descriptive complexity theory. The framework must explain how evaluative standpoints can themselves be historically formed while preserving the possibility of criticism, revision, and cross-historical judgment. Sections 1 onward treat this as an open constructive problem rather than as something solved by the ontology alone.

1.5 Organization of the Argument

The paper proceeds from foundations to reconstruction, then from reconstruction to comparison, and finally from political philosophy to the broader meta-philosophical implications of the framework. Sections 2–4 establish the generative relational starting point, its historical-materialist ancestry, and the generalized relational domain. Sections 5–9 develop the framework's formal foundations: background independence, provisional invariance, recursive generativity, differentiated generative dynamics, and the role of modern physics and algebra as research language. Sections 10–19 reconstruct central objects of political philosophy, including subjecthood, freedom and constraint, power, effective reality, normality, truth, normativity, justice, legitimacy, governance, and aesthetic-political judgment.

Sections 20–29 then compare GR systematically with liberalism, republicanism, communitarianism, historical materialism and Marxism, genealogy, critical theory, feminist and relational political philosophy, postcolonial and decolonial thought, process philosophy, and pragmatism. The comparison is deliberately delayed until the GR architecture has been specified sufficiently to avoid defining the framework only through opposition. Historical materialism receives special treatment because it is not merely an external comparator but a primary intellectual ancestry of GR.

Section 30 draws the comparisons together and identifies the conjunction of commitments that marks the proposed GR position. Section 31 shows why a political philosophy organized in this way necessarily couples ontology, epistemology, aesthetics, ethics, decision theory, and philosophy of history. Section 32 develops the resulting proposal that GR may function as a candidate philosophical meta-language: not a universal substantive answer to every philosophical problem, but a common grammar for tracing how realities, observations, evaluative capacities, norms, and actions recursively generate one another. Section 33 states the major theoretical and empirical limitations, including the risks of physical metaphor, operationalization problems, cross-scale causal attribution, normative grounding, and reflexivity. Section 34 concludes by returning to the central claim of the paper: political philosophy can be reconstructed as inquiry into historically generated relational worlds without giving up either formal structure or normative criticism.

Synthesis 1.21 (The introductory thesis). Generative Relational political philosophy begins neither from a timeless individual nor from a timeless social whole. It begins from a revisable architecture of invariance, relation, generation, emergence, observation, evaluation, and intervention. Its central wager is that political philosophy gains explanatory power when the background of political possibility is permitted to have a history of its own.

2 The Generative Relational Foundations of Political Inquiry

Section 1 stated the reconstructive ambition of Generative Relational theory (GR): political philosophy should not assume that its subjects, relations, observables, evaluative categories, or spaces of possibility remain fixed across the histories it studies. The present section develops the conceptual grammar required for that ambition. Its purpose is prior to the more specific claims about background independence, invariance, dynamical systems, or political normativity developed later. It asks what must be meant by *relation*, *generation*, *history*, and *emergence* if GR is to function as more than a vocabulary for redescribing already specified political objects.

The basic move is to distinguish three increasingly demanding positions. A substantialist description begins from relatively determinate entities and studies their properties and interactions. A relational description allows entities or their properties to depend constitutively upon relations. A generative-relational description goes further by allowing relations to participate in the production and transformation of the relata, relation types, observables, generative mechanisms, and effective spaces within which subsequent relations become possible. GR is committed to the third position as a research orientation. This does not imply that every object must be dissolved into relations, that every relation is generative, or that all levels of analysis must be modeled simultaneously. It means that no familiar political object is exempt in principle from inquiry into the relations through which it became possible and through which it continues to acquire effective reality.

Distinction 2.1 (Substantialist, relational, and generative-relational descriptions). A *substantialist* description treats the relevant relata as analytically prior to the relations under study. A *relational* description permits the identity, properties, or capacities of relata to depend upon relations. A *generative-relational* description additionally permits relational processes to transform the conditions under which future relata, relation types, observables, generative mechanisms, or spaces of possibility can exist.

This distinction matters politically because many disagreements that appear to concern the distribution of already defined goods or freedoms also concern the production of the field in which distribution becomes meaningful. Property law does not merely distribute pre-political objects; it helps constitute legally recognizable objects, owners, transactions, and exclusions. Citizenship does not merely attach a benefit to a natural person; it establishes a status whose relations to territory, rights, institutions, and other persons shape what forms of political agency become available. Currency does not merely mediate exchanges among independently specified preferences; monetary relations can reorganize what is commensurable, contractible, storable, transferable, or institutionally visible. Political analysis therefore requires a language capable of following not only interactions among entities but also the formation of the entities and distinctions through which later interactions are organized.

2.1 Relations beyond Substantialist Political Ontology

The statement that “relations matter” is too weak to identify a distinctive theoretical commitment. Almost every mature political theory recognizes relations of some kind: obligation, domination, exchange, recognition, authority, representation, dependence, care, production, or association. The more demanding question is what ontological work a relation is permitted to do. If an individual is fully specified first and relations are subsequently added as external links, then relations may influence outcomes without entering the constitution of the individual as a political subject. If, by contrast, capacities, identities, claims, or modes of recognition partly depend upon a relational configuration, then the relation is constitutive rather than merely external. Marx’s rejection of an abstract human essence detached from the “ensemble of the social relations” provides an important historical precedent for this shift, while process and relational philosophies have developed broader metaphysical criticisms of substance-first description (Marx 1845; Whitehead 1978; Barad 2007).

GR inherits this anti-isolationist orientation but does not infer that entities are unreal or that all identity reduces to a network position. An effective entity may possess persistence, causal capacities, internal organization, and relatively stable boundaries even if its formation and continued intelligibility depend upon relations. The relevant contrast is therefore not between “things” and “relations” as mutually exclusive ontological kinds. It is between treating a thing’s identity as exhausted by properties specified independently of its relational history and allowing that history to enter the conditions under which the thing exists as the kind of object relevant to inquiry.

Definition 2.2 (Relationally constituted political object). A political object is *relationally constituted* with respect to an inquiry when at least one property necessary for identifying, individuating, interpreting, or assigning political capacities to that object depends upon a relational configuration rather than upon the object considered in isolation.

The definition is intentionally relative to an inquiry. A human organism may be biologically identifiable independently of citizenship, yet the same organism cannot be identified as a citizen, debtor, voter, employee, refugee, shareholder, office-holder, or legal guardian without reference to relations and institutional practices. The point is not

that the biological organism disappears. It is that political ontology frequently operates through effective objects whose politically relevant identity is relationally constituted.

This also prevents a common overextension of relational language. If every conceivable property of an object were declared relational merely because the object exists in a universe containing other things, the concept would lose analytical force. GR instead asks which relations are constitutive for the particular capacity, identity, or phenomenon under investigation. The answer may differ across scales. A person's legal capacity may depend primarily upon juridical relations; a person's ability to act may depend upon material, affective, technological, linguistic, or infrastructural relations; and the persistence of the organism supporting that agency depends upon biological relations that are not reducible to the legal or political level.

Principle 2.3 (Ontological plurality across scales). GR does not require one relational vocabulary to replace all others. A phenomenon may be constituted through different kinds of relations at different scales, and the relevance of a relation must be established with respect to the generative process under study rather than inferred from a universal reduction to a single privileged scale.

This multiscale commitment is especially important for political philosophy. A theory centered exclusively on interpersonal relations can overlook infrastructures, ecological conditions, artificial systems, or sub-personal processes that participate in political agency. Conversely, a theory that reduces political judgment to neural, computational, or economic processes can erase the effective realities that emerge at legal, institutional, cultural, and normative scales. GR therefore treats scale as an analytical achievement rather than a permanently given hierarchy. The question is not which scale is ultimately real, but which relational structures are required to explain the formation, persistence, and transformation of the effective reality at issue.

Example 2.4 (Citizenship as an effective relational object). A citizen can be represented as a biological person, but citizenship itself is not a biological property. It is sustained through relations among persons, legal texts, administrative records, territories, institutions, practices of recognition, rights, duties, and mechanisms of inclusion and exclusion. Once stabilized, citizenship becomes an effective political reality: it conditions voting, mobility, welfare entitlements, diplomatic protection, taxation, and the legal interpretation of later actions. The emergent status thereby becomes a term in subsequent relations.

The example anticipates an important GR move. A relation can contribute to the production of an object that later behaves, for political purposes, as if it were a relatively stable relatum. Relational constitution therefore need not culminate in ontological dissolution. It may culminate in the production of new effective entities.

2.2 Generative Relations beyond Relational Description

Relational constitution by itself still does not explain the “G” in GR. A network can be relational while its node types, edge types, update rules, observables, and state space remain fixed. Likewise, a social theory can explain actors through relations while assuming a stable repertoire of relations through which all historical transformations must be expressed. GR uses *generative* to mark a stronger possibility: participation in a relation may alter the conditions under which later relations are formed and may contribute to the production of objects or distinctions that were not previously available in the same effective form.

Let an effective description of a system at time t be represented schematically by

$$\Xi_t = (\mathcal{E}_t, \mathcal{R}_t, \mathcal{G}_t, \mathcal{O}_t, M_t),$$

where $\mathcal{E}_t$ denotes effective entities, $\mathcal{R}_t$ the presently relevant relational configuration, $\mathcal{G}_t$ the mechanisms by which relations or entities are generated and transformed, $\mathcal{O}_t$ the available observables or distinctions, and M_t the effective state or possibility space. This notation is not intended as a universal ontology or a complete dynamical model. It is a bookkeeping device for distinguishing kinds of change that ordinary relational language often conflates.

A merely state-changing interaction can be written schematically as

$$x_t \longrightarrow x_{t+1}, \quad x_t, x_{t+1} \in M,$$

while the structures specifying M , the variables observed, and the interaction rules remain fixed. A stronger relational transformation changes $\mathcal{R}_t$. A generative transformation may additionally change one or more of $\mathcal{E}_t$, $\mathcal{G}_t$, $\mathcal{O}_t$, or M_t . The term *generative relation* should therefore be reserved for cases in which a relation participates in such structural production rather than for every interaction whatsoever.

Definition 2.5 (Generative relation). A relation is *generative* with respect to a specified system and scale when its formation, persistence, transformation, or dissolution contributes to changing the conditions of subsequent generation—including the constitution of future relata, relation types, observables, generative mechanisms, or effective possibilities.

This definition is deliberately functional rather than metaphysically absolute. The same relation may be generative with respect to one phenomenon and merely transmissive with respect to another. A monetary transfer may change only account balances in a narrow accounting model; in a broader historical setting, recurrent monetary relations may help generate creditworthiness, markets, institutions, classifications of risk, or dependencies that subsequently reorganize the field of possible exchange. Whether a relation is generative is therefore an empirical and theoretical question concerning what later structures depend upon it.

Criterion 2.6 (Evidence of generativity). A claim that a relation is generative should identify at least one downstream structural change that cannot be adequately represented as a mere change in the values of already fixed variables. Relevant evidence may include the appearance or disappearance of effective relata, new relation types, new observables, altered update mechanisms, changed boundary conditions, or a transformed space of meaningful possibilities.

The criterion protects GR against a temptation to rename all causation “generation.” If A causes B while the kinds A and B , their relation, and the space of possible outcomes remain fixed, ordinary causal language may be sufficient. Generativity becomes analytically useful when causation modifies the architecture through which later causation is organized.

One politically important form of generativity is *capacity generation*. Educational relations can impose discipline while producing linguistic, technical, or civic capacities that later enlarge what an agent can do. A legal form can restrict permissible action while creating capacities for collective ownership, contracting, representation, or appeal that would not exist outside that institutional arrangement. Another form is *category generation*: administrative practices may stabilize classifications that subsequently shape who can make claims, how evidence is recorded, or what forms of difference become politically salient. A third form is *generator transformation*: repeated interactions may alter the rule by which future interactions are selected, evaluated, or sanctioned.

Principle 2.7 (Recursive generativity). The output of a generative process may re-enter subsequent rounds of generation as a relatum, constraint, resource, observable, rule, or environmental condition. Generativity is therefore potentially recursive rather than a one-directional passage from lower-level interactions to a terminal higher-level product.

The principle of recursive generativity is central to GR because it prevents emergence from being treated as an explanatory endpoint. If repeated exchange generates a currency institution, that institution subsequently reorganizes exchange. If interactions generate trust, the resulting trust changes which future interactions become possible and how costly they are. If classification practices generate a category, that category can alter behavior, administrative records, self-understanding, and later classification. The emergent structure is both produced and productive.

Remark 2.8 (Generation does not imply intentional creation). The term *generative* does not imply that a structure was consciously designed. Deliberate institution-building is one possible mechanism of generation, but emergent realities may also arise from decentralized interaction, path dependence, conflict, learning, ecological coupling, technological change, stochastic perturbation, or other processes without a single author or plan.

This is one reason GR can connect political philosophy to modern dynamical and field-theoretic languages without reducing politics to engineering. A generative system can contain design, but it can also exceed design. Governance itself then becomes one generative intervention among others, operating inside a field whose future organization is only partially controllable.

2.3 Historical Trajectories and Relational Transformation

If relations are generative, political history cannot be represented adequately as a sequence of independent snapshots. The path through which a configuration is produced may affect its later capacities even when two configurations appear similar under a restricted set of observables. GR therefore treats historical trajectory as a potentially constitutive object of analysis.

Let

$$\mathcal{H}_{[t_0, t]} = \{\Xi_\tau \mid t_0 \leq \tau \leq t\}$$

denote a history of effective system descriptions. This notation does not assume continuous time, deterministic dynamics, or complete observability. Its purpose is simply to preserve the possibility that the present configuration depends upon more than the presently measured state. A system may store history in institutions, habits, archives, infrastructures, embodied capacities, legal precedents, ecological changes, technological standards, or distributions of trust and expectation.

Distinction 2.9 (State equivalence and trajectory equivalence). Two political configurations can be equivalent with respect to a selected set of present-state observables while remaining non-equivalent with respect to their generative histories. GR therefore distinguishes *state equivalence* from *trajectory equivalence*. The former concerns similarity at a selected time and description; the latter additionally concerns the historical processes through which the configurations were produced and the generative capacities those histories leave behind.

The distinction is normatively important. Imagine two institutions that currently distribute an identical material benefit. One arose through voluntary association under conditions of equal participation; the other through coercive dispossession followed

by partial compensation. A purely synchronic distributive description could treat the present allocation as equivalent, while a trajectory-sensitive analysis may identify continuing claims, damaged relations, missing records, inherited dependencies, or altered capacities that make the situations politically different. The point is not that history automatically settles normative judgment. It is that historical generation can be part of the object to which normative judgment is appropriately addressed.

A trajectory-sensitive framework also clarifies why reversing an intervention need not restore the prior state. If a policy, war, technology, or institution has changed $\mathcal{E}$, $\mathcal{R}$, $\mathcal{G}$, $\mathcal{O}$, or M , removing the initiating condition may leave the generated structures intact. Later sections will connect this possibility to path dependence, hysteresis, metastability, and other dynamical concepts. At the foundational level, GR needs only the weaker commitment that historical transformations may be *non-invertible* at the effective level relevant to political inquiry.

Claim 2.10 (Historical non-equivalence of reversal). Within a generative-relational system, the removal of a cause or constraint need not restore the relational configuration that preceded it, because the intervening history may have generated new entities, expectations, capacities, records, dependencies, or rules that persist after the initiating condition disappears.

This claim helps distinguish generative history from a model in which politics simply changes parameter values on a stable background. Consider an authoritarian surveillance infrastructure that is later legally prohibited. The legal prohibition may remove a formal power while leaving databases, organizational routines, learned self-censorship, technical standards, and altered expectations of privacy. Conversely, a temporary educational or welfare institution may disappear while leaving capacities and networks that continue to support agency. In both cases, the historical path has become sedimented into later relations.

The same logic applies to conceptual history. A political vocabulary once generated can remain available even after the institutions that gave rise to it disappear. New categories can reorganize older experiences retrospectively, while lost categories can render earlier distinctions difficult to recover. Political history therefore includes transformations in what can be said, measured, remembered, or compared, not only transformations in what actors do.

Principle 2.11 (History as generative memory). GR treats history not merely as an ordered list of past events but as the persistence of generated structures that condition present and future relation formation. Historical relevance is established when past transformations remain encoded in effective entities, relations, observables, capacities, constraints, or generative mechanisms.

This formulation avoids the opposite danger of declaring every past event permanently relevant. GR does not require infinite historical regress. A model can truncate history when earlier differences no longer make a relevant difference to the phenomenon under investigation. The burden is methodological: the truncation should be justified by the research question rather than imposed because a present-state representation is more convenient.

2.4 Emergent Realities and Recursive Relational Re-Entry

The language of emergence is often used loosely to describe any macro-level pattern produced by many interactions. GR requires a more specific concept because emergent reality performs ontological work in the framework. An effective reality is not simply a

pattern noticed by an observer. It is a pattern sufficiently stabilized to participate in the organization of subsequent relations at the scale of inquiry.

Definition 2.12 (Effective emergent reality). An *effective emergent reality* is a relationally generated structure that acquires sufficient persistence, differentiation, and causal, constitutive, epistemic, or normative consequence to function as an identifiable object or condition in subsequent processes at a specified scale.

The qualifier *effective* is essential. GR does not infer from the political reality of money, citizenship, a corporation, a norm, a classification, or an AI-mediated relationship that each has the same metaphysical status. Nor does it require a final answer to the ultimate ontology of every relatum before analysis can proceed. A corporation can be politically real because laws, records, offices, assets, liabilities, and collective practices allow it to enter contracts and bear obligations. A currency can be economically and politically real because institutions and expectations make it usable as a medium of exchange, unit of account, reserve, and object of policy. A divine or transcendent object can be relationally consequential within a community because practices organized around it generate obligations, identities, institutions, and actions, even when the metaphysical status of that object remains contested. A human–AI relation can become politically consequential through dependence, delegation, trust, authority, or knowledge production without first resolving whether the AI possesses human-equivalent consciousness.

Distinction 2.13 (Effective reality and ultimate ontology). The claim that a relation or emergent structure is effective within a generative system does not settle the ultimate metaphysical status of the relata or the structure. GR therefore separates the question *what difference does this structure make within the system?* from the question *what ultimately exists?*

This distinction is one of the mechanisms by which GR can remain domain-general without flattening ontological differences. It permits common analysis of generative roles while leaving open whether the entities occupying those roles are persons, institutions, artifacts, symbolic objects, biological subsystems, or other forms of organization. What must be established is not ontological sameness but relational consequence.

The recursive character of emergence can be represented schematically as

$$\mathcal{R}_t \longrightarrow \mathcal{E}_{t+1} \longrightarrow \mathcal{R}'_{t+1},$$

where an emergent structure $\mathcal{E}_{t+1}$ becomes a condition or relatum of later relations. The prime indicates that the later relational space is not merely the original space with an additional value. The emergent structure may have changed which relations are available or meaningful.

Proposition 2.14 (Re-entry and endogenous ontological change). *If a relationally generated structure becomes an effective relatum or condition of later relation formation, then the ontology required for the later effective description cannot in general be assumed to be identical to that of the earlier description. Recursive re-entry therefore provides one mechanism of endogenous ontological change within GR.*

The proposition is intentionally modest. It does not assert that every emergence changes ontology in a philosophically deep sense. It states that once an emergent structure must be represented as a new effective object or condition, the descriptive ontology of the model has expanded or reorganized. The question of whether that effective change corresponds to a deeper metaphysical novelty remains separate.

Example 2.15 (Trust as recursively generative). Repeated interactions between agents may generate a relatively stable relation of trust. Trust is not merely a summary of past behavior if it subsequently alters what each agent is willing to disclose, delegate, risk, or coordinate. It can lower transaction costs, open actions that were previously unavailable, and change responses to ambiguous evidence. The emergent trust relation therefore becomes generative of later relations. Its breakdown can likewise reorganize the future interaction space.

Example 2.16 (Currency as an emergent relatum). Exchange practices, accounting conventions, institutions, law, material tokens or digital records, and expectations can together stabilize a currency. Once stabilized, currency is no longer adequately represented only as the aggregate of the exchanges that produced it. Persons and institutions form new relations *to* currency—holding, borrowing, pricing, taxing, speculating, denominating obligations, or governing its issuance. A generated structure has re-entered the system as a relatum and reorganized subsequent possibilities.

These examples point toward a broader GR conception of reality. Political worlds are populated by entities that are neither timeless primitives nor mere illusions because they are historically generated. Their reality can consist precisely in their capacity to stabilize and reorganize relations. The task is therefore to analyze the conditions of emergence, persistence, transformation, and re-entry rather than to force all politically effective objects into a binary choice between fundamental substance and unreality.

2.5 Political Philosophy within a Generative Relational System

Once political objects, relations, and evaluative capacities are understood as potentially generated, political philosophy itself becomes part of the system it studies. Concepts such as freedom, domination, harm, responsibility, justice, legitimacy, and good governance do not appear from nowhere. They possess conceptual histories, institutional supports, linguistic forms, exemplars, practices of application, and changing relations to evidence. The political philosopher therefore cannot simply assume an Archimedean position outside history from which all relational worlds are evaluated under an unchanged vocabulary.

This does not entail that normative judgment collapses into genealogy. To explain how a concept of justice emerged is not to establish that the concept is valid; to show that a norm is historically contingent is not to refute it; and to demonstrate that an evaluative capacity is relationally constituted is not to show that all evaluations are equally defensible. GR's foundational move is instead to make the relation between genesis and validity an explicit philosophical problem.

Distinction 2.17 (Normative genesis and normative validity). *Normative genesis* concerns the historical-relational processes through which evaluative distinctions, sensibilities, concepts, institutions, and practices become available. *Normative validity* concerns whether a judgment or principle is justified. GR treats these questions as coupled but non-identical.

Political inquiry therefore acquires a reflexive structure. The objects of inquiry have histories; the observables through which they are represented have histories; the methods that render evidence intelligible have histories; and the evaluator's own categories have histories. Yet inquiry must still make distinctions, criticize power, compare alternatives, and act. GR responds by treating reflexivity not as a reason to abandon judgment but as a requirement to include the evaluator and the conditions of evaluation within the theory's account of generation.

Principle 2.18 (Embedded evaluation). A GR political analysis should, where relevant, represent the evaluator, method, and normative vocabulary as historically situated components of the relational system rather than as automatically exempt backgrounds. Reflexive inclusion does not invalidate evaluation; it requires the grounds and conditions of evaluation to be made explicit.

The structure can be represented schematically as a recursive cycle:

relational world → effective reality → observation
→ evaluation → action → new relational world.

Each arrow may itself depend upon institutions, technologies, concepts, bodies, histories, and power relations. Observation is not automatically neutral; evaluation is not automatically external; action does not simply select among fixed outcomes. Action can alter what becomes observable and what later forms of action become possible. The cycle therefore connects political ontology, epistemology, aesthetics, ethics, decision, and governance without reducing them to one another.

Claim 2.19 (Political philosophy as coupled generative inquiry). Within GR, political philosophy is not only the evaluation of already specified political states. It is the coupled investigation of how political realities are generated, how they become observable and evaluable, how judgments acquire or fail to acquire normative force, and how interventions reshape the relational conditions of future reality and judgment.

This claim explains why GR has the potential to operate as a philosophical meta-language while the present paper remains centered on political philosophy. Political questions repeatedly cross domain boundaries. Freedom requires an ontology of agents and possibilities; justice requires epistemic access to harms and relations; legitimacy depends upon concepts of authority and justification; governance requires decision under uncertainty; political imagination and evaluative salience implicate aesthetics; historical judgment requires an account of changing evidence, methods, and evaluators. GR's proposal is not to erase these domains, but to provide a common generative grammar through which their couplings can be investigated.

Limitation 2.20 (A framework rather than a completed substantive theory). The foundations developed in this section do not by themselves determine which political relations are just, which emergent realities ought to be preserved, or which transformations should be pursued. They specify a mode of inquiry and an ontology of possible generation. Substantive normative conclusions require additional arguments, evidence, and criteria that cannot be derived from generativity alone.

The limitation is decisive for the remainder of the paper. GR is not valuable merely because it can redescribe political concepts as emergent. It must show that the reconstruction generates distinctions, comparisons, and questions that existing approaches leave underdeveloped, while remaining capable of normative criticism. The next section therefore turns to the framework's principal intellectual ancestry. Historical materialism already provides a powerful account of historically constituted social reality, relational social forms, and qualitative transformation. GR should be understood as developing from that inheritance rather than as discovering history or relationality anew. The issue is what changes when the historicizing impulse is extended to the background, the relational domain, the mechanisms of generation, and the effective ontology through which political reality itself becomes describable.

3 Historical Materialism as an Intellectual Foundation of GR

Generative Relational theory does not enter political philosophy from outside the historical-materialist tradition. Its earliest intuitions belong to a problem-space made possible in large part by Marxian thought: social forms are historically constituted rather than timelessly given; apparently natural institutions can be products of determinate relations; human subjects act within inherited material and social conditions; and the reproduction of a social order depends upon processes that can also generate its transformation. The relation between GR and historical materialism should therefore be described genealogically before it is described comparatively. GR inherits the historicizing impulse and relational orientation of historical materialism, then asks how far those commitments can be extended when the background of inquiry, the domain of relations, the mechanisms of generation, and the categories of evaluation are themselves made dynamical.

This genealogy requires caution. Marx did not leave a single systematic treatise entitled “historical materialism,” and the theory of history attributed to him has been reconstructed from texts written for different purposes and in different periods. The 1859 *Preface to A Contribution to the Critique of Political Economy* acquired canonical status, but interpretations of its explanatory commitments remain contested (Wolff and Leopold 2025). Earlier manuscripts such as *The German Ideology* formulate historical explanation through material life, production, cooperation, intercourse, and the development of social forms (Marx and Engels 1845); concrete historical writings such as *The Eighteenth Brumaire of Louis Bonaparte* simultaneously insist that human beings make history and that they do so under inherited circumstances not of their own choosing (Marx 1852). Later analyses of commodity form and fetishism show how historically specific social relations can acquire objective and apparently thing-like forms (Marx 1867). Any GR inheritance adequate to this textual field must therefore be richer than a mechanical picture in which an economic “base” unidirectionally determines every other social phenomenon.

Inheritance 3.1 (Historical materialism as a constitutive ancestry). GR inherits from historical materialism at least four foundational commitments: the historical constitution of social reality, the explanatory importance of relations rather than isolated substances, the dependence of agency upon inherited conditions, and the possibility that accumulated relational contradictions or transformations reorganize the form of social life itself. GR’s later departures presuppose rather than erase this inheritance.

The role of this section is accordingly not to establish a contrast between a supposedly static Marxism and a dynamic GR. Such a contrast would be historically and philosophically weak. The more demanding task is to identify the point at which a historical-materialist ontology of social formation becomes a more general generative-relational ontology in which no single domain of relation, scale of analysis, set of political subjects, or state space is granted permanent privilege in advance. That transition will matter throughout the paper’s later comparisons with liberalism, republicanism, genealogy, critical theory, and process philosophy.

3.1 Historical Constitution of Social Reality

A decisive contribution of historical materialism to political philosophy is the relocation of social and political forms from the register of timeless necessity to that of historical production. Institutions, property forms, divisions of labour, classes, legal arrangements, and forms of consciousness are not adequately understood by treating them as

expressions of an abstract human essence or as fixed containers within which history takes place. They arise within determinate modes of material life and are reproduced through ongoing activity. *The German Ideology* repeatedly links social and political structure to the life-process of concrete individuals acting under material conditions, while also presenting cooperation, division of labour, and intercourse as historically variable forms through which social organization develops (Marx and Engels 1845).

This move changes the grammar of political explanation. Instead of asking only what an institution *is*, historical materialism asks through what relations and material practices it was produced, what conditions reproduce it, what conflicts it organizes, and under what changing conditions it can cease to be adequate to the social processes that sustain it. A category such as property thereby acquires a history. So do classes, forms of exchange, legal arrangements, and the political structures that mediate them. The object of analysis is not merely a sequence of institutional snapshots but a relation between social forms and the processes through which they are continually reproduced and transformed.

Principle 3.2 (Historical constitution). A social or political form should not be treated as ontologically primitive merely because it is stable at the time of observation. Its present stability is compatible with historical generation, dependence upon reproducible relations, and eventual transformation.

GR adopts this principle almost without modification. Indeed, the later GR distinction between *stability* and *fundamentality* is a direct generalization of the historical-materialist intuition that durable forms can be historically specific. A commodity relation, property regime, class structure, or state form can govern social life with great regularity while remaining the product of a particular relational history. Stability is therefore something to explain, not evidence that a form belongs to the permanent furniture of political ontology.

The importance of inherited conditions is equally central. Marx's formulation in the *Eighteenth Brumaire* that human beings make their own history under circumstances transmitted from the past prevents historical materialism from reducing history either to voluntarism or to automatic structure (Marx 1852). Agents inherit languages, property relations, institutions, symbolic repertoires, technologies, debts, organizational forms, and material constraints. Yet the inherited configuration exists through action and can be reorganized by action. Historical agency is therefore neither creation *ex nihilo* nor mere execution of a structural script.

GR retains this double determination but gives it a more explicit generative form. Let H_t denote the inherited historical configuration available at time t , $\mathcal{R}_t$ the effective relational organization, and a_t an intervention by one or more agents. A minimal historical transition can be written schematically as

$$(H_t, \mathcal{R}_t, a_t) \longmapsto (H_{t+1}, \mathcal{R}_{t+1}).$$

The point of the notation is not to redescribe Marx mathematically. It is to expose a structural commitment already present in the historical-materialist inheritance: action is conditioned by a history that action can itself modify. GR subsequently radicalizes the schema by allowing the kinds of relata, the generative rule, and the effective possibility space to change as part of the transition.

Distinction 3.3 (Historical conditioning and historical determination). To say that agents act under inherited historical conditions is not to say that a complete future trajectory is uniquely determined by those conditions. Conditioning specifies dependence and constraint; determination in the stronger sense would require a rule that fixes the later state. GR inherits the former claim without assuming the latter.

This distinction will become especially important when GR later introduces attractors, bifurcations, metastability, criticality, and path dependence. Those formalisms permit structured historical constraints without requiring a single predetermined path. The historical-materialist insight is therefore not superseded by nonlinear dynamics; it supplies the substantive problem to which a richer dynamical vocabulary can later be applied.

3.2 Social Relations and Relations of Production

Historical materialism is relational in a stronger sense than the claim that people influence one another. The relevant units of explanation are frequently positions and relations constituted within a mode of production: relations among producers, owners, workers, means of production, legal forms, exchange practices, and institutions. In the 1859 *Preface*, Marx describes individuals as entering definite relations of production corresponding to a given development of productive forces and treats the totality of these relations as constitutive of the economic structure of society (Marx 1859). Whatever interpretive disputes surround the priority assigned to productive forces or economic structure, the explanatory architecture is already irreducibly relational.

The analysis of commodity form makes this even clearer. In *Capital*, value is not presented as a physical ingredient hidden inside an isolated commodity. It has a specifically social reality and manifests through relations among commodities that mediate relations among producers (Marx 1867). Commodity fetishism is philosophically important for GR because it shows how a relation generated through social practice can appear as an objective property of things and then act back upon participants as an apparently independent social reality. The point is not that the emergent form is unreal. On the contrary, its practical efficacy is part of the problem: socially generated forms can acquire objective force precisely because actors reproduce relations through them.

Inheritance 3.4 (Relational objectivity). GR inherits from Marxian analysis the possibility that historically generated relations can stabilize into objective social forms whose effects cannot be reduced to the intentions or beliefs of the individuals who participate in them.

This inheritance anticipates GR's later concept of *effective reality*. Money, commodities, firms, legal persons, property titles, and institutions can be generated historically yet become indispensable relata in later interactions. Their generated status does not make them fictitious; their reality is demonstrated partly by the difference they make to subsequent relational possibilities. Marxian analysis of commodity form therefore supplies an important precursor to GR's claim that emergent structures can re-enter a system as conditions of further generation.

At the same time, GR eventually generalizes the domain of relevant relations beyond the social relations privileged by historical materialism. This extension should not be confused with a denial of production or materiality. Production relations can remain decisive in a concrete analysis when they actually organize the dynamics under investigation. The difference is methodological: GR does not decide in advance that every politically significant relation must ultimately be represented as a production relation or reduced to a human-human social relation. Human-AI, human-currency, human-institution, human-environment, organism-environment, neuron-neuron, and cross-scale relations can become theoretically relevant when they participate in the generation of the political phenomenon at issue.

Distinction 3.5 (Relational constitution and a fixed relational ontology). Historical materialism demonstrates that social forms can be constituted through historically specific

relations. GR accepts this claim while declining to infer that the admissible *types* of relation are therefore fixed in advance. A theory can be relational while still presupposing a stable ontology of relata and relation types; background-independent generative relationalism makes those presuppositions revisable.

This is one of the earliest points at which GR begins to move beyond its ancestry. Marxian political economy identifies extraordinarily powerful relational structures—capital and wage labour, commodity exchange, property, class, production, cooperation. GR asks a more abstract question: what theoretical language can represent situations in which new classes of relation themselves emerge, acquire stability, couple across scales, and alter the types of entity that later analysis must recognize? The answer cannot be supplied simply by adding more entries to a list of social relations. The framework must represent the generation and transformation of the relational domain itself.

Marx's 1857 introduction to the critique of political economy also warns against treating production, distribution, exchange, and consumption as simply independent compartments. He describes reciprocal determination among these moments while preserving their real differences (Marx 1857). That interactional picture is important for GR because it discourages a simplistic linear causal chain. A generated order may depend upon loops: exchange conditions production, production reorganizes consumption, distribution shapes both, and institutional consequences return to alter the field. GR's later field and dynamical language develops this insight in a more general form.

3.3 Dialectical Transformation and Historical Becoming

A second major inheritance is the refusal to conceptualize history as a smooth accumulation of independent events. In the 1859 *Preface*, Marx describes a conflict in which productive forces can come into tension with existing relations of production, after which relations that previously facilitated development can become fetters and an epoch of social transformation can begin (Marx 1859). The formulation is not a theory of critical phenomena in the modern mathematical sense, but it articulates a structural intuition crucial to later GR: the same relational organization can change its functional role as the wider configuration changes, and accumulated development can eventually require qualitative reorganization of the social form.

Later Marxian and Engelsian formulations made the vocabulary of qualitative transformation more explicit. Engels's discussion of the transformation of quantity and quality in *Anti-Dühring* systematized a dialectical claim that incremental quantitative variation can be associated with qualitative differences (Engels 1878). GR should neither retroactively redescribe this as nineteenth-century bifurcation theory nor treat modern nonlinear dynamics as a confirmation of dialectical materialism. The historically responsible claim is more modest: the Marxian dialectical tradition preserved a philosophical sensitivity to thresholds, contradictions, qualitative reorganization, and the non-proportionality of historical change before contemporary social science possessed today's differentiated mathematical vocabulary for nonlinear systems.

Inheritance 3.6 (Qualitative historical transformation). GR inherits the proposition that historical development may alter the organization of a social system qualitatively rather than merely changing the numerical values of otherwise fixed variables.

Warning 3.7 (Dialectics and nonlinear dynamics are not equivalent). Attractors, bifurcations, criticality, phase transitions, metastability, hysteresis, and symmetry breaking have distinct mathematical meanings. They should not be treated as interchangeable translations of “dialectics,” “contradiction,” or “quantity into quality.” GR uses them to

differentiate possible mechanisms of transformation, not to redescribe every dialectical claim in physical terminology.

This warning marks an important methodological difference. A unitary vocabulary of contradiction and qualitative transformation can identify a family of historical problems without determining which mechanism generates a particular transition. Modern dynamical systems and statistical physics permit more specific questions: Is the observed stability attractor-like? Does a slowly varying parameter produce a bifurcation? Is a regime metastable? Does the return path differ from the forward path? Are fluctuations amplified near a critical region? Do several basins coexist? These questions do not invalidate dialectical analysis; they decompose an historically broad intuition into candidate mechanisms that can, in principle, be modeled and empirically discriminated.

The *Eighteenth Brumaire* adds another dimension by showing that historical transformation is mediated by inherited symbols, political organizations, class configurations, strategic action, and contingent sequences rather than by a single automatic economic mechanism (Marx 1852). Engels later explicitly rejected the reduction of the materialist conception of history to the claim that the economic factor is the only determining one, emphasizing interaction among economic conditions, political forms, legal structures, theories, and religious ideas (Engels 1890). These texts matter for GR because they block an easy but misleading contrast between “economic determinism” and “relational dynamics.” The stronger Marxian tradition already contains reciprocal influence, historical contingency, and differentiated causal levels.

Claim 3.8 (GR extends rather than replaces dialectical historicity). GR’s use of modern dynamics is best understood as an extension of the problem of historical transformation. It preserves the Marxian concern with internally generated structural change while replacing any expectation of a single universal transition mechanism with a plural repertoire of formally distinguishable generative dynamics.

This pluralization has consequences for political philosophy. If social transformation can proceed through several dynamical mechanisms, normative judgments about intervention cannot assume that every undesirable structure responds to the same strategy. A system trapped in a metastable configuration raises different practical questions from one near a bifurcation; a relation reproduced by a large basin of attraction differs from a fragile convention; hysteretic institutions cannot necessarily be restored simply by reversing the intervention that altered them. GR’s later governance theory is partly motivated by this methodological lesson: understanding the form of generative dynamics is relevant to the ethics and feasibility of political action.

3.4 Historical Constitution of Subjects and Institutions

Historical materialism also destabilizes the idea of the political subject as an isolated and historically invariant individual. Marx’s sixth *Thesis on Feuerbach* famously rejects an abstract human essence located in each individual and instead directs analysis toward the ensemble of social relations (Marx 1845). The exact interpretation of this compressed statement is disputed, but its anti-atomistic consequence is clear enough for the present argument: political subjects cannot be adequately understood independently of the social relations through which their capacities, positions, needs, and forms of activity are constituted.

The German Ideology develops this point historically. Individuals act from themselves, but their needs, productive capacities, division of labour, modes of intercourse, and relations to others are already socially and materially conditioned; those relations are then reproduced through individual activity (Marx and Engels 1845). The resulting

picture is neither a simple dissolution of individuals into structure nor the liberal image of antecedently complete persons voluntarily entering relations. Subjects and relations are co-constituted through historically specific forms of life.

Inheritance 3.9 (The historically constituted subject). GR inherits the rejection of an ahistorical political subject. Capacities for agency, dependence, recognition, production, judgment, and collective action can be constituted through relations that precede the particular choices in which those capacities are exercised.

This inheritance directly informs the GR reconstruction of freedom. If subjects and their capacities are historically constituted, then freedom cannot be exhausted by counting unblocked choices available to a fully specified agent at an instant. The relations that generated the agent's capacities and the topology of the available choice space become normatively relevant. GR later extends this insight by treating both agent and possibility space as potentially emergent variables.

Institutions present a parallel case. They are not simply external constraints imposed upon already complete individuals. Legal forms, property regimes, monetary systems, educational systems, bureaucracies, markets, and states can create positions, capacities, dependencies, and categories of action that would not otherwise exist in the same form. Institution and subject therefore participate in recursive generation. A corporation, for example, is generated through legal, economic, organizational, and material relations; once stabilized, it becomes an actor capable of entering contracts, owning property, employing persons, influencing law, and generating further institutions. The product of prior relations becomes a relatum in later relations.

This structure is already anticipated by Marx's analysis of commodity fetishism. Social relations can become objectified in forms that confront participants as external and objective conditions (Marx 1867). GR generalizes the mechanism beyond commodity production: generated institutional objects can acquire causal and normative salience, restructure later possibilities, and be experienced as realities that precede the agents who encounter them.

Proposition 3.10 (Institutional re-entry). *When a historically generated institution becomes a relatively stable condition for later action, it participates in the generation of the subjects, options, classifications, and relations that subsequently reproduce or transform it. Institution formation is therefore potentially recursive rather than merely additive.*

The proposition does not imply that institutions possess agency in the same sense as persons. GR's generalized relational language distinguishes functional participation in generation from claims about consciousness, intention, or moral status. This distinction will later permit analysis of human–institution and human–AI relations without prematurely settling the ontology of each relatum.

3.5 The Historicizing Impulse beyond Fixed Social Categories

The most important inheritance for GR may be methodological rather than doctrinal: categories that appear universal from within one historical order can be historically specific forms of that order. Marx's critique of political economy repeatedly treats economic categories as expressions of determinate social relations rather than timeless descriptors of all possible economies. In *Capital*, the forms of commodity and value are intelligible only within specific social relations of production and exchange (Marx 1867). The 1857 introduction similarly warns against abstracting categories from their determinate relations and notes uneven development among production, law, art, and other social forms (Marx 1857).

GR takes this historicizing operation and turns it recursively upon the categories used by political philosophy itself. “Individual,” “community,” “property,” “labour,” “citizen,” “freedom,” “normality,” “evidence,” “harm,” and “justice” can all have histories of articulation, institutionalization, measurement, and contestation. The framework therefore asks not only whether a category correctly evaluates a political world but how the world became legible through that category and what relations sustain its continued applicability.

Extension 3.11 (Recursive historicization). GR extends the historicizing impulse from social and economic categories to the background categories of inquiry: *relata*, relation types, observables, methods, evaluative capacities, normative vocabularies, and possibility spaces may themselves have generative histories.

This extension does not entail that every distinction is merely local convention or that cross-historical criticism is impossible. Historicity and arbitrariness are different claims. A category can be historically generated yet respond to stable constraints; an evaluative concept can acquire new articulation while tracking harms or relations that existed before the concept was available; an invariant can permit comparison across changing representations. Indeed, the problem of cross-historical judgment becomes more precise once we stop assuming that the same conceptual coordinates were always available.

Distinction 3.12 (Historical genesis and conceptual arbitrariness). The historical genesis of a category establishes that its availability, articulation, or institutional use has a history. It does not by itself establish that the category is arbitrary, false, normatively invalid, or incapable of referring across historical contexts.

This distinction is especially important for GR’s later account of truth, normality, and justice. A society may lack a stabilized concept for a relation that later becomes recognizable as domination or discrimination. The absence of the later vocabulary does not show that the earlier relation lacked consequences. Conversely, the later availability of a category does not automatically validate every application of it. GR therefore separates three questions that historical inquiry often conflates: whether a relation existed, whether it was recognizable under the epistemic resources of a period, and whether a later evaluative judgment about it is justified.

The recursive historicization of method also follows. Historical materialism made the theorist’s categories answerable to historical social relations; GR extends that reflexivity by treating methods and evaluators as potentially evolving components of the system. The instruments through which a society records harm, classifies persons, constructs statistics, evaluates evidence, or defines legitimate governance can themselves change. A method can be adequate to one relational world and systematically blind in another. Hence the GR claim developed later in the paper: methods and evaluators have histories too.

3.6 The Transition from Historical Materialism to Generative Relationalism

The transition from historical materialism to GR can now be stated without either minimizing the Marxian inheritance or exaggerating GR’s novelty. GR does not discover that social reality has a history, that subjects are relationally constituted, that institutions can reproduce power, or that historical transformation can be nonlinear and qualitative. These are among the insights from which GR begins. Its distinctive move is to ask

what happens when the historicizing operation is extended to structures that many theories must provisionally hold fixed in order to function.

The first extension is *background independence*. Historical materialism makes social formations dynamic, but a concrete historical-materialist explanation can still operate with a relatively stable set of categories—production, productive forces, relations of production, class, state, ideology, subject—through which change is described. GR asks whether the relevant set of relata, relation types, observables, and state spaces must itself remain fixed. In schematic form, history is not restricted to

$$x_t \longrightarrow x_{t+1}, \quad x_t, x_{t+1} \in M,$$

but may include

$$M_t \longrightarrow M_{t+1}.$$

The effective space in which political states can be represented may itself be historically generated.

The second extension is the *generalization of the relational domain*. Relations of production remain possible and often indispensable explanatory objects, but GR does not grant them exclusive ontological jurisdiction. Human–AI, human–currency, human–institution, human–environment, neural, ecological, symbolic, and cross-scale relations may enter the same analysis where they are generatively relevant. This permits the Marxian insight that reality is relationally constituted to travel beyond a specifically social ontology without forcing all domains into one material or economic model.

The third extension is *recursive generativity*. Historical change is not represented only as the transformation of already specified relations. Relations may generate new relata, new relation types, new observables, new institutions, new rules of generation, and new possibility spaces. The products of one stage can return as inputs to the next:

$$\mathcal{R}_t \longrightarrow \mathcal{E}_{t+1} \longrightarrow \mathcal{R}'_{t+1}.$$

GR therefore places special emphasis on the transformation of the mechanisms by which future relations are generated.

The fourth extension is the *provisional invariance-first ontology*. Historical materialism supplies no requirement that symmetry or invariance be treated as the deepest working primitive. GR introduces that assumption in order to ask how continuity, identity, and equivalence can be represented when particular objects, relations, and backgrounds change. The assumption is deliberately revisable. It does not establish symmetry as the ultimate substance of reality, nor does it turn political symmetry into a normative ideal.

The fifth extension is an *integrated formal research language*. Marxian dialectics provides a broad vocabulary of contradiction, transformation, and qualitative change. GR supplements this inheritance with dynamical systems, statistical physics, field-theoretic reasoning, symmetry, representation theory, geometry, topology, and algebraic composition. These resources are not invoked as proof that political reality obeys physical laws. They provide candidate formalisms for distinguishing different generative mechanisms and for specifying when a physical analogy has or has not been earned.

Synthesis 3.13 (From historical materialism to generative relationalism). The GR transition can be summarized as follows:

historical constitution of social forms	→	background-independent historical constitution
social and production relations	→	a generalized relational domain
historical transformation	→	recursive generativity
dialectical qualitative change	→	a plural formal language of generative dynamics
historically situated categories	→	historically situated observables, methods, and evaluators

The arrows denote extension and abstraction rather than rejection.

The final qualification is essential. GR should not present itself as an escape from materiality. Bodies, infrastructures, energy, technologies, productive capacities, ecological limits, and material dependencies constrain political generation regardless of whether a framework grants them ontological priority. Nor should GR present itself as a theory that has already superseded historical materialism. Its wider relational scope and mathematical vocabulary create new explanatory obligations: it must specify when a relation is causally or constitutively relevant, how cross-scale models can be operationalized, which invariances are empirically meaningful, and how normative judgment remains possible when evaluative categories are themselves historical.

Limitation 3.14 (Extension without automatic explanatory gain). A framework is not improved merely by admitting more relation types, more scales, or more mathematical formalisms. GR's extension of historical materialism is theoretically valuable only where the added structure yields clearer explanations, discriminable mechanisms, better representations of emergence, or more adequate normative analysis.

The intellectual relation is therefore best described neither as identity nor as rupture. Historical materialism provides GR with the conviction that political reality is made and remade through historically specific relations rather than revealed as a fixed natural order. GR extends that conviction toward the background conditions of inquiry itself. The next section develops the first consequence of this extension by widening the relational domain beyond human social and production relations while preserving the requirement that every admitted relation have a specified generative role.

4 The Generalized Relational Domain

The extension from historical materialism to Generative Relational theory changes not only how relations are modeled but also which relations may count as philosophically primary objects of inquiry. Marxian analysis already undermines the isolated individual by locating persons, commodities, classes, and institutions within historically specific relations. GR retains this achievement while declining to restrict the admissible relational domain to human–human social relations, relations of production, or even relations whose relata belong to the same ontological scale. A political order can be generated through relations among persons, institutions, infrastructures, currencies, artificial systems, ecological environments, symbolic objects, religious or transcendent objects as encountered in practice, and sub-personal processes. The relevant question is therefore not whether a relation belongs in advance to a privileged category called “the social,” but whether it participates in the generation, stabilization, transformation, or intelligibility of the phenomenon under study.

This generalization has important precedents and must not be presented as if GR were the first framework to take heterogeneous relations seriously. Actor–network theory explicitly challenged the treatment of “the social” as a special explanatory substance

and traced associations through heterogeneous human and nonhuman participants (Latour 2005). Haraway’s work on companion species develops forms of becoming and world-making across human–animal relations (Haraway 2007). Extended-mind approaches investigate cases in which cognition is constituted through organized coupling between organism and environment (Clark and Chalmers 1998). Simmel’s analysis of money demonstrates how an apparently impersonal object can mediate and reorganize relations of value, exchange, individuality, and social life (Simmel 2004). GR’s claim is therefore not that heterogeneous relations were previously invisible. Its proposal is to place them within a common generative architecture while retaining criteria that prevent the relational domain from expanding into an undifferentiated claim that “everything is related to everything.”

Definition 4.1 (Generalized relational domain). For a given inquiry, the *generalized relational domain* is the set of relation types whose formation, persistence, transformation, or failure makes a specified generative difference to the effective entities, observables, trajectories, or normative possibilities under investigation. Membership is determined by generative relevance rather than by prior classification as social, economic, biological, technological, symbolic, or material.

The definition has two consequences. First, heterogeneity is admissible: relata need not be of the same type. Second, admissibility is not automatic. A relation must earn a place in the model through explanatory, constitutive, causal, or interpretive work. The generalized domain is therefore wider than a conventional social ontology but narrower than a metaphysics of universal connectedness.

Criterion 4.2 (Generative relevance). A candidate relation R_{ij} should enter a GR analysis only where there is a defensible account of how variation in R_{ij} changes at least one of the following: the effective state of a relatum, the formation of another relation, the available possibility space, an observable or classification, a generative mechanism, or an emergent evaluative structure.

This criterion also clarifies the relation between the present section and the paper’s background-independent commitment. Generalizing the domain does not mean fixing a larger master-list of relata once and for all. The set of politically relevant relation types can itself change historically. A relation that was technically impossible, institutionally meaningless, or epistemically unavailable at one time may become constitutive at another. Human–AI interaction is an obvious contemporary example: even before philosophy settles whether an artificial system possesses consciousness, personhood, or moral status, recurring relations with such systems can alter work, trust, authorship, knowledge practices, dependence, communication, and authority. GR can therefore study the generative reality of the relation without first resolving the ultimate ontology of every relatum.

4.1 Human–Human Relations

Human–human relations remain indispensable to GR. The generalized relational domain is not an attempt to displace interpersonal relations with a post-human inventory of objects. Kinship, friendship, domination, exchange, care, recognition, coercion, solidarity, contractual obligation, political representation, and trust continue to structure much of political life. What changes is their ontological status. GR does not assume that the parties to a relation enter it as fully constituted and unchanged substances. The relation can participate in generating the capacities, identities, expectations, and positions of the relata themselves.

A worker–employer relation, for example, is not exhausted by an interaction between two pre-political individuals. It is mediated by legal categories, ownership structures, labour markets, organizational routines, technologies, expectations, and histories of bargaining. Repeated participation can alter skills, dependencies, self-understandings, and future bargaining positions. Likewise, a relation of political representation can generate the very constituency it purports to represent by stabilizing categories, interests, and channels of articulation. The relata are therefore partly outcomes of prior relations and conditions of later ones.

Principle 4.3 (Relational co-constitution). When a relation recurrently alters the capacities, identities, expectations, or future relational positions of its relata, GR treats the relata and the relation as historically co-constituted rather than representing the relation as an external link between otherwise complete substances.

This principle preserves a central Marxian inheritance while making it more general. Social positions are not merely labels attached to independent persons; they can structure what persons are able to do, perceive, demand, and become. GR later extends the same logic to freedom, domination, political subjecthood, and justice. The human–human relation is thus the most familiar case of a broader generative pattern, not the template to which all other relations must be reduced.

4.2 Human–Institution Relations

Institutions introduce a first clear departure from dyadic interpersonal ontology. Courts, universities, corporations, states, churches, hospitals, markets, and administrative agencies are generated through human practices and material infrastructures, yet once stabilized they become effective relata in subsequent relations. Persons apply to universities, sue corporations, obey agencies, borrow from banks, appeal to courts, and negotiate with states. The institution is neither a simple human individual nor merely a verbal shorthand for a set of simultaneous interpersonal contacts. Its rules, archives, offices, procedures, property, technical systems, and legal continuity permit it to persist across turnover in individual participants.

This structure illustrates recursive generativity particularly clearly:

$$\mathcal{R}_{\text{persons}}^{(0)} \longrightarrow I \longrightarrow \mathcal{R}_{\text{person-}I}^{(1)},$$

where an institution I emerges from organized relations and subsequently becomes a relatum that conditions new relations. Political ontology therefore contains entities whose reality is neither independent of relations nor reducible at every analytical moment to the relations from which they arose.

Proposition 4.4 (Emergent relatum). *If a relationally generated structure acquires sufficient persistence, causal efficacy, recognizability, and capacity to constrain or enable subsequent relations, then it may be represented at a later scale of inquiry as an effective relatum without thereby being treated as ontologically fundamental.*

This proposition will be important for the paper’s later account of effective reality. The state, corporation, currency, norm, or category may be “real” in the sense required for explanation even if its existence depends upon ongoing relational reproduction. GR therefore avoids a false choice between reifying institutions as substances and dissolving them into momentary individual acts.

4.3 Human–Currency and Human–Object Relations

Money and material objects make the generalized domain more demanding because they expose how nonhuman entities can reorganize political possibility without being subjects in the ordinary sense. Simmel's *Philosophy of Money* famously analyzes money not merely as a neutral instrument but as a form that mediates exchange, valuation, individuality, freedom, and social distance (Simmel 2004). Marx's commodity analysis similarly demonstrates that material and symbolic forms can embody historically specific social relations (Marx 1867). GR inherits both insights while distinguishing the genealogy of an object from its later generative role.

Currency is generated through legal, institutional, symbolic, technological, and exchange relations. Once stabilized, however, it becomes an object around which further relations are organized. A person may accumulate it, owe it, trust it, reject it, convert it, inherit it, or be excluded from systems through which it circulates. Its presence can change the topology of possible exchange: relations that previously required direct reciprocity become mediated by a transferable representation of value. New institutions, contracts, dependencies, inequalities, and temporal relations of credit become possible.

The same logic applies to other artifacts. A passport, database, weapon, smartphone, land registry, identification card, or algorithmic score can mediate access, classification, memory, movement, authority, and recognition. The point is not that the object “acts” in exactly the same way as a person. Different relata possess different capacities and modes of participation. The generalized relational domain therefore requires heterogeneity without flattening.

Distinction 4.5 (Relational participation and ontological equivalence). To admit persons, institutions, currencies, technologies, and material objects into a common relational analysis is not to claim that they possess identical agency, consciousness, responsibility, or moral status. A common generative grammar permits heterogeneous modes of participation; it does not erase the differences among relata.

This distinction protects GR from a common problem in overly expansive relational vocabularies. If every participant is described with the same predicates, explanatory gain can be lost. GR instead asks what a given relatum can transmit, store, constrain, amplify, authorize, classify, or transform in a particular relational configuration.

4.4 Human–AI Relations

Human–AI relations provide a contemporary case in which political relevance precedes ontological settlement. Whether a particular artificial system is conscious, possesses intentions, qualifies as an agent, or merits moral standing are difficult questions that GR does not need to answer before analyzing the relation. A person can delegate drafting, search, classification, recommendation, emotional disclosure, financial judgment, educational guidance, or administrative action to an artificial system. Those practices can generate dependence, redistribute epistemic authority, alter labour relations, reshape expectations of communication, and modify the production of knowledge.

The methodological precedent is broader than AI. Clark and Chalmers argue that under appropriate conditions cognitive processes can be constituted through active coupling between an organism and external elements of its environment (Clark and Chalmers 1998). Latour similarly insists that association should not be restricted by assuming in advance that only human participants can make a difference to collective organization (Latour 2005). GR does not simply adopt either thesis, but both demonstrate why the skin boundary or the category “human actor” should not automatically delimit inquiry.

Example 4.6 (Relational reality without settled artificial personhood). Suppose a community increasingly relies on an AI system to summarize law, rank evidence, and formulate administrative recommendations. Even if the system is denied personhood, its outputs may alter what officials notice, which precedents become salient, how quickly claims are processed, and which forms of reasoning become institutionally normal. The human–AI relation is politically generative even though the ontology of the AI remains contested.

This example exposes a general GR strategy. Ultimate ontology and effective relational reality are analytically separable. The framework can ask what a relation generates before deciding whether every relatum belongs to a final metaphysical category. This is especially useful in periods of technological transition, when institutional practice can stabilize much faster than philosophical consensus.

The normative consequences are deferred to later sections. A relation's generative importance does not imply that it should be preserved, nor does functional participation confer rights automatically. Human–AI relations may generate epistemic advantages and new vulnerabilities simultaneously. GR's role at this stage is to make the relational transformation visible and to represent the way it modifies later conditions of agency and evaluation.

4.5 Human–Religious and Human–Transcendent Relations

The generalized relational domain also allows inquiry into relations whose second relatum is metaphysically contested. Religious life offers an important case. A believer may understand herself as standing in a relation to God, a deity, an ancestor, a sacred order, or another transcendent reality. Buber's dialogical philosophy treats the relation to the eternal Thou as continuous with, yet not reducible to, the structure of I–Thou relation (Buber 1970). Political institutions, moral commitments, rituals, identities, solidarities, prohibitions, sacrifices, and forms of authority can be reorganized through such relations.

GR need not decide whether the transcendent relatum exists independently in the sense claimed by the participant before studying these effects. Nor should it reduce the relation immediately to a disguised human–human relation. The participant's orientation toward the transcendent object can have a distinctive temporal, affective, normative, and practical structure that is lost if translated too quickly into sociological variables.

Principle 4.7 (Metaphysical neutrality of relational analysis). The effective reality of a relation for explanatory purposes does not require GR to settle the ultimate metaphysical status of every relatum. Where a relation is persistent, structured, causally or normatively consequential, and recognizable in practice, its generative role may be studied while the independent ontology of the relatum remains bracketed.

The principle applies beyond religion. Relations to imagined futures, fictional characters, nations, ancestors, mathematical objects, or ideals can organize conduct even when their ontological status differs sharply. What matters is not to collapse all such cases into subjective belief, but to ask which relational structures they sustain and what realities those structures generate.

This is politically important because liberal, republican, secular, and theological political philosophies frequently disagree about which objects can legitimately enter public justification. GR does not resolve that normative dispute here. It first makes visible the fact that political subjects are already constituted through heterogeneous relations whose effective reality may not map neatly onto a single public ontology.

4.6 Organism–Environment Relations

Human political philosophy often treats the environment as a background resource, constraint, or external object of policy. GR's generalized domain instead permits organism–environment relations to become constitutive objects of analysis. An environment is not only a set of independent conditions surrounding an organism. Through recurrent interaction, organisms alter environments and environments alter the capacities, vulnerabilities, and trajectories of organisms. Haraway's work on companion species emphasizes that cross-species encounters participate in making worlds rather than merely placing already complete species side by side (Haraway 2007). Extended-cognition approaches likewise show how environmental coupling can become constitutive of particular cognitive processes (Clark and Chalmers 1998).

For political philosophy, this means that environmental justice cannot always be represented adequately as distribution of an external good called “nature.” Urban design, climate, pollution, food systems, pathogens, architecture, transport, and ecological degradation can alter bodily capacities, social interaction, attention, mobility, and the feasible forms of collective life. The environment participates in generating the political subject and its possibility space.

Extension 4.8 (From environmental constraint to relational constitution). GR extends environmental analysis from the question of how an external environment constrains political actors to the question of how organism–environment coupling participates in generating the actors, capacities, vulnerabilities, and political possibilities under evaluation.

This extension also introduces epistemic humility. If an ecological system contains relations and feedbacks that are only partially observable, political intervention may transform generative conditions in ways that cannot be inferred from a static inventory of resources. The later GR account of governance therefore treats preservation of generativity and sensitivity to cross-scale feedback as possible considerations, rather than presuming complete control over an external environment.

4.7 Neural and Other Sub-Personal Relations

The generalized domain reaches below the scale of the person as well as beyond it. Network neuroscience studies brain function through relations among neurons, neuronal populations, regions, and large-scale networks, emphasizing interactions across multiple organizational levels (Sporns 2010). GR does not propose to reduce political philosophy to neuroscience. The relevance of the neural example is conceptual: a political subject treated as a unit at one scale can itself be an emergent organization of relations at another.

This observation undermines the assumption that one scale must possess permanent ontological privilege. At the level of electoral law, a person may appropriately be represented as a discrete rights-bearing agent. At the level of addiction, trauma, attention, learning, or neurological impairment, sub-personal processes can become politically relevant because they alter capacities for action and recognition. The same entity can therefore require different relational decompositions for different questions.

Principle 4.9 (Scale-relative effective ontology). GR permits an entity to function as an effective relatum at one scale while being analyzed as an emergent relational organization at another. Effective discreteness at scale k does not imply ontological indivisibility across all scales.

The principle is not eliminativist. Explaining a neural process does not make legal responsibility, subjective experience, or political identity unreal. Nor does political recognition make neural organization irrelevant. GR instead treats scales as potentially coupled explanatory levels whose relations must be specified rather than assumed.

4.8 Cross-Scale Relations

Once relata can occupy different scales, the central problem becomes cross-scale generation. A neural configuration can alter attention; attention can alter interpersonal conduct; interpersonal conduct can stabilize institutional routines; institutions can reshape environments of learning and stress; those environments can feed back into bodily and neural development. The causal and constitutive traffic is not necessarily one-directional.

A minimal schematic representation is

$$\mathcal{R}_t^{(k)} \longrightarrow \mathcal{E}_{t+1}^{(k+1)} \longrightarrow \mathcal{R}_{t+1}^{(k)},$$

where relations at scale k contribute to an emergent organization at scale $k + 1$, which then constrains or enables later relations at k . More generally, several scales can be coupled without requiring a simple hierarchy.

Definition 4.10 (Cross-scale co-generation). Cross-scale co-generation occurs when relational organization at one analytical scale contributes to the emergence or transformation of structures at another scale and the emergent structures subsequently modify the conditions of relation formation at the first or another scale.

This definition is central to GR because it prevents both methodological individualism and crude holism from becoming default explanations. A norm is not explained merely by aggregating individual attitudes if institutional and symbolic structures shape those attitudes. Conversely, an institution is not explained merely by invoking “structure” if its reproduction depends on concrete practices, bodies, technologies, and local interactions. The empirical task is to identify the relevant cross-scale couplings.

Warning 4.11 (Cross-scale vocabulary is not a causal shortcut). Describing a phenomenon as cross-scale does not itself explain it. A GR analysis must identify the transmission, constraint, feedback, or constitutive mechanisms linking scales and must specify the temporal and evidential basis for the proposed connection.

The warning is particularly important because the mathematical languages later introduced by GR—networks, fields, attractors, order parameters, coarse-graining, and effective theories—make cross-scale description tempting. Formal elegance cannot substitute for evidence that the chosen scales and couplings track the political phenomenon in question.

4.9 Relations among Relational Systems

The final extension concerns relations whose relata are themselves relational systems. A legal order can interact with a financial system; a religious community with a state; an AI-mediated information ecology with an electoral institution; a family system with a labour market; a neural system with a linguistic environment. At this level, the unit of analysis is not a simple object but an organized field of internal relations that encounters another such field.

Represent two systems schematically as

$$\Sigma_A = (M_A, \mathcal{R}_A, \mathcal{G}_A, \mathcal{O}_A), \quad \Sigma_B = (M_B, \mathcal{R}_B, \mathcal{G}_B, \mathcal{O}_B),$$

where each has an effective state space, relational organization, generative mechanisms, and observables. A relation between them may alter not only particular states but the internal organization of either system:

$$\Sigma_A \bowtie \Sigma_B \longrightarrow (\Sigma'_A, \Sigma'_B).$$

The symbol $\bowtie$ has no fixed mathematical content here; it marks a coupling whose concrete form must be supplied by the application.

Proposition 4.12 (Relational systems can become relata). *A relational system may be represented as a relatum at a higher level of analysis when its internal organization is sufficiently persistent to support identifiable interactions with another system. Such representation is compatible with continued analysis of its internal generative structure.*

This proposition completes the generalized relational domain. GR can move from neuron–neuron, person–person, person–institution, institution–institution, and system–system relations without asserting that all these relations are instances of one homogeneous substance. What unifies them is not material composition or moral status but a generative question: how does the coupling alter what can subsequently exist, occur, be observed, or be evaluated?

Synthesis 4.13 (The relational domain as a generative grammar). The generalized relational domain is therefore characterized by five commitments. Relations may connect heterogeneous relata; relata can themselves be historically emergent; emergent structures can re-enter later relations; relations may cross analytical scales; and relational systems may themselves become relata. The unity of GR lies in this grammar of generation, not in reducing every domain to the same ontology or assigning identical agency to every participant.

The scope gained by this generalization creates a corresponding discipline. GR must resist indiscriminate relational expansion. Heterogeneous technological, monetary, ecological, neural, institutional, and religious relations become theoretically relevant only when their generative role can be specified. The framework is therefore neither anthropocentrically closed nor ontologically flat. It is selectively plural: it admits heterogeneous relations while preserving differences of scale, agency, responsibility, materiality, and epistemic status.

This selective pluralism prepares the next foundational move. Once the relevant kinds of relata and relations are allowed to change with the problem and with history, the theory can no longer assume a permanently fixed political stage on which those relations unfold. The next section therefore turns from the breadth of the relational domain to the stronger requirement of background independence: not only the occupants of political space, but the effective space, coordinates, observables, and relation types themselves may become dynamical.

5 Background Independence as a Foundational Commitment

The generalized relational domain developed in the previous section creates a further theoretical problem. If the politically relevant relata can change, if relation types can emerge, if institutions and symbolic forms can become effective relata, and if analytical scales can be reorganized, then political inquiry cannot assume that all of these transformations occur on a permanently fixed stage. A theory may describe dramatic historical change while nevertheless keeping constant the identity of the actors, the kinds of relations available among them, the coordinates used to describe change, the observables

through which the system is known, and the space of possibilities within which change is allowed to occur. GR refers to these relatively fixed structures as a *background* of the analysis.

The term is borrowed cautiously from debates in the philosophy of physics. There, background independence concerns the status of structures that are fixed rather than dynamically determined, but there is no single uncontested criterion by which a theory is simply classified as background-dependent or background-independent (Belot 2011; Read 2023). GR therefore does not transfer a finished doctrine from gravitation or quantum gravity into political philosophy. It generalizes a methodological demand: identify which structures a political theory treats as given, determine whether those structures are historically stable at the scale of inquiry, and permit them to become objects of dynamics when the phenomena under study transform them.

Definition 5.1 (Political background). For a GR analysis, a *political background* is any structure required to formulate the political system but treated as fixed, exogenous, or non-generative during the analysis. Candidate backgrounds include the set of political subjects, admissible relation types, the state or possibility space, institutional boundaries, observables, classifications, evaluative coordinates, and rules specifying which transformations count as possible.

This definition is deliberately functional rather than metaphysical. A constitution can be a dynamical object in one inquiry and a background condition in another. A person's legal identity can be held fixed for the purpose of modeling a particular transaction while becoming the central emergent object in a study of citizenship or personhood. Background independence therefore does not require that every structure vary in every model. It requires that no structure be granted permanent immunity from endogenization merely because a convenient representation currently places it outside the dynamics.

Principle 5.2 (Conditional endogenization). A structure may be treated as background at a given analytical scale when doing so is empirically and theoretically justified. When historical processes alter that structure, GR requires the analysis to permit its endogenization rather than protecting the original representation by definition.

The principle prevents a common misunderstanding. Background independence is not equivalent to the absence of assumptions. Every inquiry selects variables, scales, boundaries, and idealizations. The relevant question is whether these selections are represented as methodological conveniences or silently elevated into timeless political ontology. GR's commitment is reflexive: backgrounds can be provisionally fixed, but their status must remain visible and revisable.

5.1 Political Backgrounds and Their Hidden Presuppositions

Political philosophy often begins with a vocabulary that already contains recognizable political entities: persons, citizens, states, institutions, rights, resources, preferences, interests, offices, laws, or communities. There is nothing inherently problematic about doing so. A theory of constitutional legitimacy cannot begin every argument by reconstructing the ontogenesis of language, embodiment, and legal personhood. Yet the analytical convenience of starting with a political object can conceal a stronger assumption: that the object is conceptually prior to the relations and histories through which it became intelligible.

GR distinguishes these two moves. A theory may *hold* an object fixed without claiming that the object is *fundamental*. The first is a model choice; the second is an ontological

commitment. Background dependence becomes politically significant when the distinction is lost.

Distinction 5.3 (Analytical fixation and ontological privilege). *Analytical fixation* treats a structure as constant for a delimited inquiry. *Ontological privilege* treats that structure as constitutively prior or universally given. GR permits the former whenever justified and rejects the automatic inference from the former to the latter.

Consider a simple model of political choice in which a set of agents $A = \{a_1, \dots, a_n\}$ chooses among alternatives in a set X . The model may be entirely appropriate for a specific problem. But it fixes at least three backgrounds: who counts as an agent, which alternatives belong to X , and which distinctions make two alternatives different. If historical processes can create new political actors, eliminate old ones, make previously unavailable actions feasible, or render previously meaningful distinctions obsolete, then the model's background is no longer neutral with respect to the history it seeks to describe.

The same point applies to relational models. Replacing isolated individuals with a graph

$$G = (V, E)$$

does not by itself achieve background independence. If V is fixed, if E admits only predetermined relation types, if the graph's topology can change only according to a fixed update rule, and if the observables are specified once and for all, then the system remains background-dependent in several respects. A relational ontology can therefore retain a rigid background even when every node is defined through relations.

Claim 5.4 (Relationality does not entail background independence). A political theory can be thoroughly relational while remaining background-dependent if the identities of relata, admissible relation types, transformation rules, observables, or state space are fixed independently of the historical dynamics under investigation.

This claim matters for GR's relationship to both social theory and complexity science. Networks, agent-based models, evolutionary games, and nonlinear dynamical systems may represent rich interaction while still taking the ontology of nodes, the strategy set, the payoff variables, or the phase space as given. GR does not reject such models. It asks what historical work is being delegated to their background assumptions and whether the phenomena of interest require some of those assumptions to become dynamic.

A useful diagnostic is therefore not "Is this theory background-independent?" as a binary question, but rather:

$$\mathcal{B} = \{B_1, B_2, \dots, B_m\},$$

where each B_i denotes a structure treated as fixed. The analyst then asks which B_i can safely remain external at the relevant scale, which are known to vary historically, and which become the object of the explanation itself.

Criterion 5.5 (Background audit). A GR model should make explicit, where materially relevant, (i) which entities and relation types are fixed, (ii) which state or possibility space is assumed, (iii) which observables and classifications are available, (iv) which evaluative coordinates are held constant, and (v) which transformation rules are taken as given. The model should then justify why each fixed element can remain background for the question at hand.

The background audit is not bureaucratic bookkeeping. It is a safeguard against mistaking historically stabilized structures for necessary ones. A category can be so durable

that it functions as a practical constant while remaining historically generated. Conversely, a category can be normatively indispensable to an argument even though its social realization changes. GR's task is not to dissolve every stable concept but to keep stability conceptually distinct from fundamentality.

5.2 Dynamical Political Subjects

The first background to be endogenized is the political subject. Much political philosophy asks what rights, duties, liberties, opportunities, recognition, or protections should attach to persons or citizens. GR preserves these questions but adds a prior one: through what relational and historical processes does an entity become capable of functioning as a political subject within a given order?

Let the effective set of political subjects at time t be

$$A_t = \{a_1^{(t)}, \dots, a_{n_t}^{(t)}\}.$$

Background-dependent analysis often approximates $A_t = A$ throughout the period of interest. GR allows instead

$$A_t \neq A_{t+\Delta t}.$$

This inequality can represent several different transformations. New collective agents may be constituted; legal categories of personhood may expand or contract; organizations may acquire capacities to own, sue, contract, or represent; artificial systems may become politically consequential without first being recognized as persons; a previously diffuse population may become organized as a constituency; or a social category may lose the coherence needed to function as a collective subject.

The important point is not that every political subject is fictional or infinitely malleable. It is that subjecthood has conditions of stabilization. Embodiment, continuity, recognition, legal standing, organizational coordination, material resources, communicative capacity, and institutional inscription can all contribute to the effective existence of a political subject.

Definition 5.6 (Effective political subject). An *effective political subject* is an entity or organized relational structure that, at the scale of inquiry, possesses sufficient continuity, recognizability, and capacity for politically consequential participation to function as a bearer, source, target, or mediator of claims, actions, obligations, powers, or representation.

This definition is intentionally broader than moral personhood. A state can be an effective subject in international politics without being a conscious organism. A corporation can be an effective legal and economic subject without thereby possessing every moral property of a human person. A protest movement may function as a political subject despite weak formal organization. The background-independent question is how these effective forms are generated, maintained, and transformed.

Remark 5.7 (Subject dynamics do not erase moral distinctions). Treating political subjecthood as historically generated does not imply that every effective subject has identical moral standing. GR separates the ontological and functional question of how a subject becomes politically effective from the normative question of what recognition, rights, responsibility, or protection it ought to receive.

The same distinction protects GR from a second error. If subjecthood is emergent, one might conclude that individual persons can be ignored whenever a larger collective appears more explanatory. GR rejects that inference. Background independence permits multiple decompositions of the same system. A person may be an effective subject

at one scale and a participant in a collective subject at another. The relevant representation depends on the phenomenon and the normative stakes.

The dynamical subject also changes the meaning of political transformation. A revolution, administrative reform, technological transition, or social movement may not merely redistribute resources among an unchanged population of agents. It can produce new collective identities, alter who can speak as a representative, reorganize who is recognized as affected, or create institutions that acquire agency-like continuity. Political change can therefore modify the domain of political agency itself.

5.3 Dynamical Relation Types

A second hidden background is the catalogue of relation types. Political analysis often distinguishes relations such as ownership, citizenship, employment, kinship, contractual obligation, representation, domination, dependency, trust, recognition, or care. These categories are indispensable, but GR does not assume that the set of available relations is historically constant.

Let

$$\mathfrak{R}_t = \{R_1^{(t)}, R_2^{(t)}, \dots, R_{k_t}^{(t)}\}$$

denote the effective relation types available for description and practice at time t . Background independence permits

$$\mathfrak{R}_t \neq \mathfrak{R}_{t+\Delta t}.$$

A new technology can create a form of dependence without a close historical analogue. A new legal instrument can make a previously informal relation enforceable. A monetary innovation can create novel creditor–debtor or platform–user relations. A new administrative category can reorganize relations between persons and the state. Conversely, a relation type can disappear when the institutions that sustain it are abolished or lose practical force.

This does not mean that every linguistic novelty corresponds to a genuinely new relation. GR distinguishes between redescribing an existing relational pattern and changing the generative structure sufficiently that a new relation type becomes explanatorily necessary.

Criterion 5.8 (Emergent relation type). A relation type R_{new} should be treated as emergent when the existing relational vocabulary cannot adequately represent a recurrent pattern of capacities, constraints, expectations, obligations, dependencies, or generative effects without systematic loss of structure.

The criterion is deliberately demanding. Conceptual proliferation can make a theory unfalsifiable if every anomaly receives a new relation label. An emergent relation type should earn its status by improving explanation, discrimination, prediction, reconstruction, or normative analysis.

The dynamics of relation types also clarify why GR cannot identify historical evolution with the movement of fixed variables alone. Suppose a theory represents political status by a vector

$$x = (x_1, \dots, x_n)$$

in a fixed space M . If a new institution creates a relation whose effects cannot be expressed in those coordinates, the appropriate response may not be to adjust the value of an existing x_i . The coordinate system itself may require extension or reorganization. In this sense, relation-type emergence prepares the transition from dynamical variables to dynamical possibility spaces.

Example 5.9 (Digital mediation and relational novelty). A system of mediated interaction may initially be represented as ordinary communication between persons. If the mediating infrastructure begins to rank visibility, infer profiles, allocate opportunities, enforce rules, and modify future interaction, then “person–person communication” may cease to be an adequate relational description. A distinct person–platform relation can become generatively necessary even if the underlying hardware and software are ultimately produced by human institutions.

The example is intentionally generic. GR does not infer political novelty merely from technological novelty. The question is whether the new mediation changes the structure through which future relations are generated.

5.4 Dynamical State and Possibility Spaces

The third and strongest form of background independence concerns the space within which political states are represented. Standard dynamical notation begins with a state

$$x_t \in M$$

and a rule of evolution

$$\dot{x} = f(x, t).$$

Even when f is nonlinear and the trajectory is complex, the phase or state space M is ordinarily specified before the trajectory is solved. This is often exactly what good modeling requires. GR’s stronger claim is that some historical transformations cannot be adequately represented as motion within one fixed effective M because the set of politically meaningful possibilities itself changes.

The minimal GR notation is therefore

$$x_t \in M_t,$$

with the possibility that

$$M_t \neq M_{t+\Delta t}.$$

The notation should not be read as a complete mathematical theory. It marks a conceptual distinction between two kinds of change: variation of state within a fixed space and transformation of the effective space in which states can be represented.

Distinction 5.10 (State change and possibility-space change). *State change* moves a system among alternatives already represented within an effective possibility space. *Possibility-space change* alters the available alternatives, coordinates, admissible relations, or criteria of distinction by which political states are represented.

This distinction is central to GR’s account of generativity. If a political order creates a new institutional form, a new collective subject, a new legal status, a new technology of coordination, or a new mode of representation, history may generate a possibility that did not function as an available state in the prior order. The change is then not adequately captured by choosing a different point in the old space.

A simple schematic is

$$(M_t, x_t) \longrightarrow (M_{t+1}, x_{t+1}),$$

where the transformation acts on both the state and the effective space. More generally, GR may represent

$$M_{t+1} = \mathcal{G}(M_t, \mathcal{R}_t, H_t, E_t),$$

where $\mathcal{G}$ denotes a generative mechanism, $\mathcal{R}_t$ the relational configuration, H_t the inherited trajectory, and E_t relevant environmental or institutional conditions. The equation is schematic: its purpose is to make explicit that possibility spaces can have a history.

Principle 5.11 (Generated possibility). Political generativity includes the production, destruction, or reorganization of effective possibilities. A future alternative need not be represented as a latent option already contained in the prior political state space.

This principle differentiates GR from a merely combinatorial image of history. Novelty is not only a new arrangement of fixed elements. New elements, relation types, capacities, and evaluative distinctions can change what arrangements are meaningful at all.

The idea also has normative consequences. Freedom is often assessed by the alternatives available to an agent at a given time. If the possibility space itself is generated historically, political philosophy must ask not only how many options exist but how the structure that creates and removes options is organized. A society may expand immediate choice while narrowing the processes through which future possibilities can be collectively revised; another may impose constitutive constraints that create capacities and possibilities unavailable before. A later section on the co-generation of freedom and constraint develops this implication systematically.

Remark 5.12 (Possibility-space generation is not unlimited novelty). The claim that possibility spaces can change does not imply that any political possibility can be generated at any time. Material constraints, inherited institutions, embodiment, ecological conditions, technological capacities, path dependence, and existing relations can sharply delimit the transformations available to a system. Background independence removes fixed ontological privilege; it does not abolish constraint.

This qualification is important because the phrase “changing possibility space” can otherwise sound voluntarist. GR remains historical precisely because generation occurs from inherited conditions rather than from an unconstrained outside.

5.5 Dynamical Observables and Evaluative Coordinates

Political background independence becomes reflexive when applied to observation and evaluation. A system is never described from nowhere. Analysts, institutions, citizens, courts, archives, statistical agencies, communities, and scientific disciplines rely on categories that determine what can be observed, counted, compared, recorded, and evaluated. If these categories change historically, then the epistemic coordinate system of political inquiry also has dynamics.

Let $\mathcal{O}_t$ denote the set of effective observables and $\mathcal{N}_t$ the set of evaluative or normative coordinates available at time t . GR permits

$$\mathcal{O}_t \neq \mathcal{O}_{t+\Delta t}, \quad \mathcal{N}_t \neq \mathcal{N}_{t+\Delta t}.$$

A harm may become statistically measurable only after a classification system is created. A form of domination may become politically visible only after a vocabulary capable of distinguishing it is stabilized. A population may become governable through the production of categories that aggregate previously heterogeneous persons. Conversely, a classificatory regime can erase differences that later inquiry must reconstruct.

Definition 5.13 (Epistemic background). An *epistemic background* is the historically situated set of categories, measurement practices, records, methods, and inferential conventions that determine which features of a political system can become stable objects of observation and comparison.

Definition 5.14 (Evaluative background). An *evaluative background* is the historically situated set of distinctions through which political conditions can be experienced or judged as, for example, free or unfree, normal or deviant, just or unjust, legitimate or illegitimate, beautiful or disordered, governable or intolerable.

These definitions do not entail relativism. The historical emergence of an observable or evaluative distinction is not evidence that the distinction lacks truth or validity. GR separates the genealogy of a coordinate system from the justification of claims made within or across coordinate systems.

Distinction 5.15 (Genesis of coordinates and validity of judgment). The fact that an observable or evaluative coordinate has a history does not determine whether judgments expressed through that coordinate are true, justified, valid, or normatively defensible. Historical genesis and epistemic or normative validity remain distinct problems.

This distinction is essential to the paper’s account of emergent normativity. Without it, background independence could collapse into the claim that every historical evaluative scheme is self-validating. GR instead asks two separate questions: how did a system acquire the capacity to make a distinction, and what reasons support using that distinction in judgment?

The dynamics of observables also complicate historical comparison. Suppose a present institution records a variable that an earlier society did not classify, or an earlier archive encodes categories that no longer map cleanly onto contemporary ones. A naive comparison treats both periods as points in a common coordinate system. GR instead asks whether a translation map

$$\tau_{t \rightarrow t'} : \mathcal{O}_t \longrightarrow \mathcal{O}_{t'}$$

can be justified, what information it loses, and which invariances make comparison possible despite changing observables. The later invariance-first ontology will supply the conceptual resources for this problem.

Research Question 5.16 (Comparability under changing observables). Under what conditions can political states, harms, freedoms, institutions, or judgments be compared across historical periods whose observational and evaluative coordinate systems differ?

This is not a peripheral methodological question. Historical judgment, transitional justice, comparative politics, legal analogy, and political learning all presuppose some answer to it.

5.6 Historical Transformation of Political Backgrounds

The previous subsections treated political subjects, relation types, possibility spaces, observables, and evaluative coordinates separately. In historical processes they can transform together. A change in one background structure can alter the generative conditions of the others. A new legal category can create a subject position; the new subject can demand recognition; recognition can produce records and statistics; new observables can alter governance; governance can create new institutional possibilities; those possibilities can transform the relation types through which political actors interact.

GR therefore represents a political background not as one variable but as a structured tuple. A minimal notation is

$$\mathcal{B}_t = (A_t, \mathfrak{R}_t, M_t, \mathcal{O}_t, \mathcal{N}_t, \mathcal{G}_t),$$

where A_t denotes effective subjects, $\mathfrak{R}_t$ relation types, M_t the effective possibility space, $\mathcal{O}_t$ observables, $\mathcal{N}_t$ evaluative coordinates, and $\mathcal{G}_t$ generative rules or mechanisms. Background transformation then takes the form

$$\mathcal{B}_t \longrightarrow \mathcal{B}_{t+\Delta t}.$$

The notation is intentionally open. Different applications will decompose the background differently. What matters is the possibility that the structures used to define the political system are partly generated by the system's own history.

Definition 5.17 (Background transformation). *A background transformation occurs when historical dynamics alter one or more structures required to specify the political system itself, rather than merely changing the system's state under an unchanged specification.*

Background transformations can be gradual. A legal category may slowly acquire new practical meaning; a technological infrastructure may incrementally reorganize communication; a statistical classification may spread through administrative practice; a normative concept may gradually acquire salience. They can also be abrupt when coupled dynamics cross a threshold or when an institutional rupture reorganizes several background structures at once. The later discussion of generative dynamics provides a richer vocabulary for distinguishing these mechanisms.

Proposition 5.18 (Coupled background transformation). *If a background component B_i contributes to the generation or interpretation of another component B_j , then sufficiently large change in B_i can induce a transformation in B_j . Political background independence therefore generally requires attention to coupled rather than isolated background dynamics.*

The proposition is modest but consequential. If subjecthood depends partly on recognition, and recognition depends partly on institutional categories, then changes in institutional classification can change the effective subject set. If political freedom depends partly on available action spaces, and those spaces depend on infrastructures and legal relations, then infrastructural transformation can change the meaning of freedom without any explicit redefinition of liberty.

Historical materialism already supplies a powerful precedent for refusing to treat political forms as timeless. GR's background-independent extension is to apply the historicizing demand to the conceptual architecture used to represent transformation itself. The theory therefore asks not only how institutions and social relations evolve, but whether the subjects, relation types, observables, and coordinates by which that evolution is described are themselves products of the same history.

Inheritance 5.19 (The historicizing impulse). GR inherits from historical materialism the refusal to treat historically produced social forms as natural or eternal. Background independence generalizes this impulse by applying it to the representational and ontological structures through which historical transformation is modeled.

This inheritance is one reason GR should not present background independence as a purely external import from physics. The physical concept gives GR a sharpened formal vocabulary for a problem already latent in historical and relational political thought: which structures are treated as stage, and which are admitted into history?

5.7 Political Change as Transformation of Possibility Space

The political significance of background independence becomes clearest when change affects what can subsequently be done, thought, organized, recognized, or demanded. Political transformation is then not exhausted by redistribution among pre-existing alternatives. It reorganizes the architecture from which later alternatives are generated.

Suppose a political system at time t is represented by

$$\Sigma_t = (M_t, \mathcal{R}_t, \mathcal{O}_t, \mathcal{N}_t, \mathcal{G}_t).$$

A shallow transformation changes a state x_t while leaving this architecture approximately fixed. A deeper transformation changes one or more components of Σ_t . The strongest form relevant to GR changes the effective possibility space itself:

$$M_t \longrightarrow M_{t+1}.$$

The political meaning of such a transformation can be constructive or destructive. A new institution may create capacities for coordination that did not previously exist. A regime of domination may eliminate forms of association or expression that were once feasible. A technological system may create new opportunities while simultaneously narrowing the conditions of exit. A legal reform may create a new claim-right while removing older forms of discretionary authority. The concept of possibility-space transformation is therefore normatively neutral until the generated and foreclosed possibilities are evaluated.

Principle 5.20 (Political transformation of the possible). A political intervention can be generatively significant when it changes not only the distribution of outcomes within an existing possibility space but the mechanisms through which future political possibilities are created, maintained, recognized, or excluded.

This principle has immediate implications for political philosophy. A distributive theory asks how resources, rights, or opportunities should be allocated. A GR analysis adds a second-order question: which relational arrangements determine what resources, rights, opportunities, subjects, and institutional forms can exist as objects of distribution in the future? A theory of freedom asks which options are available and which constraints are legitimate. GR additionally asks who participates in generating the future option set and which structures control its revision. A theory of justice evaluates an arrangement. GR additionally asks whether the arrangement reproduces, expands, monopolizes, or destroys the generative capacities through which later arrangements can be made.

The distinction can be summarized schematically as

$$\text{politics within } M \quad \text{versus} \quad \text{politics of } M.$$

The first concerns positions and movements inside a political possibility space. The second concerns the generation, stabilization, and transformation of that space. GR requires both.

Claim 5.21 (Second-order political power). Control over the generation of political possibility can constitute a deeper form of power than control over a particular choice within an already constituted possibility space, because it shapes the alternatives among which later choices can be made.

The claim does not establish that second-order power is always more harmful, more legitimate, or more important. It identifies a distinct analytical object. A rule-setting institution, classification system, infrastructure, or dominant relation may influence politics by determining which future actions are intelligible or feasible rather than by commanding a particular present action. The later section on power develops this as generative power.

Background independence therefore changes the scale of political-philosophical inquiry. Instead of treating the political world as a fixed container populated by actors whose rights and duties must be arranged, GR permits the container, the actors, the coordinates, and the evaluative vocabulary to become historically generated. Yet this move raises an immediate problem of continuity. If backgrounds change, what permits

us to identify transformations as transformations of one intelligible process rather than as incomparable worlds? If neither subjects, relation types, nor observables are guaranteed to persist, what remains stable enough for identity, comparison, and judgment?

The next section develops GR's provisional answer: an invariance-first ontology. Rather than locating continuity in permanently fixed substances or categories, GR provisionally treats symmetry and invariance as the deeper structures through which different relational realizations can be compared. Background independence and invariance are therefore complementary commitments. The first refuses to protect effective political structures from history; the second supplies a candidate language for identifying continuity through their transformation.

6 The Provisional Invariance-First Ontology

Background independence creates a problem of continuity. If political subjects, relation types, observables, evaluative coordinates, and even effective possibility spaces can change historically, then political philosophy cannot rely on the persistence of those objects to explain how one historical configuration is comparable with another. A theory that makes its background dynamical must therefore say what, if anything, remains sufficiently stable for transformation, identity, comparison, and judgment to remain intelligible. GR's provisional answer is an invariance-first ontology.

The proposal is deliberately weaker than the claim that reality is ultimately composed of symmetries. It is also stronger than the methodological observation that symmetry is a useful mathematical tool. GR provisionally treats invariance under transformation as the minimal ontological grammar through which different relational realizations can be identified as transformations of one intelligible structure. In this sense, symmetry is not introduced as a completed metaphysics but as a revisable postulate that organizes inquiry.

In modern mathematics and physics, symmetry is commonly characterized through invariance under specified transformations, and group-theoretic formulations make explicit the connection among transformation, equivalence, and invariant structure (Brading et al. 2023). Philosophical debates over structural realism have likewise explored whether objects may be characterized partly through their transformation properties rather than through intrinsic individuality alone (Ladyman 2024). GR draws inspiration from these traditions without identifying itself with them. Its concern is not to infer political ontology directly from physical ontology, but to ask whether an invariance-oriented language can solve a problem generated internally by background-independent political philosophy: how can continuity be represented when the effective relata of political life themselves change?

Postulate 6.1 (Provisional invariance-first postulate). GR provisionally assumes that intelligible transformation requires some structure of invariance under an admissible class of transformations. This postulate is methodological and ontological in orientation, but it is not asserted as a final metaphysical truth about reality.

The qualification *provisional* is essential. If GR were to declare one fixed symmetry algebra as the ultimate and unrevisable structure of political reality, it would recreate at its deepest level the kind of protected background that its background-independent orientation is designed to question. The invariance-first postulate therefore supplies a starting grammar for comparison while remaining itself open to revision, replacement, or domain-specific restriction.

6.1 The Limits of Relations as Ultimate Primitives

Relational ontology is already a major departure from substantialist political thought. Instead of beginning from self-contained individuals and adding relations among them, a relational theory can treat identities, capacities, and social positions as constituted through relations. GR accepts this move but does not stop there. If relation types themselves can emerge, disappear, split, merge, or change meaning, then the statement “relations are fundamental” leaves unanswered what makes two changing relational configurations comparable.

Let a relational configuration at time t be written

$$\mathcal{R}_t = \{R_t^{(1)}, R_t^{(2)}, \dots, R_t^{(n_t)}\}.$$

Background independence permits both the members and the type structure of this set to vary:

$$\mathcal{R}_t \neq \mathcal{R}_{t+\Delta t}, \quad \mathfrak{R}_t \neq \mathfrak{R}_{t+\Delta t}.$$

If no further structure is available, one can describe succession but has difficulty specifying when succession constitutes transformation of a shared structure rather than replacement by an incomparable one.

Distinction 6.2 (Relational primacy and invariance primacy). *Relational primacy* holds that entities are constituted through relations. *Invariance primacy* adds that comparison among changing relational realizations depends on structures that remain identifiable under specified transformations. The latter does not deny relational constitution; it supplies a grammar for comparing changing relations.

This distinction is important because GR's generalized relational domain is intentionally broad. A human–currency relation, a person–institution relation, a human–AI relation, and a neuron–neuron relation need not share the same ontology, causal scale, or normative status. A purely relational slogan risks either flattening these differences or leaving the criteria of comparability unspecified. An invariance-oriented account instead asks which transformation properties are preserved within a domain and which maps, if any, justify comparison across domains.

The point can be illustrated with institutional identity. A university may replace personnel, rewrite rules, relocate buildings, alter governance procedures, and change its educational practices while remaining recognizable as the same institution for some purposes. No single component need remain numerically identical. Institutional continuity may instead depend on a bundle of preserved relations, functions, legal recognitions, and transformation rules. The task is therefore not to locate one persistent substance but to identify the invariances under which change remains identity-preserving.

Example 6.3 (Institutional continuity without component identity). Suppose an institution changes its members, procedures, physical location, and internal hierarchy over time. If legal succession, recognized functions, archival continuity, and specified authority relations remain invariant under these transformations, the institution may remain identifiable despite the replacement of most of its components. GR treats such continuity as a candidate invariance problem rather than as evidence for a hidden institutional substance.

The same reasoning applies to political categories. “Citizen,” “worker,” “public authority,” or “property” can persist as terms while their relational content changes. Conversely, a category can disappear while an underlying functional or relational pattern survives under another description. Invariance-first analysis therefore asks which continuities matter for the explanatory problem at hand rather than assuming identity from lexical persistence.

6.2 Invariance Prior to Particular Relational Realization

The phrase *invariance first* refers to explanatory order, not temporal sequence. GR does not claim that a symmetry structure existed historically before concrete relations appeared. Rather, when constructing a theory, it provisionally places transformation and invariance at a deeper level than any one realized relational configuration.

Let S denote an assumed invariance structure and let ρ_t denote a historically situated realization map. Then a minimal schematic is

$$S \xrightarrow{\rho_t} \mathcal{R}_t.$$

At another historical moment,

$$S \xrightarrow{\rho_{t'}} \mathcal{R}_{t'}, \quad \rho_t \neq \rho_{t'}.$$

The same assumed invariance structure may therefore admit multiple relational realizations. The notation does not imply that S is independent of all history in an absolute metaphysical sense. It states only that, within a given theoretical construction, one can distinguish a level at which transformation rules or invariants are specified from the level at which a particular relational world realizes them.

Definition 6.4 (Relational realization). A *relational realization* is a historically situated configuration through which an assumed invariance structure is manifested as effective entities, relation types, observables, and constraints in a specified domain.

This formulation allows GR to separate continuity from sameness of appearance. Two political systems can look institutionally different yet instantiate a comparable relational structure; conversely, two systems can employ the same institutional vocabulary while differing in the transformations and dependencies that actually organize them. Theoretical comparison therefore requires more than surface description.

The language of representation theory is suggestive here. In physics, states can transform according to representations of a symmetry group, and the transformation properties help classify physical systems (Brading et al. 2023). GR uses this as a formal inspiration: different social or political realizations may be compared through transformation properties rather than through one-to-one identity of components. This is an analogy of theoretical architecture, not a claim that political systems literally furnish representations of a fundamental physical group.

Formal Analogy 6.5 (Representation without reduction). If a mathematical structure S admits distinct representations ρ_1 and ρ_2 , then different manifest forms can preserve a deeper transformation structure. GR borrows this pattern to motivate comparison among historically different relational realizations. The analogy does not establish that political relations are physical representations or that one universal symmetry group governs social history.

The advantage of this move is that it gives GR a language for discussing equivalence without requiring identity. Political philosophy constantly compares unlike cases: historical harms across eras, institutions across jurisdictions, freedoms across social structures, or forms of domination across technologies. Invariance-first analysis asks which properties must be preserved for such comparison to be warranted and which differences are constitutive rather than superficial.

6.3 Symmetry as a Provisional Ontological Postulate

Symmetry has several possible philosophical statuses. It can function as a descriptive property, a heuristic principle, a constraint on theory construction, a classificatory device, or an ontological commitment. Philosophy of physics has long debated whether

the methodological power of symmetry warrants an ontological interpretation (Brading et al. 2023). GR does not attempt to settle that debate for physics. Instead, it makes a narrower framework-level choice: symmetry and invariance are provisionally assigned ontological priority because they provide a disciplined way to represent continuity under changing relational realizations.

For a set of admissible transformations G acting on an object or structure X , one may write

$$g \cdot X = X \quad \text{for selected } g \in G.$$

The subgroup that leaves X invariant can be written schematically as

$$\text{Stab}_G(X) = \{g \in G \mid g \cdot X = X\}.$$

GR does not require every political application to construct an explicit group action. The formalism expresses a methodological question: under which transformations does a relevant structure remain identifiable?

Definition 6.6 (GR symmetry). For a specified domain and class of admissible transformations, a *GR symmetry* is an invariance that preserves a theoretically relevant structure, relation, equivalence class, or generative capacity under those transformations.

The qualifier “theoretically relevant” prevents the definition from becoming trivial. Any object can be made invariant under the identity transformation alone. A useful symmetry must therefore be selected with respect to an explanatory problem and must preserve something that matters for comparison, generation, or prediction.

Criterion 6.7 (Non-trivial invariance). An invariance is analytically significant in GR only when the admissible transformation class is independently motivated and the preserved structure contributes to explanation, comparison, or generative analysis. Mere invariance under a vacuous or arbitrarily chosen transformation set carries no theoretical weight.

The ontological postulate is provisional in a second sense. Different domains may require different invariance structures. The transformations relevant to legal identity may differ from those relevant to neural organization, ecological persistence, or monetary function. GR therefore need not assume one universal symmetry algebra spanning all scales. A meta-language can be common even when the concrete symmetry structures are plural.

Principle 6.8 (Plural invariance structures). Background independence does not require one universal symmetry structure for every domain. GR permits domain-specific and scale-specific invariance structures, provided that the mappings among them are made explicit when cross-domain or cross-scale comparison is attempted.

This principle is particularly important for political philosophy. It avoids turning the language of symmetry into a hidden universalism that erases historically specific institutions. The framework asks for invariance where comparison requires it, not for uniformity where difference is constitutive.

6.4 Representation and Relational Manifestation

Once invariance is distinguished from realization, GR can treat political reality as a layered process of manifestation. An assumed transformation structure does not by itself specify a political world. It must be realized through material conditions, historical trajectories, institutions, classifications, technologies, practices, and embodied agents.

These realization conditions determine which effective entities and relations become available.

A schematic form is

$$\mathcal{S} \xrightarrow{\rho_t(H_t, E_t)} \mathcal{R}_t \longrightarrow \mathcal{E}_t,$$

where H_t denotes inherited history, E_t relevant environmental or material conditions, $\mathcal{R}_t$ the relational realization, and $\mathcal{E}_t$ the effective emergent ontology. The map ρ_t therefore need not be a purely mathematical representation. It stands for a historically mediated process through which invariance constraints acquire effective relational form.

Definition 6.9 (Relational manifestation). A *relational manifestation* is the effective form in which an invariance structure becomes instantiated, observable, or causally operative within a historically situated relational system.

The distinction between realization and manifestation is useful because some structures can be realized without being politically recognized. A dependency relation can organize behavior before a society possesses a concept of domination adequate to name it. A classificatory structure can shape administrative practice before it becomes an explicit object of critique. GR therefore permits a lag between relational operation and epistemic manifestation.

Distinction 6.10 (Relational operation and epistemic manifestation). A structure may be generatively operative in a relational system without yet being available as an explicit observable or evaluative category. The historical emergence of recognition is therefore distinct from the prior or concurrent operation of the relation recognized.

This distinction later becomes central to GR's treatment of truth, normality, and justice. The fact that a society does not possess a concept for a relation does not imply that the relation has no effects. Conversely, the stabilization of a concept does not guarantee that it accurately captures the relation it purports to represent.

The layered structure also helps clarify the relation between GR and group field theory (GFT), which has been one of its sources of formal imagination. GFT research explores frameworks in which familiar spacetime geometry is not simply presupposed but is expected to emerge from more fundamental, non-spatiotemporal or pre-geometric degrees of freedom and their collective organization (Orti 2014). GR does not transfer that ontology into political philosophy. What it borrows is a methodological orientation: effective geometry need not be the primitive stage on which dynamics occur; it can itself be a product of deeper organization. In GR, the analogous question is whether political geometry—the effective space of agents, relations, and possibilities—can likewise be treated as emergent rather than fixed.

Warning 6.11 (No derivation from group field theory). GR's invariance-first ontology is not a consequence of group field theory, quantum gravity, or any established physical theory. GFT supplies conceptual inspiration for background independence, algebraic organization, collective emergence, and the possibility that an effective geometry may be generated. The political-philosophical postulate remains an independent theoretical proposal.

This separation preserves both domains. It allows GR to learn from mathematical physics without presenting political ontology as disguised fundamental physics.

6.5 Symmetry Breaking and Historical Differentiation

If invariance supplies a language of continuity, symmetry breaking supplies a language for differentiation. In physics, symmetry breaking can describe cases in which the governing equations or underlying structure possess a symmetry that particular realized

states do not; spontaneous symmetry breaking is one important case in which symmetric laws admit asymmetric stable solutions (Brading et al. 2023). GR treats this structure as a formal resource for thinking about how historically contingent differentiation can arise from a space of initially equivalent or less differentiated possibilities.

Let G denote an assumed symmetry structure and let a realized configuration preserve only a subgroup $H \subseteq G$. Schematically,

$$G \longrightarrow H.$$

The point is not that political history literally follows the symmetry-breaking dynamics of a physical field. The structure instead distinguishes two levels: a wider space of transformations and a realized configuration in which only some transformations remain identity-preserving.

Formal Analogy 6.12 (Historical symmetry breaking). A historical process can be modeled as symmetry breaking when a set of previously equivalent positions, possibilities, or relational transformations becomes differentiated into stable roles or regimes, provided that the relevant equivalence structure and the mechanism of differentiation are independently specified.

The condition in the final clause is important. It would be empty to describe every inequality as “broken symmetry.” A valid application requires an account of what was equivalent, under which transformation, how the equivalence was disrupted, and why the resulting differentiation is dynamically stable.

Political examples can arise at many levels. A legal order may construct formerly undifferentiated persons into status categories with distinct rights. An institutional process may create asymmetric authority positions from initially interchangeable participants. A technological infrastructure may generate differentiated visibility or access among users. Historical processes may stabilize distinctions between citizen and non-citizen, owner and non-owner, recognized and unrecognized speaker, or central and peripheral institutional positions. GR asks whether such distinctions are best understood as fixed ontological kinds or as historically stabilized relational differentiations.

Claim 6.13 (Stabilized differentiation). A political distinction can become durable and causally consequential without becoming ontologically fundamental. Historical stabilization explains persistence without converting an emergent differentiation into a timeless kind.

This claim is one of the main reasons symmetry-breaking language matters for political philosophy. Political orders frequently naturalize their own stable differentiations. GR instead asks whether the apparent necessity of a distinction reflects a deep invariant or merely the persistence of a historically stabilized relational phase.

The symmetry-breaking vocabulary also supports a more precise theory of restoration and transformation. A later political process need not “return” to a prior state in order to alter a differentiation. It may create a new realization in which a different subgroup is preserved, or in which the original transformation class itself is reorganized. Historical repair is therefore not necessarily reversal.

Remark 6.14 (Restoration need not mean return). If a symmetry-broken historical configuration is transformed, the resulting order need not reproduce an earlier symmetric state. Political transformation can generate a new realization with different invariances, new subjects, and a changed possibility space. GR therefore distinguishes restoration of an invariance from restoration of a previous historical configuration.

This distinction will matter for later discussions of justice and historical judgment, where repair often requires generative reconstruction rather than simple reversion.

6.6 Invariance and Continuity across Transformation

The central payoff of an invariance-first ontology is a non-substantialist account of continuity. If identity depends only on the persistence of components, then sufficiently deep historical transformation destroys the possibility of comparison. If identity depends on preserved transformation structure, however, continuity can survive extensive change.

Let X_t and $X_{t'}$ be two historically separated realizations. Rather than require

$$X_t = X_{t'},$$

GR may ask whether there exists a justified transformation T such that

$$T : X_t \mapsto X_{t'}$$

and whether a relevant invariant I satisfies

$$I(X_t) = I(X_{t'}).$$

The invariant may concern relational function, structural dependency, generative capacity, legal succession, or another domain-specific property. The precise choice must be argued rather than assumed.

Definition 6.15 (Transformational continuity). Two historically separated configurations exhibit *transformational continuity* relative to an invariant I and admissible transformation class $\mathcal{T}$ when they can be related through transformations in $\mathcal{T}$ while preserving I to the degree required by the explanatory task.

The phrase “to the degree required” is deliberate. Political and historical identity often admits partial, contested, or scale-dependent continuity. A state may be legally continuous but constitutionally transformed; an institution may be functionally continuous but normatively reoriented; a social category may preserve a power relation while changing its explicit name. GR therefore avoids treating invariance as all-or-nothing unless the domain warrants such precision.

Principle 6.16 (Continuity without substance). Historical identity need not require persistent substance. It can be represented through preserved invariants across justified transformations, provided that the chosen invariants are appropriate to the explanatory and normative question.

This principle offers a response to the comparability problem generated by background independence. If the state space, subjects, and observables all change, cross-historical judgment is still possible when one can construct and defend mappings that preserve relevant structures. Such mappings may be imperfect, and their failures are themselves informative: what cannot be preserved under translation marks a genuine historical discontinuity.

The approach also links to structural realist themes without committing GR to ontic structural realism. Structural realism in philosophy of science has explored the idea that structural relations may survive theoretical change even when ontological descriptions change (Ladyman 2024). GR’s political use is analogous but not identical. Its focus is on historically evolving effective realities, and its invariants are selected relative to generative and normative questions rather than to scientific theory change alone.

Comparison 6.17 (GR and structural realism). Both GR and structural realist approaches assign explanatory importance to structure and transformation. GR differs by treating invariance as a provisional framework postulate embedded in a theory of historical generativity, changing observables, and emergent normativity. It therefore does not infer that structure alone exhausts ontology.

This final clause matters. GR is invariance-first, not invariance-only.

6.7 Identity without Persistent Substance

A background-independent political philosophy requires a concept of identity compatible with generative replacement. Persons change biologically and socially; institutions replace members; currencies change material form; states alter constitutions; categories change semantic content. Yet political reasoning routinely attributes continuity across such transformations. GR interprets this practice as evidence that identity is often operationally relational and invariant-sensitive rather than purely substantial.

Suppose an emergent entity E_t is generated from a relational configuration $\mathcal{R}_t$:

$$\mathcal{R}_t \longrightarrow E_t.$$

At a later time,

$$\mathcal{R}_{t'} \longrightarrow E_{t'}.$$

The identity question is not exhausted by asking whether the material components are the same. It asks whether the generative organization preserves a set of identity-relevant invariants:

$$I_1(E_t) = I_1(E_{t'}), \dots, I_k(E_t) = I_k(E_{t'}).$$

Different domains will select different I_j .

Definition 6.18 (Effective identity). An *effective identity* is a domain-relative continuity attribution grounded in the preservation of a justified set of invariants across transformation, rather than in the numerical persistence of all underlying components.

This definition is intentionally modest. It does not solve metaphysical problems of personal identity, collective agency, or persistence in general. It provides GR with a workable concept for political analysis while leaving domain-specific metaphysics open.

The notion also prevents an opposite error: assuming that every stable label denotes continuity. If the invariants relevant to the political problem disappear, lexical continuity may conceal ontological discontinuity. A nominally unchanged office may acquire radically different authority; a formally unchanged right may become practically inaccessible; an institution may retain its name while its generative role is transformed. GR therefore treats identity claims as hypotheses about preserved structure rather than as givens.

Criterion 6.19 (Identity claim under GR). A historical identity claim should specify: (i) the transformation class across which identity is asserted, (ii) the invariant or invariants taken to be preserved, (iii) the scale at which preservation is assessed, and (iv) the explanatory or normative purpose for which the identity attribution is required.

This criterion will later be important for historical judgment. Whether a present institution is “the same” as a predecessor can matter for responsibility, restitution, legal continuity, or collective memory. GR does not answer such questions by metaphysical fiat; it makes the invariance structure of the identity claim explicit.

6.8 The Revisability of the Invariance-First Assumption

The section concludes by returning to the word *provisional*. An invariance-first ontology would contradict GR’s own reflexive commitments if it were insulated from historical and theoretical revision. The postulate must therefore be treated as a current organizing assumption whose adequacy is assessed by what it makes possible: coherent comparison, generative explanation, cross-scale translation, and disciplined reconstruction of continuity under change.

Assumption 6.20 (Reflexive revisability). GR's invariance-first ontology is itself subject to revision if a different primitive structure provides a more adequate account of background-independent generation, continuity, and comparison. No GR postulate is exempt from the framework's general requirement of historical and epistemic revisability.

This assumption distinguishes GR from a dogmatic symmetry metaphysics. It also prevents a simple regress objection from being prematurely closed. One may ask what makes the invariance structure itself invariant, or whether the class of admissible transformations changes historically. GR does not answer by stipulating an immutable meta-symmetry. It instead recognizes a hierarchy of theoretical levels and requires each application to state which level is being held fixed for the purposes of analysis.

A useful notation is

$$\mathcal{S}^{(0)}, \mathcal{S}^{(1)}, \dots, \mathcal{S}^{(n)},$$

where an invariance structure at one level may itself be represented as a realization within a higher-order structure. This hierarchy need not be infinite in any concrete model. Modeling always stops somewhere. The philosophical point is that the stopping point is a methodological commitment, not automatically an ontological absolute.

Remark 6.21 (Local closure without ultimate closure). A GR model may legitimately hold a symmetry structure fixed in order to study transformations at a lower level. Such local closure is compatible with background independence provided that the fixed structure is declared as an assumption and is not silently promoted into an unrevisable ontology.

This is also the appropriate place to separate invariance from normativity. A highly oppressive political structure can be remarkably invariant under perturbation. A discriminatory institution can reproduce itself across generations. A relation can preserve its form while causing severe harm. None of these facts confers legitimacy.

Distinction 6.22 (Ontological invariance and normative validity). Invariance concerns preservation under a specified transformation class. Normative validity concerns the justifiability of a structure, judgment, or practice. No inference from the former to the latter is licensed without an independent normative argument.

The distinction can be summarized by three non-equivalences:

$$\text{invariance} \neq \text{justice}, \quad \text{stability} \neq \text{legitimacy}, \quad \text{symmetry} \neq \text{goodness}.$$

These are not peripheral cautions. They preserve the architecture of the entire paper. The invariance-first ontology belongs to GR's account of intelligibility and continuity; emergent normativity belongs to the separate problem of how evaluative capacities and judgments arise and how they can be justified.

Synthesis 6.23 (Invariance-first ontology). GR's provisional invariance-first ontology can be summarized as follows: (i) particular relational configurations are not treated as ultimate primitives; (ii) continuity is sought in invariants under justified transformations; (iii) different relational realizations may manifest a common transformation structure; (iv) historical differentiation can be studied through symmetry-breaking and stabilization; (v) identity may persist without persistent substance; and (vi) the invariance postulate itself remains reflexively revisable.

The resulting architecture complements background independence. Background independence permits the effective political stage to change; invariance supplies a candidate language for identifying continuity through that change. Together they prepare the next conceptual step. If neither substances nor relational configurations are fixed, and if invariance only constrains transformation rather than specifying its products, then

the central theoretical problem becomes generativity: how relations produce new relations, entities, observables, rules, and possibility spaces. The next section develops that mechanism directly.

7 Generativity as the Core Mechanism of GR

The previous sections established two foundational commitments. Background independence permits the effective political stage itself to change, while the provisional invariance-first ontology supplies a language for continuity through such change. Neither commitment, however, explains how new relational structures actually come into being. That task belongs to generativity. The “G” in GR is therefore not a stylistic modifier of relationality. It names the mechanism through which relational worlds can produce new relations, new effective entities, new relation types, new observables, new generative rules, and new possibility spaces that subsequently become conditions of further transformation.

Section 2.2 introduced a minimal definition of a generative relation: a relation is generative when its formation, persistence, transformation, or dissolution contributes to changing the conditions of subsequent generation. The present section develops that definition into a systematic architecture. Its purpose is to distinguish generativity from ordinary temporal change, from merely relational dynamics, and from generic appeals to complexity or emergence. The central claim is that a generative process can modify not only the state of a system but the architecture through which later states, relations, observables, and possibilities become available.

Let an effective description of a relational system at time t be written schematically as

$$\Xi_t = (\mathcal{E}_t, \mathcal{R}_t, \mathcal{G}_t, \mathcal{O}_t, M_t),$$

where $\mathcal{E}_t$ denotes effective entities, $\mathcal{R}_t$ relations, $\mathcal{G}_t$ generative mechanisms or update rules, $\mathcal{O}_t$ available observables, and M_t the effective possibility space. The notation is intentionally abstract. It is not intended to impose one universal ontology upon every political domain. Its role is to separate several structures that many conventional models hold fixed while GR permits some or all of them to change.

Definition 7.1 (Generative transformation). A *generative transformation* is a transformation of an effective relational system that changes at least one component of the architecture through which subsequent states or relations are produced, represented, or made possible. Such a transformation may alter effective entities, relation types, generative mechanisms, observables, or the effective possibility space itself.

A generative transformation can therefore be represented as

$$\Xi_t \longrightarrow \Xi_{t+\Delta t}, \quad \Xi_t \neq \Xi_{t+\Delta t}$$

with respect to at least one architecture-defining component. The relevant non-equivalence is not merely numerical inequality between state variables. It concerns a change in what counts as a state variable, relation, entity, rule, observable, or possibility in the effective description.

Principle 7.2 (Architectural consequence). A process is generative in the strong GR sense when its consequences extend beyond changes in the values of already specified variables and alter the architecture of subsequent generation. Generativity therefore concerns the production or transformation of conditions of future production.

This principle is what distinguishes GR from the claim that all historical causation is “generative.” An event may be causally important without changing any effective ontology or generative rule. A tax increase may alter disposable income while leaving the relevant institutional, classificatory, and relational architecture intact. By contrast, the creation of a new legal person, a new monetary institution, a new medium of political communication, or a new category of administrative recognition can alter which agents exist for the purposes of the system, which claims they can make, and which later relations become possible. GR reserves the stronger language of generation for this second class of transformation.

7.1 Generativity beyond Temporal Change

Temporal succession alone is analytically weak. Any system that changes can be described as occupying one state at t and another at $t + \Delta t$. If the state space and the law of transition remain fixed, however, nothing genuinely new has been generated at the architectural level. The system has moved, but the grammar of movement is unchanged.

The simplest case is

$$x_{t+\Delta t} = F(x_t), \quad x_t, x_{t+\Delta t} \in M,$$

where both F and M are fixed. The trajectory can be nonlinear, chaotic, path-dependent, or computationally complex while still remaining non-generative in the stronger GR sense. Nonlinearity therefore does not by itself establish generativity.

Distinction 7.3 (Temporal dynamics and generative dynamics). *Temporal dynamics* describes change of state through time within a specified architecture. *Generative dynamics* describes change that modifies the architecture through which later states, relations, observables, or possibilities are constituted. A process can be dynamically complex without being generative in this stronger sense.

This distinction is important for GR’s relation to existing complexity research. Social-scientific work on complex adaptive systems already studies feedback, emergence, adaptation, network effects, nonlinear change, and endogenous pattern formation (Lansing 2003; Page 2015). GR does not claim novelty merely by importing those features. Its stronger theoretical ambition is to make explicit when the effective ontology, observables, rules, or possibility space of a model should themselves be treated as generated variables rather than permanently protected background structures.

Historical change often supplies reasons to make that move. The introduction of universal suffrage does not merely change the numerical distribution of votes; it changes who counts as a participant in the electoral relation. The invention of a new corporate form can change what kinds of collective actors exist in law. A new communication technology can generate forms of association, surveillance, evidence, and political visibility that were not represented in an earlier effective political space. In each case, history does more than move a system through a pre-given catalogue of options.

Claim 7.4 (Generation of political possibility). Some historically significant political transformations are best represented not as transitions among already available states but as changes in the set and organization of politically meaningful possibilities. Their significance lies partly in generating possibilities that the previous effective description did not contain.

The claim does not entail absolute metaphysical novelty. A possibility absent from an effective political description may still be physically possible in a broader sense. GR’s concern is scale-relative and domain-relative: a new political possibility is one that becomes available, meaningful, actionable, or institutionally representable only after a generative transformation of the relevant relational system.

7.2 Generativity beyond Relational Dynamics

Relational theories can be dynamic without being generative. A network may permit edges to strengthen, weaken, appear, or disappear while the node types, edge types, and update rules remain fixed. Such a model captures relational change but still presupposes a stable relational grammar.

Let

$$\mathcal{R}_t = \{R_{ij}(t)\}$$

be a time-dependent relational structure. If evolution is specified by

$$\mathcal{R}_{t+\Delta t} = \Phi(\mathcal{R}_t)$$

for a fixed map Φ operating on a fixed class of relata and relations, the theory models relational dynamics. GR becomes generative when the process can also transform the class of relations, the kinds of relata, or the map by which future relations are formed:

$$(\mathcal{E}_t, \mathfrak{R}_t, \Phi_t) \longrightarrow (\mathcal{E}_{t+\Delta t}, \mathfrak{R}_{t+\Delta t}, \Phi_{t+\Delta t}).$$

Distinction 7.5 (Relation change and relation-generation change). Changing which relations obtain is not equivalent to changing how relations can be generated. GR distinguishes transformations of a relational configuration from transformations of the grammar, mechanisms, or conditions of relation formation.

This distinction gives “generative” a precise role. Consider trust. If two agents already possess a fixed trust variable $q \in [0, 1]$, repeated interaction may raise or lower q . That is relational dynamics. But if accumulated interaction generates a new institutional form—for example, delegated authority, unsecured credit, shared access, or a recognized fiduciary role—then the interaction has altered what future relations are possible. A previously scalar trust relation has participated in generating a new relational architecture.

A similar distinction applies to law. A legal rule can redistribute resources among existing actors while leaving the architecture of legal personhood intact. Another rule can create an entirely new class of legal entity, procedural standing, or enforceable relation. Both are politically consequential, but only the latter clearly illustrates generativity in the architectural sense developed here.

Criterion 7.6 (Strong generativity). A strong claim of generativity should identify: (i) the prior effective architecture, (ii) the generative process, (iii) the novel or transformed architectural component, and (iv) the mechanism by which that component alters subsequent generation. Without these elements, “generative” risks becoming a decorative synonym for “causal” or “dynamic.”

The criterion is intentionally demanding. It provides a bridge between philosophical language and empirical research. A GR analysis should eventually be able to indicate what evidence would show that a relation merely changed versus generated a new effective entity, relation type, observable, rule, or possibility structure.

7.3 Generation of Relations

The first and most direct form of generativity is the production of new relations. A relational system at one time may contain no operative relation of a given kind between two entities, yet historical interaction can make such a relation real and consequential.

Let $R_{ij}^{(k)}$ denote a relation of type k between E_i and E_j . Relation generation can be written minimally as

$$R_{ij}^{(k)} \notin \mathcal{R}_t, \quad R_{ij}^{(k)} \in \mathcal{R}_{t+\Delta t}.$$

The interesting question is not merely whether a new edge appears but what conditions make that appearance possible and what later consequences depend upon it.

Relations can be generated through deliberate agreement, repeated interaction, coercion, shared exposure, technological mediation, institutional classification, legal recognition, biological development, learning, or stochastic encounter. GR does not privilege one universal mechanism. The appropriate account depends on the domain.

Example 7.7 (Generated relation of political representation). A population can exist before a legally recognized representative relation exists between its members and a political office. Constitutional or institutional transformation may generate such a relation, after which claims, obligations, electoral practices, and accountability mechanisms become possible that were not previously available in the same form. The generated relation subsequently organizes further political action.

Relation formation can also be endogenous. Existing relations alter the probability or meaning of later relations. Friendship may make cooperation more likely; indebtedness may generate dependency; institutional membership may create fiduciary duties; repeated communication may generate shared interpretive conventions. Thus

$$R_t^{(a)} \longrightarrow R_{t+1}^{(b)}$$

need not mean direct mechanical causation. It can mean that one relational configuration establishes conditions under which another becomes possible or stable.

Principle 7.8 (Relational heredity). Generated relations can inherit structure from prior relations without being reducible to them. Historical relational configurations therefore act as conditions of future relation formation while permitting novelty in the type, strength, direction, or scale of the relations that emerge.

This principle provides a non-teleological language for historical continuity. The future is conditioned by inherited relations but not exhaustively specified by them. Generativity is therefore compatible with path dependence without requiring predetermined historical stages.

7.4 Generation of Entities

The second form of generativity is the emergence of effective entities. GR does not require every politically operative entity to be ontologically primitive. Some entities are stabilized products of relational organization that subsequently become sufficiently coherent to function as relata in later interactions.

Schematically,

$$\mathcal{R}_t \longrightarrow E_{t+1},$$

followed by

$$E_{t+1} \in \mathcal{E}_{t+1} \quad \text{and} \quad R(E_{t+1}, X) \in \mathcal{R}_{t+1}.$$

The second line is decisive. Emergence becomes politically significant when the generated structure is not merely a descriptive summary but begins to participate in later causal, legal, epistemic, or normative relations.

Money supplies a familiar example. Exchange practices, legal rules, expectations, accounting conventions, and institutional arrangements can stabilize a currency as an

effective entity. Once stabilized, political actors can hold, tax, regulate, borrow, denominate, defend, or speculate upon it. The generated object becomes a new relatum. Institutions behave similarly: a legislature, university, corporation, or administrative agency is constituted by relations yet subsequently enters relations as an effective actor or object of action.

Definition 7.9 (Effective generative entity). An *effective generative entity* is a relationally constituted structure that has become sufficiently stable and consequential to function as a relatum, condition, resource, constraint, or generator in subsequent relational processes at a specified scale.

The definition intentionally avoids requiring independent substance. It also avoids claiming that every aggregate is an entity. Stability, relational consequence, and scale-relative participation are required. A temporary crowd may or may not qualify depending on whether it acquires capacities, identity, or effects irreducible to the selected description of its members.

Remark 7.10 (Entityhood as a scale-relative achievement). GR treats effective entityhood as something that can be achieved, lost, strengthened, or weakened through relational organization. This does not settle ultimate metaphysical questions of substance or consciousness. It specifies when an emergent structure must be represented as an operative participant in a given inquiry.

This move is especially important for political philosophy because many of its central actors are collective or institutional. States, peoples, corporations, publics, markets, parties, bureaucracies, and movements are not naturally given in the same sense as individual organisms. Their boundaries, capacities, and continuity depend upon legal, material, symbolic, technological, and historical relations. GR therefore treats their effective agency as a generative achievement rather than as a presupposition.

7.5 Generation of Relation Types

A deeper form of novelty occurs when history generates not merely new instances of known relations but new *types* of relation. This distinction matters because a fixed relational vocabulary can conceal transformations that alter the grammar of social and political life.

Suppose $\mathfrak{R}_t$ denotes the set of effective relation types available in a system. Strong generativity permits

$$\mathfrak{R}_{t+\Delta t} \neq \mathfrak{R}_t.$$

A new relation type can arise through institutional invention, technological mediation, legal recognition, semantic change, or the stabilization of a previously informal pattern.

Digital infrastructures provide an intuitive case. A society may already contain communication, ownership, surveillance, employment, and contractual relations. New technical architectures can generate relations such as platform-mediated visibility, algorithmic ranking, persistent data profiling, API dependence, or machine-mediated delegation. These are not always adequately represented as larger or smaller values of older relation types. Their political significance can lie in the creation of a new relational grammar.

Claim 7.11 (Historical novelty of relation type). A political transformation is ontologically deeper when it changes not only who occupies relational positions but which kinds of positions and relations are available for occupation. GR therefore treats the historical generation of relation types as a distinct object of inquiry.

The claim also applies retrospectively. Some relations can operate before a society possesses a stable explicit category for them. A dependency may exist before “dependency” becomes a recognized analytic or legal relation. Later conceptualization can then feed back into the relation by creating rights, obligations, measurements, or remedies. The generation of relation types therefore interacts with the generation of observables discussed below.

Distinction 7.12 (Ontic relation type and recognized relation type). GR distinguishes a relation pattern that is generatively operative from a relation type that is explicitly recognized, classified, or institutionally represented. Historical recognition can lag behind relational operation, and the act of recognition can subsequently modify the relation itself.

This distinction protects GR from conceptual idealism. New vocabulary does not necessarily create the underlying relation *ex nihilo*. Yet naming, classifying, and institutionalizing a relation can transform its political reality by changing how agents perceive, contest, reproduce, or regulate it.

7.6 Generation of Observables

Political systems do not merely contain entities and relations; they contain ways of making some features visible, countable, comparable, and actionable. GR therefore treats observables as historically generated structures rather than as transparent windows onto an already partitioned world.

Let $\mathcal{O}_t$ denote the effective set of observables available to a political-epistemic system. An observable may be a measurement, classification, indicator, evidentiary category, legal status, statistical variable, or interpretive distinction through which some aspect of relational reality becomes representable. Generativity permits

$$\mathcal{O}_t \longrightarrow \mathcal{O}_{t+\Delta t}$$

through the appearance, disappearance, or transformation of observables.

The political importance of this process is obvious once measurement becomes institutional. A government that begins to measure unemployment, poverty, pollution, discrimination, learning outcomes, or algorithmic risk does not merely receive more information about a fixed world. The new observable can generate administrative categories, funding rules, political claims, expert communities, targets, and strategic behavior. Observation becomes part of the generative process.

Definition 7.13 (Generative observable). A *generative observable* is an observable whose introduction, stabilization, or institutional use alters subsequent relations, classifications, incentives, or possibilities rather than merely reporting an independently fixed state of affairs.

This definition creates a direct bridge from ontology to epistemology. Political knowledge can be generative because the instruments of knowing reorganize the world they describe. The point is compatible with, but not reducible to, familiar arguments about performativity, classification, or reflexivity. GR places such effects within a more general architecture in which observables are one generated component among entities, relation types, rules, and possibility spaces.

Example 7.14 (Administrative observability). Suppose a previously unmeasured form of harm becomes represented through a standardized reporting category. The observable may make cases comparable, enable resource allocation, permit statistical inference, create new legal claims, alter institutional incentives, and change self-description

by affected persons. What began as an epistemic innovation can therefore generate new political relations.

Observables can also disappear. Records can be destroyed; categories can be abolished; measurements can cease; languages can lose terms; expertise can be dismantled. The resulting epistemic contraction changes what later actors can know and therefore what interventions remain possible. Generativity includes loss as well as expansion.

Principle 7.15 (Epistemic generativity). Changes in observability can alter the future relational field by changing what can be recognized, compared, remembered, contested, or governed. The generation and destruction of observables are therefore politically generative processes.

This principle later supports GR's treatment of historical recognizability, archives, truth, and epistemic justice. It also explains why methods and evaluators cannot be treated as permanently external to the political system.

7.7 Generation of Rules and Generative Mechanisms

GR becomes substantially stronger when it permits the mechanisms of generation themselves to evolve. A model in which states and relations change under a permanently fixed rule captures endogenous dynamics but not full recursive generativity. Historical systems frequently change the institutions, conventions, technologies, incentives, and learning processes that determine how future change occurs.

Let the effective dynamics be written schematically as

$$\dot{x} = f_t(x; \mathcal{R}_t, \theta_t).$$

A conventional model may allow x to change while holding f fixed. GR permits

$$f_t \longrightarrow f_{t+\Delta t}.$$

At a more abstract level, one may write

$$\dot{f} = G(f, \mathcal{R}, H, E, \dots),$$

where the rule of evolution is itself historically conditioned. The notation is schematic rather than a claim that every political system admits a differentiable law of motion. Its philosophical purpose is to represent the possibility that history changes how history is generated.

Definition 7.16 (Generator transformation). A *generator transformation* is a change in the effective mechanism, rule, institution, or process through which later relations or states are produced. It is a second-order form of generativity because it alters not only outputs but the production of outputs.

Examples are widespread. Electoral reform changes the procedure through which political authority is generated. Educational transformation changes the capacities through which later knowledge and political participation are produced. A constitutional amendment can alter how future law is amended. A machine-learning recommender can alter the information environment through which later preferences, associations, and political salience develop. An institution can therefore govern not only present behavior but the mechanism by which future political relations are generated.

Proposition 7.17 (Second-order generativity). *If an emergent structure modifies the mechanism by which later relations or states are generated, then its political significance cannot be represented fully by its immediate first-order effects. The structure has second-order consequences through its alteration of future generative dynamics.*

This proposition is especially important for governance. A policy may have modest immediate effects while profoundly altering future generative capacity. Conversely, a policy with beneficial short-run outcomes may damage the institutions, knowledge, trust, or ecological conditions required for later adaptation. GR therefore directs normative attention toward the dynamics that an intervention leaves behind.

Distinction 7.18 (Outcome intervention and generator intervention). An *outcome intervention* primarily changes a present state or allocation. A *generator intervention* changes the process through which future states, relations, or allocations are produced. The same policy may contain both dimensions, but they should not be analytically conflated.

This distinction will later support a generative account of governance. Good governance cannot be assessed only by immediate outputs if governance itself changes the field from which future outputs emerge.

7.8 Generation of Possibility Spaces

Background independence reaches its strongest form when generativity applies to possibility space. Section 5.7 distinguished politics within a possibility space from politics of the possibility space itself. Generativity now specifies how such transformation can occur.

Let M_t denote the effective political possibility space at time t . Standard decision problems assume a set of options $A \subseteq M$ and ask which option an agent should choose. GR additionally asks how the relational system generated M , who can alter it, and whether action can transform the space of meaningful options:

$$M_t \longrightarrow M_{t+\Delta t}.$$

A generated possibility need not have been metaphysically impossible before it became politically available. The relevant claim is weaker and more practical: before the generative transformation, actors lacked the institutions, concepts, capacities, technologies, or relations required to realize or even formulate the possibility in the operative political domain.

Definition 7.19 (Possibility-space generation). *Possibility-space generation* occurs when a relational transformation changes the effective set, organization, accessibility, or intelligibility of actions, relations, identities, or institutional forms available to the system or its participants.

This definition includes both expansion and contraction. A technology can create new forms of association while eliminating privacy conditions required for older forms of life. A legal reform can open new rights while closing informal arrangements. A war can destroy institutions and thereby remove possibilities that previously existed. Generativity is not inherently progressive.

Warning 7.20 (Generativity is normatively unsigned). The production of new possibilities is not automatically desirable. Generative capacity can produce domination, exploitation, ecological destruction, epistemic exclusion, or irreversible loss as readily as emancipation, knowledge, cooperation, or institutional innovation. Normative evaluation requires criteria independent of the mere fact of generation.

This warning is central to GR's political philosophy. If generativity were itself treated as goodness, the framework would simply replace one substantive value with another while disguising the move as ontology. GR instead treats generativity as a structural property whose normative significance depends on what is generated, for whom, under which relations, with which costs, and with what consequences for future generative capacities.

The concept also deepens the analysis of freedom. If freedom is represented only as the number of presently available choices, then two agents with identical option sets appear equally free. GR can ask whether they possess comparable capacities to participate in changing the future possibility space itself. Political freedom may therefore concern not only selection within M_t but participation in the generation of M_{t+1} .

Claim 7.21 (Generative dimension of political freedom). A complete account of political freedom may require attention not only to access to presently available options but also to an agent's relational capacity to participate in the formation, revision, and preservation of future possibility spaces.

The claim is deliberately presented as a proposal rather than a definition of freedom. Later sections compare it with liberal and republican traditions.

7.9 Recursive Generativity

The defining architecture of GR is recursive. Generated structures do not remain passive products. They can re-enter the system and become conditions of further generation. This recursive re-entry prevents emergence from functioning as an explanatory endpoint.

A minimal cycle is

$$\mathcal{R}_t \longrightarrow E_{t+1} \longrightarrow \mathcal{R}'_{t+1} \longrightarrow E_{t+2} \longrightarrow \dots$$

The prime indicates that the later relational configuration is not merely the old configuration plus one additional object. The generated entity may change the grammar or probability of subsequent relations.

More generally,

$$\Xi_t \longrightarrow \Xi_{t+1} \longrightarrow \Xi_{t+2},$$

where components generated at one stage participate in the map producing the next. In such a system, causal and ontological roles can change over time. What is initially an output can become a parameter, constraint, resource, observable, or generator.

Principle 7.22 (Recursive re-entry). Any structure generated within a GR system may, if it becomes sufficiently stable and causally or normatively consequential, re-enter subsequent rounds of generation as a relatum, condition, observable, rule, constraint, resource, or generator.

Currency again supplies a clear illustration. Exchange relations help stabilize money; money reorganizes exchange; monetary institutions generate credit; credit generates new forms of dependency, investment, risk classification, and governance; these in turn alter the institutions that reproduce monetary relations. There is no single terminal layer at which emergence stops.

Normality exhibits the same pattern. Repeated behavior can stabilize expectations; expectations generate classifications; classifications alter conduct; altered conduct reinforces or destabilizes the original regularity. An emergent norm can therefore participate in reproducing the distribution from which its apparent normality was inferred.

Example 7.23 (Recursive generation of normality). Suppose a repeated relational pattern becomes statistically common. Institutions begin to classify it as normal, design procedures around it, and reward conformity to it. Agents adapt behavior to those expectations, making the pattern still more common. The resulting normality is neither merely discovered nor simply imposed: it is recursively generated through observation, classification, institutionalization, and behavioral feedback.

Recursive generativity also explains why political interventions can have delayed and nonlinear consequences. An intervention may generate a new entity or rule that initially appears marginal, then gradually becomes a condition of many later relations. The long-run effect therefore depends not only on the first transition but on the re-entry structure of what was generated.

Claim 7.24 (No terminal emergence). Within a generative-relational analysis, emergence should not be treated as a terminal explanatory layer when the emergent structure subsequently modifies the relations that produce later realities. Explanation must follow the re-entry of emergent structures into further generation.

This claim distinguishes GR from one-directional micro-to-macro emergence stories. The macro can become a condition of the micro, the institutional a condition of the interpersonal, and the conceptual a condition of later perception. Recursive generativity therefore requires a bidirectional and temporally extended analysis.

7.10 Cross-Scale Co-Generation

Generativity frequently crosses scales. Neural interactions can support cognitive capacities; cognitive capacities participate in interpersonal relations; interpersonal relations stabilize institutions; institutions reshape education, attention, embodiment, and material environments. No single scale need be treated as permanently explanatory in every problem.

Let $\mathcal{R}_t^{(k)}$ denote relational organization at scale k . A simple hierarchical emergence model would assume

$$\mathcal{R}^{(k)} \longrightarrow \mathcal{R}^{(k+1)}.$$

GR instead permits

$$\mathcal{R}_t^{(k)} \rightleftharpoons \mathcal{R}_t^{(k+1)},$$

with historically changing coupling terms. The higher-level organization may constrain or enable lower-level relations, while lower-level changes may destabilize or transform higher-level structures.

Definition 7.25 (Cross-scale co-generation). *Cross-scale co-generation* is a process in which relational organization at two or more effective scales participates reciprocally in producing, stabilizing, or transforming the entities, relations, observables, or generative mechanisms operative at those scales.

The definition does not deny reduction where reduction is empirically adequate. It denies that reduction should be assumed in advance as the only legitimate explanatory form. A political institution may be implemented through individual actions while also shaping the categories, incentives, and informational environments through which those individuals act. A cultural practice may depend on neural and embodied capacities while altering those capacities through learning and habituation. A market may arise from transactions while subsequently conditioning which transactions are feasible.

Complex adaptive systems research already emphasizes interactions across levels, feedback, adaptation, and emergent organization (Lansing 2003; Page 2015). GR's additional commitment is ontological and philosophical: scale boundaries, effective entities, observables, and coupling structures may themselves be historically generated and therefore require explicit justification rather than automatic fixation.

Principle 7.26 (No universally privileged scale). GR does not assign permanent explanatory privilege to a single scale of analysis. The appropriate scale is determined by the generative question, and the analysis must remain open to the possibility that causally or normatively significant structures arise through cross-scale coupling.

This principle is especially important for political philosophy. Freedom, harm, responsibility, domination, and justice can depend simultaneously on bodily capacities, interpersonal relations, institutional structures, technological infrastructures, ecological conditions, and historical trajectories. A theory that fixes one scale as uniquely real risks misdescribing how these normative objects are generated.

Cross-scale analysis also clarifies the relationship between GR and historical materialism. Material production remains a powerful generative domain, but GR does not assume that every political reality is most adequately explained at the scale of production relations. Neural, ecological, technological, symbolic, institutional, interpersonal, and transnational processes may become generatively decisive in different problems. The framework therefore generalizes the historicizing impulse without denying the explanatory importance of material relations.

7.11 Emergent Structures as Inputs to Further Generation

The preceding subsections can now be assembled into a single architecture. GR begins from the observation that relations may generate structures that become effective realities. It then adds a stronger recursive thesis: once effective, those structures can become inputs to subsequent generation. The system therefore contains no fixed one-way division between cause and product, micro and macro, structure and agent, or object and condition.

A general schematic is

$$\Xi_t \xrightarrow{\Gamma_t} \Xi_{t+1},$$

where Γ_t is the historically situated generative process. But Γ_t need not remain external to Ξ_t . Components of the generated state can alter the next generator:

$$(\Xi_t, \Gamma_t) \longrightarrow (\Xi_{t+1}, \Gamma_{t+1}).$$

This is the core recursive form of GR.

Proposition 7.27 (Recursive generative architecture). *If outputs of a generative transformation become inputs to subsequent transformations, and if those outputs can modify the effective entities, relations, observables, generators, or possibility spaces involved in later transitions, then the system exhibits recursive generativity. In such a system, historical development cannot in general be represented adequately as evolution under one fixed ontology and one fixed law of motion.*

The proposition states the strongest sense in which GR differs from a generic dynamic theory. It does not require that every component change at every moment. Local modeling can and often must hold many structures fixed. The requirement is instead methodological transparency: what is fixed must be declared as a modeling closure rather than silently elevated into an eternal ontology.

Remark 7.28 (Local closure within recursive generativity). A GR model may legitimately hold M , $\mathcal{O}$, $\mathcal{G}$, or selected relation types fixed over a specified interval when doing so is empirically and analytically justified. Recursive generativity is a framework-level permission to relax those assumptions when history makes them inadequate, not a demand that every model make every component dynamical simultaneously.

This qualification is necessary for tractability. A framework that insists on modeling every level, every relation, and every generator at once would be unusable. GR instead provides a hierarchy of possible openings. One begins with a local closure, investigates where that closure fails, and then permits the relevant background component to become dynamical.

The architecture also clarifies why GR is intended as a theory rather than a loose collection of imported mathematical techniques. Attractors, bifurcations, criticality, symmetry breaking, network models, fields, and algebraic structures become useful only after the theory specifies what is evolving, what is held fixed, what can emerge, and how generated structures re-enter later dynamics. Physics and mathematics therefore provide model classes inside a broader generative grammar; they do not define the grammar by themselves.

Comparison 7.29 (GR and nonlinear social modeling). Nonlinear social modeling can study complex trajectories, feedback, attractors, or phase-like changes within a specified model architecture. GR asks an additional family of questions: how the modeled entities, relation types, observables, update mechanisms, and possibility spaces were generated; whether they remain stable across the historical interval; and when the architecture itself must become an object of explanation. The difference is therefore not the presence of nonlinear mathematics but the theoretical status assigned to the model's background structures.

The same point separates generativity from dialectics without rejecting the latter. Dialectical traditions supply powerful concepts of contradiction, mediation, qualitative transformation, and historical becoming. GR treats these as possible structures of generation rather than as the only admissible mechanism. Cooperation, learning, stochastic perturbation, ecological coupling, technological mediation, symmetry breaking, critical transition, institutional design, and other processes can also generate new relational architectures. The framework is therefore plural with respect to mechanisms while systematic with respect to the questions asked of them.

Synthesis 7.30 (Generativity in GR). Generativity in GR comprises at least the following capacities: (i) generation of new relations; (ii) generation of effective entities; (iii) generation of relation types; (iv) generation and destruction of observables; (v) transformation of generative rules and mechanisms; (vi) generation, contraction, or reorganization of possibility spaces; (vii) recursive re-entry of generated structures; and (viii) cross-scale co-generation. A process need not exhibit all eight forms to be generative, but strong GR explanations should specify which forms are operative and how they are evidenced.

This synthesis gives the “G” in GR its strongest meaning. History is not only movement, relational change, or dialectical development. It can be the production of the very entities, distinctions, rules, and spaces through which later history becomes possible. That proposition has consequences for every major object of political philosophy. Political subjects can be generated; freedom and constraint can be co-generated; power can operate upon the generators of future relations; reality and normality can become stabilized through recursive feedback; truth can depend on generated observables and

records; and normative capacities can emerge within the same historical-relational field they later evaluate.

The next section turns from the architecture of generativity to the plurality of dynamical forms through which generative transformation can occur. The point will not be that modern physics or dynamical-systems theory supplies a ready-made model of history. Rather, GR uses attractors, basins, bifurcations, criticality, phase transitions, metastability, hysteresis, and symmetry breaking as differentiated formal languages for mechanisms that older vocabularies of historical transformation often grouped together under more general descriptions of qualitative change.

8 Generative Dynamics beyond a Unitary Model of Dialectical Change

Section 7 specified what makes a transformation generative in the strong GR sense: it can alter not only states and relations but also effective entities, relation types, observables, generative mechanisms, and possibility spaces. The present section asks a different question. Once a generative transformation is possible, what kinds of dynamical mechanisms can realize it? The answer matters because the vocabulary of historical change is often too coarse. Terms such as “contradiction,” “crisis,” “qualitative transformation,” “rupture,” or “transition” may identify an important phenomenon without discriminating the dynamical architecture through which it occurs.

The Marxian dialectical tradition was historically important precisely because it resisted a simple picture of history as smooth, proportional, and linearly cumulative. In Engels’s explicit formulation, quantitative changes can be associated with qualitative changes in the organization or properties of a system (Engels 1878). Marx’s own historical writings likewise emphasize inherited conditions, structural constraints, conflict, and transformations of social forms rather than a homogeneous progression of independent events (Marx 1852; Marx 1859; Wolff and Leopold 2025). GR inherits this anti-linear intuition. It does not, however, treat nineteenth-century dialectics as an undeveloped version of contemporary nonlinear dynamics. Such a retrospective identification would collapse distinct intellectual projects and attribute mathematical content that was not historically present.

The stronger GR proposal is methodological and theoretical. Modern dynamical systems and statistical physics provide several distinct model classes for qualitative transformation: attractor formation, basin restructuring, bifurcation, critical transition, phase change, metastability, hysteresis, and symmetry breaking, among others (Guckenheimer and Holmes 1983; Scheffer 2009; Sethna 2021; Hohenberg and Halperin 1977). These concepts are not synonyms. Each specifies a different question about stability, sensitivity, branching, memory, collective organization, or invariance. GR therefore replaces a unitary vocabulary of historical transformation with a plural vocabulary of generative dynamics, while keeping open the possibility that some historical processes are better represented by mechanisms not borrowed from physics at all.

Principle 8.1 (Dynamical pluralism). GR does not assume one universal mechanism of historical transformation. Contradiction, feedback, coordination, learning, stochastic perturbation, institutional redesign, ecological coupling, technological mediation, bifurcation, critical transition, phase reorganization, symmetry breaking, and other mechanisms are treated as candidate forms of generative dynamics whose relevance must be established case by case.

This principle distinguishes GR from two opposite errors. The first is to reduce historical change to one philosophical schema. The second is to treat contemporary math-

emational vocabulary as automatically explanatory merely because it is more technical. GR requires a translation from formal structure to domain-specific mechanism. A claim that a political or historical system exhibits an attractor, critical point, or phase transition is meaningful only when the state variables, observables, parameters, coupling structure, and empirical signatures are specified with sufficient clarity.

Warning 8.2 (Formal vocabulary does not substitute for mechanism). Calling a historical episode a “bifurcation,” “critical transition,” “phase transition,” or “symmetry breaking” does not by itself explain that episode. The formal term becomes explanatory only when the mapping between mathematical structure and the historical-relational process is stated and can be criticized or tested.

The aim of this section is therefore neither to mathematize history by decree nor to translate dialectics mechanically into physics. It is to articulate a repertoire of differentiated dynamical forms that can be embedded within the broader GR grammar developed in the previous sections.

8.1 Nonlinear Historical Intuitions in the Marxian Tradition

The Marxian tradition contains a powerful intuition that historical development cannot be represented adequately as the additive accumulation of independent changes. Social forms can reproduce themselves for long periods, intensify their internal tensions, reorganize under altered material conditions, and generate qualitatively different institutions and modes of social coordination. Historical actors also confront inherited structures that shape what they can do, while their actions reproduce or transform those structures. This is already a significant departure from a simple linear-causal picture of history.

Marx’s formulation in *The Eighteenth Brumaire* that people make their own history under inherited circumstances is especially important for GR because it joins agency and historical conditioning without reducing either side to the other (Marx 1852). Likewise, the 1859 Preface presents historical social forms as connected to changing material and productive structures rather than as timeless political arrangements (Marx 1859). Whatever disagreements surround strong versions of historical materialism, the underlying methodological impulse is clear: social reality has a trajectory, and the significance of an event depends on the historically structured field in which it occurs.

Engels later gave an explicit philosophical formulation to the relation between quantitative and qualitative change. In *Anti-Dühring*, he uses examples from chemistry and physical transformation to illustrate the proposition that incremental quantitative variation can be associated with qualitative difference (Engels 1878). The importance of this formulation for GR is not that it anticipated bifurcation theory or statistical mechanics. It did not. Its importance is that it rejected the assumption that proportional input must produce proportional qualitative consequence.

Inheritance 8.3 (Anti-linear historical transformation). GR inherits from the Marxian dialectical tradition the methodological refusal to identify historical development with smooth, linear, and proportionate change. Accumulation can alter structure; structures can condition later dynamics; and historically situated interactions can generate qualitatively different forms of social reality.

The inheritance should be stated carefully. Modern nonlinear dynamics did not simply confirm dialectical materialism, and dialectics cannot be reduced to the mathematics of nonlinear systems. Dialectical concepts concern contradiction, mediation, totality,

negation, and historical development in ways that exceed any single dynamical formalism. Conversely, dynamical systems theory contains many transformations that do not instantiate dialectical contradiction in any philosophically substantive sense.

Distinction 8.4 (Dialectical nonlinearity and mathematical nonlinearity). A dialectical claim that historical development can be discontinuous, relational, or qualitatively transformative is conceptually distinct from the mathematical claim that a specified dynamical system is nonlinear. The former may motivate attention to nonlinear mechanisms; it does not determine which nonlinear model, if any, is appropriate.

GR therefore treats dialectics as part of its intellectual ancestry while declining to make dialectical form the only admissible dynamics. This is an extension rather than a repudiation. The question shifts from “Does quantity become quality?” to a more discriminating set of questions: under which variables, couplings, thresholds, feedbacks, constraints, and symmetry structures does a qualitative reorganization occur, and what does that reorganization generate?

8.2 Quantitative Accumulation and Qualitative Transformation

The formula of quantitative accumulation followed by qualitative transformation is powerful because it directs attention to thresholds. Yet as a general philosophical formula it underdetermines the mechanism. Contemporary dynamics makes it possible to distinguish several very different processes that can all appear, from a distance, as a passage from “more of the same” to “something different.”

Let λ denote a control parameter and O an observable or order parameter. A minimal threshold representation is

$$O = O(\lambda),$$

with a qualitative change in the behavior of O near some λ_c . But the structure around λ_c matters. The transition might be continuous or discontinuous; the number of stable states may change; a barrier may disappear; susceptibility may rise; the system may exhibit hysteresis; symmetry may be reduced; or an entirely new effective variable may become necessary. These are not equivalent descriptions.

Distinction 8.5 (Threshold language and mechanism language). A threshold identifies a region in which system behavior changes qualitatively. A dynamical mechanism specifies how and why that change occurs. GR treats “quantity–quality” as a broad historical intuition and uses more specific dynamical concepts to discriminate among possible mechanisms.

The distinction also prevents a common misuse of mathematical language in social inquiry. A large change following a small change does not establish criticality. A sudden political reorganization does not establish a phase transition. A durable institution does not establish the existence of an attractor. Each concept has additional structural commitments.

Criterion 8.6 (Mechanism-sensitive translation). A GR account that translates a historical process into a dynamical model class should specify at least: (i) the relevant effective variables; (ii) the relational mechanism linking them; (iii) the parameter or structural change that drives transformation; (iv) the observable signature of the proposed mechanism; and (v) the domain over which the translation is expected to remain valid.

The benefit of this discipline is conceptual resolution. A society may undergo a long period of incremental change before an abrupt institutional reorganization. One model

may represent this as slow movement toward a saddle-node bifurcation; another as barrier crossing between metastable configurations; another as a collective phase transition; another as endogenous generator transformation not well captured by any fixed state space. The historical description alone does not choose among them.

GR therefore treats modern dynamics as a way of decomposing an overly broad category of qualitative transformation. The philosophical gain lies in replacing one general verb—“change”—with a differentiated account of what kind of change is occurring and what new relational architecture it produces.

8.3 Attractors and Historical Stability

Dynamical systems theory provides a particularly useful language for distinguishing persistence from fundamentality. In a system

$$\dot{x} = f(x),$$

an attractor is, roughly, an invariant set toward which trajectories from some surrounding region tend under the dynamics (Guckenheimer and Holmes 1983). The relevant attractor may be a fixed point, a periodic orbit, or a more complicated invariant set. What matters for GR is the structural idea that a configuration can be dynamically reproduced even when individual states are continually perturbed.

This is attractive for political analysis because social orders often display precisely this combination of local variability and macroscopic persistence. Individuals enter and leave institutions; administrations change; prices fluctuate; norms are contested; yet a recognizable relational regime can reproduce itself. The GR question is not whether society literally occupies a low-dimensional attractor, but whether the mechanisms of reproduction can be represented usefully through attractor-like dynamics.

Let A denote an attractor and $B(A)$ its basin of attraction. Then for trajectories beginning in an appropriate region,

$$x_0 \in B(A) \implies \text{dist}(x_t, A) \rightarrow 0$$

under the relevant limiting dynamics. Politically, the analogy directs attention to self-restoring mechanisms: legal routines, expectations, network dependencies, institutional incentives, material infrastructures, classificatory practices, or distributions of power that return disturbed trajectories toward a familiar relational regime.

Formal Analogy 8.7 (Historical attractor). A historically reproduced social configuration may be represented as attractor-like when a specified set of relational feedbacks tends to return a range of perturbed trajectories toward a recurrent effective regime. The analogy concerns dynamical reproduction, not moral desirability or ontological necessity.

The last qualification is crucial. A stable attractor is not a good attractor. Dynamic persistence says nothing by itself about justice, legitimacy, freedom, or human flourishing.

Warning 8.8 (Stability is not legitimacy). The persistence of a political or social configuration under perturbation does not confer normative authority upon it. Domination, exclusion, exploitation, or epistemic suppression can be dynamically stable. GR therefore treats attractor structure as a descriptive property that remains normatively unsigned.

Attractor language can nevertheless deepen the analysis of power. Power may operate not only through direct control of actions but through construction of feedbacks that return the system toward a preferred regime. An institution can thereby exercise what Section 7 called second-order generativity: it shapes the mechanisms through which later deviations are absorbed, redirected, or amplified.

Claim 8.9 (Reproductive power). When a power structure modifies the feedbacks that determine which perturbations decay and which trajectories are restored, political power operates partly through control of the system's effective stability landscape rather than only through direct command.

This claim prepares the later treatment of power as generative relational capacity. It also shows why attractors belong inside GR's theoretical language rather than functioning as isolated metaphors.

8.4 Basins and Path-Dependent Development

Attractors acquire historical significance through their basins. A basin of attraction is the set of initial conditions whose trajectories converge toward a given attractor. If a system contains multiple attractors, then the same general dynamical law can produce different long-run regimes depending on where the trajectory begins and how it is perturbed. This supplies a formal language for one important form of path dependence.

Suppose a system has attractors A_1 and A_2 with basins B_1 and B_2 . Then

$$x_0 \in B_1 \Rightarrow x_t \rightarrow A_1, \quad x_0 \in B_2 \Rightarrow x_t \rightarrow A_2.$$

A historically small difference can matter greatly when it moves a trajectory across a basin boundary. Conversely, substantial short-term variation can remain politically superficial when it stays inside the same basin and is absorbed by the same reproductive dynamics.

Distinction 8.10 (State difference and basin difference). Two political states can differ visibly while remaining inside the same effective basin of attraction, whereas two nearly identical states located on opposite sides of a basin boundary can have sharply different future trajectories. Historical significance therefore cannot be inferred from instantaneous distance alone.

This is especially compatible with GR's trajectory-sensitive ontology. Section 7 argued that identical or similar states may possess different historical meanings because they arise from different trajectories and generative structures. Basin geometry adds another layer: the future of a state depends partly on its location relative to the stability structure of the system.

Path dependence in political and institutional analysis has a broader literature than dynamical-systems basin theory, and the two should not be identified automatically. The GR use of basin language is narrower. It asks whether historically reproduced alternatives can be modeled as domains of attraction separated by boundaries whose geometry affects transition probability, resilience, or accessibility.

Translation Rule 8.11 (Basin translation). To translate a historical path-dependent process into basin language, a GR model should identify (i) at least two distinguishable recurrent regimes, (ii) the relational feedbacks stabilizing them, (iii) the effective boundary conditions separating their domains of attraction, and (iv) perturbations capable of moving trajectories across those boundaries.

The basin perspective also reframes intervention. Policy can aim at moving the present state within a basin, pushing the state across a boundary, reshaping the boundary, enlarging or shrinking a basin, or changing the attractor itself. These are dynamically distinct forms of governance even when they pursue a similar substantive objective.

8.5 Bifurcations and Historical Branching

A bifurcation occurs when a change in parameters alters the qualitative structure of a dynamical system, for example by changing the number, type, or stability of invariant sets (Guckenheimer and Holmes 1983). Bifurcation theory therefore provides a precise language for situations in which gradual parameter change produces a reorganization of available trajectories.

Let

$$\dot{x} = f(x; \lambda),$$

where λ is a control parameter. A bifurcation occurs at some λ_c when the qualitative phase portrait changes. Depending on the system, equilibria may appear or disappear, lose stability, split into new branches, or give rise to oscillatory behavior. The formal diversity already shows why “qualitative change” is too broad a category.

Model Class 8.12 (Historical bifurcation model). A historical transformation is a candidate for bifurcation modeling when a slowly or systematically changing parameter alters the number, accessibility, or stability of effective relational regimes, thereby opening or closing qualitatively distinct trajectories.

The political value of this model class lies in historical branching. A system need not move along one predetermined sequence of stages. Near a bifurcation, several branches may become dynamically possible:

$$\mathcal{R}_t \longrightarrow \left\{ \mathcal{R}_{t+1}^{(1)}, \mathcal{R}_{t+1}^{(2)}, \dots \right\}.$$

Which branch is realized can depend on perturbations, noise, asymmetries, institutional actions, or inherited conditions. History can therefore be structured without being teleologically predetermined.

Claim 8.13 (Structured contingency). Bifurcation language permits GR to represent historical contingency without reducing it to randomness. A relational system can possess a structured set of possible branches whose realization depends on historically specific perturbations and conditions.

This claim is particularly important for GR’s relation to historical materialism. GR can retain the idea that structures condition historical possibility while rejecting any requirement that one universal sequence of social forms must be traversed. The effective landscape can branch, merge, disappear, or be regenerated.

Bifurcation should nevertheless not become a loose synonym for revolution or crisis. A political revolution can occur without any empirically defensible low-dimensional bifurcation model, and a mathematical bifurcation can describe changes with no political analogue. The concept earns its place only when the relevant parameterization and stability change can be specified.

Limitation 8.14 (Bifurcation is not a synonym for rupture). Abrupt historical transformation does not by itself establish that a bifurcation occurred. Bifurcation claims require an identified dynamical structure in which a parameter change reorganizes the stability or existence of relevant solution branches.

This limitation exemplifies GR’s general method: formal concepts sharpen historical explanation only when their additional commitments are made explicit.

8.6 Criticality and Increased Susceptibility

Criticality provides a different language from bifurcation, although the two are sometimes associated in applications. In statistical physics, critical phenomena concern collective behavior near continuous phase transitions, where correlation lengths can become large and response functions may exhibit singular or scale-dependent behavior (Hohenberg and Halperin 1977; Sethna 2021). In broader complex-systems research, the language of critical transitions is also used for systems approaching thresholds at which small perturbations can precipitate a shift to an alternative regime (Scheffer 2009; Scheffer, Bascompte, et al. 2009). These usages overlap but should not be conflated.

For GR, the most useful generic intuition is susceptibility. Let O be an observable responding to a parameter or perturbation h . One may define a susceptibility schematically as

$$\chi = \frac{\partial O}{\partial h}.$$

A regime of increased susceptibility is one in which comparable perturbations produce increasingly large or long-lived responses. This gives formal content to the historical intuition that systems can become unusually sensitive before major reorganization.

Definition 8.15 (Generative susceptibility). *Generative susceptibility* is the sensitivity of a relational system’s effective architecture—including its relations, observables, generators, or possibility space—to perturbations or parameter changes. It is stronger than sensitivity of a single state variable when the response alters conditions of subsequent generation.

The definition deliberately extends beyond physical criticality. GR does not assume that every highly susceptible political system belongs to a statistical-mechanical universality class. It instead uses susceptibility as a bridge concept: a formal measure of how strongly a relational architecture responds to intervention.

Research on critical transitions in complex systems identifies phenomena such as critical slowing down as possible warning signals near some classes of tipping points (Scheffer, Bascompte, et al. 2009). GR can use such work as methodological inspiration, but any historical application requires substantial caution. Social systems are open, reflexive, institutionally heterogeneous, and capable of changing their own observables and rules. The act of diagnosing a crisis can itself alter behavior.

Warning 8.16 (Criticality requires evidence). GR should not describe a society, institution, or historical period as “near criticality” merely because it appears unstable or conflictual. A criticality claim should specify the relevant observable, coupling structure, susceptibility or scaling behavior, and empirical signatures that distinguish the proposed mechanism from ordinary volatility or exogenous shock.

This warning is particularly important because criticality is rhetorically attractive. Without operational discipline, it can become a technical-sounding synonym for “important historical moment.” GR instead treats criticality as one model class among several.

Hypothesis 8.17 (Historical susceptibility hypothesis). For some historically situated relational systems, major transitions may be preceded by a regime in which relational feedbacks increase the sensitivity of system-level organization to perturbations. Where such a regime exists, identifying its observables and response structure may provide a more precise account of historical crisis than a generic appeal to accumulated contradiction.

The hypothesis is intentionally conditional. It invites model construction and empirical evaluation rather than declaring criticality a universal law of history.

8.7 Phase Transitions and Regime Reorganization

Phase-transition language addresses collective reorganization at the level of macroscopic order. Statistical mechanics distinguishes phases by macroscopic properties and studies transitions in which changes in control parameters alter the system's collective organization (Sethna 2021). Abrupt and continuous transitions have different structures, and critical phenomena arise in specific classes of continuous transitions. This vocabulary is richer than the generic idea that a system “changes phase.”

A useful schematic introduces an order parameter m whose behavior differentiates effective regimes. For example,

$$m \approx 0$$

may characterize one phase, whereas

$$m \neq 0$$

characterizes another. In political or social modeling, the challenge is to identify an observable that genuinely captures collective organization rather than selecting an arbitrary index and naming it an order parameter.

Formal Analogy 8.18 (Relational phase). A *relational phase* is an effective regime in which a family of relational configurations shares a stable macroscopic organization that can be distinguished from other regimes by specified observables, symmetries, or generative properties. The term is analogical unless an explicit statistical or dynamical model establishes a stronger correspondence.

This concept can be useful when many local interactions generate a qualitatively coherent macroscopic order. A monetary regime, communication ecology, institutional structure, or network of political participation might exhibit collective organization that cannot be understood by inspecting isolated dyads. Yet GR insists that the effective phase is not the end of explanation. Once stabilized, it becomes a generative environment that reshapes later local relations.

This produces a characteristic GR loop:

$$\begin{aligned} \text{local relational dynamics} &\longrightarrow \text{collective organization} \\ &\longrightarrow \text{changed local generative conditions.} \end{aligned}$$

The second arrow prevents phase-transition language from collapsing into one-way emergence.

Distinction 8.19 (Phase transition and bifurcation). Bifurcation theory concerns qualitative changes in the structure of solutions of a dynamical system as parameters vary. Phase-transition theory concerns changes in macroscopic collective organization, often in systems with very many degrees of freedom. The two can be mathematically related in particular models, but GR should not treat them as interchangeable labels.

This distinction is useful historically. A transformation may involve institutional branching without a meaningful thermodynamic-style phase description; another may involve collective reorganization across enormous numbers of interacting units where order-parameter and phase language becomes useful. GR gains explanatory resolution by keeping these mechanisms distinct.

8.8 Metastability and Durable Historical Configurations

Historical systems often persist even when alternative arrangements are imaginable or locally advantageous. Metastability provides a language for such persistence. In physics,

a metastable state is long-lived without being the globally most stable state; transition can require fluctuation, nucleation, or crossing an effective barrier (Sethna 2021; Scheffer 2009). The GR translation focuses on durability without ontological or normative finality.

Consider an effective potential-like landscape $V(x)$ with more than one local minimum. A trajectory can remain near a local minimum x_A for a long period even if another region is more stable under the global structure. The metaphor of an energy barrier should not be imported literally into politics, but the structural idea is valuable: institutions, expectations, sunk investments, coordination problems, legal constraints, knowledge deficits, or power relations can make departure from a configuration difficult even when alternatives are known.

Definition 8.20 (Historical metastability). A political or social configuration is *historically metastable* when relational feedbacks make it persist for an extended period despite the existence of accessible or potentially generable alternative configurations, and when transition requires a sufficiently large perturbation, coordinated change, or transformation of the stabilizing relations.

Metastability offers an alternative to two simplistic explanations of persistence. The first says that a durable system must be uniquely efficient or legitimate. The second says that durability requires complete coercive closure. Metastable persistence can arise from distributed barriers and coordination structures without either normative optimality or absolute impossibility of change.

Claim 8.21 (Durability without finality). Long historical duration is compatible with contingency. A relational order can be robust over extended periods while remaining one locally stabilized configuration among several possible or generable alternatives.

This claim is philosophically important for GR because it reinforces the separation between stability and fundamentality established in Sections 5 and 6. What appears natural or inevitable from within a long-lived historical regime may be the phenomenology of metastability rather than evidence of ontological necessity.

Metastability also directs attention toward transition mechanisms. A reform can fail not because its goal is incoherent but because it does not alter the barrier structure that returns actors to the prior regime. Conversely, a seemingly small intervention can have large consequences when it supplies a missing coordination mechanism or nucleation site. These are model-dependent possibilities, not universal laws.

8.9 Hysteresis and Historical Memory

Hysteresis captures a form of historical dependence in which the state of a system depends not only on current parameters but also on the path by which those parameters were reached. In systems with alternative stable states, the threshold for a transition in one direction can differ from the threshold for reversing that transition (Scheffer 2009; Scheffer, Carpenter, et al. 2001). Restoring the original value of a control parameter therefore need not restore the original state.

Schematically, if an increasing parameter λ produces a transition

$$A \xrightarrow[\lambda \uparrow]{\lambda_+} B,$$

the reverse transition may require

$$B \xrightarrow[\lambda \downarrow]{\lambda_-} A, \quad \lambda_- \neq \lambda_+.$$

The system has memory encoded in its state and stability structure.

Principle 8.22 (Historical non-reversibility). When a transformation changes the relational architecture that conditions future dynamics, removing the initiating cause need not restore the prior configuration. Historical reversal can require a different generative pathway from historical formation.

This principle generalizes beyond strict mathematical hysteresis. Colonization, war, institutional collapse, technological adoption, ecological degradation, legal exclusion, or destruction of records can generate relations that persist after the initiating condition has ended. GR should not label every such persistence “hysteresis” in the technical sense. The broader lesson is that historical systems can encode memory in relational structure.

Distinction 8.23 (Memory and mere lag). A delayed response is not necessarily hysteresis. Hysteresis requires path dependence such that the relation between control conditions and system state differs according to historical trajectory. GR therefore distinguishes genuine structural memory from ordinary temporal delay.

This distinction has normative implications. Restoration cannot always be defined as removal of the present constraint. If a past injustice generated durable changes in wealth, institutions, records, capabilities, identities, or trust, then returning one parameter to its earlier value may leave the relational consequences intact. A trajectory-sensitive political philosophy must therefore examine the generative residue of historical processes.

Claim 8.24 (Generative residue). Historical interventions can leave a *generative residue*: relational structures produced by an earlier process that continue to shape later possibilities after the initiating process has ceased. Such residue is one mechanism through which historical memory becomes politically effective.

This concept will later matter for GR’s treatment of justice, historical recognizability, and intergenerational relations.

8.10 Symmetry Breaking and Qualitative Differentiation

Symmetry breaking connects the present section directly to the provisional invariance-first ontology of Section 6. In modern physics, symmetry breaking describes situations in which the realized state has less symmetry than the underlying equations or higher-level description; in group-theoretic terms, a symmetry group can be reduced to a subgroup in the realized configuration (Brading et al. 2023; Sethna 2021). GR treats this as a formal resource for thinking about the emergence of differentiated relational positions from a structure in which some alternatives were previously equivalent under a specified transformation.

Let G denote a symmetry group acting on a space of configurations. A realized configuration x may be invariant only under a subgroup

$$H = \text{Stab}_G(x) \subseteq G.$$

The passage

$$G \longrightarrow H$$

can therefore represent the emergence of a lower-symmetry effective organization.

Formal Analogy 8.25 (Historical differentiation as symmetry breaking). A historical process may be represented as symmetry-breaking-like when relationally equivalent or transformable positions become differentiated into stable effective roles, categories, or trajectories, and when that differentiation can be specified through a loss or restriction of an identified invariance.

This formulation is deliberately stricter than saying that any social difference is symmetry breaking. Political categories such as citizen and noncitizen, recognized and unrecognized claimant, owner and non-owner, or authorized and unauthorized speaker may involve historically generated asymmetries, but a symmetry-breaking analysis requires specification of the prior equivalence relation or transformation under which the positions were treated as equivalent.

The concept is especially powerful when combined with recursive generativity. Once a differentiated role is stabilized, institutions can encode it, observables can measure it, norms can legitimate it, and future interactions can reproduce it. The symmetry-broken configuration thereby becomes a generator of later asymmetry.

Proposition 8.26 (Recursive stabilization of differentiation). *If a symmetry-breaking-like differentiation generates institutions, observables, or feedbacks that preferentially reproduce the differentiated configuration, then the resulting historical phase can become self-stabilizing even when the initiating asymmetry was contingent.*

Again, the proposition is structurally descriptive rather than normative. Symmetry restoration is not automatically justice, and asymmetry is not automatically injustice. Functional differentiation, specialization, or asymmetric responsibility can be legitimate or necessary in some domains.

Warning 8.27 (Symmetry is not equality). Mathematical symmetry and political equality are distinct concepts. A more symmetric relational structure is not automatically more just, and a normatively justified differentiation can break a formal symmetry. GR therefore uses symmetry to describe invariance and differentiation, not as a direct moral metric.

This warning protects the invariance-first ontology from becoming an undeclared egalitarian axiom. Normative evaluation enters only after the structure of differentiation has been identified.

8.11 A Plural Vocabulary of Historical Transformation

The preceding subsections can now be assembled into a differentiated vocabulary. What older philosophical language may describe generally as qualitative transformation can correspond to several distinct dynamical questions. Table 1 summarizes the distinctions.

The table makes two aspects of GR visible. First, modern dynamical vocabulary is analytically useful because the concepts are not interchangeable. Second, none of the concepts determines its own political semantics. A GR model must always specify what the formal objects mean in the historical domain under study.

Synthesis 8.28 (From dialectical intuition to generative dynamics). The Marxian dialectical tradition supplies GR with an important intuition: historical development is relational, cumulative, structurally conditioned, and capable of qualitative transformation. GR extends this inheritance by distinguishing multiple mechanisms of qualitative change and embedding them within a background-independent theory of generativity. Attractors, basins, bifurcations, criticality, phase transitions, metastability, hysteresis, and symmetry breaking are therefore not replacements for history but formal languages for asking more precise questions about how historical relations reproduce, destabilize, branch, remember, differentiate, and generate new possibility spaces.

This synthesis also clarifies why the physics-inspired apparatus belongs inside GR as a theory rather than outside it as a toolbox. Section 7 specified what may be generated.

Table 1: A plural GR vocabulary for historical transformation. The table states analytical questions rather than claiming that social systems literally instantiate the corresponding physical mechanisms.

Concept	Formal question	GR historical question
Attractor	Which recurrent sets organize long-run trajectories?	Which relational feedbacks reproduce a regime after perturbation?
Basin	Which initial conditions approach which attractor?	Which historical positions or inherited conditions channel trajectories toward different regimes?
Bifurcation	How does parameter change reorganize solution structure or stability?	When does gradual structural change open, close, or destabilize historical branches?
Criticality / susceptibility	How strongly does the system respond near a critical regime?	When do relational feedbacks make small perturbations unusually consequential?
Phase transition	When does collective macroscopic organization change?	When do many local relations reorganize into a qualitatively different effective order?
Metastability	Which non-global states remain long-lived behind effective barriers?	Why can contingent institutions or relational orders persist despite alternatives?
Hysteresis	How does the response depend on the path through parameter space?	Why does removing an initiating condition fail to restore the prior relational configuration?
Symmetry breaking	Which invariances are lost in the realized configuration?	How do previously equivalent positions become differentiated and recursively stabilized?

The present section distinguishes several ways such generation can be dynamically organized. The next section turns to the wider formal language—dynamical systems, statistical physics, field-theoretic representation, group theory, geometry, topology, and algebra—through which GR intends to coordinate these model classes without reducing political philosophy to physics.

9 Modern Physics and Algebra as an Integrated Research Language

The preceding section introduced a plural vocabulary for historical transformation: attractors, bifurcations, criticality, phase transitions, metastability, hysteresis, and symmetry breaking. Those concepts become theoretically significant for GR only if their role is understood correctly. The proposal is not that political and historical systems are literally physical systems of a familiar kind, nor that a successful physical equation can be transferred unchanged into political inquiry. The stronger and more demanding proposal is that modern physics and mathematics supply a *research language*: a family of formal distinctions through which GR can represent trajectories, transformations, invariances, collective organization, changing possibility spaces, and transformations of

the mechanisms that generate further change.

This language matters because GR places unusually strong demands on representation. A framework that allows subjects, relation types, observables, effective realities, generative rules, and possibility spaces to change cannot rely exclusively on a vocabulary designed for objects whose identities and state spaces are fixed in advance. The mathematical resources discussed below are therefore not decorations added after the philosophical argument. They are candidate instruments for articulating the architecture introduced in Sections 5–8.

Principle 9.1 (Formal pluralism under conceptual unity). GR does not privilege one physical or mathematical formalism as the universal model of political reality. It instead seeks a unified conceptual architecture within which different formalisms can be used for different generative problems, provided that their objects, transformations, observables, and domain translations are stated explicitly.

The distinction between *conceptual unity* and *formal monism* is important. GR aims at an integrated theory, but integration need not mean that all phenomena reduce to one equation, one scale, or one mathematical structure. The unity lies in a common grammar of generation, relation, transformation, emergence, observability, and evaluation. The formalisms remain plural because different structures answer different questions.

9.1 Formal Research Equipment beyond Physical Metaphor

The transfer of concepts from physics into social and political thought has a recurrent danger: a technical term can become rhetorically impressive while losing the mathematical constraints that gave it explanatory value. “Field,” “criticality,” “phase transition,” “symmetry,” and “attractor” can all be used loosely enough to mean little more than “context,” “crisis,” “large change,” “equality,” or “stable tendency.” GR should resist this degradation.

A useful starting point is to distinguish three levels of use.

Distinction 9.2 (Metaphor, formal analogy, and model). Let a concept C originate in a mathematical or physical theory.

1. A *metaphorical use* borrows the intuitive image associated with C without preserving its defining structure.
2. A *formal analogy* identifies a specified structural correspondence between source and target while withholding a claim of physical identity.
3. A *model* defines target-domain variables, state spaces, transformations, observables, and inferential rules sufficiently explicitly that the proposed structure can be analyzed, compared with evidence, or rejected.

GR can legitimately employ all three levels, but it should mark the level being used. A metaphor can orient inquiry. A formal analogy can reveal previously hidden distinctions. A model can support derivation and empirical confrontation. Problems arise when a metaphor is presented with the epistemic authority of a model.

Translation Rule 9.3 (Structure before vocabulary). Before importing a physical or mathematical term into political analysis, GR should specify which defining relations of the source concept are retained, which are discarded, and what target-domain objects instantiate the retained structure.

For example, calling a political arrangement an “attractor” is informative only if some state or relational space, some dynamics, and some notion of convergence or recurrence have been specified. Calling a transformation a “symmetry breaking” is informative only if a transformation group or invariance structure has been identified and the broken invariance stated. Calling a society “near criticality” requires more than conflict or volatility; it requires a claim about susceptibility, correlation, scaling, or another characteristic structure appropriate to the model class. These constraints are methodological protections against metaphor inflation.

The result is a different relationship between GR and physics from the familiar phrase “applying physics to society.” GR does not begin with a finished physical theory and search for social objects that resemble its variables. It begins with philosophical problems of historicity, generativity, changing ontology, multiscale emergence, and embedded evaluation. It then asks which formal languages can represent those problems without forcing them into an inappropriate fixed background.

Claim 9.4 (Theoretical-language claim). Modern physics and mathematics contribute to GR primarily by expanding the space of representable philosophical structures: they make it possible to distinguish kinds of stability, kinds of transition, kinds of invariance, kinds of equivalence, and kinds of transformation that ordinary political vocabulary often compresses into a smaller number of terms.

This claim is deliberately methodological. It does not imply that mathematical representation is always superior to natural language. Some political concepts remain too underdetermined, contested, or context-sensitive for useful formalization. In such cases, forcing an equation onto the problem can reduce rather than increase rigor. GR treats formalism as a discipline of explicitness, not as a marker of scientific prestige.

9.2 Dynamical Systems and Trajectory-Based Analysis

Dynamical-systems theory supplies the most direct formal language for GR’s insistence that political objects be studied through trajectories rather than isolated states. In its familiar form, one writes

$$\dot{x} = f(x; \theta),$$

where x is a state, f a vector field or update rule, and θ a collection of parameters. The resulting trajectory

$$\Gamma_{x_0} = \{x(t) : t \geq t_0\}$$

contains information that cannot be recovered from a single snapshot. Stability, recurrence, basins, bifurcations, and sensitivity are properties of trajectories and their organization, not merely of points (Guckenheimer and Holmes 1983).

This is already valuable for political philosophy. Two institutions can occupy observationally similar states at time t while having arrived there through different trajectories, possessing different local stability, and facing different reachable futures. GR therefore treats trajectory-sensitive identity and evaluation as conceptually prior to many static comparisons.

Definition 9.5 (Trajectory-sensitive description). A political description is *trajectory-sensitive* when the identity, significance, or evaluation of a configuration depends on its path as well as its current observables. The transformations that remain dynamically accessible also form part of the description.

The standard dynamical-system form, however, still assumes more fixed structure than GR ultimately permits. It ordinarily presupposes a state space M and an evolution

rule f . GR must therefore extend the notation:

$$x_t \in M_t, \quad \dot{x} = f_t(x),$$

with the possibility that

$$M_t \neq M_{t+1}, \quad f_t \neq f_{t+1}.$$

The mathematical problem is no longer only to solve trajectories generated by f . It includes representing transformations of f and, in the stronger background-independent case, transformations of the effective space on which f acts.

Extension 9.6 (From dynamics to generative dynamics). GR extends ordinary trajectory analysis by allowing the dynamics to alter the architecture that defines later dynamics. A trajectory may therefore include changes in state, relation structure, update rule, observability, and effective state space.

This extension is conceptually central. It explains why attractors and bifurcations, while useful, do not exhaust the “G” in GR. An attractor belongs to a specified dynamical system. Generative transformation can alter the system whose attractors are being studied. GR consequently needs both first-order dynamics and higher-order descriptions of dynamical-law change.

A further advantage of dynamical-systems language is its neutrality with respect to monotonic progress. Trajectories can converge, oscillate, bifurcate, wander chaotically, become trapped in metastable regimes, or move among multiple attractors. This plurality fits GR’s rejection of a single predetermined historical destination. It also provides more precise alternatives to narratives in which every change is interpreted as linear development or every conflict as the same dialectical mechanism.

9.3 Statistical Physics and Collective Emergence

Where dynamical-systems theory organizes trajectories, statistical physics provides a language for the relation between large numbers of interacting degrees of freedom and effective macroscopic organization. Concepts such as order parameters, phases, correlation, fluctuations, susceptibility, and critical phenomena permit collective structures to be represented without tracking every microscopic detail (Hohenberg and Halperin 1977; Sethna 2021).

The relevance to GR lies not in treating persons as particles. It lies in the distinction between levels of description. A macro-level political property can be real and causally significant even when it is not a property of any isolated component. Conversely, macro-level regularities can depend on distributions and couplings that disappear when one studies only representative individuals.

Let $\{x_i\}_{i=1}^N$ denote lower-scale variables. A collective observable may be written schematically as

$$O = \Phi(x_1, \dots, x_N; \mathcal{R}),$$

where $\mathcal{R}$ encodes interactions. The function Φ need not be a simple average. Network topology, correlation structure, thresholds, and heterogeneous couplings can all matter. The point is that O belongs to a level of effective description whose stability and transformation may have to be analyzed in its own terms.

Principle 9.7 (Effective-level legitimacy). An emergent political observable need not be reducible to a simple property of isolated lower-level components in order to be analytically legitimate. Its legitimacy depends on whether it supports stable identification, explanatory compression, intervention, or prediction within a specified domain.

This principle supports GR's multiscale ontology. Trust, monetary order, institutional legitimacy, polarization, or administrative capacity may be emergent properties of relational ensembles rather than attributes located inside individual actors. Once stabilized, however, such properties can alter subsequent local behavior. The macro level therefore re-enters the dynamics as a condition of further generation.

Statistical physics also provides a disciplined way to discuss transitions between collective regimes. An order parameter can distinguish phases; susceptibility can characterize response; correlation length can capture the scale over which local perturbations are coordinated. Yet the translation into politics must be earned case by case. Political actors interpret institutions, anticipate diagnoses, form coalitions, and alter rules. Reflexivity can change the effective dynamics while the model is being applied.

Limitation 9.8 (No thermodynamic shortcut). The existence of collective political behavior does not by itself justify thermodynamic terminology. Phase, temperature, entropy, universality, and criticality should be used formally only where a target-domain construction gives them operational meaning or where the text clearly marks the use as analogy.

This limitation protects the very methodological advantage GR seeks. The purpose of importing a richer vocabulary is to increase discrimination among mechanisms, not to rename every macroscopic pattern with physical terminology.

9.4 Field-Theoretic Representation of Distributed Relations

Field-theoretic reasoning becomes attractive when political conditions cannot be represented adequately as a list of pairwise relations. A field assigns structured values across a domain and allows local states to depend on distributed conditions. In physics, fields are not merely metaphors for “environment”; they possess defined domains, values, symmetries, couplings, and equations of motion. GR borrows this structural idea while remaining agnostic about whether a particular political application warrants a literal field model.

Suppose a relational environment is represented by a field

$$\phi_t : M_t \rightarrow V,$$

where M_t is an effective domain and V a value space. Agents or subsystems a_i can couple to the field through terms schematically written as

$$S_{\text{int}}[a_i, \phi]$$

or through dynamical equations in which ϕ alters the transition structure available to a_i . The field can itself be modified by the distributed activity of those agents. The resulting picture is not

$$A \longrightarrow B$$

but a coupled system in which local interaction and distributed relational condition co-evolve.

Formal Analogy 9.9 (Generative relational field). A *generative relational field* is a distributed structure whose local values or couplings condition the formation and transformation of relations across a domain, while the relations generated within that domain may in turn modify the field. The term is formal-analogical unless a concrete field model is specified.

This language is useful for phenomena such as cultural expectation, institutional accessibility, ambient trust, legal enforceability, informational environments, or infrastructural opportunity, where actors respond not only to identifiable counterparties but also to a distributed relational condition. It can therefore complement network descriptions, which emphasize explicit nodes and edges.

The GFT inspiration mentioned earlier is relevant at a more foundational level. Group field theory uses fields on products of group manifolds within a background-independent approach to quantum gravity (Orti 2014). Familiar spacetime geometry is therefore not simply assumed as a fixed arena. GR does not infer a political ontology from GFT. The inspiration is architectural: a theory can be formulated without taking objects moving on an already-given space as its fundamental variables, while effective geometry or large-scale organization emerges later.

Translation Rule 9.10 (Field translation). A political field model should specify at least: the domain on which the field is defined, the quantities assigned to that domain, the couplings through which the field conditions local relations, the mechanisms by which local activity modifies the field, and the empirical or interpretive meaning of the field variables.

Without these elements, “field” remains a suggestive but underdetermined metaphor. With them, field-theoretic reasoning can express precisely the type of distributed co-generation that GR repeatedly encounters.

9.5 Symmetry and Group-Theoretic Structure

Symmetry provides GR with a language for invariance under transformation. Let a group G act on a space X . A transformation $g \in G$ is a symmetry of a structure when applying g preserves the relevant features of that structure. The philosophical significance of symmetry in physics is itself contested; symmetries can be interpreted in epistemic, methodological, or ontological terms rather than automatically treated as substances of reality (Brading et al. 2023). GR therefore adopts symmetry provisionally, as argued in Section 6.

The group-theoretic language is valuable because it distinguishes an object from the transformations under which it counts as the same. For $x \in X$, its orbit

$$\mathcal{O}_x = G \cdot x$$

collects configurations connected by the group action, while its stabilizer

$$\text{Stab}_G(x) = \{g \in G : g \cdot x = x\}$$

identifies transformations that leave x invariant. These structures provide a formal way to discuss equivalence, identity, and differentiation without requiring literal persistence of all components.

Interpretation 9.11 (Political identity through invariance). In a GR model, the identity of a political configuration may be represented not by component-wise sameness but by persistence of specified invariants under an admissible class of transformations. Which invariants matter is a theoretical and empirical question, not something determined by group theory alone.

This interpretation is particularly useful for historical comparison. Constitutions can change wording while preserving some institutional invariants; monetary systems can change media while preserving certain settlement relations; communities can replace

members while retaining characteristic patterns of interaction. Conversely, apparently similar surface configurations may belong to different structural equivalence classes if the transformations preserving them differ.

Symmetry breaking then supplies a language for differentiation. If a structure has symmetry group G but a realized configuration preserves only a subgroup $H \subset G$, distinctions absent from the more symmetric description become effective. Physics provides many rigorous instances of this pattern (Brading et al. 2023; Sethna 2021). GR treats historical symmetry breaking as a candidate formal structure, not as an automatic explanation of social hierarchy.

Warning 9.12 (Symmetry is not equality). Mathematical symmetry and political equality are distinct concepts. A social system can be mathematically symmetric under a chosen transformation while being normatively unjust, and a just arrangement need not maximize mathematical symmetry. Any connection between the two requires a separate normative argument.

This warning is indispensable because symmetry language is easily moralized. GR's invariance-first ontology concerns conditions of identity, comparison, and transformation. It does not turn symmetry into a criterion of justice.

9.6 Representation, Equivalence, and Manifestation

Symmetry becomes analytically powerful when combined with representation. An abstract group or algebra does not yet tell us how its transformations appear in a particular domain. A representation

$$\rho : G \rightarrow \text{GL}(V)$$

or, at the infinitesimal level,

$$\rho_* : \mathfrak{g} \rightarrow \text{End}(V)$$

realizes abstract transformations as operations on a vector space or other structured domain. The same abstract symmetry can possess different representations, and different observable manifestations can therefore instantiate related structural content.

For GR, this distinction separates an underlying invariance structure from its historically specific manifestation. Let S denote a provisional symmetry/invariance structure and let ρ_t denote a historically situated realization. Schematically,

$$S \xrightarrow{\rho_t} \mathcal{R}_t,$$

where $\mathcal{R}_t$ is the effective relational manifestation available at time t . Historical change can alter ρ_t even when some aspect of S remains invariant.

Definition 9.13 (Manifestational equivalence). Two configurations are *manifestationally equivalent relative to an invariant structure* when they realize the same specified structural relations or transformations through different effective representations, even though their observable components or historical media differ.

This concept can support cross-historical comparison without requiring superficial sameness. It also guards against the opposite mistake: assuming that two systems are equivalent because they use the same vocabulary. “Property,” “citizenship,” “market,” or “representation” can name different relational structures in different periods. GR therefore asks what transformations and invariants the terms instantiate, not merely whether the labels coincide.

Representation theory also clarifies the status of emergence. If an effective political ontology is a representation of deeper relational or invariance structure, emergence

need not mean appearance from nothing. It can mean that a structure becomes manifest in a new effective space with new observables and causal capacities. This is compatible with the structural-realist intuition that relations and structure can carry ontological significance without committing to a fixed catalogue of fundamental objects (Ladyman 2024).

Remark 9.14 (Representation is not reduction). To describe an effective political structure as a representation of a deeper generative organization does not imply that the effective level is explanatorily dispensable. Different representations can support distinct observables, interventions, and normative questions that are not usefully expressible at the deeper level alone.

This remark is central to GR's meta-philosophical ambition. Ontology, epistemology, aesthetics, and normativity can be coupled without being reduced to a single description.

9.7 Geometry and Topology of Possibility Spaces

Background independence makes the geometry of possibility itself an object of inquiry. If political change can alter M_t , then analysis should not be restricted to which point $x \in M_t$ is selected. It should also ask how distances, neighborhoods, boundaries, connectivity, and accessible paths are generated.

Geometry becomes relevant when the structure of difference matters. A metric or more general geometric object can encode how difficult it is to move between configurations, how interventions propagate, or which directions of change are locally available. Schematically, one may write

$$(M_t, g_t),$$

where g_t represents an effective geometry. A transformation can then alter not only the state x_t but also g_t :

$$(x_t, g_t) \longrightarrow (x_{t+1}, g_{t+1}).$$

Topology concerns coarser structure: connectedness, neighborhoods, holes, boundaries, and continuity can matter even before a metric is defined. A political possibility space may contain disconnected regions, bottlenecks, inaccessible components, or pathways that disappear under institutional change. Such structures are often hidden when opportunity is represented by a one-dimensional quantity.

Formal Analogy 9.15 (Political possibility geometry). A *political possibility geometry* represents the structured accessibility of transformations among effective political configurations. Its objects can include distances, adjacency, connectivity, boundaries, and paths, provided that each receives a target-domain interpretation.

Consider two agents with the same number of formally available options. If the pathways to exercise those options differ radically in cost, institutional accessibility, informational burden, or social risk, then the cardinality of the option set fails to capture their effective freedom. A geometric representation can encode such asymmetries more naturally than a binary available/unavailable classification.

Topology is equally useful for conceptualizing institutional creation. A reform can connect previously disconnected regions of the possibility space, create a bridge between social domains, or close a pathway that previously allowed domination. The resulting change is not simply movement to a different point. It is a transformation in the architecture of reachability.

Claim 9.16 (Possibility-space structure matters normatively). When political agency depends on accessibility, connectivity, or path structure, normative analysis cannot be

exhausted by counting nominal options. The organization of the possibility space can itself become an object of justice, freedom, and governance.

This claim anticipates later sections on freedom and justice. It does not entail that a single mathematical geometry captures political possibility. Rather, it motivates explicit analysis of the structure that makes some futures near, distant, connected, blocked, or nonexistent.

9.8 Algebraic Composition of Transformations

Algebra contributes something different from geometry. Geometry organizes spaces and paths; algebra organizes operations and their composition. GR increasingly requires a language not only for relations among entities but also for relations among transformations.

Let $\mathfrak{T}$ denote a collection of admissible transformations. If transformations can be composed, then

$$T_2 \circ T_1$$

represents the result of applying T_1 followed by T_2 . The composition need not commute:

$$T_2 \circ T_1 \neq T_1 \circ T_2.$$

This simple fact has substantial historical significance. Institutional reforms, technological changes, legal recognition, and redistribution can have order effects: performing the same interventions in a different sequence may produce a different relational system.

Definition 9.17 (Transformation algebra). A *transformation algebra* in GR is a structured collection of admissible operations on relational, ontological, epistemic, or normative configurations together with rules governing their composition, equivalence, and, where relevant, inversion or infinitesimal generation.

The word “algebra” is used broadly here. In different applications, the relevant structure could be a semigroup, group, Lie algebra, operator algebra, groupoid, category, or another compositional system. GR does not prescribe the structure in advance. The appropriate algebra depends on which transformations exist and how they compose.

This perspective moves analysis beyond a catalogue of interventions. Suppose L is a legal transformation, K a knowledge transformation, and I an institutional transformation. Then the question is not only what each does individually. It is also whether

$$I \circ K \circ L$$

and

$$L \circ K \circ I$$

produce equivalent outcomes, whether some compositions are undefined, and whether one transformation changes the domain on which another can operate.

Principle 9.18 (Compositional historicity). Historical transformation is generally order-sensitive when interventions alter the conditions under which later interventions act. GR should therefore analyze not only transformations but their composition rules and domain dependencies.

Algebraic thinking also clarifies equivalence. Two sequences of transformations can differ locally while producing the same effective relational structure under a chosen equivalence relation. Conversely, sequences with the same constituent operations can

diverge because their order or coupling differs. This provides a formal language for the path dependence emphasized throughout GR.

The connection to symmetry algebra is direct. Continuous transformations can be studied through generators and commutation relations. If

$$[T_a, T_b] = f_{ab}^c T_c,$$

then the structure constants f_{ab}^c encode how infinitesimal transformations compose. GR does not assume that political processes literally possess Lie-algebraic structure, but where transformation families admit such organization, the algebra can reveal constraints and couplings invisible at the level of isolated actions.

9.9 Higher-Order Transformations of Generative Mechanisms

The strongest GR use of algebra concerns transformations of transformation rules themselves. Section 7 distinguished first-order state change from generative change. Here that distinction can be written more explicitly.

Let $\mathcal{G}_t$ denote a generative mechanism that maps an effective configuration into later configurations:

$$\mathcal{G}_t : \Theta_t \mapsto \Theta_{t+1}.$$

A higher-order operator $\mathcal{U}_t$ can act on the generator:

$$\mathcal{U}_t : \mathcal{G}_t \mapsto \mathcal{G}_{t+1}.$$

The system therefore contains at least two orders of transformation:

$$\Theta_t \xrightarrow{\mathcal{G}_t} \Theta_{t+1}, \quad \mathcal{G}_t \xrightarrow{\mathcal{U}_t} \mathcal{G}_{t+1}.$$

In still more reflexive settings, the rule producing $\mathcal{U}_t$ may itself become historically variable.

Definition 9.19 (Higher-order generator change). *A higher-order generative transformation changes the rules, operators, couplings, or admissibility conditions that produce first-order relational transformations.*

This is one of the places where GR most clearly exceeds the idea of “using dynamical systems to model history.” A conventional model can have complex nonlinear trajectories while keeping its evolution rule fixed. GR asks whether historical processes can alter the evolution rule itself, the observables by which the rule is identified, and the possibility space over which it operates.

Examples include constitutional changes that alter the procedures for future constitutional change; educational systems that alter the population’s future capacity to create and evaluate knowledge; technological infrastructures that alter which forms of organization are possible; and epistemic institutions that alter what counts as admissible evidence. In each case, the intervention affects not only an outcome but the machinery through which later outcomes are generated.

Proposition 9.20 (Generator transformation and historical non-equivalence). *Suppose two systems occupy observationally equivalent states at time t but possess different generative mechanisms $\mathcal{G}_t^{(1)} \neq \mathcal{G}_t^{(2)}$. If the difference affects at least one reachable future under the relevant equivalence criterion, then the systems are generatively non-equivalent despite their present-state equivalence.*

Proof. Let the current configurations satisfy $\Theta_t^{(1)} \sim \Theta_t^{(2)}$ under the chosen present-state equivalence relation. By assumption, there exists at least one admissible condition or perturbation for which the distinct generators produce future configurations that are not equivalent: $\mathcal{G}_t^{(1)}(\Theta_t^{(1)}) \not\sim \mathcal{G}_t^{(2)}(\Theta_t^{(2)})$. Therefore equivalence at the current state does not entail equivalence of future-generating structure. The systems are consequently generatively non-equivalent. $\square$

The proposition is elementary, but its philosophical implication is substantial. Political comparison should sometimes evaluate what systems are capable of generating, not only what they currently display. This is one route by which GR connects ontology, dynamics, and normativity.

Higher-order transformation also introduces reflexivity. A theory used by political actors can alter their behavior; an evaluative framework can change institutions; a classification can create incentives to enter or avoid the category. The observer's conceptual equipment can therefore participate in $\mathcal{U}_t$. This is not an anomaly external to the model. It is part of the generative architecture that later sections on epistemology and evaluation must address.

9.10 Domain Translation and the Limits of Physical Formalization

An integrated research language requires rules for moving between domains. The danger is symmetrical: one can either reject mathematical structure because society is not physics, or treat every useful formal resemblance as evidence that society literally instantiates a physical mechanism. GR rejects both extremes.

The appropriate standard is structural adequacy. A formalism earns its place when it isolates relations or transformations relevant to the target problem, supports distinctions that would otherwise remain obscure, and remains accountable to empirical or interpretive evidence. It loses value when the mapping between mathematical and political terms cannot be stated, when parameters are unidentifiable, or when the formalism suppresses reflexivity and meaning that are constitutive of the target phenomenon.

Criterion 9.21 (Domain-translation adequacy). A physics- or algebra-inspired GR model has adequate domain translation only if it specifies:

1. the target-domain entities or effective variables;
2. the relevant relations and transformation rules;
3. the meaning of the mathematical state space or domain;
4. the observables used to identify or compare configurations;
5. the empirical, historical, or interpretive evidence that constrains the mapping;
6. the level at which the correspondence is claimed—metaphor, formal analogy, or model;
7. the conditions under which the mapping should be rejected or revised.

This criterion converts intellectual humility into a methodological requirement. A GR model should be falsifiable or revisable at the level appropriate to its claim. If the claim is empirical, evidence must be capable of counting against it. If the claim is formal-analogical, alternative structural mappings must be considered. If the claim is philosophical, its assumptions and inferential consequences must remain open to criticism.

Warning 9.22 (No physics-to-normativity inference). No physical property—symmetry, stability, criticality, efficiency, low energy, equilibrium, or persistence—entails a normative conclusion without additional premises. GR therefore prohibits direct inference from physical structure to justice, legitimacy, beauty, or good governance.

The warning preserves the separation between explanation and evaluation that runs throughout the manuscript. A highly stable attractor can be oppressive. A symmetry-broken order can be just or unjust. A critical transition can improve or worsen political life. A phase with high coordination can suppress freedom. Mathematical description identifies structure; normative judgment requires further philosophical work.

A second limitation concerns semantic and interpretive content. Political actors do not merely respond to forces; they understand, misunderstand, narrate, classify, justify, and strategically reinterpret the situations they inhabit. These meanings can become generatively effective. A model that excludes them may succeed for one purpose and fail for another. GR's generalized relational domain therefore allows formal and hermeneutic descriptions to coexist rather than insisting that every relation be mathematized.

Principle 9.23 (Formalism under philosophical governance). Within GR, formal methods remain subordinate to the philosophical specification of the problem. Mathematics disciplines representation and inference, but it does not independently determine which entities matter, which equivalence relations are appropriate, which observables are politically meaningful, or which outcomes are normatively desirable.

This principle completes the role assigned to modern physics and algebra. They are neither external ornaments nor sovereign foundations. They are components of a systematic language whose terms are coordinated by GR's broader commitments to background independence, provisional invariance, generalized relationality, recursive generativity, and emergent normativity.

Synthesis 9.24 (The integrated formal language of GR). The principal contributions of the formal repertoire can be summarized as follows:

Formal language	Primary GR function
Dynamical systems	trajectories, stability, attractors, bifurcations, and path-sensitive change
Statistical physics	collective emergence, phases, fluctuations, susceptibility, and multiscale organization
Field-theoretic reasoning	distributed relational conditions and reciprocal local-field coupling
Symmetry and group theory	invariance, transformation classes, identity, and symmetry breaking
Representation theory	distinct manifestations of common structural relations and cross-context equivalence
Geometry and topology	accessibility, connectivity, boundaries, and changing possibility spaces
Algebraic composition	order-sensitive transformation, compositional structure, and equivalence of intervention sequences
Higher-order operators	transformation of generators, rules, and the architecture of future generation

The synthesis clarifies why GR should not be characterized as a collection of imported physical techniques. The formalisms become parts of a common theoretical grammar because each addresses a different component of the same generative architecture. Their integration is conceptual before it is computational.

The next section turns from this formal language to one of political philosophy's most consequential objects: the political subject. The question is no longer only how already-given individuals behave within a structured world, but under what relational and generative conditions something becomes sufficiently stable, recognizable, and efficacious to count as a political subject at all.

10 Emergent Political Subjecthood

Political philosophy commonly begins with a subject already available for analysis. The subject may be an individual citizen, a rights-holder, a worker, a member of a people, a participant in public reason, a dominated person, a corporate body, or a collective agent. The theories differ sharply over what that subject is owed and how it ought to stand in relation to others, but the existence and identity of the relevant subject are often sufficiently stabilized that they can enter the argument as inputs. Generative Relational theory shifts part of the philosophical burden. It asks how something becomes sufficiently coherent, persistent, recognizable, and causally integrated to function as a political subject at all.

This shift does not deny individual persons, collective actors, or institutions. It changes their explanatory status. GR treats political subjecthood as an *effective achievement of relational organization* rather than as a universally fixed primitive. The point is not that a subject is unreal because it is emergent. On the contrary, emergence may be precisely what explains why a subject is durable, causally efficacious, legally recognized, morally salient, or politically consequential. What is rejected is the inference from practical indispensability to ontological priority.

The philosophical literature on agency already distinguishes intentional, shared, collective, relational, and artificial forms of agency, and contemporary accounts of group agency investigate conditions under which organized groups can properly be described as agents rather than merely aggregates of individuals (Schlosser 2019; List and Pettit 2011; Bratman 2014). GR inherits these distinctions but relocates them within a broader generative framework. Its question is not only whether an entity satisfies a preselected criterion of agency. It also asks how the criteria, boundaries, capacities, recognition practices, and relational environments that make agency intelligible are themselves generated and transformed.

Definition 10.1 (Effective political subject). An *effective political subject* is a relatively stabilized relational formation that, within a specified historical and institutional domain, can be identified across relevant transformations, can participate in politically consequential relations, and can function as a locus of action, attribution, claim, obligation, representation, or contestation. The definition is intentionally disjunctive: not every political subject must instantiate every function to the same degree or in the same manner.

The adjective *effective* marks the level at which subjecthood operates. It does not imply that the subject is fictitious, secondary in importance, or merely instrumental. It indicates that subjecthood is specified relative to a domain of relations, transformations, and practices rather than assumed as a context-free metaphysical primitive.

Distinction 10.2 (Causal participation, agency, political subjecthood, and moral status). The following statuses must not be conflated:

1. *causal participation*: contributing to a change in a relational system;
2. *agency*: exercising some organized capacity for action or action-like control;

3. *political subjecthood*: occupying a stabilized position from which actions, claims, obligations, representation, or contestation can be politically attributed;
4. *moral status*: being a bearer of morally relevant claims for one's own sake;
5. *legal personhood*: possessing a status conferred or recognized by a legal order.

None of these statuses automatically entails all of the others.

This distinction is especially important for the generalized relational domain introduced in Section 4. Currency, infrastructures, algorithms, institutions, ecological systems, and artificial systems may all be causally and generatively significant without thereby becoming moral persons. Conversely, some entities may receive legal or political standing without satisfying a demanding philosophical account of autonomous agency. GR therefore separates the question *what participates in generation?* from the question *what kind of subject is this?*

10.1 Political Agency beyond the Presupposed Individual

The individual human person remains indispensable to political philosophy, but GR does not treat the individual as the sole template from which all other political subjects must be derived. This matters because political life contains entities whose capacity to act is neither reducible to momentary individual intention nor well described as a mere metaphor. Governments sign treaties, corporations own assets and reorganize labor, courts issue judgments, parties coordinate electoral strategies, universities make institutional commitments, and social movements can sustain projects across changes in membership. Philosophical accounts of group agency have developed precisely because these forms of action resist simple reduction to a list of simultaneous individual actions (List and Pettit 2011; Bratman 2014).

GR adds a different question. Even where an individual is the relevant subject, what makes that individual a politically effective agent? Political agency normally depends on a dense relational infrastructure: language, bodily capacities, recognition, documentation, access to institutions, economic resources, legal status, memory, communicative channels, and expectations regarding who may act or speak. Removing enough of these relations can radically alter effective agency while leaving biological individuality intact.

Claim 10.3 (Relational constitution of effective agency). Political agency is not exhausted by an intrinsic capacity located within an isolated individual. Its effective form depends partly on relational conditions that make action intelligible, attributable, communicable, and consequential within a political field.

This claim is compatible with many theories of individual autonomy. It does not require that agency be entirely socially constructed, nor that internal capacities are irrelevant. It states only that political agency has constitutive or enabling conditions extending beyond the organism. A person who possesses preferences but cannot have them recognized, communicated, recorded, or translated into institutionally consequential action occupies a different political position from one embedded in relations that support those capacities.

The GR perspective therefore resists two reductions. The first reduces political agency to inner intention. The second reduces it to external recognition. Subjecthood may involve both internal organization and relational stabilization. The importance of either side is domain-dependent. The same person may be an effective subject in one institutional field and almost invisible in another.

Example 10.4 (Documentation and effective subjecthood). A person may remain biologically and psychologically continuous while losing documents that a political order uses to identify legal residence, citizenship, property, educational qualification, or entitlement. The loss does not annihilate the person, yet it can sharply alter the person's effective political subjecthood because access to consequential relations is mediated by documentary recognition. The example illustrates relational dependence without reducing the person to the document.

From the GR standpoint, this is not merely a problem of access added after subjecthood has been defined. Documentation, classification, and institutional recognition can participate in the practical constitution of who is able to appear as a subject for particular political operations. Later sections on observability, normality, and historical recognizability will generalize this point.

10.2 Relational Conditions of Subject Formation

If political subjects are emergent, the framework needs criteria for distinguishing a subject from an arbitrary pattern. GR should not declare every persistent configuration to be an agent. The relevant conditions are better treated as a structured family than as a single universal threshold.

Criterion 10.5 (Conditions of effective political subjecthood). Depending on the domain, an effective political subject may require some combination of the following:

1. *relative persistence*: enough continuity for actions and claims to be attributed across time;
2. *boundary formation*: a sufficiently stable distinction between the formation and its environment for political attribution;
3. *integrative organization*: mechanisms that coordinate otherwise distributed components into action or response;
4. *relational responsiveness*: the capacity to alter conduct in response to other actors, institutions, norms, or information;
5. *representability*: the possibility of being identified or represented within relevant political practices;
6. *generative participation*: the capacity to alter relations or conditions of future relation formation;
7. *attributional uptake*: practices through which actions, claims, responsibility, interests, or obligations are assigned to the formation.

The list is neither a universal ranking nor a sufficient-condition theorem. It is a comparative grammar for analyzing subject formation.

These conditions are relational because they cannot all be specified by inspecting an entity in isolation. Boundary formation, for example, depends on what transformations are treated as preserving identity. Representability depends on available classifications and institutions. Attributional uptake depends on social and legal practices. Generative participation depends on how the entity is coupled to the wider relational field.

The criteria also make subjecthood historical. A configuration can acquire capacities it previously lacked because institutions, technologies, or representational practices

change. Conversely, a once-recognized subject can lose effective agency when the relational infrastructure that sustained it collapses.

A compact representation is

$$S_t^{\text{pol}} = \Phi(P_t, B_t, I_t, R_t, V_t, G_t, A_t; H_t), \quad (6)$$

where P_t denotes persistence, B_t boundary formation, I_t integrative organization, R_t relational responsiveness, V_t representability, G_t generative participation, A_t attributional uptake, and H_t the relevant historical trajectory. Equation (6) is not a proposed numerical scoring function. It expresses the dependence of effective political subjecthood on a historically situated configuration of conditions.

Remark 10.6 (No universal subjecthood metric). GR does not require all political subjects to occupy a common scalar scale of “more” or “less” subjecthood. Different domains may realize subjecthood through qualitatively different structures. The purpose of Equation (6) is relational specification, not commensuration.

The emphasis on formation also brings subjecthood into the generative architecture of Section 7. A subject can be a product of prior relations and subsequently become a relatum that reshapes later relations. Political subject formation is therefore a canonical case of recursive generativity:

$$\mathcal{R}_{\leq t} \longrightarrow S_t \longrightarrow \mathcal{R}_{t+1}. \quad (7)$$

A corporation, state, association, or political identity may emerge from distributed practices and then become capable of entering contracts, imposing rules, mobilizing resources, or generating new categories. The emergent subject re-enters the system as a condition of future generation.

10.3 Individuals, Communities, Classes, and Institutions

GR does not assume that every socially salient formation is an agent. This point is particularly important when moving among individuals, communities, classes, and institutions. These categories differ in the mechanisms through which unity is produced and in the kinds of attribution they support.

An individual person normally possesses a highly integrated biological and psychological organization, yet effective political agency still depends on relational conditions. A community may exhibit shared practices, narratives, identities, and mutual recognition without possessing a unified decision procedure. A class may identify a structural location or pattern of relations without acting as a single agent. An institution may coordinate action through offices, procedures, records, and rules that persist despite turnover among individual members.

Distinction 10.7 (Social category and collective agent). A population can constitute a politically meaningful category without constituting a collective agent. Shared position, exposure, identity, or classification does not by itself produce the integrative organization required for coordinated group action.

This distinction prevents a common slippage in political theory. To say that a class, generation, race, profession, or public “did” something can be analytically convenient, but the attribution may hide substantial internal heterogeneity. GR requires the generative mechanism of collective attribution to be stated where it matters. Does the formation possess procedures for decision? Is there a recognized representative structure? Is coordination distributed through norms rather than centralized offices? Is apparent

unity imposed externally by classification? Does a temporary mobilization create an agent that later dissolves?

These questions are particularly important for historical materialism. Class relations can be structurally decisive even when a class does not constitute a coherent subject. Marxian analysis often distinguishes structural location from class consciousness and political organization, although traditions differ over how these are related. GR generalizes the point: a relation can be generatively powerful without its relata constituting unified political agents at every scale.

Proposition 10.8 (Subject formation is not implied by structural location). *Let a set of elements occupy a common structural position L within a relational system. Common location at L is not sufficient for effective collective subjecthood unless additional organization generates the forms of persistence, integration, representation, or attribution required in the relevant political domain.*

Proof. Common structural location establishes a relation of similarity or shared positioning among the elements. Effective collective subjecthood, by Definition 10.1 and Criterion 10.1, additionally requires conditions not entailed by shared location, such as integrative organization or attributional uptake. It is therefore possible for a set to occupy the same location while lacking any mechanism through which it acts, responds, or is represented as one. Hence common structural location is insufficient. $\square$

Institutions illustrate the opposite possibility. Their components can change extensively while institutional identity persists. Office holders leave, rules are amended, buildings move, technologies change, and constituencies evolve, yet an institution may remain identifiable because enough organizational invariants survive the transformations. This directly links emergent subjecthood to the invariance-first ontology of Section 6.

Formal Analogy 10.9 (Institutional identity as invariance under transformation). Let X_t denote the realized configuration of an institution and let $\mathcal{T}$ denote a class of transformations such as personnel turnover, relocation, procedural amendment, or technological replacement. Institutional continuity can be represented as persistence of selected invariants I under admissible transformations,

$$I(X_t) = I(TX_t), \quad T \in \mathcal{T}, \quad (8)$$

without requiring $X_t = TX_t$. The analogy is formal: the content of I and the admissible transformation class must be specified for each institutional domain.

This approach helps explain how institutional subjects can be real without being substances. Their persistence is an achievement of organized reproduction and invariant-preserving transformation.

10.4 States, Corporations, and Collective Agents

States and corporations provide especially clear cases because political and legal practice routinely treats them as units of action while their internal composition is distributed and changing. The philosophical literature on group agency examines whether organized groups can possess beliefs, preferences, intentions, rational consistency, and accountability in a manner not reducible to the momentary attitudes of their members (List and Pettit 2011). Shared-agency theories likewise analyze how coordinated activity can arise from interlocking individual plans without requiring a mysterious supra-individual mind (Bratman 2014).

GR does not need to resolve all disputes between reductive and non-reductive theories of collective agency before using collective subjects analytically. It instead asks what generative architecture sustains the effective agent. In a corporation this may include incorporation law, accounting systems, offices, decision procedures, records, contractual relations, ownership structures, communication channels, and expectations of continuity. In a state it may include territorial jurisdiction, administrative routines, legal institutions, fiscal systems, coercive capacities, diplomatic recognition, archives, and symbolic practices.

Principle 10.10 (Distributed realization of collective subjecthood). A political subject need not be spatially or psychologically concentrated in a single organism. Subjecthood can be distributed across procedures, records, offices, technologies, persons, and recognition relations when those components are organized so that politically consequential action and attribution remain sufficiently integrated.

This principle helps explain why turnover does not necessarily dissolve the subject. A ministry can remain the same ministry despite replacement of every employee. A corporation can survive its founders. A state can continue through generations of citizens. The continuity is relationally reproduced.

However, legal recognition and effective group agency remain distinct. A shell corporation may possess legal personhood while exercising little autonomous agency. A loosely organized movement may exercise substantial political agency before receiving any legal personality. An occupied government may retain international recognition while losing many effective capacities within its territory. GR therefore treats subjecthood as multidimensional and historically variable rather than as a binary label assigned once and for all.

Example 10.11 (Distributed decision and emergent agency). Suppose an organization has no member whose individual preferences coincide with the organization's final position, yet its constitution aggregates proposals through committees, voting rules, review procedures, and authorized offices into a stable institutional decision. The resulting action may be attributable to the organization even though no single member generated it alone. The case illustrates how organizational rules can generate an effective collective subject from distributed inputs.

The example also reveals why political design can alter subjecthood. Changing voting rules, authority structures, information channels, or the distribution of veto points can transform what the collective agent is capable of believing, choosing, or doing. Political institutions do not merely constrain pre-existing collective subjects; they may help constitute them.

Claim 10.12 (Constitutive institutional design). For many collective agents, institutional design is partly constitutive of agency rather than merely an external constraint upon it. Altering the design can therefore transform the subject that acts, not only the options available to an otherwise unchanged subject.

This claim will matter later when GR turns to governance. If institutional interventions can modify the architecture of subjecthood, governance is partly concerned with the generation and transformation of agents themselves.

10.5 Artificial Agents and Emerging Political Subjecthood

Artificial systems make the distinction between participation and subjecthood impossible to avoid. Contemporary AI systems already participate in socially consequential

relations: they rank, recommend, classify, generate language, mediate communication, assist decisions, and operate within organizational workflows. Yet philosophical debates remain open regarding the conditions under which artificial systems should count as intentional agents, moral agents, moral patients, or legal persons (Müller 2026; Schlosser 2019). GR should not resolve these distinct questions by definitional fiat.

The framework can instead proceed in layers. An artificial system may first be analyzed as a *generative participant*: it changes relational outcomes and the conditions of future interaction. A system may acquire *delegated agency* when institutions authorize it to perform actions within a specified domain. It may function as an *organizational component* whose outputs become integrated into the decisions of a larger collective subject. More demanding forms of autonomous, moral, or political agency require additional criteria.

Distinction 10.13 (Artificial participation and artificial subjecthood). The fact that an artificial system causally or generatively alters political relations does not by itself establish that it is an autonomous political subject, a moral agent, a moral patient, or a bearer of rights. Those statuses require separate arguments and may depend on different criteria.

This distinction allows GR to analyze human–AI relations without waiting for a final metaphysics of machine consciousness or personhood. The relational effects can be politically real even when the ontological status of the artificial participant remains contested.

For example, consider an AI system embedded in an administrative process. A recommendation generated by the system may influence access to welfare, credit, employment, migration review, or educational opportunity. The relevant political subject may not be “the AI” alone. Agency may be distributed across model developers, data infrastructures, public officials, organizational rules, interface design, and the model’s outputs. Treating the event as either purely human or purely machine can obscure the generative architecture.

Formal Analogy 10.14 (Hybrid subject formation). Let H denote human participants, A artificial components, I institutional rules, and D data or documentary infrastructures. A hybrid decision formation may be represented schematically as

$$S_t^{\text{hyb}} = \Psi(H_t, A_t, I_t, D_t; \mathcal{R}_t), \quad (9)$$

where the politically relevant unit of attribution may emerge from the organized coupling rather than coincide with any single component. Equation (9) does not assert that every hybrid system is a genuine agent; it identifies the level at which the question of agency should be posed.

This possibility matters for accountability. If a decision is produced by a hybrid formation, responsibility cannot automatically be located by identifying the component with the greatest computational contribution. Normative responsibility and causal contribution are different relations. GR therefore uses its generalized relational domain to map how decisions are generated before assigning responsibility under an ethical or legal theory.

Warning 10.15 (No agency by complexity alone). Increasing computational complexity, autonomy of operation, or unpredictability does not by itself establish political or moral subjecthood. Complexity may change the evidential problem of attribution without settling the normative status of the system.

At the same time, GR remains open to historical change. If future artificial systems acquire forms of persistence, self-representation, norm-responsive action, autonomous

goal revision, social recognition, or institutional standing that differ significantly from present systems, the relevant ontology may need revision. Background independence requires precisely this openness: subject categories should not be frozen merely because an earlier political philosophy found them sufficient.

10.6 Stability, Recognition, and Effective Agency

Emergent subjecthood requires enough stability for attribution, but stability alone is insufficient. A mountain is stable; a currency can persist; a bureaucracy can endure. Political subjecthood depends on the kind of organization and relations through which persistence becomes action-capable, claim-capable, or attribution-capable.

Recognition complicates the picture further. Some subjects depend heavily on recognition: citizenship, diplomatic status, corporate legal personality, and official representation can be transformed by recognition practices. Yet recognition cannot be made the sole source of subjecthood without circularity. A dissident movement may be politically effective precisely because it acts before authorities recognize it. A colonized or excluded population may exercise agency despite a dominant order's refusal to acknowledge it. GR therefore treats recognition as one generative mechanism among others rather than as the metaphysical creator of every subject.

Distinction 10.16 (Recognition-dependent and recognition-resistant dimensions). Effective political subjecthood can contain both recognition-dependent dimensions, such as legal standing or authorized representation, and recognition-resistant dimensions, such as capacities for coordination, resistance, communication, or disruption that operate despite official non-recognition.

This distinction is important for political justice. If dominant institutions controlled the ontology of subjecthood simply by controlling recognition, excluded actors could be rendered philosophically nonexistent by the same power that excludes them politically. GR avoids that result by separating institutional recognition from generative participation and by permitting subject formation outside established classifications.

A useful way to represent the dynamics is to treat subject stability as a feedback process:

$$S_t \longrightarrow \mathcal{R}_{t+1} \longrightarrow \text{Rec}_{t+1}(S) \longrightarrow \mathcal{C}_{t+1}(S) \longrightarrow S_{t+1}, \quad (10)$$

where Rec denotes recognition and $\mathcal{C}$ denotes capacities or conditions that support continued subject formation. A subject acts, its action alters relations, those relations may increase or decrease recognition and resources, and the altered conditions change the subject's future capacities. Subjecthood is thus reproduced dynamically rather than merely possessed.

Claim 10.17 (Subjecthood as a self-reproducing relational achievement). For many political subjects, persistence depends on recurrent processes through which action reproduces, repairs, or transforms the relations that make later action possible.

This formulation connects subjecthood with the attractor-like and metastable structures introduced in Section 8. A subject can be robust to ordinary perturbations while vulnerable to changes that disrupt key reproductive relations. The relevant question is not whether the subject is absolutely stable but which transformations it can absorb while retaining sufficient invariants for attribution.

Remark 10.18 (Political death and transformation). The dissolution of a political subject need not coincide with physical destruction of its components. A state can fragment, a corporation can be dissolved, a movement can lose organizational coherence, and an

institution can persist nominally while its generative capacities disappear. Conversely, a subject may transform so substantially that the question whether it remains “the same” depends on which invariants a relevant practice treats as preserving identity.

This is another reason GR treats identity as relational and transformation-sensitive rather than as simple numerical persistence.

10.7 Political Subjecthood without Ontological Primacy

The foregoing analysis supports a position that may initially appear paradoxical: political subjects can be fully real and normatively important without being ontologically primitive. Emergence does not demote them. It explains the conditions of their reality.

Proposition 10.19 (Reality without primacy). *If a relational formation S is sufficiently stabilized to possess domain-relevant causal, representational, and attributional capacities, then S can be treated as an effective political subject even if its existence depends on lower-, higher-, or cross-scale relations that are historically contingent.*

Proof. Ontological primacy concerns explanatory dependence; effective political subjecthood concerns capacities realized within a political domain. Dependence of S on generative relations does not negate the capacities realized by S once those relations stabilize it. Since GR permits emergent structures to re-enter subsequent dynamics as causally and politically consequential relata, explanatory dependence is compatible with effective agency. Therefore political reality does not require ontological primacy. $\square$

This proposition allows GR to avoid two opposite errors. Substantialist reduction treats the subject as given independently of the relations that sustain it. Eliminativist reduction treats the discovery of relational dependence as proof that the subject is unreal. GR rejects both. The subject is a stabilized relational achievement whose reality is expressed through what it can sustain, generate, undergo, claim, and transform.

The consequence for political philosophy is substantial. Questions of freedom, domination, justice, and legitimacy cannot always begin after the subjects have already been fixed. Political arrangements participate in producing subjects with different capacities, boundaries, dependencies, and possibilities of action. A labor regime can generate a particular worker position; citizenship law can generate differentiated political statuses; organizational design can create or dissolve collective agents; technological infrastructures can redistribute agency across humans and machines; recognition practices can stabilize or deny particular subject positions.

Principle 10.20 (Subject-generative politics). Political arrangements should be analyzed not only by how they distribute benefits, burdens, rights, and constraints among existing subjects, but also by how they participate in generating, stabilizing, transforming, or suppressing the subjects who can appear and act within the political field.

This principle prepares the transition to the next sections. Once subjecthood is emergent, freedom cannot be understood simply as a property possessed by a pre-given subject, constraint cannot be treated only as an external obstacle, and power cannot be analyzed only as one fixed agent acting upon another. Freedom, constraint, and power must be reconstructed as generative relational structures involving the production of agents and the spaces in which their action becomes possible.

Synthesis 10.21 (Emergent political subjecthood). GR reconstructs political subjecthood through seven linked commitments:

1. political subjects are effective relational formations rather than mandatory ontological primitives;
2. causal participation, agency, political subjecthood, moral status, and legal personhood are analytically distinct;
3. subject formation depends on historically variable conditions of persistence, integration, responsiveness, representation, generative participation, and attribution;
4. social categories, communities, classes, institutions, states, corporations, and artificial systems realize different forms of unity and must not be assimilated without argument;
5. emergent subjects can re-enter the relational field and become generators of subsequent political reality;
6. recognition can stabilize subjecthood but does not monopolize its existence; and
7. the reality of a political subject does not require ontological primacy.

The result is not a political ontology without subjects. It is a political ontology in which subjecthood itself has a history, a relational architecture, and a generative dynamics. This shift makes possible the next reconstruction: freedom and constraint can now be examined not as properties attached to already completed subjects, but as co-generated structures that participate in determining what subjects can become and what futures they can help produce.

11 The Co-Generation of Freedom and Constraint

Freedom is among the most persistent organizing concepts of political philosophy. It is also among the most structurally revealing for GR because almost every account of freedom must specify, explicitly or implicitly, an agent, a set of actions or states, and a set of conditions that permit, prevent, enable, or shape movement among them. Classical debates distinguish negative freedom from positive freedom, liberty from domination, formal rights from substantive capacities, and opportunity from effective achievement (Berlin 1969; Pettit 1999; Sen 1999). MacCallum's influential triadic reconstruction makes this architecture especially explicit: an agent is free *from* some preventing conditions *to do or become* something (MacCallum 1967). GR begins from the usefulness of this relational form but historicizes and endogenizes each of its terms.

The resulting claim is not that freedom is unreal, nor that every account of freedom can be reduced to one vocabulary. It is that freedom and constraint should not be treated as ontologically finished properties attached to already completed subjects. The agent may itself be emergent, as Section 10 argued. The relevant set of actions may be historically produced. What counts as a constraint may depend on a relational field and on the scale at which the system is described. The rules through which possibilities are opened or closed may themselves change. Most importantly, a relation that restricts one dimension of action may simultaneously constitute another dimension in which agency becomes possible.

GR therefore treats freedom and constraint as *co-generated structures*. They are analytically distinguishable but historically intertwined products of relational organization. This formulation shifts the central question from a static contrast—how much freedom exists after constraints are subtracted?—toward a generative one: what relational configuration produces particular degrees of freedom and constraint, for which subjects, at

which scales, over which trajectories, and with what consequences for the generation of future possibility?

Claim 11.1 (Co-generation thesis). Freedom and constraint are not generally related as a simple scalar opposition in which one increases only by the subtraction of the other. In generative relational systems, the same relational structure can restrict some transformations, enable or constitute others, and alter the future mechanisms through which both freedom and constraint are produced.

This claim does not deny the political importance of interference, prohibition, coercion, or domination. It denies only that their relation to freedom can always be represented by a single subtraction. A prison wall, censorship order, or legal prohibition can straightforwardly close possibilities. But language, legal procedure, infrastructure, standards, contracts, institutions, and coordination rules can also constrain action while creating stable domains in which previously unavailable action becomes possible. The GR task is to identify the generative architecture rather than classify all constraint as either intrinsically emancipatory or intrinsically oppressive.

11.1 Freedom beyond an Ontological Primitive

A substantial portion of political philosophy treats freedom as a value whose meaning is debated but whose attribution presupposes an identifiable bearer. Berlin's distinction between negative and positive liberty famously differentiates freedom understood as absence of interference from freedom associated with self-direction or control (Berlin 1969). Republican theories shift attention from episodic interference to domination, where an agent may be unfree because another possesses an uncontrolled capacity to interfere even if that power is not presently exercised (Pettit 1999). Capability-oriented approaches further emphasize what persons are effectively able to do and be rather than relying exclusively on formal permission (Sen 1999). These debates already show that freedom cannot be reduced to the observable absence of barriers.

GR accepts the importance of these distinctions but relocates them within the background-independent architecture developed in Section 5. The question is not only which conception of freedom is correct. It is also how the agent, the field of relevant actions, the preventing conditions, and the evaluative vocabulary under which something is recognized as freedom came to be available.

Definition 11.2 (Relational freedom profile). For a subject S_t situated in a relational configuration $\mathcal{R}_t$, a *relational freedom profile* is the structured set of transformations that are available, sustainable, intelligible, and attributable to that subject under the effective conditions of the system at time t . It may be represented schematically as

$$\mathfrak{F}_t(S) = \mathfrak{F}(S_t, \mathcal{R}_t, M_t, \mathcal{G}_t, \mathcal{O}_t, H_t), \quad (11)$$

where M_t is the effective possibility space, $\mathcal{G}_t$ the generative mechanisms, $\mathcal{O}_t$ the available observables and classifications, and H_t the inherited trajectory.

The expression is intentionally not a scalar. It does not presume that all freedoms can be reduced to one quantity. Two subjects may possess similar numbers of formal options while differing sharply in the accessibility, durability, reversibility, social intelligibility, or future-generating consequences of those options. Likewise, a single subject may gain freedom along one dimension while losing it along another.

This formulation extends MacCallum's triadic relation. In MacCallum's grammar, one specifies an agent x , preventing conditions y , and an action or becoming z (MacCallum

1967). GR then adds a historical-generative layer:

$$(x_t, y_t, z_t) \text{ are themselves outputs of } (H_t, \mathcal{R}_t, \mathcal{G}_t, M_t). \quad (12)$$

The agent may have been constituted through legal, economic, technological, biological, or institutional relations. The preventing condition may exist only because a certain classification or infrastructure exists. The action may be thinkable only because a technological or cultural development has generated a new possibility. Thus the triadic relation is not discarded; it is embedded in a higher-order account of its own production.

Comparison 11.3 (Triadic freedom and GR). MacCallum's framework clarifies the relational grammar of freedom by requiring specification of who is free, from what, and to do or become what. GR adds that the extensions of all three terms, together with the effective space in which the relation is meaningful, can be historically generated and transformed.

This matters because political conflicts often occur not only over whether a known option is blocked but over whether an option can exist at all. A new legal status can create an action-position that previously had no institutional meaning. A technological system can create a new channel of communication and simultaneously a new mode of surveillance. A currency can generate transferable claims across strangers while imposing dependence on monetary infrastructures. A social movement can generate a new collective subject capable of making claims that were not previously attributable to any stabilized agent. Freedom therefore sometimes expands not by opening an already existing door but by generating a door, a corridor, and an agent capable of passing through it.

Principle 11.4 (Generated possibility). A theory of freedom is incomplete whenever it treats the relevant possibility set as given even though the political process under examination participates in generating, deleting, or reorganizing that set.

11.2 Constraint beyond External Interference

If freedom is not primitive, constraint cannot be treated as a single homogeneous opposite. Some constraints are external prohibitions. Others arise from dependence, scarcity, institutional position, informational asymmetry, path dependence, bodily condition, infrastructure, or internalized patterns of action. Still others are constitutive: without them, the activity in question would not exist in a recognizable form.

GR therefore distinguishes at least four analytically different kinds of constraint.

Definition 11.5 (Restrictive constraint). A *restrictive constraint* reduces or blocks transformations that are otherwise available to a subject within a given effective possibility space.

Definition 11.6 (Constitutive constraint). A *constitutive constraint* participates in defining or stabilizing the space within which a class of meaningful actions becomes possible. Its removal need not enlarge the same activity-space; it may dissolve or transform that space.

Definition 11.7 (Generative constraint). A *generative constraint* modifies present action in a manner that changes the production of future relations, capacities, or possibility spaces. It can be enabling, disabling, or mixed in its later effects.

Definition 11.8 (Inherited constraint). An *inherited constraint* is a restriction on current action produced by earlier relational trajectories even when the initiating condition is no longer present.

These categories can overlap. A legal rule may restrict one action, constitute a stable practice, generate future capacities, and preserve inherited exclusions simultaneously. The categories are analytical dimensions rather than mutually exclusive boxes.

The concept of constitutive constraint is particularly important because political language often treats constraint as if it were simply an obstacle placed in front of an otherwise complete agent. Yet many forms of agency depend upon structured limitation. Language constrains admissible combinations while making complex communication possible. A game has rules that exclude moves while creating a recognizable field of play. Legal institutions constrain procedures while creating offices, statuses, claims, and expectations. Technical protocols restrict admissible signals while enabling coordination across heterogeneous devices. None of these examples demonstrates that the relevant constraints are normatively justified. They demonstrate only that the relation between constraint and freedom is structurally more complex than subtraction.

Distinction 11.9 (Restriction and constitution). A restrictive constraint asks which available transformation is blocked. A constitutive constraint asks which action-space exists because certain distinctions, rules, or boundaries are maintained. The same rule can have both functions.

This distinction is central to GR because background independence makes the action-space itself dynamical. If a constraint helps constitute M_t , then removing the constraint can produce not merely a larger subset of the same M_t but a different space M_{t+1} . The politically relevant question is therefore sometimes topological or generative rather than cardinal: what kind of space results from the transformation?

Warning 11.10 (Constraint is not thereby justified). The constitutive or generative role of a constraint does not establish its legitimacy. Domination, exclusion, caste, colonial hierarchy, or discriminatory law can also stabilize practices and identities. Explanatory indispensability within a historical regime is not normative vindication of that regime.

11.3 Constitutive Constraints and Generated Capacities

The co-generation thesis becomes clearer when freedom is treated as a capacity realized through relational organization rather than as a vacuum left after obstacles are removed. A subject's effective capacity to act may depend on education, infrastructure, legal standing, linguistic competence, bodily support, social trust, technical systems, organizational coordination, or access to information. These supports impose forms, standards, and dependencies while enabling action that would otherwise be unavailable.

Let C_t denote a set of constraints and $K_t(S)$ a set of capacities realized by subject S . A simple anti-constraint model might assume

$$C_t \uparrow \implies K_t(S) \downarrow. \quad (13)$$

GR rejects this as a universal law. Some components of C_t can increase some components of K_t by stabilizing the relational architecture on which those capacities depend:

$$\frac{\partial K_t^{(i)}}{\partial C_t^{(j)}} \gtrless 0, \quad (14)$$

with the sign depending on the type of capacity, constraint, scale, subject, and historical configuration.

Proposition 11.11 (Non-monotonicity of freedom and constraint). *In a generative relational system, removal of a constraint need not monotonically increase the subject's effective freedom profile, and addition of a constraint need not monotonically decrease it.*

Proof. Let C be a constraint that excludes some present transformation a but stabilizes a relational mechanism $\mathcal{G}$ that generates capacities K and future transformations B . Removing C adds a to the immediate option set but destabilizes $\mathcal{G}$, eliminating B . The resulting freedom profile gains one dimension and loses another. Conversely, adding a rule that excludes a can stabilize $\mathcal{G}$ and thereby generate B . Since the profiles are multidimensional and temporally extended, neither operation is necessarily monotonic in overall effective freedom. The result establishes only structural possibility, not the normative desirability of either regime. $\square$

This proposition has a political-philosophical consequence. Counting currently open options is insufficient whenever options depend on relational supports that can themselves be transformed. A subject may possess many nominal choices yet lack the capacities required to realize them. Another may accept a present restriction that preserves or creates a broader future action-space. The relevant analysis must therefore distinguish *formal availability*, *effective accessibility*, and *generative consequence*.

Definition 11.12 (Three dimensions of available action). For an action or transformation a , GR distinguishes:

1. *formal availability*: whether a is legally or institutionally permitted;
2. *effective accessibility*: whether the subject possesses the relationally supported capacities and resources required to realize a ; and
3. *generative consequence*: how the treatment of a changes later relations, capacities, and possibility spaces.

This triad partly overlaps with familiar distinctions between formal liberty, capability, and structural freedom, but it is organized around GR's temporal-generative architecture. The third dimension is especially important. Two equally accessible actions can differ radically in whether they reproduce a dependency, create an institution, erode a capacity, generate trust, alter the environment, or close future alternatives.

11.4 Relational Production of Degrees of Freedom

The phrase *degrees of freedom* is borrowed from mathematics and physics but must be translated cautiously. GR does not claim that political freedom is literally identical to the number of independent coordinates in a mechanical system. The formal language is useful because it shifts attention from isolated permissions to the structure of transformations that a system can support.

Formal Analogy 11.13 (Political degrees of freedom). In physics, degrees of freedom characterize independent ways in which a system can vary subject to its constraints. In GR political analysis, an analogous question is: which transformations can a subject or relational formation initiate, sustain, combine, reverse, or redirect under the effective constraints of the political system?

Suppose $\Omega_t(S)$ denotes the effective action region available to subject S . The structure of $\Omega_t(S)$ matters at least as much as its size. It may be fragmented, connected, fragile, reversible, hierarchical, or dependent on gateways controlled by others. Two spaces with the same number of nominal options can therefore embody different freedom structures.

A simple illustration is network access. Two actors may both have formal permission to contact the same number of institutions, but one may occupy a central position with multiple redundant paths while the other depends on a single intermediary. Removal

of one edge barely affects the first actor but isolates the second. The relevant freedom is relationally produced by connectivity, redundancy, and dependence, not by permission alone.

Definition 11.14 (Relational degree of freedom). A *relational degree of freedom* is a distinguishable transformation of a subject or relational formation that can be effectively initiated or sustained given the current organization of supporting and constraining relations.

The definition remains scale-relative. At one scale, a person's action may be constrained by an institution; at another, the institution's own capacity to act may depend on coordinated individuals, infrastructures, laws, and technologies. The same structure can therefore be enabling at one scale and constraining at another.

Remark 11.15 (Independence is itself relational). The language of an "independent" degree of freedom should not be confused with ontological independence. A transformation can count as an analytically independent coordinate at one descriptive scale while depending on dense supporting relations at another.

This is another place where GR differs from an atomistic image of liberty. Independence of action need not mean absence of relation. In many cases, the capacity to act independently at one level is produced by reliable relations at another. A researcher can work autonomously because infrastructures, archives, funding channels, legal protections, and communication systems are sufficiently stable not to require constant renegotiation. Relational support can therefore generate effective independence.

11.5 Historical Formation of Choice Spaces

Political philosophy frequently evaluates choices within a specified set. GR adds that the set itself has a history. Let

$$\Omega_t(S) \subseteq M_t \quad (15)$$

be the effective choice space available to a subject. A static analysis compares elements of $\Omega_t(S)$. A generative analysis studies

$$\Omega_t(S) \xrightarrow{\mathcal{G}_t, \mathcal{R}_t, H_t} \Omega_{t+1}(S'), \quad (16)$$

where both the subject and the surrounding possibility space may change.

This shift is essential for historical political economy. Property regimes, labor institutions, technologies, infrastructures, family structures, citizenship rules, educational systems, and monetary arrangements do not merely distribute choices; they participate in defining which choices can exist, which are socially intelligible, which can be coordinated, and which can be sustained over time. The same formal permission can therefore have different political meaning under different relational histories.

Claim 11.16 (Choice-space historicity). A political choice is never specified completely by the selected option alone. Its freedom-relevant meaning depends partly on the historically generated space from which the option is selected and on the relations that determine how that space can subsequently change.

Consider exit. An actor may formally be free to leave an employment relation, institution, jurisdiction, platform, or community. Yet the generative meaning of exit depends on whether alternative relations exist, whether identities or benefits are portable, and whether leaving destroys accumulated capacities. It also depends on whether re-entry is

possible and whether the actor can participate in changing the relation instead of abandoning it. Exit is therefore not a binary property but a trajectory-sensitive relational capacity.

The same point applies to consent. A choice can be voluntary in a narrow sense while being made within a possibility space produced by earlier exclusions. GR does not infer from this fact that the choice is invalid. It insists only that evaluating freedom solely at the moment of selection can conceal the history that generated the selectable set.

Distinction 11.17 (Choice freedom and choice-space freedom). *Choice freedom* concerns the subject's capacity to select among currently available alternatives. *Choice-space freedom* concerns the subject's capacity, individually or collectively, to participate in preserving, contesting, expanding, contracting, or reorganizing the space from which future alternatives arise.

This distinction prepares the stronger GR conception developed in the next subsection.

11.6 Freedom as Participation in Future Possibility Generation

GR's most distinctive contribution to the concept of freedom is not a replacement definition intended to invalidate negative, positive, republican, or capability accounts. It is an additional dimension: *generative freedom*. A subject can be free with respect to present options yet have little influence over the structures that determine future options. Conversely, a subject can participate in institution-building, collective learning, legal reform, technological design, or relational repair in ways that alter future possibility even when present options are constrained.

Definition 11.18 (Generative freedom). *Generative freedom* is the effective capacity of a subject or collective formation to participate in the production, revision, preservation, or contestation of the relations and mechanisms that shape future possibility spaces.

This is not synonymous with sovereign control. Background-independent systems are too relational and historically coupled for any subject to determine the future unilaterally. Generative freedom concerns participation in the processes through which possibility is formed, not mastery over all outcomes.

One can represent this schematically by introducing a sensitivity of the future possibility space to a subject's admissible interventions u_t :

$$\mathcal{I}_t(S) = \left\| \frac{\delta M_{t+\Delta}}{\delta u_t(S)} \right\|_{\text{eff}}, \quad (17)$$

where the expression is not proposed as a universal metric but as a formal prompt: does the subject have any effective channel through which present action can alter the conditions of future action?

Remark 11.19 (Influence is not domination). A high capacity to alter future possibility spaces is not automatically a desirable form of freedom. If one actor can unilaterally determine the possibility spaces of others, the same generative capacity may constitute domination. Generative freedom therefore cannot be evaluated independently of relational distribution, reciprocity, vulnerability, and justice.

This distinction helps connect freedom to power without collapsing the two. Power concerns capacities to shape relations and possibility spaces; generative freedom concerns the subject's effective participation in those processes. A monopolist, state, platform, household head, community, worker organization, or individual may possess very

different forms of generative influence. Political philosophy must then ask not merely whether such influence exists but how it is structured, justified, contestable, and distributed.

Principle 11.20 (Future-possibility participation). A GR analysis of freedom should include the subject's relation to the production of future possibilities, not only the subject's location within the present possibility space.

This principle has an intergenerational implication. Present actors can exercise freedoms that alter the relational conditions inherited by future actors who cannot participate in the present decision. Environmental depletion, infrastructure construction, institutional reform, archival destruction, technological lock-in, debt, legal precedent, and educational investment can all reorganize future possibility spaces. The freedom of present subjects and the freedom conditions of future subjects are therefore dynamically coupled.

Open Problem 11.21 (Generative freedom and intergenerational justice). A complete normative theory must determine when present participation in possibility generation becomes an unjust appropriation of the generative conditions of future subjects. GR identifies the structure of the problem but does not settle its substantive criterion in this section.

11.7 Cross-Scale Production of Freedom and Constraint

Freedom and constraint are generated across scales. A local interaction can accumulate into an institutional pattern; an institutional rule can reshape household or individual behavior; technological infrastructure can alter organizational capacities; neural, bodily, economic, legal, and cultural conditions can jointly affect what an individual can do. GR therefore resists locating freedom exclusively at one privileged level.

Let k index scale. A simplified representation is

$$\mathfrak{F}_t^{(k)} = \Phi^{(k)}\left(\mathcal{R}_t^{(k-1)}, \mathcal{R}_t^{(k)}, \mathcal{R}_t^{(k+1)}, H_t\right), \quad (18)$$

where the freedom profile at scale k depends partly on relations below, at, and above that scale. This does not imply a fixed hierarchy of micro and macro levels. The relevant scales are model-dependent and can themselves be reorganized.

A person may gain freedom through a collective organization that constrains some individual actions in order to create bargaining capacity. A state may gain policy autonomy through institutions that constrain officeholders. An organization may gain reliability by limiting the discretion of individual components. Conversely, collective capacity can be purchased through severe internal domination, and institutional autonomy can diminish the freedom of those subject to it. Cross-scale enabling and cross-scale constraint therefore need to be represented together.

Distinction 11.22 (Same-scale and cross-scale freedom). *Same-scale freedom* concerns transformations available to an entity within a specified relational level. *Cross-scale freedom* concerns capacities generated or constrained through relations that connect the entity to structures at other levels of organization.

This distinction also clarifies why individual and collective freedom need not be simple rivals. Collective organization can generate individual capacities that isolated actors could not sustain, while collective authority can also suppress individual transformation. The relation is generative and context-dependent rather than algebraically zero-sum.

Example 11.23 (Collective capacity without ontological fusion). A labor organization can coordinate information, resources, and bargaining in ways unavailable to isolated workers. The resulting collective capacity can alter each member's effective choice space without implying that the individuals disappear into a single metaphysical subject. The relevant freedom is generated through organized relations across individual and collective scales.

The same logic applies beyond human collectivities. Human–AI systems can redistribute cognitive and communicative capacities; monetary infrastructures can enable transactions while constraining participation through access conditions; urban infrastructure can expand mobility for some routes and bodies while closing others; ecological relations can sustain or narrow future material possibilities. The generalized relational domain of Section 4 therefore enters directly into the analysis of political freedom.

Criterion 11.24 (Adequate GR analysis of freedom). A GR analysis of freedom is incomplete unless it specifies, at the relevant scale:

1. the subject or relational formation whose freedom is at issue;
2. the transformations that count as available or unavailable;
3. the restrictive, constitutive, generative, and inherited constraints that shape those transformations;
4. the relational supports required for effective access;
5. the historical process that produced the present choice space;
6. the effects of current action on future possibility spaces; and
7. the cross-scale relations through which freedom and constraint are reproduced or transformed.

The criterion is methodological rather than a completed normative theory. It tells us what must be made visible before judgments about freedom can be adequately grounded within GR.

Synthesis 11.25 (Co-generated freedom and constraint). The GR reconstruction of freedom and constraint yields seven linked claims:

1. freedom is an effective relational profile rather than a mandatory ontological primitive;
2. the agent, constraint, and action terms of freedom claims can themselves be historically generated;
3. constraint includes restrictive, constitutive, generative, and inherited dimensions;
4. effective degrees of freedom are produced through supporting relations and cannot be inferred from formal permission alone;
5. choice spaces have histories and can themselves become objects of political transformation;
6. generative freedom concerns participation in the production and revision of future possibility spaces; and

7. freedom and constraint are produced across scales, so individual and collective capacities can be mutually enabling, mutually limiting, or both.

The result does not reject established conceptions of negative liberty, positive liberty, republican non-domination, or capability. Each can illuminate a different region of the freedom problem. GR's contribution is to place these concerns within a generative architecture in which subjects, constraints, capacities, relations, and possibility spaces can all acquire histories and participate in one another's transformation. Freedom is thereby reconstructed not as the residue left after relation has been removed, but as one possible achievement of relational organization.

This reconstruction also prepares the analysis of power. If freedom depends partly on who can shape relations and future possibility spaces, then power cannot be reduced to the capacity of one pre-given actor to compel another. It includes the capacity to generate subjects, define observables, organize dependencies, stabilize normality, and alter the mechanisms through which future political possibilities are produced. Section 12 develops that generative account of power.

12 Power as Generative Relational Capacity

Power is a particularly revealing test for a generative relational political philosophy because it sits at the boundary between action, structure, possibility, and reproduction. Some influential accounts begin from an actor-centered relation in which one actor can alter another actor's conduct. Dahl's canonical formulation explicitly treats power as relational and asks when A can get B to do something B would not otherwise do (Dahl 1957). Later approaches widened the field. Lukes emphasizes agenda-setting and the shaping of preferences in addition to observable decision conflict (Lukes 2005); Foucault treats power as productive as well as repressive and examines the practices through which subjects, objects of knowledge, and regimes of normality are constituted (Foucault 1977); Hayward shifts attention from power possessed by identifiable actors toward socially structured limits on action and the relations that define the field of possible conduct (Hayward 2000). GR inherits these relational and productive insights but reorganizes them around a stronger question: how does power participate in the generation, maintenance, transformation, and reproduction of the relational architecture within which political action becomes possible at all?

The answer requires more than adding another "dimension" to an existing taxonomy. Within GR, power is not exhausted by influence over a present decision, control over a resource, domination of another actor, or even the capacity to shape preferences. A sufficiently generative form of power can alter who or what counts as a political subject, which relations may be formed, how existing relations can be revised, what can become observable, which classifications acquire institutional force, and what future possibility spaces remain available. Power can therefore operate on the conditions of later power.

Definition 12.1 (Generative relational power). *Generative relational power* is the effective capacity of an actor, institution, field, or distributed relational configuration to shape the production, stabilization, transformation, suppression, or reproduction of relations and of the mechanisms through which future relations become possible.

This definition is intentionally broader than dyadic control and narrower than the claim that every causal influence is power. A temperature change can alter behavior without thereby constituting political power. A technical protocol may become politically powerful when it allocates access, establishes categories, channels dependence, or

determines which transformations can be performed by whom. Power is therefore identified not by causation alone but by a structured relation between generative capacity and politically consequential possibility.

Schematically, if a political system at time t is represented by

$$\Theta_t = (\mathcal{E}_t, \mathcal{R}_t, \mathcal{G}_t, \mathcal{O}_t, M_t), \quad (19)$$

then power may act not only on a state variable x_t but on any component of the generative architecture:

$$\mathcal{P}_t : (\mathcal{E}_t, \mathcal{R}_t, \mathcal{G}_t, \mathcal{O}_t, M_t) \mapsto (\mathcal{E}'_{t+1}, \mathcal{R}'_{t+1}, \mathcal{G}'_{t+1}, \mathcal{O}'_{t+1}, M'_{t+1}). \quad (20)$$

The notation does not imply a single measurable scalar called power. It marks the possible *sites of generative intervention*: entities, relations, generating mechanisms, observables, and possibility spaces.

Claim 12.2 (Power over the conditions of power). In a recursively generative political system, a form of power is structurally deeper when it can alter not only present outcomes but also the conditions under which future capacities to act, resist, classify, coordinate, and exercise power are produced.

This claim supplies the organizing principle of the section. GR does not replace familiar theories of power; it situates their objects within a wider architecture. Direct coercion remains politically significant. Agenda control remains significant. Discursive and disciplinary production remains significant. But their long-run political force depends partly on whether they modify the relational field that generates later options, dependencies, identities, and evaluative capacities.

12.1 Power beyond Possession and Dyadic Control

Power is frequently represented as though it were a property stored in an actor: an individual, state, corporation, class, institution, or organization *has* more or less power. Such language can be analytically useful, especially when the relevant capacities are durable. Yet even actor-centered theories commonly acknowledge that power must be actualized through relations. Dahl's formulation is paradigmatic precisely because it defines power through a relation between A and B , not as a free-standing substance located inside A (Dahl 1957). GR retains this relational insight while refusing to stop at the dyad.

The first extension is contextual. The capacity of A to affect B depends on the surrounding relations that make the intervention effective:

$$P_t(A \rightarrow B) = P(A_t, B_t, \mathcal{R}_t, \mathcal{G}_t, M_t, H_t). \quad (21)$$

A threat is powerful only when sanctions are credible. A legal command is powerful only when institutions can translate it into consequences. Currency is powerful only within a relational infrastructure of recognition, convertibility, accounting, enforcement, and expectation. A platform rule is powerful only because users, interfaces, technical standards, markets, and institutions make compliance consequential. What appears to be a dyadic capacity is therefore often the local manifestation of a distributed relational field.

The second extension concerns the object of power. A may act on B without changing any relation beyond the immediate episode. But A may also reshape the relation between B and C , determine which actors may associate, create a new dependency, redefine an institutional role, or alter the conditions under which collective organization is possible. Power thus has a *relational target* as well as an actor target.

Distinction 12.3 (Outcome power and generative power). *Outcome power* concerns the capacity to affect a decision, action, distribution, or state within a given relational architecture. *Generative power* concerns the capacity to affect the architecture that produces later relations, actions, distributions, and states.

This distinction is analytic, not absolute. A single intervention can do both. A court ruling resolves a dispute and may simultaneously change legal categories. A strike can alter a wage outcome and generate a durable organization. A coercive act can secure compliance while producing fear, distrust, or resistance that changes later relations. The GR question is therefore not whether an event is “really” outcome-oriented or generative, but what levels of the system it transforms.

Comparison 12.4 (Dahlian power and generative relational power). Dahl’s framework asks whether A can produce a change in B ’s conduct. GR preserves this relation as one important case but adds that politically consequential power may operate by changing the relations, categories, institutions, and possibility spaces within which future A – B interactions are constituted.

Lukes’s multidimensional account already moves in this direction by treating agenda control and preference formation as forms of power beyond observable conflict (Lukes 2005). Foucault moves further by showing how power can produce subjects, bodies of knowledge, norms, and “domains of objects” rather than simply repressing pre-existing actors (Foucault 1977). GR’s distinctive move is to organize these heterogeneous phenomena through a common generative grammar: power may be exercised over relations, generators, observables, and possibility spaces, and these transformations may feed back into the production of later power.

Remark 12.5 (Power is not a substance). GR does not deny that stable resources, offices, wealth, knowledge, technologies, or legal positions can be treated as power resources. It denies that their political force can be inferred independently of the relations through which they become usable, recognized, transferable, or enforceable.

12.2 Power over Relation Formation

The first specifically generative site of power is the formation of relations themselves. A political actor may possess little direct control over another actor’s immediate behavior yet exercise substantial influence over who can enter a relation, on what terms, through what institutional channel, and with which recognized status.

Let $\mathfrak{A}_t$ denote the set of relation-forming operations that are effectively available at time t . A power-bearing structure may modify this set:

$$\mathfrak{A}_t \xrightarrow{\mathcal{P}_t} \mathfrak{A}_{t+1}. \quad (22)$$

This can occur through law, property, technical architecture, social classification, organizational membership, spatial design, monetary access, border regimes, licensing, credentialing, or informal norms. The crucial issue is not merely whether actors are allowed to perform an isolated action but whether particular *relations* can come into being.

Definition 12.6 (Relation-forming power). *Relation-forming power* is the capacity to enable, condition, block, privilege, or assign the terms under which politically consequential relations may be created.

This form of power is especially visible when institutions define status. Citizenship law helps determine who can form legally recognized political relations with a state. Property law shapes relations of exclusion, transfer, tenancy, inheritance, and use. Corporate law creates organizational forms capable of contracting and owning assets. Platform protocols can determine who may communicate, transact, rank, recommend, or access an audience. In each case, the institution does not simply regulate interactions among already finished actors; it helps constitute the relational possibilities available to them.

The generative significance becomes clearer when relation formation is path dependent. Suppose relation R_{AB} at time t opens access to later relations R_{AC} and R_{BD} . Control over the first relation can then indirectly structure a larger future network. Admission to education, finance, professional credentials, communication infrastructure, or political membership can function this way. The political importance of gatekeeping is therefore not exhausted by the immediate inclusion or exclusion; it lies partly in its downstream generative consequences.

Proposition 12.7 (Gatekeeping amplification). *Suppose access to relation R_1 is a necessary enabling condition for a family of later relations $\{R_2, \dots, R_n\}$. Then control over formation of R_1 can generate downstream power exceeding the immediate scope of R_1 , even when the controller does not directly govern each later relation.*

Proof. If R_1 is a necessary enabling condition for each R_k in a specified family, then blocking R_1 removes those R_k from the effective future relational space of the excluded actor. Conversely, granting R_1 may open them. The controller therefore changes a set of later possibilities through one relation-forming intervention. The conclusion concerns structural reach, not moral legitimacy or empirical magnitude. $\square$

This proposition formalizes a familiar political intuition without reducing it to resource distribution. The object governed is the architecture of relation formation. The power can be exercised impersonally through rules and infrastructure even when no single actor continuously intends every downstream consequence.

Remark 12.8 (Distributed gatekeeping). Relation-forming power need not have a single identifiable possessor. It can be distributed across institutions, technical standards, classifications, professional practices, and mutually reinforcing expectations.

12.3 Power over Relational Transformation

Political relations are not only formed; they are revised, intensified, weakened, transferred, suspended, repaired, or terminated. A second generative dimension of power therefore concerns the capacity to shape the *transition rules* governing existing relations.

Let R_t be an existing relation and let $\mathcal{T}_t(R)$ denote its effective transformation set. Power over relational transformation can be represented as a change in that set:

$$\mathcal{T}_t(R) \xrightarrow{\mathcal{P}_t} \mathcal{T}'_{t+1}(R). \quad (23)$$

A worker may be able to enter an employment relation but unable to renegotiate its terms. A tenant may be able to occupy housing but have limited power over renewal, exit costs, or modification. A citizen may possess formal political membership while having little capacity to alter institutional rules. A community may be able to participate in consultation without possessing any channel through which consultation changes the generative process itself.

Definition 12.9 (Transformational power). *Transformational power* is the capacity to shape which changes to an existing relation are possible, by whom, at what cost, with what reversibility, and under what recognized procedure.

This definition reveals an important asymmetry between access and revision. A system can be open to relation formation while highly unequal in relation transformation. Contracts can be formally voluntary but structurally difficult to renegotiate. Institutions can solicit participation while keeping constitutional rules insulated from participants. Social systems can permit exit but impose high losses on those who leave. Thus the freedom to enter a relation does not imply power over its evolution.

GR also distinguishes two orders of transformation. First-order power changes a relation under existing rules. Second-order power changes the rules by which relations may be changed:

$$R_t \xrightarrow{T_t} R_{t+1}, \quad T_t \xrightarrow{\Pi_t} T_{t+1}. \quad (24)$$

where T_t is a transformation rule and Π_t a higher-order operation on the rule itself.

Distinction 12.10 (Two orders of relational power). *First-order relational power* changes the state or terms of a relation under an accepted transformation procedure. *Second-order relational power* changes the procedure that determines how the relation may subsequently be changed.

Constitutional amendment, institutional redesign, platform rule-making, labor law reform, and changes to property regimes often contain this second-order dimension. The distinction is especially important for political philosophy because a system can distribute first-order participation relatively widely while concentrating second-order authority narrowly.

Claim 12.11 (Second-order asymmetry). A political order may exhibit broad participation in first-order decisions while remaining deeply unequal in the power to revise the generative rules under which those decisions occur.

This is one reason GR resists evaluating democracy, freedom, or participation solely by counting choices or votes. The deeper question is whether subjects can affect the relational mechanisms that repeatedly structure later choices.

12.4 Power over Possibility Spaces

The preceding forms of power culminate in a broader one: power over the structure of what can become possible. Section 11 distinguished choice freedom from choice-space freedom. The corresponding power concept is the capacity to reshape the effective possibility space M_t itself.

Definition 12.12 (Possibility-space power). *Possibility-space power* is the effective capacity to expand, contract, partition, connect, disconnect, or otherwise reorganize the space of politically meaningful possibilities available to one or more subjects.

This is not mystical or unlimited. Possibility spaces are changed through concrete institutions, infrastructures, technologies, classifications, laws, resources, and relations. A legal innovation can create a previously unavailable organizational form. A border regime can remove mobility pathways. A payment infrastructure can enable transactions among strangers. A communication network can connect previously separated publics. A monopoly can make one route to participation dependent on a single intermediary. A new technology can create actions that did not previously exist while simultaneously generating new dependencies.

The geometry of the possibility space matters. Let M_t contain regions connected by paths of feasible transformation. Power may leave the same nominal options in place while changing connectivity, cost, reversibility, or gateway dependence. Hence

$$|M_t| = |M'_t| \not\Rightarrow M_t \simeq M'_t \quad (25)$$

in the politically relevant sense. Two systems may list the same formal alternatives while making them differently reachable.

Formal Analogy 12.13 (Topology of political possibility). A political possibility space can be studied analogically through connectivity, boundaries, bottlenecks, inaccessible regions, and paths. The analogy does not assert that political possibilities literally form a smooth manifold; it supplies a disciplined language for asking whether options are connected, reachable, reversible, or controlled by gateways.

Power over possibility spaces is therefore deeper than selecting among options. It concerns the production of the option architecture. This connects directly to Hayward's effort to analyze power through socially structured limits to action rather than only through identifiable acts of command (Hayward 2000). GR extends the point by making those limits dynamically generative: they can reproduce themselves, alter the identities of subjects, and modify the mechanisms that create later limits.

Principle 12.14 (Possibility-space priority). When political actors differ substantially in their capacity to shape future possibility spaces, analysis of present choices alone is insufficient for assessing the distribution of power.

This principle also clarifies why infrastructure can be political. Infrastructure often does not issue commands. It establishes the pathways through which actions become feasible, expensive, visible, recordable, or interoperable. Its power lies in structuring the field of possibility.

12.5 Power over Observability and Classification

Political action depends not only on what exists but on what can be seen, named, counted, compared, and institutionally recognized. GR therefore treats observability and classification as generative sites of power. A relation may be materially consequential yet politically weakly visible. A harm may occur without an accepted category through which it can be recorded. A population can become administratively real through classification. An identity can become actionable through law, statistics, diagnosis, registration, or public discourse.

Let $\mathcal{O}_t$ denote the set of effective observables and classificatory distinctions available to a political system. Power may operate by altering $\mathcal{O}_t$:

$$\mathcal{O}_t \xrightarrow{\mathcal{P}_t} \mathcal{O}_{t+1}. \quad (26)$$

Definition 12.15 (Epistemic-generative power). *Epistemic-generative power* is the capacity to shape which phenomena become institutionally observable, classifiable, recordable, comparable, or recognizable as politically relevant.

Foucault's analyses are especially important here because they show how disciplinary and knowledge practices can produce subjects and domains of objects rather than merely describe a pre-given social world (Foucault 1977). GR incorporates this insight within its broader architecture: changes in observables can feed back into relations and possibility spaces. Once a category is institutionalized, it may determine access to benefits, sanctions, rights, statistics, research attention, or legal standing.

Classification therefore becomes causal through its relational consequences. This feedback-oriented reading is compatible with work showing that classificatory infrastructures can shape social interaction and distribute practical consequences rather than merely record neutral differences (Bowker and Star 1999).

Claim 12.16 (Observability feedback). When institutional action depends on recognized observables, power over observability can become power over later relation formation and possibility-space allocation.

This claim does not imply that all classification is domination. Classification is unavoidable in administration, science, law, communication, and ordinary cognition. The political issue concerns who can create or contest classifications, which differences they render visible or invisible, what consequences are attached to them, and how easily they can be revised.

The same applies to metrics. Indicators of poverty, risk, productivity, eligibility, security, educational performance, or public value do not merely measure. Once embedded in decision rules, they influence behavior and resource allocation. The observable can become part of the generator.

Distinction 12.17 (Descriptive and generative classification). A *descriptive classification* is used primarily to represent an existing distinction. A *generative classification* acquires institutional consequences that help reproduce, intensify, transform, or create the relations it classifies.

This distinction is scalar rather than absolute. Many classifications do both. GR's contribution is to track the feedback loop:

$$\begin{aligned} \text{classification} &\rightarrow \text{institutional response} \rightarrow \text{changed relations} \\ &\rightarrow \text{changed population or behavior} \rightarrow \text{new classification conditions.} \end{aligned} \quad (27)$$

Power can enter at any point in this loop.

12.6 Self-Reinforcing Power Structures

Generative power becomes historically consequential when it modifies the conditions of its own reproduction. A power relation that must be recreated from zero in every encounter is structurally different from one that generates institutions, expectations, classifications, dependencies, and resource flows that make later reproduction easier.

Let P_t denote an effective power configuration and let Γ_t represent the generative environment supporting it. A self-reinforcing process has the schematic form

$$P_t \longrightarrow \Gamma_{t+1}(P_t) \longrightarrow P_{t+1}, \quad (28)$$

where the exercise or existence of P_t changes the environment in ways that tend, under specified conditions, to sustain or amplify a related power configuration at $t + 1$.

Definition 12.18 (Self-reinforcing power structure). A *self-reinforcing power structure* is a relational configuration in which the exercise, stabilization, or institutionalization of power generates conditions that increase the robustness, reach, or reproducibility of that power or of a structurally related successor.

Several mechanisms can produce such reinforcement: resource accumulation, institutional lock-in, network effects, control over agenda or information, normalization of dependency, production of compliant categories, destruction of alternatives, and the

generation of expectations that coordinate behavior around the existing structure. Work on increasing returns and path dependence provides an established account of how political arrangements can become progressively costly to reverse once feedback processes take hold (Pierson 2000). No single mechanism is universal.

Model Class 12.19 (Power-reproduction feedback). A GR model of self-reinforcing power may distinguish at least four feedback channels:

1. *resource feedback*, in which power improves access to resources that support later power;
2. *relational feedback*, in which power changes network positions, dependencies, or alliances;
3. *epistemic feedback*, in which power shapes observables, narratives, classifications, or legitimate knowledge;
4. *institutional feedback*, in which power becomes embedded in rules or procedures that reduce the cost of its reproduction.

The framework also clarifies why power can persist without continuous intentional control. Once a relation becomes institutionally or infrastructurally self-reinforcing, later participants may reproduce it for local reasons without sharing the intentions of those who initiated it. Distributed reproduction therefore does not eliminate power; it changes the level at which power must be analyzed.

Remark 12.20 (Reproduction without conspiracy). A self-reinforcing power structure does not require a centralized actor who understands or coordinates the whole process. Generative reproduction may emerge from locally rational actions coupled through institutions and relational feedback.

This matters for political critique. If power is reproduced through a system of relations, replacing one visible actor may leave the generator intact. Conversely, altering a key relation or feedback mechanism may transform power even when no actor is fully removed.

Claim 12.21 (Generative depth of reform). The durability of political reform depends partly on whether it changes the generative mechanisms that reproduce the targeted power relation, rather than only redistributing outcomes produced by those mechanisms.

The claim is not that all reform must be structural or revolutionary. Outcome-level interventions may be urgent and morally necessary. It states only that durable transformation requires attention to the mechanisms through which the relevant relation reappears.

12.7 Generative Exploitation

GR's concept of *generative exploitation* extends exploitation analysis from the appropriation of an existing product or surplus toward asymmetries in the production and capture of future generative capacity. The concept is continuous with Marxian concerns about exploitation and accumulation but is intentionally broader than a theory limited to labor-value relations. It can apply where one actor or structure systematically captures benefits produced by another's relational, epistemic, cultural, institutional, or creative generativity while shifting costs, reducing the contributor's future capacities, or monopolizing the conditions under which later generation becomes possible.

Definition 12.22 (Generative exploitation). *Generative exploitation* is a persistent relational configuration in which the generative contributions of some participants are appropriated, redirected, enclosed, or converted into asymmetric future-generating capacity for others under conditions that participants cannot adequately contest or revise.

The definition contains four elements. First, there is a contribution to generation rather than merely a transferred stock. Second, benefits from that generation are asymmetrically captured or converted. Third, the process alters future generative capacity, not only present distribution. Fourth, the relation has a contestability problem: participants lack adequate power to revise the terms under which their generativity is captured.

This makes generative exploitation distinct from mere inequality. Two actors may receive unequal returns without exploitation if the asymmetry does not involve problematic appropriation, dependency, or inability to contest the relational terms. Conversely, a relation can be exploitative even when immediate compensation appears acceptable if it systematically transfers control over future possibilities, knowledge, networks, or institutional capacity.

Distinction 12.23 (Extractive and generative exploitation). *Extractive exploitation* concerns asymmetric appropriation from an existing flow, product, resource, or labor process. *Generative exploitation* concerns asymmetric appropriation or enclosure of the capacity to produce future relations, knowledge, opportunities, institutions, or other generative structures. The two can coexist.

An example is a platform or organization that depends on participant-generated knowledge, reputation, social connection, or creative work. The immediate exchange may be voluntary, yet accumulated contributions can generate a network, database, standard, or institutional position whose future value and governance become concentrated elsewhere. The political question is not settled by identifying contribution or ownership alone. GR asks who gains the capacity to determine the future evolution of the generated relational infrastructure.

Principle 12.24 (Generativity-sensitive exploitation analysis). An adequate GR analysis of exploitation should examine not only the distribution of current outputs but also the distribution of control over the generative capacities, relational infrastructures, and future possibility spaces produced through the relation.

This formulation also prevents a romanticization of generativity. Generativity is not automatically emancipatory. A highly generative system can create new dependencies, surveillance capacities, markets, institutions, or inequalities. The normative question concerns the organization, distribution, contestability, and consequences of generative capacity.

Warning 12.25 (Generativity is not a normative good by definition). The fact that a relation produces many new possibilities does not establish that those possibilities are desirable, fairly distributed, or freely generated. Generativity and justice remain analytically distinct.

12.8 Reproduction of the Conditions of Power

The deepest GR account of power concerns the reproduction of the conditions under which power remains possible. At this level, political analysis is no longer limited to the relation

$$A \longrightarrow B. \quad (29)$$

It examines a recursive system:

$$P_t \rightarrow (\mathcal{R}_{t+1}, \mathcal{G}_{t+1}, \mathcal{O}_{t+1}, M_{t+1}) \rightarrow P_{t+1}. \quad (30)$$

Power affects relations, generators, observables, and possibility spaces. Those transformed structures then alter the distribution and form of later power.

Principle 12.26 (Recursive reproduction of power). Political power should be analyzed as recursively generative when its exercise changes the relational conditions that determine how subsequent power can be accumulated, recognized, contested, or reproduced.

This principle integrates the earlier subsections. Relation-forming power shapes who can connect. Transformational power shapes how relations can change. Possibility-space power shapes what can be done. Epistemic-generative power shapes what can be seen and classified. Self-reinforcing power shapes its own reproduction. Generative exploitation shapes who controls the capacities produced through collective or relational activity. These are not six unrelated types; they are different projections of a common generative architecture.

The recursive account also reveals two opposed political possibilities. Power can become *closure-generating*: it may narrow alternatives, monopolize relation-forming channels, harden classifications, suppress countervailing organization, and make its own reproduction increasingly automatic. Or power can become *capacity-generating*: it may create infrastructures, rights, organizations, and institutional protections through which a wider range of subjects can act and contest. The distinction is not equivalent to bad power versus good power. Both require normative evaluation. It identifies different directions in the organization of generative capacity.

Distinction 12.27 (Closure and capacity generation). *Closure-generating power* tends to reduce the range, accessibility, contestability, or plurality of future relational possibilities for affected subjects. *Capacity-generating power* tends to create or sustain relational capacities through which subjects can act, coordinate, revise institutions, or participate in generating future possibilities.

The distinction must remain relational and scale-sensitive. A rule that closes one possibility may generate collective capacity at another scale. A centralized institution may constrain individual discretion while creating universal access or enforceable rights. A decentralizing reform may increase local autonomy while weakening capacities for redistribution or common provision. GR therefore resists assigning normative valence to structural direction alone.

Criterion 12.28 (Power analysis under GR). A generative relational analysis of power should specify, at minimum:

1. the subjects or formations whose capacities are at issue;
2. the relations through which power is exercised or reproduced;
3. the generative mechanisms affected by that power;
4. the observables and classifications through which the power becomes visible or invisible;
5. the possibility spaces opened, closed, or reorganized;
6. the feedback mechanisms through which present power alters future power; and
7. the normative standpoint from which the resulting configuration is evaluated.

This criterion prevents two opposite errors. The first is reductionism: treating power as nothing more than one measurable resource, one actor's preferences, or one moment of coercion. The second is conceptual inflation: calling every relation or causal effect "power." GR instead asks whether a configuration structures politically consequential capacities and whether it participates in generating the conditions of later action and relation.

Synthesis 12.29 (Power as generative relational capacity). Within GR, power is best understood not as a substance possessed independently by actors but as a family of relational capacities operating at different generative depths. It can affect outcomes, form relations, govern transformations, reorganize possibility spaces, shape observability, reproduce its own conditions, and asymmetrically capture generative capacity. Its deepest forms act upon the conditions under which future power and resistance can emerge.

This reconstruction prepares the transition to the next problem. If power can generate and stabilize entities, classifications, expectations, and institutional conditions, then political philosophy must ask how such products acquire the status of effective reality. The following section therefore turns from power as generative capacity to the relational emergence of realities that become sufficiently stable to constrain, enable, and organize subsequent political life.

13 Relational Emergence of Effective Reality

The preceding sections have progressively removed a series of fixed backgrounds from political analysis. Political subjects need not be ontological primitives; freedom and constraint may be co-generated; power may operate on the architecture of future relations; and generative dynamics can alter not only states but also relation types, observables, and possibility spaces. These commitments raise a more basic question. If the entities and categories through which political life is organized can themselves emerge, in what sense do the products of such emergence become *real*?

GR answers this question by distinguishing ontological presence from *effective reality*. The distinction is intended to avoid two opposite errors. The first is a naive substantialism in which whatever appears politically consequential must have existed beforehand as a self-identical object. The second is an unrestricted constructivism in which reality is reduced to whatever a community happens to believe or name. GR accepts neither implication. A structure may become effectively real because it is sufficiently stabilized, reproduced, recognized, and causally consequential within a relational domain, while the question of its ultimate metaphysical status remains open.

This distinction is especially important in political philosophy because many of its central objects are neither obviously reducible to physical objects nor adequately described as mere beliefs. Money, citizenship, corporations, borders, offices, legal statuses, markets, reputations, norms, and institutional categories can organize action, distribute capacities, constrain trajectories, and reproduce themselves through relational systems. Their reality is not exhausted by private belief. At the same time, their modes of existence differ from those of mountains, viruses, or elementary particles. Classical social ontology has addressed closely related problems through accounts of institutional facts, collective intentionality, social construction, and status functions (Searle 1995; Berger and Luckmann 1966; Hacking 1999). GR inherits the importance of these debates but places them within a broader generative architecture in which effective realities may also emerge across non-institutional and cross-scale domains.

Definition 13.1 (Effective reality). An *effective reality* is a relationally generated and sufficiently stabilized entity, distinction, pattern, or structure that acquires reproducible

consequences for observation, action, coordination, constraint, or further generation within a specified domain and scale.

The qualifier *effective* does not mean fictitious, secondary, or merely instrumental. It marks the level at which a structure becomes available as a consequential component of a generative system. An effective reality can be deeply consequential even when its existence depends on relations that are historically contingent. Currency can organize labor, debt, exchange, taxation, saving, and political dependence while remaining dependent on institutions, expectations, technical systems, and practices of recognition (Simmel 2004). A corporation can own property and enter contracts despite not being a biological organism. A border can alter mobility even when its physical manifestation is a line on a map, a database entry, a checkpoint, or a distributed administrative practice. In each case, reality is carried by a relational organization whose consequences are reproducible enough to become part of the environment faced by later actors.

Distinction 13.2 (Reality, belief, and recognition). The effective reality of a structure is not identical to belief in that structure, nor does it require unanimous recognition. Beliefs and recognition practices may participate in its generation or stabilization, but an effectively real structure can constrain or enable actors who reject, misunderstand, or fail to recognize it.

This distinction also prevents GR from equating relational emergence with idealism. The claim is not that minds freely create reality. It is that many politically and socially consequential realities depend on organized relations among heterogeneous elements—persons, artifacts, institutions, classifications, infrastructures, symbols, environments, and histories—and that these organizations can stabilize sufficiently to acquire their own effective persistence.

13.1 Ontological Presence and Effective Reality

The phrase “what is real?” often compresses several analytically distinct questions. GR separates at least four. First, whether something exists independently of a given observer or discourse. Second, whether it manifests within a relational system. Third, whether the system possesses observables through which it can be recognized or reconstructed. Fourth, whether the manifested structure is sufficiently stable and consequential to function as an effective component of subsequent generation.

Let X denote a candidate structure. We may distinguish schematically:

$$X \longrightarrow \text{Man}_t(X) \longrightarrow \text{Rec}_t(X) \longrightarrow \text{Eff}_t(X), \quad (31)$$

where Man_t denotes manifestation in a relational domain, Rec_t denotes recognizability under the available observables and epistemic practices, and Eff_t denotes effective participation in later dynamics. Equation (31) is not a universal temporal sequence. A structure can be effective without being correctly recognized, and recognition can occur without stabilization. The notation instead separates questions that political argument often collapses.

Distinction 13.3 (Ontological presence and effective reality). *Ontological presence* concerns what exists or occurs. *Effective reality* concerns what has become sufficiently manifested and stabilized within a relational domain to enter the causal, epistemic, institutional, or generative organization of that domain.

The distinction is politically useful because a phenomenon can precede the categories by which it is later recognized. A pattern of exclusion may operate before a legal or

moral vocabulary names it. A form of dependence may shape life before institutions classify it as domination. Conversely, an institution may formally recognize a category whose practical effects remain weak. GR therefore refuses to infer either reality from recognition or recognition from reality.

Claim 13.4 (Non-identity of existence and recognizability). For an embedded historical system, the existence or occurrence of X does not entail that X is recognizable at time t , and the recognizability of a representation of X does not by itself establish the full ontological status of X .

This claim anticipates the later treatment of truth and historical recognizability. Here its role is ontological. The relational architecture through which a system encounters reality is historically variable. Archives can disappear, classification systems can change, scientific instruments can be invented, legal concepts can be expanded, and collective sensibilities can transform. Consequently, what a political community can treat as a stable object of action is partly dependent on the historical organization of its relations and observables.

GR therefore treats ontological humility as compatible with strong claims about effective reality. We may remain agnostic about the ultimate metaphysics of an entity while still analyzing the relations through which it becomes consequential. This is particularly useful for contested entities. As argued in Section 4, a human–AI relation can become economically or politically real before philosophy settles whether the AI possesses consciousness or moral personhood. Similarly, a human–religious relation can be socially generative without a political theory first resolving the metaphysical existence of its transcendent relatum.

Principle 13.5 (Metaphysical non-preemption). Analysis of effective relational reality should not require prior settlement of every ultimate metaphysical question concerning the relata, provided that the relevant relational effects can be specified and investigated independently.

This principle does not license indifference to metaphysics. Some political claims depend directly on whether a being is conscious, vulnerable, responsible, or capable of suffering. The point is narrower: GR can study the effective reality of a relation without pretending that such study resolves every deeper ontological dispute.

13.2 Relational Stabilization and Persistence

Emergence alone is insufficient for effective reality. Fleeting correlations, accidental alignments, and one-time classifications may occur without becoming durable components of a system. GR therefore places stabilization at the center of the transition from relational event to effective reality.

Suppose a relational pattern P_t is produced repeatedly under a family of conditions C_t . We can represent stabilization schematically as

$$C_t \xrightarrow{\mathcal{G}_t} P_t, \quad P_t \xrightarrow{\text{feedback}} C_{t+1}, \quad (32)$$

so that the generated pattern contributes to reproducing or modifying the conditions of its own future production. Persistence is therefore not necessarily passive endurance. It can be an active achievement of recursive reproduction.

Definition 13.6 (Relational stabilization). *Relational stabilization* is the process through which a generated pattern becomes reproducible across relevant transformations or intervals because the relations, practices, infrastructures, expectations, or feedbacks supporting it are sufficiently maintained or regenerated.

This definition is compatible with several forms of persistence. Some structures persist because material infrastructures are durable. Others persist because actors repeatedly enact them. Others persist because legal and classificatory systems reproduce their categories. Others persist because expectations make deviations costly. Still others persist through distributed feedback without centralized enforcement. GR does not assume one universal mechanism of stabilization.

Example 13.7 (Currency as stabilized relational reality). Currency illustrates the distinction between material carrier and effective reality. Coins, notes, ledger entries, cryptographic records, and numerical balances can serve as different carriers. What remains politically and economically consequential is a stabilized network of recognition, convertibility, accounting, enforceability, expectation, and exchange. The material manifestation may change while the effective monetary reality persists through transformed relations (Simmel 2004).

The same logic applies to many institutional objects. A university, ministry, or corporation can survive replacement of its members, offices, documents, and technologies because enough organizational invariants are reproduced. Section 6 described this as continuity without persistent substance. Effective reality supplies the complementary generative account: the relevant invariants persist because relational practices and infrastructures repeatedly regenerate them.

Proposition 13.8 (Persistence through relational reproduction). *Let E_t be an emergent entity whose effective identity is specified by a set of domain-relevant invariants $I(E_t)$. If the relational-generative process at successive times reproduces those invariants within the accepted tolerance of the domain, then E may persist as an effective reality despite replacement or transformation of its constituent elements.*

Proof. By assumption, effective identity in the domain is determined by preservation of $I(E_t)$ rather than by numerical identity of every constituent. If the generative process reproduces the relevant invariants while constituents change, then the domain's criterion of continuity remains satisfied. Persistence therefore follows at the effective level even though lower-level composition changes. The proposition establishes an identity criterion relative to a specified domain; it does not establish ultimate metaphysical identity. $\square$

Stabilization can also fail. A currency can lose acceptability. An institution can cease to coordinate action. A category can lose legal force. A collective identity can fragment. Effective realities therefore possess conditions of maintenance and failure. Their contingency is not evidence of unreality; it is evidence that their mode of reality is generative and relational.

Remark 13.9 (Contingency and reality). Historical contingency does not imply ontological insignificance. A structure can be contingent in origin, dependent in maintenance, and nevertheless deeply real in its consequences.

13.3 Emergent Entities as Subsequent Relata

The strongest GR account of emergence does not end when a higher-level entity appears. The emergent entity can enter later relations and thereby become part of subsequent generative processes. This is the mechanism previously described as *recursive relational re-entry*.

Let a family of relations $\mathcal{R}^{(0)}$ generate an effective entity $E^{(1)}$:

$$\mathcal{R}^{(0)} \xrightarrow{\mathcal{G}^{(0)}} E^{(1)}. \quad (33)$$

If $E^{(1)}$ subsequently becomes a relatum in a new relation,

$$R^{(1)}(E^{(1)}, X), \quad (34)$$

then the ontology available to later generation has changed. The system is no longer composed only of the relations and relata present at the earlier stage.

Principle 13.10 (Emergent-relatum principle). A generated structure becomes ontologically significant for GR when it can re-enter the relational domain as a relatively stable relatum and thereby alter subsequent generative dynamics.

Money again provides an intuitive example. Repeated exchange, accounting, valuation, and institutional practices can stabilize monetary forms. Once stabilized, money does not merely summarize earlier exchanges. It enters new relations: wages are denominated in it, debts are created through it, governments tax it, institutions accumulate it, and political actors organize around its distribution. An emergent relational product becomes a condition of future relations.

The same recursive structure appears in institutional categories. A classification may begin as a practical distinction, become administratively stabilized, acquire legal force, and later shape access to resources or rights. Bowker and Star show how classification systems can become embedded in infrastructures and organize social worlds in ways that outlive the local decisions from which they arose (Bowker and Star 1999). GR interprets this as a transition from generated distinction to generative relatum.

Claim 13.11 (Ontological enrichment through re-entry). When a generated structure becomes a stable relatum in subsequent relations, the effective ontology of the system is enriched: later dynamics can depend on an entity or distinction that was not available in the same form at the earlier stage.

This claim supplies a concrete meaning for the stronger idea of generativity developed in Section 7. The system does not merely move among configurations of a fixed inventory. It can generate new effective objects that alter what future configurations can contain.

Warning 13.12 (Reification). Treating an emergent entity as effectively real must not erase the relations that sustain it. Reification occurs when a historically generated and relationally maintained structure is redescribed as though it were self-subsistent, necessary, or independent of the conditions of its reproduction.

This warning is especially important in political philosophy. States, markets, races, classes, corporations, legal persons, and administrative categories can be treated as real for analysis without being naturalized. GR's task is simultaneously to acknowledge their effective consequences and reconstruct their generative conditions.

13.4 Recursive Production of Effective Reality

Once emergent entities can re-enter later relations, effective reality becomes recursive. A generated structure can modify the conditions under which later structures are generated, including the conditions under which it is itself recognized and reproduced.

A minimal recursive sequence can be written as

$$\mathcal{R}_t \longrightarrow E_t \longrightarrow \mathcal{R}_{t+1} \longrightarrow E_{t+1} \longrightarrow \cdots \quad (35)$$

The arrows should not be read as a simple alternating causal chain. At each stage, generators, observables, material conditions, and possibility spaces may also change. A fuller representation is

$$\Theta_t = (\mathcal{E}_t, \mathcal{R}_t, \mathcal{G}_t, \mathcal{O}_t, M_t) \longrightarrow \Theta_{t+1}, \quad (36)$$

where the effective ontology $\mathcal{E}_t$ is both output and input of generative transformation.

Definition 13.13 (Recursive effective reality). An effective reality is *recursive* when structures generated at one stage participate in producing, stabilizing, transforming, or suppressing the relations and generators through which later effective realities emerge.

This formulation helps explain why political realities can become self-reinforcing. A legal category produces administrative practices; the practices generate records; the records make the category more observable; the resulting statistics inform policy; the policy allocates resources through the category; and those allocations encourage actors to organize themselves in relation to it. The category can therefore become increasingly real in its consequences without having been an eternal or natural division.

The process resembles what Hacking describes in discussions of “looping effects,” where classifications of people can interact with the people classified and thereby alter the phenomenon under description (Hacking 1999). GR generalizes the logic beyond human classifications. Generated institutions, technologies, currencies, infrastructures, and ecological arrangements can also feed back into the relations that sustain them.

Proposition 13.14 (Recursive amplification of effective reality). *Suppose an emergent structure E_t modifies the generative conditions $\mathcal{G}_{t+1}$ in a way that increases the probability, robustness, or institutional support of structures equivalent to E under the domain’s identity criterion. Then E participates in a positive generative feedback and may become increasingly stabilized as an effective reality.*

The converse is also possible. An emergent structure can undermine the conditions of its own reproduction. Institutions can generate contradictions that erode legitimacy; technologies can destabilize markets that enabled their development; classifications can provoke resistance that weakens their authority. Recursive production therefore does not imply monotonic stabilization.

Distinction 13.15 (Recursive stabilization and ontological necessity). A structure that reproduces the conditions of its own persistence may become highly durable without becoming necessary, natural, or fundamental. Recursive stabilization explains durability; it does not convert historical contingency into metaphysical necessity.

This distinction links effective reality to the account of power in Section 12. Power is especially consequential when it contributes to the recursive production of realities within which its own exercise appears normal, legal, inevitable, or difficult to perceive. Effective reality is therefore not a politically neutral topic. What becomes real enough to organize action is partly a question of generative power.

13.5 Reality across Scales

GR’s generalized relational domain requires that effective reality be treated as scale-relative without collapsing into arbitrary relativism. A structure can be real at one scale because it exhibits stable organization and consequences there even when its constituents are described differently at another scale.

Consider a neural assembly, an individual subject, a household, an institution, and a state. None is adequately analyzed by simply substituting the vocabulary of a lower scale. Neural relations matter to cognition, but the legal status of a corporation is not usefully described as a neuronal property. Individual action matters to institutions, but an institution can possess organizational persistence across complete turnover of individual members. Cross-scale relations are therefore neither reducible to a single privileged level nor independent of lower-level organization.

Let σ index an analytical scale. GR may write an effective ontology as

$$\mathcal{E}_t^{(\sigma)} = \Phi^{(\sigma)}\left(\mathcal{R}_t^{(\sigma-1)}, \mathcal{R}_t^{(\sigma)}, \mathcal{R}_t^{(\sigma+1)}, H_t\right), \quad (37)$$

where the expression indicates cross-scale dependence rather than a fixed hierarchy of levels.

Definition 13.16 (Scale-relative effective reality). A structure is *effectively real at scale* σ when it exhibits sufficient persistence, explanatory relevance, and generative consequence at that scale, even if its constitution depends on relations at other scales.

This position rejects two simplifications. The first is reductive elimination: because an institution ultimately depends on human bodies and material infrastructures, only the lower-level description is real. The second is scale isolation: because institutional analysis has autonomous concepts, lower-level material and interpersonal relations are irrelevant. GR instead adopts cross-scale co-generation.

Principle 13.17 (Cross-scale ontological coupling). Effective realities at different scales can condition one another's emergence and persistence without requiring that one scale exhaustively determine all others.

This principle is politically important because interventions can migrate across scales. Neural or psychological change can affect individual capacity; individual capacities shape interpersonal relations; repeated relations stabilize institutions; and institutions alter environments and incentives. Those environments then feed back into individual development. Conversely, macro-level categories can change micro-level experience through law, education, classification, architecture, or resource distribution.

Remark 13.18 (Scale is analytical and historical). GR does not assume that the relevant scales are eternally fixed. New technologies and institutions can create new levels of organization, collapse previously distinct levels, or make relations across scales politically salient in new ways.

The point is therefore stronger than multilevel analysis. Background independence allows the effective decomposition into levels itself to become historically revisable.

13.6 Effective Reality without Final Ontological Closure

The concept of effective reality is designed to support analysis without requiring GR to announce a final inventory of what ultimately exists. This restraint is not a weakness of the framework. It follows from the conjunction of background independence and the provisional invariance-first ontology.

If relational domains, observables, scales, and effective entities can change, then any fixed ontology stated from within one historical configuration may later prove incomplete. GR therefore distinguishes an operational commitment to effective realities from a metaphysical claim of final closure.

Postulate 13.19 (Open effective ontology). GR treats the ontology available to political and philosophical analysis as open to revision when new relational structures, observables, scales, or generative mechanisms become available. No current effective ontology is presumed to exhaust the possible forms of reality.

This postulate does not imply that every ontological proposal is equally adequate. Effective realities can be compared by persistence, explanatory power, causal consequence, predictive usefulness, robustness across contexts, and compatibility with evidence. What remains open is whether the present vocabulary captures all possible forms of being or all future objects of political concern.

Distinction 13.20 (Ontological openness and ontological relativism). *Ontological openness* holds that the current effective ontology may be incomplete and revisable. *Ontological relativism*, in the stronger sense rejected here, would imply that no cross-context constraints govern what can count as real. GR requires evidence, relational consequence, and specified conditions of stabilization; it does not treat arbitrary assertion as ontology.

The distinction matters for the broader philosophical role of GR. Political philosophy frequently relies on categories inherited from a particular historical world: citizen, worker, property, state, market, family, person, nature, technology. GR neither discards these categories nor grants them final ontological privilege. It asks how they became effective realities, which relations reproduce them, what transformations preserve their identity, what powers stabilize them, and what alternative realities could become generatively available.

Synthesis 13.21 (Effective reality in GR). Within GR, reality relevant to political philosophy is neither restricted to pre-given substances nor reduced to discourse. A structure becomes effectively real when relational generation stabilizes it sufficiently for it to enter observation, action, constraint, coordination, or further generation. Such a structure may persist through changing constituents, re-enter later relations as a new relatum, participate recursively in reproducing itself, and operate differently across scales. Its effective reality can be strong even when its ultimate metaphysical status remains open.

The political consequence is substantial. Political struggle does not occur only *within* a settled reality. It can concern which realities are generated, recognized, stabilized, naturalized, contested, or made available for future action. This prepares the transition to normality. Once a relationally generated reality becomes recurrent and expected, the system may begin not merely to treat it as real but to treat it as *normal*. Section 14 therefore turns from the emergence of effective reality to the relational emergence of normality.

14 Relational Emergence of Normality

Section 13 argued that a relationally generated structure can become sufficiently stabilized to function as an effective reality without thereby becoming ontologically fundamental. Normality introduces an additional layer. A configuration may not merely become real enough to organize action; it may become recurrent enough to establish expectations, classifiable enough to be measured, institutionally entrenched enough to regulate behavior, and normatively charged enough to distinguish what appears ordinary, proper, healthy, legitimate, or deviant. The passage from effective reality to normality is therefore not automatic. It is itself a generative process.

GR treats normality as a historically generated and recursively generative relational formation. The framework does not assume that the normal is simply what occurs most often, nor that it is what ought to occur. It instead asks how frequency, expectation, classification, institutional enforcement, and evaluative judgment become coupled in particular relational histories. This approach is indebted to traditions that have already challenged the naturalization of the normal. Canguilhem famously distinguished the statistically usual from the normatively desirable and resisted reducing health to conformity with an average (Canguilhem 1991). Foucault analyzed normalization as a central technology of disciplinary power, in which observation, examination, and normalizing judgment produce subjects in relation to standards (Foucault 1977). Hacking and Bowker and Star further show how statistical and classificatory practices can participate in constructing the kinds of objects, persons, and administrative realities that institutions subsequently govern (Hacking 1990; Bowker and Star 1999; Hacking 1999). GR

inherits these insights but places them within its broader theory of recursive generativity, effective reality, and changing possibility spaces.

Definition 14.1 (Normality in GR). At a specified scale and historical stage, *normality* is a relationally generated structure of expectation, classification, comparison, and possible evaluation through which some range of states, trajectories, performances, identities, or relations becomes treated as ordinary, standard, admissible, healthy, proper, or otherwise reference-setting for subsequent action.

This definition is deliberately plural. The term “normal” often moves without warning among statistical, descriptive, functional, institutional, and normative senses. GR therefore begins by separating them.

Distinction 14.2 (Four layers of normality). The paper distinguishes at least four analytically separable layers:

1. *frequency*: what occurs often within a specified population or process;
2. *expectation*: what actors come to anticipate as likely or ordinary;
3. *classification*: what institutions or observers encode as standard, normal, abnormal, exceptional, or deviant;
4. *evaluation*: what is treated as proper, desirable, healthy, legitimate, or worthy of preservation.

These layers may reinforce one another, but none logically entails the others.

A rare practice can be normatively exemplary. A statistically common condition can be politically intolerable. An institutional standard can lag behind actual behavior. An expected pattern can persist even after its empirical frequency has declined. The philosophical problem is therefore not to collapse these dimensions into a single concept but to explain how they become coupled and decoupled through historical relations.

A minimal GR sequence is

$$\begin{aligned}
 \text{repetition} &\longrightarrow \text{regularity} \longrightarrow \text{expectation} \\
 &\longrightarrow \text{classification} \longrightarrow \text{normalization} \\
 &\longrightarrow \text{future relational constraint.}
 \end{aligned} \tag{38}$$

The arrows indicate possible generative transitions rather than a necessary universal law. Normality can also be imposed before widespread repetition, contested before stabilization, or disrupted by institutions that deliberately maintain alternative standards. The value of the sequence is to expose the distinct generative stages that are often compressed into the statement that something “became normal.”

14.1 Repetition and Relational Regularity

The weakest precursor of normality is recurrence. If a relation, action, or trajectory appears repeatedly, a distribution begins to acquire structure. Let x_t denote a state or relational configuration at time t , and let Γ_t denote observed trajectories through an effective state space M_t . Repetition generates an empirical distribution

$$P_t(x) = \Pr(x \mid H_t, \mathcal{R}_t, \mathcal{O}_t), \tag{39}$$

where H_t denotes the relevant historical record, $\mathcal{R}_t$ the relational configuration, and $\mathcal{O}_t$ the available observables.

This notation already expresses a GR caution. A distribution is not simply “there.” It depends upon what has been made observable, how populations are delimited, which events are recorded, which time window is selected, and which distinctions the current epistemic infrastructure can represent. Statistical regularity is therefore empirically constraining but not ontologically innocent.

Definition 14.3 (Relational regularity). A *relational regularity* is a recurrent pattern in relations, trajectories, or outcomes that is sufficiently stable under a specified observational scheme to support comparison across cases or times.

Relational regularity is weaker than normality. A recurrent pattern can be noticed without becoming a standard. It can become a standard without being morally approved, and it can remain statistically dominant while losing normative authority. GR therefore resists the inference

$$\text{frequent} \not\Rightarrow \text{normal in every relevant sense.} \quad (40)$$

Example 14.4 (Commuting routines). Suppose a city repeatedly organizes work, transport, and school schedules around a narrow morning peak. The resulting commuting pattern may first appear as a descriptive regularity. Infrastructure investment then adapts to that pattern; housing choices and employment expectations respond to the infrastructure; the pattern becomes increasingly costly to escape; and eventually “normal working hours” become both an expectation and an institutional standard. What began as repeated behavior becomes part of the generative environment that reproduces similar behavior.

This example illustrates a central GR principle: repetition can become generative when it modifies the conditions of future repetition. A pattern is politically more significant when recurrence changes infrastructures, classifications, expectations, or incentives in ways that make later trajectories more likely to resemble earlier ones.

Principle 14.5 (Regularity-to-generation transition). A recurrent pattern becomes generatively significant when its recurrence modifies the relational, institutional, epistemic, or material conditions under which future instances are produced.

This principle separates GR from a purely descriptive sociology of frequencies. The question is not only whether a pattern recurs but whether recurrence reorganizes the generator. In the notation of Section 7, the relevant transition is

$$P_t(x) \longrightarrow \Delta\mathcal{G}_{t+1} \longrightarrow P_{t+1}(x), \quad (41)$$

where the observed regularity feeds back into the mechanisms that shape later distributions.

Remark 14.6 (Selection effects and invisible alternatives). Observed recurrence may reflect selection, exclusion, or unobserved barriers rather than spontaneous preference. A highly regular pattern can therefore indicate strong constraint rather than broad endorsement. GR requires reconstruction of the relational conditions that generated the regularity before treating recurrence as evidence of acceptance or legitimacy.

This matters politically because common behavior is often interpreted retrospectively as natural behavior. If the alternative possibilities were expensive, illegal, stigmatized, unrecorded, or simply absent from the effective possibility space, the resulting frequency distribution may say more about the architecture of constraint than about intrinsic preference.

14.2 Expectation and Historical Stabilization

Repeated regularity alters more than statistical description. It can alter what actors expect from one another. Expectations are relational because they concern anticipated responses, anticipated environments, and anticipated future trajectories. Once sufficiently shared, expectations can themselves stabilize the pattern they anticipate.

Let $E_i[x_{t+1} \mid H_t]$ denote actor i 's expectation about a future state. If many actors coordinate behavior on similar expectations, then the expectation distribution can affect the realized transition kernel:

$$K_{t+1} = K(\mathcal{R}_t, \mathcal{G}_t, \{E_i[x_{t+1} \mid H_t]\}_{i \in I}). \quad (42)$$

Expectation is therefore not merely a passive mental representation of a regular world. Under many institutional conditions, it is one of the mechanisms through which regularity persists.

Definition 14.7 (Expectation stabilization). A pattern exhibits *expectation-stabilized normality* when sufficiently widespread expectations concerning the pattern causally contribute to reproducing the relational conditions under which the pattern continues to occur.

This structure appears in conventions, markets, institutional routines, language, and political coordination. Not all expectations are self-fulfilling. The narrower claim is that some regularities become normal partly because actors organize themselves around the expectation that others will also treat them as normal.

Proposition 14.8 (Expectation feedback). *If (i) actors condition present action on expectations about others' future action, (ii) those expectations are correlated around a recurrent pattern N , and (iii) present actions modify the probability of future realizations of N , then expectations can participate in a positive feedback that stabilizes N independently of its initial cause.*

Proof. Let $a_i(t)$ denote actor i 's present action and suppose $a_i(t) = F_i(E_i[N_{t+1}], \mathcal{R}_t)$. If the induced action profile $A_t = \{a_i(t)\}$ raises the conditional probability $\Pr(N_{t+1} \mid A_t, \mathcal{R}_t)$, then a correlated expectation of N increases the frequency of actions that make N more likely. Repeated iterations can therefore stabilize N even when the historical event that first produced the expectation no longer operates. The proposition establishes a possible feedback mechanism, not inevitability. $\square$

The proposition matters because historically stabilized normality can outlive its originating conditions. Institutions and actors inherit expectations from prior trajectories. A workplace can retain gendered expectations after formal rules have changed. A bureaucracy can continue to treat a category as administratively standard after the population it once described has transformed. A political system can preserve an inherited model of the "ordinary citizen" even as actual social composition diversifies.

Distinction 14.9 (Historical persistence and present endorsement). A normality that persists through inherited expectations need not be presently endorsed by those who reproduce it. Reproduction can occur through coordination costs, uncertainty, institutional inertia, or anticipated sanctions even when participants privately prefer another arrangement.

This distinction reinforces the paper's rejection of the inference from stability to legitimacy. A normality can be historically entrenched precisely because actors are mutually uncertain about alternatives.

The GR account also makes room for expectations that produce variance rather than conformity. If a society expects experimentation, dissent, or plural lifestyles, the normality may consist in a norm of tolerated variation. Normalization need not always converge on one behavioral point. It can stabilize a distribution, a repertoire, or a protected range.

Remark 14.10 (Normality can stabilize variation). The object of normalization need not be a single state x^* . A political order can normalize a set $N \subseteq M$, a probability distribution over states, or a rule specifying acceptable transformations among states. This becomes important when normality concerns pluralism rather than uniformity.

Thus normality should not be represented only as convergence toward one average. GR requires a geometry of admissible regions, boundaries, and transitions.

14.3 Classification and Normalization

Regularity and expectation become politically sharper when they are encoded in classifications. Classification selects differences that matter for administration, science, law, medicine, education, markets, or public discourse. Once a category is institutionalized, it can alter the subjects and relations that it purports merely to describe.

Bowker and Star show that classification systems are part of information infrastructures and that standards can shape both social interaction and the distribution of advantages and burdens (Bowker and Star 1999). Hacking's work on classification and "looping effects" similarly draws attention to cases in which classifications of people interact with those classified (Hacking 1999). Foucault's analysis of disciplinary power places normalizing judgment and examination at the center of modern techniques that compare individuals to norms, rank performances, and render deviations visible (Foucault 1977).

GR treats classification as a generative operator. Let

$$C_t : M_t \longrightarrow \mathcal{K}_t \quad (43)$$

map observed states into a set of categories $\mathcal{K}_t$. The map is not merely representational if the category assignment affects later relations. If receiving category $k \in \mathcal{K}_t$ changes access to resources, expectations, legal status, institutional treatment, or self-understanding, then

$$C_t(x) \longrightarrow \Delta \mathcal{R}_{t+1}, \quad (44)$$

so classification becomes generative.

Definition 14.11 (Generative classification). A classification is *generative* when assigning, withholding, or stabilizing a category modifies the subsequent relations, capacities, observability, or possibility space of the classified entity or of other actors responding to it.

Normality emerges here through comparison. Categories such as average, competent, healthy, employable, risky, or deviant can enter institutional routines. So can categories such as citizen, foreigner, standard, gifted, disabled, or dangerous. Subjects are then compared against reference classes and thresholds.

Distinction 14.12 (Statistical normality and normative normality). *Statistical normality* concerns location within an empirical distribution. *Normative normality* concerns conformity with a standard that carries evaluative or practical force. The first can inform the second, but it cannot by itself justify the second.

This distinction follows the line of critique associated with Canguilhem, who resisted identifying the normal with a purely objective average and emphasized the normative dimensions embedded in judgments of health and pathology (Canguilhem 1991). It is also politically crucial. Statistical rarity does not establish pathology, danger, inferiority, or illegitimacy. Conversely, statistical prevalence does not establish desirability.

Warning 14.13 (The naturalization of averages). An empirical average can become politically dangerous when its descriptive status is silently converted into a prescriptive standard and then projected back onto individuals as evidence of deficiency, deviance, or abnormality.

GR analyzes this conversion as a generative sequence:

$$\begin{aligned} \text{measurement} &\longrightarrow \text{distribution} \longrightarrow \text{reference class} \\ &\longrightarrow \text{threshold} \longrightarrow \text{institutional response} \\ &\longrightarrow \text{changed distribution.} \end{aligned} \tag{45}$$

The final arrow is essential. Once institutions respond to classifications, later empirical distributions may partly reflect previous classificatory interventions. A measured population can therefore become progressively fitted to the categories through which it is governed.

Principle 14.14 (Classification feedback). Where classification alters treatment, opportunity, sanction, recognition, or self-organization, later observations are not independent of earlier classifications. The epistemic infrastructure becomes part of the generative history of the phenomenon it measures.

This principle connects normality directly to Section 12. Power over classification is generative power because classification can alter which identities are institutionally available, which deviations are visible, which behaviors are sanctioned, and which futures are easier to realize.

14.4 Attractor-Like Structures of Normality

The language of attractors provides a useful formal analogy for some forms of normality, provided it is used with discipline. Normality can sometimes be represented not merely as a frequency peak but as a region toward which relational dynamics tend to return after perturbation.

Let the social-relational state be $x_t \in M_t$, and suppose that over a relevant interval the effective dynamics can be approximated by

$$\dot{x} = f(x; \lambda). \tag{46}$$

An attractor-like normality is represented by a subset $A \subseteq M$ for which trajectories initiated within a basin $B(A)$ tend to approach or remain near A under the specified dynamics.

Formal Analogy 14.15 (Normality as an attractor-like region). Where a relational system repeatedly returns toward a restricted region after moderate perturbations, the attractor concept can clarify how normality is dynamically maintained rather than merely statistically frequent. The analogy is appropriate only when states, distance, transition rules, and recovery dynamics are operationally specified.

This framing adds information unavailable from frequency alone. A state can be frequent because it is visited often without being dynamically restorative. Conversely, a region may be strongly restorative even if rare external shocks periodically displace the system. Attractor language therefore asks whether mechanisms return the system toward a range of behavior, not simply how often the range appears in a dataset.

Distinction 14.16 (Modal frequency and dynamical normality). A modal state is the most frequently observed state under a specified distribution. A dynamically normal region is one whose surrounding dynamics tend to restore trajectories toward it. These properties can coincide but need not.

This distinction is especially useful for institutions. Consider a bureaucracy whose routines are repeatedly disrupted by reform initiatives. If local practices, incentives, documentation requirements, and professional expectations repeatedly pull implementation back toward familiar procedures, the old routine can exhibit attractor-like stability despite repeated formal change.

The formal analogy also helps distinguish strong from weak normality. A deep basin suggests that substantial perturbation is required to leave the normal regime. A shallow basin indicates fragile normalization. Multiple basins represent competing normalities. A bifurcation can alter which normality is stable. Hysteresis can make a newly established normal persist after the conditions that produced its transition have been partly reversed.

Model Class 14.17 (Normality landscape). For suitable empirical cases, a GR model of normality may specify:

1. an effective state space M ;
2. one or more normal regions $A_1, \dots, A_n$;
3. basins of attraction $B(A_i)$;
4. control parameters λ that alter basin geometry or stability;
5. perturbations η_t ;
6. institutional or classificatory feedback that modifies f , λ , or M .

The model becomes explanatory only when these terms are empirically interpretable.

GR's background independence then adds a stronger possibility. Historical change may alter not merely which attractor is occupied but the state space in which normality is represented. Categories can disappear; new identities can become intelligible; previously incomparable practices can be grouped together; formerly normalized distinctions can lose salience. Thus the topology of the normal/abnormal distinction can itself be generated.

Claim 14.18 (Normality can transform its own state space). When normalization creates or destroys categories, observables, admissible identities, or transition rules, it changes not merely the distribution over an existing state space but the effective state space within which future normality is constituted.

This claim is one of the places where GR differs from using attractor language as a stand-alone social-science method. The attractor is nested inside a theory in which the coordinates, observables, and generator may themselves evolve.

14.5 Feedback from Normality into Relational Dynamics

Once a normality is sufficiently stabilized, it can become a cause of future relational organization. The direction of explanation therefore reverses:

$$\mathcal{R}_{\leq t} \longrightarrow N_t \longrightarrow \mathcal{R}_{t+1}, \quad (47)$$

where N_t denotes an effective normality generated by prior relational history.

Principle 14.19 (Normality as generated and generative). Normality can be both an output of relational history and an input into later relation formation. Once stabilized, it can alter expectations, sanctions, self-presentation, institutional design, classification, resource allocation, and the perceived availability of alternatives.

Several feedback channels are especially important.

First, normality shapes *expectation*. Actors anticipate that others will treat some behaviors as ordinary and organize conduct accordingly. Second, normality shapes *sanction*. Deviations can carry formal penalties, informal stigma, reputational cost, or administrative burden. Third, normality shapes *infrastructure*. Buildings, forms, algorithms, curricula, legal procedures, and technologies are often designed around a reference user or standard case. Fourth, normality shapes *attention*. Phenomena outside the expected range can become hypervisible as deviance or invisible because the classification system lacks a category for them. Fifth, normality shapes *self-formation*. Subjects may understand their own capacities and aspirations through available standards.

These channels can be represented schematically by

$$N_t \longrightarrow (E_t, S_t, I_t, O_t, Q_t) \longrightarrow \mathcal{R}_{t+1}, \quad (48)$$

where E_t denotes expectations, S_t sanctions, I_t infrastructures, O_t observability, and Q_t self-interpretive or identity-forming processes.

Definition 14.20 (Normalizing feedback). *Normalizing feedback* is any process through which an established normality modifies later relational conditions in a way that increases conformity to, salience of, dependence on, or institutional reproduction of that normality.

Normalizing feedback can be positive, negative, or mixed. A norm can intensify conformity, but it can also generate resistance. A classification can coordinate public services while simultaneously producing identities that mobilize against the category. The same normalization can stabilize one relation and destabilize another.

Proposition 14.21 (Recursive normalization). *Suppose N_t is generated from prior relational trajectories and modifies later generative conditions $\mathcal{G}_{t+1}$. If the modification increases the probability that later trajectories are classified as or drawn toward N under the same or successor classification system, then normality participates in a self-reinforcing generative loop.*

The loop can be written as

$$\mathcal{R}_t \rightarrow N_t \rightarrow \mathcal{G}_{t+1} \rightarrow \mathcal{R}_{t+1} \rightarrow N_{t+1}. \quad (49)$$

This is structurally parallel to the account of recursive effective reality in Section 13, but normality adds a comparative reference structure: the generated reality becomes a benchmark against which later states are interpreted.

Remark 14.22 (Normality can govern without explicit commands). A normality may organize action even when no actor issues a direct command and no explicit legal rule exists. Coordination around expectations, infrastructure, classification, and anticipated judgment can produce strong regularizing effects without centralized authorship.

This is one reason Foucault's account of normalization remains important. Disciplinary power need not operate primarily through spectacular prohibition; standards, examinations, rankings, and correction can generate subjects who are continuously situated in relation to norms (Foucault 1977). GR extends this insight by asking how the

standards themselves emerge, how they alter generative mechanisms, and how successor standards become possible after relational transformation.

The feedback structure also clarifies that normality can be enabling. Shared standards can reduce coordination costs, make mutual expectations possible, stabilize language, create safety practices, and support rights. The political problem is therefore not “normality versus freedom” in the abstract. It concerns how a normality is generated, what possibilities it enables, which alternatives it suppresses, how costly deviation becomes, and whether affected actors can participate in revising the relevant standards.

Distinction 14.23 (Normality and domination). Normality is not identical to domination. A shared standard can coordinate without subordinating. Domination becomes a concern when normalizing structures expose some actors to uncontrolled dependence, asymmetric revision power, exclusion, or sanctions that they cannot meaningfully contest.

This distinction will matter when the paper later compares GR with republican and Foucauldian accounts of power.

14.6 Historical Transformation of Normality and Deviance

Normality is historical not merely because the contents of norms change but because the mechanisms by which normal and deviant are distinguished can change. A society may shift from legal prohibition to statistical comparison, from categorical exclusion to risk scoring, from centralized standards to algorithmic personalization, or from one reference population to another. The transformation therefore concerns both the standard and the machinery of normalization.

Let N_t denote the effective normality and C_t the classification or comparison operator through which normality is recognized. Historical transformation can occur in at least four ways:

$$N_t \rightarrow N_{t+1}, \quad C_t \rightarrow C_{t+1}, \quad \mathcal{G}_t \rightarrow \mathcal{G}_{t+1}, \quad M_t \rightarrow M_{t+1}. \quad (50)$$

The first changes the standard, the second changes the classificatory apparatus, the third changes the mechanisms reproducing the standard, and the fourth changes the possibility space within which normal and deviant can be represented.

Definition 14.24 (Historical transformation of normality). A *historical transformation of normality* occurs when the standards, reference classes, classifications, generative mechanisms, or possibility spaces through which ordinary and deviant states are distinguished undergo durable change.

Deviance is therefore not simply a fixed property of an act or person. It is relational to a historically specific space of comparison. What appears deviant under one classificatory regime may be unclassified, ordinary, exemplary, or unintelligible under another.

Distinction 14.25 (Anomaly and deviance). An *anomaly* can be treated descriptively as an irregular or statistically unusual case. *Deviance* adds a relational reference to a standard that renders the irregularity socially, institutionally, or normatively salient. Statistical anomaly therefore does not by itself establish political or moral deviance.

This distinction is consonant with Canguilhem’s resistance to collapsing anomaly, abnormality, and pathology into one category (Canguilhem 1991). GR generalizes the point: deviation acquires political significance only within a generative system of observation, classification, expectation, and response.

Historical transformation also means that de-normalization is possible. Practices once treated as natural can become visible as domination; identities once classified

as pathological can become recognized forms of life; institutional behaviors once understood as ordinary governance can become legible as corruption, discrimination, or abuse. Conversely, practices previously exceptional can become routine through technological or political change.

Claim 14.26 (De-normalization as generative transformation). De-normalization is not merely a change in opinion about an unchanged object. It can involve transformation of observables, categories, expectations, institutions, and possibility spaces such that previously stabilized relations lose their reference-setting status and alternatives become newly intelligible or actionable.

This claim is central to GR's political philosophy. If normality is recursively generated, then political transformation can operate by intervening at different points in the normalizing loop: altering material relations, widening the observable field, changing classifications, protecting experimental alternatives, redistributing revision authority, or transforming the infrastructures that make one trajectory easier than others.

Criterion 14.27 (Generative analysis of normality). A GR analysis of normality should specify, as far as the case permits:

1. the recurrent relations or trajectories from which the normality emerged;
2. the observational and statistical practices through which regularity became visible;
3. the expectations and classifications that stabilized the reference structure;
4. the institutions, infrastructures, sanctions, and incentives through which normality became generative;
5. the actors or systems with power to revise the relevant standard;
6. the alternatives rendered costly, invisible, deviant, or impossible;
7. the historical mechanisms through which the normality can be reproduced, transformed, pluralized, or dismantled.

The criterion prevents the concept from becoming merely rhetorical. To say that a social order "normalizes" a practice is only the beginning of analysis. GR requires reconstruction of the mechanisms by which the reference structure was generated and the channels through which it shapes subsequent relations.

Limitation 14.28 (Normality does not exhaust normativity). This section concerns the emergence and operation of normality. It does not establish a general theory of moral or political normativity. A normality can be unjust, a deviation can be admirable, and a justified norm can demand behavior that is statistically rare. A later section on emergent normativity will therefore distinguish the genesis of evaluative standards from their normative validity.

Synthesis 14.29 (Normality as recursive relational formation). Within GR, normality is neither a timeless standard nor a synonym for statistical frequency. Repeated relations can generate regularities; regularities can generate expectations; expectations can be encoded in classifications; classifications can become institutional standards; and standards can reshape the relations from which later regularities emerge. Normality is therefore historically generated, dynamically stabilized, epistemically mediated, politically distributed, and recursively generative. Its persistence does not establish its necessity, and its prevalence does not establish its legitimacy.

The conceptual transition from effective reality to normality prepares the next stage of the argument. Once a system distinguishes normal from abnormal, it must also decide what can be known about those distinctions, which traces count as evidence, and how historically changing methods preserve or destroy recognizability. Section 15 therefore turns from normality to truth, evidence, and historical recognizability.

15 Truth, Evidence, and Historical Recognizability

The preceding account of effective reality and normality raises an epistemic problem that is especially important for political philosophy. Political worlds do not merely contain events, institutions, and relations. They also contain traces, records, witnesses, classifications, methods, archives, and evaluators through which claims about those worlds become recognizable as candidates for truth or falsity. These epistemic structures are historically situated. Some events leave abundant traces; others leave almost none. Some experiences become legible through available concepts; others remain difficult to articulate. Some records are preserved, indexed, translated, and institutionally protected; others are destroyed, excluded, rendered inaccessible, or never produced in the first place. The history of a political reality and the history of its knowability are therefore related but non-identical.

GR treats this distinction as fundamental. It does not identify truth with recognition, consensus, archival survival, or institutional certification. A proposition may be true even when no later community is capable of reconstructing it. Conversely, a claim may be widely accepted, well archived, or institutionally authorized and still be false. What GR adds is a theory of the *historical conditions of recognizability*: the relational conditions under which traces become evidence, evidence becomes articulable within an epistemic vocabulary, and claims remain reconstructible across changing historical worlds.

This problem has substantial precedents. Ricoeur's analysis of memory, archived traces, testimony, historiography, and forgetting emphasizes that historical knowledge depends upon mediation rather than direct access to an absent past (Ricoeur 2004). Trouillot shows how power enters the production of history at multiple moments, including the production of sources, archives, narratives, and retrospective significance (Trouillot 1995). Bowker and Star demonstrate that classifications and standards are infrastructures with political and moral consequences rather than neutral containers of information (Bowker and Star 1999). Daston and Galison show that even epistemic virtues such as objectivity have histories linked to practices, instruments, images, and cultivated forms of scientific selfhood (Daston and Galison 2007). GR inherits these historicizing insights while placing them inside the broader architecture developed in this paper: observables, methods, evaluators, and preservation infrastructures can themselves be generated, transformed, and lost.

Distinction 15.1 (Truth and historical recognizability). Let p be a proposition about a political or historical state of affairs. GR distinguishes the truth-status of p from the capacity of an epistemic system at time t to recognize, justify, or reconstruct p . The framework therefore does not infer

$$\text{True}(p) \iff \text{Recognizable}_t(p).$$

Historical recognizability is an epistemic relation to truth, not a definition of truth.

This distinction is the organizing principle of the section. It permits a relational and historical epistemology without reducing truth to whatever a historical order happens to certify. It also makes possible a political analysis of epistemic loss: a society can destroy the future recognizability of truths without changing what happened.

15.1 Truth and Relational Manifestation

A political event does not enter historical knowledge merely by occurring. It must manifest through some relational channel: a witness, material trace, document, instrument, bodily mark, institutional record, statistical series, photograph, database entry, oral tradition, or other medium capable of carrying information into later inquiry. The occurrence and its manifestation must therefore be distinguished.

Let w denote a state of affairs and $p(w)$ a proposition concerning it. Let $\tau_t(w)$ denote the traces through which w becomes epistemically available at time t . A minimal representation is

$$w \longrightarrow \tau_t(w) \longrightarrow \mathcal{O}_t(\tau_t(w)) \longrightarrow \text{Judgment}_t(p), \quad (51)$$

where $\mathcal{O}_t$ is the historically available observational or interpretive apparatus. The arrows do not imply that the later judgment determines the earlier occurrence. They identify the mediations required for that occurrence to become historically knowable.

Definition 15.2 (Relational manifestation). A *relational manifestation* of a state of affairs is a trace, testimony, representation, measurement, record, or other relationally transmitted effect through which that state of affairs becomes available to an epistemic practice.

The concept of manifestation prevents two opposite simplifications. First, it rejects epistemic immediacy: historical actors and later investigators rarely possess an unmediated relation to the events they study. Second, it rejects the conclusion that mediation creates truth ex nihilo. A photograph, testimony, or administrative record may mediate access to an event without constituting the event's truth.

The distinction matters politically because manifestation is unequally distributed. Some institutions continuously produce documents about their own activities; some populations are heavily measured but possess little control over interpretation; some actors can preserve self-authored records while others appear mainly through records produced by authorities who governed them. A relation can therefore be politically consequential even when its manifestations are asymmetric.

Claim 15.3 (Manifestation asymmetry). Two actors can participate in the same historical relation while possessing radically unequal capacities to generate, preserve, authorize, and later interpret the traces through which that relation becomes historically recognizable.

This asymmetry is one mechanism through which political power becomes epistemic power. It does not require falsification. A historical record can be composed entirely of genuine documents and still produce a systematically partial field of recognizability because some relations generated records while others did not, or because one side possessed disproportionate control over preservation and classification.

Trouillot's account of silences in the production of history is especially relevant here: power operates not only at the stage of retrospective narrative but throughout the processes by which sources and archives are produced and historical significance is assigned (Trouillot 1995). GR reformulates this insight dynamically. The epistemic consequence of power at time t may appear much later, because the traces available to investigators at $t + k$ depend on what was generated, destroyed, indexed, and transmitted earlier.

Principle 15.4 (Truth-recognition separation). A GR political epistemology should preserve the distinction among at least four questions: what occurred, how it manifested, what evidence survives, and what a later epistemic system is capable of recognizing from that evidence.

These questions can coincide in favorable cases, but the framework should never identify them by assumption.

15.2 Evidence as a Historically Situated Relation

Evidence is often described as though it were an intrinsic property of an object: a document, trace, measurement, or testimony simply *is evidence*. GR instead treats evidential status as relational. A trace counts as evidence for a claim only relative to a question, an inferential practice, background knowledge, methods of authentication, and an evaluator or community capable of interpreting it.

Let e denote a candidate trace, p a proposition, m_t a method, b_t relevant background knowledge, and a_t an evaluator or epistemic community. Its evidential relation can be written schematically as

$$\text{Ev}_t(e, p) = \text{Ev}(e, p \mid m_t, b_t, a_t, \mathcal{I}_t), \quad (52)$$

where $\mathcal{I}_t$ denotes the institutional and infrastructural conditions under which evidence is authenticated, circulated, challenged, or suppressed.

Definition 15.5 (Historically situated evidence). An item functions as *historically situated evidence* when, within a particular epistemic configuration, it bears an inferentially relevant and contestable relation to a claim. The physical persistence of the item does not guarantee persistence of its evidential role.

A record can therefore survive while becoming uninterpretable. A dataset can persist after its coding scheme is forgotten. A legal category can change so that old files no longer map cleanly onto new distinctions. Conversely, a trace once regarded as irrelevant can acquire evidential significance after new methods or questions are developed.

This historical variability does not imply arbitrary evidentialism. Methods can be better or worse at discriminating among hypotheses, and evidence can constrain interpretation. The point is that the relation between trace and claim is mediated by historically changing practices rather than being fully contained in the trace itself.

Example 15.6 (A stable trace with changing evidential status). Suppose an administrative archive preserves occupation, address, and household information for a population. At t_0 , those variables may have been collected for taxation. At t_1 , historians may use them to reconstruct migration. At t_2 , scholars may combine them with new geographic methods to study segregation. The records are materially continuous, but their evidential roles change because questions, methods, comparison classes, and available auxiliary knowledge change.

Bowker and Star's analysis of classification systems is important because evidence is often prestructured before later investigators encounter it. Categories determine what enters a form, what receives a code, which cases become comparable, and which differences disappear into residual categories (Bowker and Star 1999). GR therefore asks not only whether evidence is reliable but how the infrastructure that made the evidence possible was generated.

Distinction 15.7 (Trace, evidence, and proof). A *trace* is a surviving manifestation. *Evidence* is a trace placed in an inferential relation to a claim under specified epistemic conditions. *Proof* or sufficiently strong justification is a further normative status that depends on standards appropriate to the relevant domain. The three should not be conflated.

This layered vocabulary is useful in political disputes. Missing documentary proof may indicate that an event did not occur, but it can also result from non-recording, destruction, inaccessible archives, inadequate categories, or an ill-suited evidentiary threshold. GR does not decide among these possibilities in advance; it requires them to be distinguished.

15.3 Generation of Epistemic Objects and Observables

Historical inquiry does not merely discover already individuated objects. Political and scientific practices can generate new epistemic objects by stabilizing ways of observing, measuring, classifying, and comparing phenomena. A population statistic, unemployment rate, risk category, legal status, diagnostic classification, or index of inequality is not simply a raw feature waiting to be read from the world. It depends on procedures that decide what is counted, how cases are grouped, which differences matter, and how observations are made commensurable.

Daston and Galison's history of scientific objectivity is instructive because it demonstrates that standards of seeing and representing scientific objects change historically, together with epistemic virtues and practices of trained judgment (Daston and Galison 2007). Hacking's work on statistics and classification likewise emphasizes that categories and statistical practices can reorganize what becomes visible and actionable (Hacking 1990; Hacking 1999). GR generalizes these insights into its background-independent language.

Let $\mathcal{O}_t$ denote the space of available observables and $\mathcal{E}_t^K$ the set of effective epistemic objects. Then

$$(\mathcal{R}_t, \mathcal{M}_t, \mathcal{C}_t, \mathcal{I}_t) \longrightarrow (\mathcal{O}_t, \mathcal{E}_t^K), \quad (53)$$

where $\mathcal{M}_t$ denotes methods, $\mathcal{C}_t$ classifications, and $\mathcal{I}_t$ relevant infrastructures and institutions.

Definition 15.8 (Epistemic object). An *epistemic object* is an entity, relation, pattern, or quantity that has become sufficiently stabilized within an epistemic practice to support observation, comparison, inference, and contestation.

Definition 15.9 (Generated observable). A *generated observable* is a feature that becomes systematically detectable or representable only through historically developed instruments, categories, methods, or institutional practices.

The language of generation is important. It does not mean that the underlying phenomenon did not exist before the observable. Rather, the ability to isolate, compare, and reason about it may be historically new. A political order can therefore contain relations that are causally active before it possesses the observables required to make them legible as a coherent pattern.

Claim 15.10 (Epistemic resolution can change politically relevant reality). When a new observable separates configurations previously treated as equivalent, it can alter political reality by enabling new claims, classifications, responsibilities, interventions, and forms of collective identification.

For example, the stabilization of a new measure of discrimination does not merely add information to an unchanged political field. It can make a previously diffuse pattern actionable, generate institutional duties, alter legal strategies, reorganize public discourse, and thereby change later relations. The observable becomes recursively generative.

This mechanism also creates epistemic risks. Once an observable is institutionally powerful, actors may reorganize behavior around it. What is measured can become a target; classifications can become identities; proxies can replace the phenomena they were designed to represent. The epistemic object can therefore feed back into the relational system from which it emerged.

Principle 15.11 (Observable re-entry). A generated observable can become a causal input into later relational dynamics when actors, institutions, or automated systems use it to allocate attention, resources, rights, risks, or sanctions.

This principle connects political epistemology to the paper's broader account of recursive generativity. Knowledge practices do not merely represent political reality; under some conditions they participate in generating successor realities.

15.4 Archives, Records, and Future Recognizability

The political significance of records becomes clearest when analysis extends across time. A society does not transmit the past itself. It transmits traces through preservation systems: archives, libraries, databases, repositories, institutional memories, oral traditions, legal records, images, material remains, and technical formats. These systems determine, in part, what future investigators can reconstruct.

Ricoeur treats the documentary phase of historiography as a distinct mediation between memory and historical knowledge and emphasizes the relation among traces, archived memory, representation, and forgetting (Ricoeur 2004). Trouillot emphasizes the production of silences within the making of historical records (Trouillot 1995). GR combines these concerns with the concept of future recognizability.

Let A_t denote the archive or preservation configuration at time t , broadly understood. Let

$$P_{t \rightarrow u} : \tau_t \longrightarrow \tau_u \quad (54)$$

represent the preservation or transmission of traces from time t to a later time u . Let I_u denote the interpretive configuration available at u . The future recognizability of proposition p depends schematically on

$$\text{Rec}_u(p) = \mathcal{F}(P_{t \rightarrow u}(\tau_t), I_u, \mathcal{O}_u, \mathcal{M}_u, \mathcal{C}_u). \quad (55)$$

Definition 15.12 (Future recognizability). The *future recognizability* of a claim or historical relation is the capacity of a later epistemic configuration to reconstruct, distinguish, or meaningfully evaluate it from the traces, records, concepts, methods, and interpretive resources that remain available.

Future recognizability is not binary. A proposition may be weakly reconstructible, strongly supported, only statistically inferable, or dependent on fragile interpretation. GR therefore treats preservation, metadata, provenance, format continuity, translation, context, and institutional access as conditions of historical knowledge.

Proposition 15.13 (Truth can outlive recognizability). *Assume that proposition p is true of a past state of affairs at t . If the preservation map $P_{t \rightarrow u}$ destroys all traces capable of discriminating p from relevant alternatives, and no independent evidential path exists at u , then p may remain true while becoming unrecoverable within the epistemic resources available at u .*

Proof. The truth-status of p concerns the past state of affairs. Recognizability at u depends on the surviving evidential and interpretive relation between that state and the

epistemic configuration at u . If all discriminating traces are lost and no independent route of reconstruction remains, the later system lacks sufficient resources to distinguish p from relevant alternatives. The loss changes epistemic access, not the past state of affairs itself. $\square$

This proposition is simple but politically important. Archive destruction, suppressed testimony, deleted databases, language loss, exclusion from record-making, and technical obsolescence can produce durable epistemic consequences. Political wrongs can therefore include damage to what future persons will be able to know.

Definition 15.14 (Recognizability harm). A *recognizability harm* occurs when an intervention unjustifiably reduces the future capacity to reconstruct, interpret, contest, or evaluate politically significant events or relations.

Recognizability harm connects GR with epistemic injustice. Fricker’s account of testimonial injustice concerns credibility deficits produced by prejudice, while hermeneutical injustice concerns structural gaps in shared interpretive resources that prevent experiences from being adequately understood (Fricker 2007). GR adds a temporal dimension: an epistemic system can also impose injustice on future interpreters by failing to preserve traces or interpretive context required for later understanding.

This does not imply that every record should be preserved indefinitely. Preservation has costs; privacy, safety, dignity, and the right to forget can conflict with archival retention. Ricoeur’s analysis of forgetting is therefore important precisely because preservation cannot be treated as an unqualified good (Ricoeur 2004). The political problem is to govern preservation, access, erasure, and contextualization under competing values.

Distinction 15.15 (Record preservation and epistemic justice). Maximal retention is not equivalent to epistemic justice. A just preservation regime must consider whose records are produced, who controls them, what contextual information survives, who can access them, what harms continued retention creates, and whether future reinterpretation remains possible.

This transforms archives from passive repositories into generative political institutions. They shape what future societies can remember, challenge, reinterpret, or prove.

15.5 Historical Transformation of Methods

Methods also have histories. A political inquiry can change because new data become available, but it can also change because the procedures for turning observations into claims are transformed. Statistical inference, archival criticism, forensic techniques, remote sensing, computational text analysis, causal inference, ethnography, and legal standards of evidence make different relations visible and support different forms of inference.

Let $\mathcal{M}_t$ denote the method-space available at time t . A common epistemology treats the method as fixed while observations change:

$$\mathcal{M}(x_t) \longrightarrow k_t. \quad (56)$$

GR allows instead

$$\mathcal{M}_t \longrightarrow \mathcal{M}_{t+1}, \quad \mathcal{M}_t \neq \mathcal{M}_{t+1}, \quad (57)$$

where the transformation can alter what counts as admissible evidence, which uncertainties can be quantified, which comparisons are possible, and which objects are epistemically accessible.

Daston and Galison's account of changing epistemic virtues provides a strong precedent: scientific practices associated with truth-to-nature, mechanical objectivity, and trained judgment were historically differentiated rather than timelessly fixed (Daston and Galison 2007). GR generalizes the lesson to political inquiry. A method is not simply a neutral channel through which a fixed reality is viewed. Its categories, instruments, inferential standards, and error models shape the resolution at which relations become recognizable.

Principle 15.16 (Historical method principle). Methods used to evaluate political and historical claims should themselves be treated as historically generated epistemic structures whose assumptions, observables, exclusions, and failure modes are open to analysis and revision.

This principle does not imply methodological relativism. A later method may genuinely improve error detection, discrimination, calibration, or explanatory power. The point is that such improvement must be argued rather than secured by treating a present method as an ahistorical endpoint.

Methodological change can also reopen the past. New techniques can generate evidence from old materials: degraded texts can become readable; previously unlinked databases can reveal patterns; new conceptual distinctions can reorganize testimony; old records can be recoded under new categories. Historical knowledge can therefore change without any new past event occurring.

Claim 15.17 (Re-epistemization through methodological change). A historical relation can become newly knowable when a transformation in methods, observables, or inferential practices creates an epistemic path that was unavailable to earlier investigators.

The reverse is also possible. Skills disappear; archives become unreadable; software becomes obsolete; expertise dissolves; and methodological monocultures can exclude evidence that earlier practices could interpret. Epistemic development is therefore not necessarily monotonic.

15.6 Historical Transformation of Evaluators

GR's embedded-evaluator thesis requires one further step. Epistemic evaluation is performed by historically situated agents, institutions, disciplines, courts, bureaucracies, publics, and increasingly technical systems. These evaluators are not interchangeable points of view. They differ in training, incentives, categories, authority, access, and relations to the subjects whose claims they assess.

Let A_t^K denote an epistemic evaluator at time t . Its judgment can be written schematically as

$$J_t(p) = J(p, \text{Ev}_t, \mathcal{M}_t, \mathcal{V}_t^K, A_t^K, \mathcal{I}_t), \quad (58)$$

where $\mathcal{V}_t^K$ denotes epistemic virtues or standards relevant to evaluation.

Definition 15.18 (Historically situated evaluator). A *historically situated evaluator* is an epistemic agent or institution whose capacities to observe, classify, interpret, authorize, and criticize claims are shaped by historically specific relations, practices, norms, and infrastructures.

This concept must not be confused with the assertion that an evaluator is trapped within its historical context. Reflexivity, learning, translation, criticism, and institutional redesign can change the evaluator. The relevant GR claim is dynamic: evaluators themselves are among the entities whose generative conditions can be transformed.

Fricker's distinction between testimonial and hermeneutical injustice makes this politically salient. Identity prejudice can distort credibility judgments, while shared interpretive resources can make some experiences difficult to render intelligible (Fricker 2007). In GR terms, injustice can operate through the evaluator, the credibility relation, the interpretive vocabulary, or the institutions that generate them.

Claim 15.19 (Evaluator transformation). An epistemic reform can change not only the conclusions reached by an evaluator but the evaluator's own capacities for recognition, comparison, doubt, and justification.

Training, diversification of interpretive communities, new evidentiary rules, new institutional safeguards, participatory inquiry, and changes in data infrastructure can all alter the effective evaluator. This is one reason methods and evaluators must be analyzed together. A formally improved method can reproduce epistemic exclusion if access to interpretation or authority remains unequally distributed; an inclusive evaluator can still fail if the relevant traces were never preserved.

Distinction 15.20 (Evaluator plurality and epistemic equivalence). The existence of multiple evaluators does not imply that their judgments are equally warranted. GR uses evaluator plurality to expose historically situated perspectives and blind spots, while retaining the possibility of comparative assessment through evidence, reliability, explanatory adequacy, error correction, and other domain-appropriate standards.

This distinction prevents the embedded-evaluator thesis from becoming perspectival relativism.

15.7 Re-Epistemization across Changing Relational Worlds

The preceding analysis can now be assembled into the concept of *re-epistemization*. Historical transformation can change both what is known and the architecture of knowing. New observables can emerge; categories can disappear; archives can open or be destroyed; methods and evaluators can change; and political transformation can alter who has standing to testify or contest a claim.

Let the effective epistemic configuration be

$$\mathcal{K}_t = (\mathcal{T}_t, \mathcal{O}_t, \mathcal{C}_t, \mathcal{M}_t, \mathcal{A}_t, \mathcal{I}_t), \quad (59)$$

where $\mathcal{T}_t$ denotes surviving traces and testimony, $\mathcal{O}_t$ observables, $\mathcal{C}_t$ classifications and concepts, $\mathcal{M}_t$ methods, $\mathcal{A}_t$ evaluators, and $\mathcal{I}_t$ epistemic institutions and infrastructures.

Definition 15.21 (Re-epistemization). A *re-epistemization* is a significant historical transformation of the epistemic configuration through which a relational world becomes observable, interpretable, assessable, and contestable.

Re-epistemization can be incremental or discontinuous. A new archival policy can slightly widen access. A technological change can create an entirely new class of traces. A political revolution can reorganize official categories and open previously inaccessible records. A social movement can generate new interpretive vocabulary. Conversely, war, censorship, institutional collapse, forced assimilation, data destruction, or language loss can sharply reduce epistemic capacity.

Koselleck's work on historical time is relevant because historical understanding itself changes as relations between accumulated experience and anticipated futures are transformed (Koselleck 2004). GR extends this temporally: what a political community can know about its past affects which futures it can imagine, and future-oriented institutions determine which traces of the present are preserved for later reconstruction.

Proposition 15.22 (Epistemic path dependence). *Suppose two political systems reach similar present relational configurations but inherit different epistemic histories H_t^K , including different archives, classifications, methods, and excluded testimonies. Then they need not possess equivalent capacities to reconstruct their pasts, diagnose current relations, or evaluate future interventions.*

Proof. Present relational similarity does not entail equality of $\mathcal{K}_t$. If the systems inherit different trace sets, concepts, methods, evaluators, or epistemic institutions, then propositions that are recognizable, testable, or contestable in one system may not be so in the other. Since political diagnosis and intervention depend partly on these capacities, equivalent present states can support non-equivalent epistemic and political trajectories. $\square$

This proposition connects political epistemology directly to the paper’s trajectory-sensitive account of justice. A society can inherit epistemic liabilities produced by earlier injustice: missing records, silenced testimony, damaged languages, mistrusted institutions, distorted categories, or archival asymmetries. Repair may therefore require more than correcting current beliefs. It may require rebuilding the conditions under which previously obscured relations can become recognizable.

Principle 15.23 (Historical re-epistemization). Political transformation should be analyzed partly in terms of whether it expands, contracts, redistributes, or reorganizes the capacities through which relevant truths can be recognized, preserved, contested, and reinterpreted across time.

The principle does not make maximal epistemic openness an absolute value. Privacy, security, mercy, forgetting, and protection against surveillance can justify limits on preservation and access. The point is that these limits have intertemporal epistemic consequences and should be treated as objects of political judgment rather than invisible background conditions.

Criterion 15.24 (GR analysis of historical recognizability). A generative relational analysis of truth and historical recognizability should identify, where relevant:

1. the state of affairs or relation about which truth is at issue;
2. the traces and manifestations through which it became observable;
3. the classifications and methods through which traces acquired evidential status;
4. the actors and institutions that controlled recording, preservation, authentication, and access;
5. losses, silences, or format changes that affected transmission across time;
6. the evaluators and epistemic virtues through which later claims are assessed;
7. the extent to which new methods or concepts enable re-epistemization;
8. the political distribution of capacities to preserve, retrieve, reinterpret, and contest the record.

Limitation 15.25 (Historical epistemology does not settle truth). The framework developed in this section analyzes the conditions under which truths become historically recognizable. It does not offer a complete metaphysical theory of truth, nor does it infer truth from recognition, archive, consensus, institutional authority, or social construction. Its claim is narrower: political relations can shape epistemic access to reality, and those access conditions are themselves historically generated and politically consequential.

Synthesis 15.26 (Truth, evidence, and recognizability in GR). GR distinguishes truth from manifestation, trace from evidence, evidence from proof, and historical occurrence from future recognizability. Political and epistemic relations generate the observables, classifications, archives, methods, evaluators, and infrastructures through which claims become knowable. These structures can preserve truth-recognition across time, distort it, redistribute it, or destroy it. Because generated epistemic structures can re-enter political life as grounds for action, political epistemology is recursively generative: what a society can know about itself helps determine what it can become. Historical re-epistemization therefore belongs inside political philosophy rather than outside it as a merely technical problem of information management.

This completes the movement from effective reality through normality to historical recognizability. The following section turns to the normative problem: if observables, evaluative categories, and capacities for recognition have histories, political philosophy must explain how judgment remains possible without treating its own evaluative background as timeless.

16 Emergent Normativity in a Changing Relational World

The preceding analysis of effective reality and normality creates a problem that cannot be resolved by descriptive genealogy alone. If political realities, classificatory schemes, evaluative capacities, and standards of normality are historically generated, then normative judgment itself cannot simply be placed outside history as an untouched tribunal. Yet political philosophy cannot respond by treating whatever a historical order happens to stabilize as justified. A durable norm can be oppressive; a widely shared judgment can be mistaken; a deeply entrenched evaluative vocabulary can conceal injuries that later become visible. GR therefore requires an account of *emergent normativity* that is historical without becoming merely historicist, relational without becoming conventionalist, and reflexive without dissolving the possibility of criticism.

This problem is not unique to GR. Constructivist traditions ask how normative authority can arise without appeal to independently given moral facts; Rawlsian and Kantian approaches connect normativity to procedures or conditions of practical reasoning, while Korsgaard places the authority of norms in reflective agency and its constitutive commitments (Rawls 2005; Korsgaard 1996). Contractualist approaches such as Scanlon's analyze moral wrongness through principles that could not be reasonably rejected by those to whom justification is owed (Scanlon 1998). Critical theory has pursued a different but related route, seeking normative resources immanent in social practices while remaining capable of criticizing those practices; Habermas, Forst, and more recent accounts of immanent critique each develop versions of this problem (Habermas 1996; Forst 2012; Jaeggi 2018). GR does not treat these traditions as superseded. It takes their disagreement as evidence that the relation between historical genesis and normative authority is itself a central philosophical problem.

GR's distinctive contribution is to place this problem inside the same generative architecture developed throughout the paper. Norms are not the only things that can change. The entities to which norms apply, the observables through which harms or benefits become visible, the concepts through which reasons are articulated, the capacities by which agents experience moral salience, and the procedures through which claims are justified can all change as well. Normative transformation is therefore not adequately represented by replacing one value in a fixed evaluative function. The evaluative space itself may be generated and transformed.

Definition 16.1 (Emergent normativity). *Emergent normativity* is the historically and relationally generated organization through which actions, relations, institutions, trajectories, or possibilities become available as objects of reason-giving evaluation—for example as permissible or impermissible, just or unjust, admirable or objectionable, legitimate or illegitimate—without assuming that the validity of those evaluations is exhausted by the historical process that generated them.

The final clause is essential. GR studies how normative distinctions become possible, but does not infer their validity from their emergence. This section therefore has two tasks. The first is generative: reconstruct the formation of evaluative distinctions and evaluative capacities. The second is critical: preserve a space in which generated norms can themselves be evaluated, translated, revised, or rejected.

16.1 Normativity without a Fixed Normative Background

A fixed-background model of normativity assumes, explicitly or tacitly, that evaluation proceeds within an already specified space. There is a set of evaluands X , a set of normatively relevant properties or observables $\mathcal{O}$, a vocabulary of values or predicates $\mathcal{V}$, and some procedure J for ordering, weighing, or justifying judgments. A simple representation is

$$J : X \times \mathcal{O} \times \mathcal{V} \longrightarrow \mathcal{Y}, \quad (60)$$

where $\mathcal{Y}$ denotes a space of normative verdicts.

The model can be extremely sophisticated while still fixing its background. It may permit uncertainty, plural values, disagreement, deliberation, and revisable beliefs while treating the objects of evaluation, the relevant observables, and the admissible forms of reason as already given. GR relaxes this assumption. At historical stage t , write the effective normative background as

$$\mathcal{N}_t = (\mathcal{E}_t, \mathcal{O}_t, \mathcal{V}_t, \mathcal{Q}_t, \mathcal{J}_t), \quad (61)$$

where $\mathcal{E}_t$ contains the entities and relations recognized as normatively addressable, $\mathcal{O}_t$ the available observables, $\mathcal{V}_t$ the evaluative vocabulary, $\mathcal{Q}_t$ the space of reasons or justificatory considerations that can be articulated, and $\mathcal{J}_t$ the practices or procedures through which judgments are formed and contested.

Background independence requires that

$$\mathcal{N}_t \neq \mathcal{N}_{t+\Delta t} \quad (62)$$

be allowed in principle. The transformation may be modest: a new legal doctrine can modify which reasons are publicly relevant while leaving most evaluative concepts intact. It may also be deeper: a previously unrecognized relation can become visible as domination, discrimination, exploitation, environmental injury, or epistemic exclusion, thereby expanding both the evaluands and the normative vocabulary available to the political community.

Principle 16.2 (Normative background independence). A generative relational political philosophy should not assume that the complete set of normatively relevant entities, observables, concepts, reasons, or justificatory procedures is fixed independently of historical and relational transformation.

This principle does not imply that every component of $\mathcal{N}_t$ changes at every moment. A normative order can display deep continuity. It means only that such continuity must

not be secured by theoretical stipulation alone. If a distinction remains stable across historical transformations, GR asks what preserves it, how it is re-instantiated, and whether its apparent continuity depends on translation across changing relational forms.

The point can be illustrated by the history of political standing. A polity may retain the concept of equal citizenship while the practical referent of “citizen,” the rights attached to membership, the evidence recognized in claims of discrimination, and the procedures through which exclusions are challenged all change. The sentence “citizens are equal” can therefore remain verbally invariant while its effective normative content changes through transformations in $\mathcal{E}_t$, $\mathcal{O}_t$, and $\mathcal{J}_t$. Conversely, a society may develop new vocabulary while preserving an older evaluative structure beneath the new terminology. GR therefore treats lexical continuity and normative continuity as separate questions.

Distinction 16.3 (Normative vocabulary and normative structure). A change in evaluative language does not necessarily imply a change in normative structure, and continuity of evaluative language does not necessarily imply continuity of normative structure. GR analyzes the relations among vocabulary, observability, reasons, practices of justification, and the effective distribution of standing.

This distinction also prevents background independence from being confused with semantic relativism. The claim is not that words simply change meaning and therefore all normative comparison fails. It is that the conditions under which reasons become intelligible and politically actionable can themselves have histories.

16.2 Emergence of Evaluative Distinctions

Political normativity requires distinctions. A system must in some way distinguish acceptable from unacceptable, justified from unjustified, responsible from excused, legitimate from illegitimate, or better from worse. These distinctions can be codified in law, embedded in institutions, articulated in moral vocabularies, expressed through practices of praise and blame, or carried by less explicit forms of social evaluation.

GR asks how such distinctions become available. Let R_t denote a relational configuration and let D_t denote an evaluative distinction. A minimal generative representation is

$$(R_{\leq t}, H_t, \mathcal{O}_t) \longrightarrow D_t, \quad (63)$$

where H_t records the relevant historical trajectory and $\mathcal{O}_t$ the observables through which the relation can be discriminated.

This formulation matters because an evaluative distinction may be impossible to stabilize if the relevant phenomenon cannot yet be observed, named, compared, or connected to reasons. A relation can therefore precede the category through which it later becomes normatively salient. Historical actors can experience burdens, exclusions, dependencies, or injuries without possessing the later conceptual resources that organize them as one recognizable kind of wrong.

Definition 16.4 (Evaluative distinction). An *evaluative distinction* is a historically available way of differentiating states, relations, actions, trajectories, or possibilities according to reason-giving significance.

The phrase “reason-giving significance” differentiates evaluative distinctions from ordinary classifications. To classify two labor arrangements as different is descriptive. To treat one difference as relevant to fairness, domination, responsibility, or legitimacy is evaluative. The transition from description to normative salience therefore requires more than categorization alone.

Claim 16.5 (Generated evaluability). A relation can become evaluable in a new way when historical transformation generates observables, concepts, comparison classes, or justificatory practices that were previously unavailable. The underlying relation need not be newly created for its normative intelligibility to be new.

This claim explains one important form of moral and political learning without presupposing a linear theory of progress. A later society can possess conceptual resources that reveal an injury obscured by an earlier classificatory system; it can also lose evaluative distinctions that an earlier society possessed. Generative change can increase, decrease, or reorganize evaluative resolution.

A useful analogy is measurement. A phenomenon does not begin to exist merely when an instrument detects it, yet the availability of an instrument can transform what can be studied, compared, and acted upon. Evaluative vocabularies and practices can play an analogous epistemic role without being reducible to instruments. They make some relational patterns available as candidates for reasons, objections, duties, or claims.

Formal Analogy 16.6 (Evaluative resolution). If an observational system distinguishes states only at a coarse resolution, two politically different configurations may be represented as equivalent. The generation of a finer evaluative distinction can separate those configurations without implying that the later distinction was already explicitly represented in the earlier normative vocabulary.

The analogy must remain limited. Normative concepts do not merely measure independently existing moral quantities. They participate in practices of justification, recognition, action, and institutional design. Once stabilized, an evaluative distinction can alter behavior and thereby alter the relations it evaluates.

16.3 Historical Formation of Moral Salience

Not everything that can be described becomes morally or politically salient. A society may record differences in wealth, risk, exposure, status, or treatment without regarding them as normatively important. Moral salience concerns the transition by which a feature comes to matter as a reason for action, criticism, compensation, protection, or institutional revision.

Let $s_t(x)$ represent the salience assigned to feature x within a normative configuration. GR does not treat s_t as a private psychological weight. It is relationally distributed across institutions, practices, narratives, experiences, classifications, and forms of attention. A schematic dependence is

$$s_t(x) = S(x, \mathcal{R}_{\leq t}, H_t, \mathcal{O}_t, \mathcal{V}_t, \mathcal{I}_t), \quad (64)$$

where $\mathcal{I}_t$ denotes relevant institutional and interpretive structures.

Historical formation of salience can occur through many mechanisms. Repeated injury can become politically visible through testimony; statistical practices can reveal population-level asymmetries; social movements can connect previously isolated experiences; legal disputes can stabilize categories; artistic works can reorganize perception; crises can expose dependencies previously treated as background; scientific knowledge can render delayed harms intelligible. None of these mechanisms guarantees correct evaluation. They show how the field of what can count as a reason can expand or contract.

Principle 16.7 (Salience generation). Normative transformation can occur before agreement on a substantive norm when a relational system changes what actors are capable of noticing, comparing, experiencing as significant, or presenting as a reason to others.

This principle connects normativity to the later discussion of aesthetics. Aesthetic and affective forms of attention can alter political salience before a propositionally complete theory is available. A pattern may first become experienced as disturbing, discordant, cruel, beautiful, dignified, or intolerable and only later receive a stable conceptual articulation. GR does not infer normative truth from such experience. It treats changes in evaluative perception as part of the generative history through which normative questions become available.

Remark 16.8 (Moral salience and attention). The generation of moral salience is partly a politics of attention. Power can operate not only by defeating claims after they are articulated but by shaping which injuries, dependencies, persons, and futures receive enough attention to become claimable at all.

This provides a direct connection to the account of power in Section 12. Power over observability can become power over normative salience. If a harm leaves no record, lacks a recognized category, falls outside institutional metrics, or concerns actors without standing, the difficulty is not merely that the claim is rejected. The system may lack the conditions under which the claim can be formulated in an authoritative way.

16.4 Norm Formation and Evaluative-Capacity Formation

GR distinguishes the emergence of a norm from the emergence of the capacity to evaluate. The distinction is crucial because institutional rules can change while evaluative sensibilities remain stable, and evaluative capacities can change before formal norms follow.

Distinction 16.9 (Norm formation and evaluative-capacity formation). *Norm formation* is the generation or stabilization of a rule, standard, principle, expectation, or justificatory requirement. *Evaluative-capacity formation* is the generation of capacities through which actors or institutions can perceive, articulate, compare, or respond to reasoning features of a situation.

The two processes can interact recursively:

$$C_t \longrightarrow N_{t+1} \longrightarrow \mathcal{P}_{t+1} \longrightarrow C_{t+1}, \quad (65)$$

where C_t denotes evaluative capacities, N_t stabilized norms, and $\mathcal{P}_t$ the practices and institutions through which norms are enacted. Capacities help generate norms; norms organize practices; practices train, constrain, or reshape later capacities.

This recursion shows why moral education cannot be reduced to transmitting propositions. Learning a norm can also involve learning what to notice, which comparisons matter, how to interpret another person's claim, and when apparently similar cases are normatively different. Conversely, institutions can train blindness. A bureaucracy may possess a formal commitment to equality while its reporting categories make certain inequalities systematically difficult to perceive.

Example 16.10 (Generated evaluative capacity). Suppose an institution initially records only whether an administrative procedure was formally followed. Complaints concerning unequal burdens are therefore represented as procedurally identical whenever the same formal steps occurred. If the institution later develops observables for differential burden, revises its comparison classes, and trains reviewers to recognize indirect forms of disadvantage, it has not merely adopted a new rule. It has generated a new evaluative capacity.

This example also reveals why normativity has an epistemic dimension. An actor cannot reliably respond to a reason that the operative system is incapable of representing. Yet epistemic availability does not itself settle the normative question. Better measurement can reveal a disparity without telling us exactly what justice requires in response. GR therefore preserves a sequence:

$$\text{manifestation} \rightarrow \text{recognizability} \rightarrow \text{evaluability} \rightarrow \text{justification}, \quad (66)$$

while denying that any arrow is automatic.

Claim 16.11 (Normative capacity can be historically asymmetric). Different actors situated within the same historical order can possess unequal capacities to recognize, articulate, or authorize normative claims. A normative background is therefore not necessarily homogeneous even when a shared legal or moral vocabulary exists.

This asymmetry is politically important. Marginalized or specialized communities may articulate a form of harm before dominant institutions possess categories for recognizing it. Conversely, institutional experts may identify population-level risks invisible from individual experience. GR therefore rejects the assumption that one standpoint exhausts the normative field. The task is to reconstruct the relations through which different evaluative capacities are produced and how authority is distributed among them.

16.5 Genesis and Normative Validity

The central danger of an emergent account of normativity is the genetic fallacy in reverse: because a norm can be explained historically, one might conclude that its validity is nothing more than the fact of its historical production. GR rejects this inference.

Distinction 16.12 (Genesis and validity). The *genesis* of a norm concerns the relations and historical processes through which it became available, stabilized, authoritative, or institutionally effective. Its *validity* concerns whether there are adequate reasons to accept, endorse, preserve, revise, or reject it. An explanation of genesis is neither sufficient for validity nor sufficient for invalidity.

Formally,

$$\text{Gen}(N, H, \mathcal{R}) \not\Rightarrow \text{Valid}(N), \quad (67)$$

and equally,

$$\text{Historical}(N) \not\Rightarrow \neg \text{Valid}(N). \quad (68)$$

A norm can have a contingent history and still be supported by strong reasons. A norm can have ancient, stable, or widely shared support and still be indefensible.

This separation places GR in conversation with constructivist and critical-theoretical approaches without collapsing into either. Constructivism shows that objectivity need not always be conceived as correspondence with an independently given realm of moral facts; procedures of practical reasoning, reciprocal justification, or constitutive standards can play justificatory roles (Korsgaard 1996; Scanlon 1998). Critical theory shows that critique can draw resources from within social practices while still exposing contradictions, exclusions, and unrealized commitments (Habermas 1996; Jaeggi 2018). Forst's emphasis on justification similarly makes the standing of persons as recipients and authors of reasons central to justice (Forst 2012). GR treats these as candidate strategies for normative validity, not as consequences of the generative ontology itself.

Warning 16.13 (No derivation of ought from emergence). GR's ontology does not generate a substantive moral conclusion merely by describing what emerges. Symmetry, stability, generativity, persistence, complexity, consensus, or historical success have no automatic normative authority.

This warning can be sharpened by returning to generativity. A political order can be highly generative in a descriptive sense while generating domination, exclusion, ecological destruction, or epistemic closure. It can create new possibilities for some actors by eliminating possibilities for others. The mere expansion of M_t is therefore not equivalent to justice. Later sections can ask whether some forms of generativity deserve normative protection, but such conclusions require additional premises.

GR nevertheless contributes to normative reasoning by revealing a class of questions that static theories can miss. Even after a norm has been justified at time t , the relations generated by implementing that norm can change the background against which its future justification must be assessed. A rule can transform institutions, subjectivities, technologies, expectations, and choice spaces. Normative evaluation must therefore be capable of returning to its own consequences.

Principle 16.14 (Recursive normative review). A norm implemented within a generative system should remain open to re-evaluation when its operation materially transforms the entities, relations, observables, reasons, or possibility spaces relevant to its original justification.

This is not a principle of perpetual indecision. It is a principle against treating justification as historically terminal. A justified intervention can generate conditions under which its original rationale no longer applies, becomes incomplete, or creates previously unavailable objections.

16.6 Cross-Historical Evaluation under Changing Normative Coordinates

If normative coordinates change, historical judgment faces two opposite errors. The first is crude presentism: simply projecting current categories backward and treating earlier actors as though they possessed the same observables, concepts, possibilities, and justificatory institutions. The second is crude contextualism: treating each historical normative world as self-contained and therefore unavailable for cross-historical criticism.

GR rejects both. Background independence makes contextual reconstruction necessary, while invariance and relational translation make partial comparison possible.

Let $\mathcal{N}_t$ and $\mathcal{N}_s$ be normative backgrounds at two historical stages. Cross-historical judgment requires some translation map

$$\mathcal{T}_{t \rightarrow s} : \mathcal{N}_t \supseteq D_{t,s} \longrightarrow \mathcal{N}_s, \quad (69)$$

where $D_{t,s}$ is the domain for which meaningful translation is available. The map need not be total. Some categories can lack equivalents; some distinctions can be lost; some later observables can have no earlier counterpart. Partial translation is therefore the normal case rather than a defect.

Definition 16.15 (Normative translation). *Normative translation* is the reconstruction of correspondences, discontinuities, and transformation rules between historically different evaluative backgrounds sufficiently to permit specified comparisons without assuming identity of concepts or standards.

A translation can proceed through several anchors: continuity of affected persons or populations, persistence of material consequences, preserved records, functional equivalence of institutions, invariants in relational structure, or reconstructible reasons articulated by historical actors. None is universally decisive. Their role is to make the basis of comparison explicit.

Proposition 16.16 (Changing coordinates do not entail total incommensurability). *Suppose two normative backgrounds $\mathcal{N}_t$ and $\mathcal{N}_s$ differ; but there exists a non-empty domain $D_{t,s}$ and a translation map $\mathcal{T}_{t \rightarrow s}$ that preserves at least one normatively relevant relational invariant or reconstructible consequence. Then difference of normative background alone does not imply that all cross-historical comparison between t and s is unintelligible.*

Proof. Total incommensurability would require that no normatively relevant correspondence could be specified across the two backgrounds. By assumption, $D_{t,s}$ is non-empty and $\mathcal{T}_{t \rightarrow s}$ preserves at least one relevant invariant or consequence. At least one comparative claim can therefore be formulated on that preserved structure. The proposition establishes only the possibility of partial comparison; it does not establish completeness, correctness, or a universal ranking of the two historical orders. $\square$

The modesty of this proposition is important. GR does not promise a universal algorithm for translating all values across all historical worlds. It instead requires scholars to identify the actual basis on which a cross-historical judgment is made. If the basis is bodily injury, institutional exclusion, deprivation of standing, destruction of records, or restriction of future possibility, that basis should be stated and defended rather than hidden beneath an allegedly timeless vocabulary.

Criterion 16.17 (Two-stage cross-historical judgment). A GR-informed cross-historical evaluation should, where feasible, separate:

1. *reconstructive judgment*: reconstruction of the historically available entities, observables, reasons, alternatives, and evaluative capacities; and
2. *critical judgment*: explicit evaluation using defended reasons, including an account of which translations or invariants permit the comparison.

This structure helps avoid both anachronism and immunity from criticism. Understanding why a practice appeared normal or legitimate in its historical field does not require endorsing it. Conversely, condemning a practice need not require pretending that historical actors perceived all the reasons available to later evaluators.

Cross-historical judgment is also bidirectional. Later evaluators can criticize earlier worlds, but historical materials can expose blind spots in the present. An abandoned vocabulary can reveal distinctions that current institutions have flattened; a past form of life can expose dependencies hidden by contemporary categories. Translation is therefore not merely the projection of present normativity backward. It can transform the evaluator as well.

Principle 16.18 (Bidirectional historical critique). Cross-historical evaluation should permit historical reconstruction to revise the evaluative capacities of the present rather than treating the present normative background as an unrevisable endpoint.

This principle connects directly to GR's rejection of teleology. The present is not normatively privileged simply because it is later.

16.7 Reflexive Normativity within Generative Systems

The final consequence is reflexivity. The evaluator belongs to the world being evaluated. Political philosophers, courts, institutions, social movements, scientific disciplines, and GR itself are formed within histories that shape their concepts, evidence, sensitivities, and blind spots. There is no guaranteed Archimedean point outside all generative relations.

This does not make criticism impossible. It changes what responsible criticism requires. A reflexive theory must treat its own categories as historically situated while remaining capable of giving reasons for using them. It must distinguish provisional commitment from final ontological closure, and it must preserve mechanisms through which counterevidence, new experiences, and newly generated evaluative capacities can revise the theory.

Definition 16.19 (Reflexive normativity). *Reflexive normativity* is normative evaluation conducted under explicit recognition that the evaluator, evaluative vocabulary, justificatory procedures, and relevant observables are themselves historically situated components of the generative system and may be transformed by inquiry and action.

A reflexive evaluator therefore has at least three responsibilities. First, reconstruct the conditions under which its own normative categories became available. Second, state the reasons by which those categories are defended rather than presenting historical inheritance as self-validation. Third, remain responsive to transformations that reveal previously unavailable objections or distinctions.

Principle 16.20 (Evaluator historicity). Methods and evaluators have histories. Their historical generation does not by itself invalidate their judgments, but it makes the conditions, limits, and revision pathways of those judgments legitimate objects of philosophical analysis.

This principle generalizes a theme running throughout GR. Just as subjects, relations, and possibility spaces can change, so can the methods by which political philosophy evaluates them. A framework that once improved justice by revealing one form of domination can later become incomplete if new relations generate forms of dependency outside its conceptual field. Normative theories should therefore be judged not only by the answers they produce but also by the kinds of problems they permit political actors to recognize.

The same reflexivity applies to GR. Background independence and the invariance-first postulate are not exempt from historical revision. If they cease to provide adequate explanatory or normative traction, the framework must permit their reconstruction. A meta-framework that renders its own primitives unrevisable would reproduce the fixed-background problem it criticizes elsewhere.

Limitation 16.21 (GR does not yet supply a complete metaethics). The generative account developed here does not decide between moral realism, constructivism, contractualism, discourse ethics, constitutivism, or other metaethical and normative theories. It instead constrains the problem: any adequate account used within GR must explain how normative authority can be defended while evaluative capacities, observables, and justificatory practices remain historically and relationally situated.

This limitation is substantive rather than apologetic. A framework that claimed to derive justice directly from its ontology would contradict the genesis–validity distinction established above. GR can show how normative worlds emerge and how normative reasoning must respond to generative transformation; it cannot bypass the need to argue about reasons.

Synthesis 16.22 (Emergent normativity). Within GR, normativity is neither a timeless layer simply imposed on history nor a mirror of whatever history happens to stabilize. Relational histories generate evaluative distinctions, moral salience, justificatory vocabularies, and capacities of judgment. These generated structures can become recursively effective, shaping the practices and institutions through which later evaluation occurs. Yet genesis does not establish validity. Normative criticism therefore requires a dual

movement: reconstruct the historical generation of evaluative possibility and defend the reasons by which generated norms and relations are judged. Because normative coordinates can change, cross-historical evaluation requires explicit translation rather than either presentist projection or contextualist closure. Because evaluators are themselves historically generated, normativity must remain reflexive and revisable. Emergence explains how a normative world becomes possible; justification remains the task of arguing what within that world, and across its transformations, ought to be accepted.

The consequence for political philosophy is substantial. Justice, legitimacy, freedom, and good governance cannot be treated only as predicates applied to a completed political world. They also depend on the historical generation of the subjects, observables, reasons, and evaluative capacities through which political claims become intelligible. The next normative stage of the paper therefore turns from the general architecture of emergent normativity to justice as a specifically generative relational problem.

17 Justice as a Problem of Generative Relations

Section 16 established a constraint that any GR account of justice must respect. Normative concepts and evaluative capacities can be historically generated, but their historical genesis does not settle their validity. Justice therefore cannot be read directly from whatever a relational system happens to stabilize. At the same time, once political subjects, relations, observables, and possibility spaces are allowed to change, justice can no longer be represented adequately as a predicate applied only to a completed social state. The processes through which relations are formed, transformed, reproduced, and removed can themselves become objects of justice.

This extension places GR in conversation with, rather than in simple opposition to, established theories of justice. Rawls's theory of justice as fairness evaluates the basic structure of society through principles governing equal liberties, fair equality of opportunity, and inequalities to the benefit of the least advantaged (Rawls 1999). Sen shifts attention from the characterization of perfectly just institutions toward comparative judgments of realized justice, capabilities, public reasoning, and the reduction of manifest injustice (Sen 1999; Sen 2009). Young criticizes the reduction of justice to distribution and emphasizes domination, oppression, decision-making structures, and later the forward-looking responsibilities generated by structural social connection (Young 1990; Young 2011). Fraser, in turn, treats redistribution and recognition as irreducible dimensions of justice and develops participatory parity as a unifying political ideal (Fraser and Honneth 2003). GR inherits the lesson that justice concerns institutions, relations, powers, recognition, capabilities, and structural processes, but adds a generative question: how do the relations and possibility spaces to which principles of justice are applied come into being, and what normative significance attaches to their generation?

The answer proposed here is deliberately framework-level rather than a complete substantive theory of justice. GR does not derive a final distributive rule, a universal list of capabilities, or a complete ordering of political worlds. It instead enlarges the object of justice. A political order should be evaluated not only by the distribution of goods or statuses at time t , but also by the relational architecture that produced that distribution, the mechanisms through which that architecture reproduces itself, and the future relational possibilities it opens or forecloses.

Definition 17.1 (Generative justice). *Generative justice* is the evaluation of political arrangements with respect to the formation, persistence, transformation, and removal of relations, together with the ways those processes generate subjects, capacities, observ-

ables, dependencies, and future possibility spaces. It supplements rather than replaces distributive, recognitional, procedural, and institutional dimensions of justice.

The definition is intentionally plural. A distribution can be unjust even if its generating history was procedurally unobjectionable; a relation can be unjust even if it produces aggregate benefits; a transformation can be unjust even if its endpoint is more equal by one metric; and a relation can require removal even when it is historically stable. GR therefore resists collapsing justice into a single scalar objective.

Distinction 17.2 (Emergence and justice). The emergence, stability, productivity, or self-reproduction of a relation does not establish its justice. Generativity is a descriptive property of how systems produce further structures; justice is a normative evaluation of those structures and processes.

This distinction remains decisive throughout the section. It prevents a theory interested in self-reinforcing generative systems from treating durability, expansion, or productive capacity as normative success.

17.1 Justice beyond Static Distribution

A static representation of distributive justice begins with a population of subjects and an allocation of some object of concern:

$$D_t = (A_t, X_t, \mu_t), \quad (70)$$

where A_t is the relevant subject set, X_t the goods, burdens, opportunities, capabilities, or statuses being assessed, and μ_t their distribution. This form is not intrinsically defective. Political philosophy often requires exactly such comparisons. The GR objection is narrower: if A_t , X_t , and the conditions under which μ_t was produced are themselves historically generated, then D_t is not normatively exhaustive.

Consider two political systems with identical distributions at a particular moment. In the first, the distribution results from institutions in which affected persons can contest and revise the relations that structure access to resources. In the second, the same distribution is maintained by a rigid dependency that excludes those persons from altering the conditions of future allocation. A snapshot can represent the equality of current holdings while missing the inequality of generative standing.

Let a political configuration be represented more fully as

$$\Xi_t = (D_t, \mathcal{R}_t, \mathcal{G}_t, M_t, \mathcal{O}_t), \quad (71)$$

where $\mathcal{R}_t$ denotes operative relations, $\mathcal{G}_t$ the mechanisms through which relations and subjects are reproduced or transformed, M_t the effective possibility space, and $\mathcal{O}_t$ the observables through which advantage, injury, standing, and exclusion can be recognized.

Proposition 17.3 (Distribution does not determine generative justice). *Suppose two political configurations $\Xi_t^{(1)}$ and $\Xi_t^{(2)}$ satisfy $D_t^{(1)} = D_t^{(2)}$ but differ in at least one of $\mathcal{R}_t$, $\mathcal{G}_t$, M_t , or $\mathcal{O}_t$ in a normatively relevant way. Then equality of the current distribution alone is insufficient to establish equality of their justice under a generative relational evaluation.*

Proof. Generative justice evaluates not only current distributions but also relations, generators, possibility spaces, and observability conditions. If at least one of these differs in a normatively relevant manner, the evaluative objects are not identical even when the distributive component is. The two configurations can therefore receive different judgments without contradiction. The proposition does not show which configuration is more just; it shows only that distributive identity does not settle the comparison. $\square$

The proposition extends familiar objections to purely distributive accounts. Young argues that decision structures, division of labor, cultural representation, and domination exceed the allocation of divisible goods (Young 1990).

Sen likewise shows that equal resources need not generate equal substantive opportunities because persons differ in their capacity to convert resources into valuable beings and doings (Sen 1999; Sen 2009). GR extends both lines of critique by asking how conversion conditions, social positions, relation types, and feasible future actions are themselves generated.

Principle 17.4 (Justice of generative conditions). Where current advantages or disadvantages depend on historically generated relations, a theory of justice should evaluate the generative conditions through which those relations reproduce access, dependence, standing, and future capacity, rather than treating the present distribution as a sufficient description of the normative problem.

The principle does not make history automatically decisive. Some historical differences may be normatively irrelevant to a present question. Its force is methodological: history and generation cannot be excluded by assumption when they help constitute the object being evaluated.

17.2 Justice of Existing Relations

The first relational object of justice is the relation as it presently operates. GR therefore distinguishes justice of distribution from *justice of relation*. The latter asks whether the structure connecting relata is itself normatively defensible.

Definition 17.5 (Relational justice). *Relational justice* evaluates the terms on which subjects, institutions, groups, or other politically relevant relata stand in relation to one another, including asymmetries of standing, dependency, authority, exposure, recognition, contestability, and capacity to affect future relational conditions.

This conception is intentionally broader than equality of resources. A relation can be objectionable because one party possesses arbitrary power over another, because one side bears systematic exposure without voice, because recognition is institutionally withheld, or because the relation allows one party to determine the conditions under which the other's claims become intelligible. Republican non-domination, relational egalitarianism, recognition theory, feminist accounts of dependency, and structural theories of injustice all provide important antecedents for such evaluations. GR adds the question of how these relational structures are generated and recursively reproduced.

A current relation $R_{ij,t}$ can be represented by a vector of politically relevant features,

$$R_{ij,t} \sim (S_{ij,t}, A_{ij,t}, V_{ij,t}, E_{ij,t}, C_{ij,t}, G_{ij,t}), \quad (72)$$

where S denotes standing, A authority or asymmetry, V voice, E exit or revision capacity, C exposure to consequences, and G participation in the generation of future terms. This is not a universal metric. It is a schema for identifying dimensions that a purely allocative description can miss.

Criterion 17.6 (Relation assessment). A GR evaluation of an existing relation should, where relevant, examine at least: the standing of the relata; asymmetries of authority and dependence; opportunities for voice and contestation; capacities for exit, revision, or refusal; distributions of exposure and benefit; epistemic conditions under which claims are recognized; and the parties' relative influence over the future reproduction of the relation.

No single criterion is always decisive. An asymmetry can be justified in some institutional contexts; exit can be impossible for reasons that do not make a relation unjust; and symmetrical power can coexist with serious injustice toward third parties. The purpose of the criterion is to make the relational architecture visible before substantive normative principles are applied.

Remark 17.7 (Relational justice is not relational sameness). Justice does not require every relation to be symmetric, interchangeable, or identical in role. Parent–child relations, judicial authority, fiduciary relations, emergency governance, and many forms of expertise can involve justified asymmetries. The normative question concerns the grounds, limits, accountability, and generative consequences of the asymmetry rather than symmetry as such.

This remark is particularly important for an invariance-first theory. Mathematical symmetry and political equality cannot be inferred from one another. Symmetry provides a language for comparison and transformation; justice requires independent normative argument.

17.3 Justice of Relation Formation

Existing relations have histories of formation. Some are entered voluntarily, some inherited, some assigned by law, some produced by markets, some generated through technological infrastructures, and some arise from biological, ecological, or historical conditions that no participant chose. GR therefore treats the formation of a relation as a distinct object of justice.

Definition 17.8 (Formation justice). *Formation justice* evaluates the processes through which politically consequential relations come into existence, including the distribution of authorship, consent, voice, knowledge, risk, alternatives, and power over the terms by which the relation is constituted.

The definition deliberately avoids making consent the sole criterion. Many important relations cannot plausibly be grounded in explicit bilateral consent: citizenship at birth, relations to ecological systems, obligations generated by inherited institutions, exposure to algorithmic infrastructures, and membership in interdependent economic networks are examples. The relevant question is therefore not simply whether a relation was chosen, but how its terms were produced and whether those affected had defensible forms of standing in its constitution.

Let a formation process be

$$\mathfrak{F} : (\mathcal{R}_{<t}, A_{<t}, I_{<t}, M_{<t}) \longrightarrow R_{ij,t}. \quad (73)$$

Formation justice directs attention to $\mathfrak{F}$, not only to the resulting $R_{ij,t}$.

Principle 17.9 (Constitutive standing). Where a process creates durable relations that substantially determine the capacities, dependencies, or future possibility spaces of affected subjects, justice requires attention to the standing those subjects possess in the constitution, contestation, and revision of the relation, even when full prior consent is impossible.

This principle is compatible with different substantive theories of political legitimacy. Its role is to identify a generative location of justice: the moment or process in which relational terms become socially effective.

Formation can also generate third-party effects. A contract between two firms may alter labor conditions for workers who were not parties to the agreement; a platform's

technical architecture can reshape public discourse for users who never negotiated its ranking rules; a state's border policy can generate dependencies for persons outside the electorate. Formation justice therefore cannot be reduced to fairness among the immediate parties.

Criterion 17.10 (Third-party effects). The justice of relation formation should include foreseeable effects on persons or groups whose possibilities, standing, or exposure are materially altered by the newly generated relation, even when they are not formal parties to its creation.

This criterion generalizes structural approaches to injustice. It also prepares the later analysis of cross-scale justice, where relations formed at one scale generate consequences at another.

17.4 Justice of Relation Transformation

Political relations rarely remain fixed after formation. Their terms are renegotiated, drift informally, become institutionalized, acquire technological mediation, or change through legal reinterpretation. A theory concerned only with just initial conditions misses these transformations.

Definition 17.11 (Transformation justice). *Transformation justice* evaluates changes in the terms, structure, membership, asymmetries, or generative consequences of existing relations, including who can initiate change, who bears transition costs, whose reasons are recognized, and whether affected parties retain meaningful capacities of contestation and adaptation.

Write a transformation as

$$\mathfrak{T}_t : R_{ij,t} \longrightarrow R_{ij,t+\Delta t}. \quad (74)$$

The normative object includes both endpoints and the transformation operator $\mathfrak{T}_t$. A relation can move toward an apparently preferable endpoint through a process that imposes concentrated, avoidable, or unrecognized burdens. Conversely, a costly transformation can be justified when it dismantles domination that could not be removed without transition costs.

Distinction 17.12 (Endpoint justice and transition justice). *Endpoint justice* evaluates the resulting relational configuration. *Transition justice* evaluates the process through which that configuration is reached. Neither dimension can in general be inferred from the other.

This distinction matters for reform, revolution, decolonization, institutional change, technological transition, and environmental policy. A justifiable destination does not erase duties concerning transition burdens, affected agents, or unavoidable losses.

Transformation justice also has an epistemic dimension. When a relation changes faster than the categories available to evaluate it, affected subjects can lack the vocabulary required to articulate new forms of dependence or injury. Section 16 described this as change in the normative background. Justice during transformation therefore requires institutional capacity to receive claims that do not yet fit established categories.

Principle 17.13 (Evaluative openness during transformation). Political transformations should preserve or create channels through which newly generated harms, dependencies, and forms of standing can become observable and contestable, rather than requiring all legitimate claims to be expressible in the normative vocabulary that preceded the transformation.

This is one place where GR connects justice to epistemic infrastructure. A transformation can be materially redistributive yet still unjustly silence the emergence of new evaluative claims.

17.5 Justice of Relation Removal

Generative relational theory must treat removal as seriously as formation. Political progress sometimes requires the dissolution of relations: slavery, colonial rule, discriminatory legal status, coercive dependency, or institutionalized exclusion should not be preserved merely because they are historically generative. Yet relation removal can itself produce injustice when it destroys support networks, archives, communities, livelihoods, or recognition structures without defensible replacement.

Definition 17.14 (Removal justice). *Removal justice* evaluates the termination, dismantling, severance, or deliberate non-reproduction of a relation with respect to the grounds for removal, the distribution of losses and gains, the treatment of dependencies generated by the relation, and the relational possibilities made available or foreclosed after its removal.

A relation scheduled for removal may have produced dependencies that outlive its legitimacy. Abolishing an unjust institution can therefore generate remedial obligations that cannot be captured by the instruction to “stop the injustice.” Historical relations leave material, psychological, institutional, ecological, and epistemic residues.

Claim 17.15 (Termination does not erase generated dependency). When an unjust relation has generated durable dependencies, capacities, injuries, or asymmetries, terminating the relation does not by itself terminate the normative significance of those generated effects.

The claim underlies reparation, transitional support, restoration of records, institutional reconstruction, and other post-termination duties.

It also fits Young’s forward-looking account of responsibility for structural injustice. It emphasizes transforming processes that reproduce harmful outcomes instead of locating all responsibility in individualized fault (Young 2011).

Removal can also be too complete. A political order may eliminate a problematic institution while destroying valuable relations that had developed within or around it. Decolonization, for example, cannot be represented normatively as merely deleting a colonial relation and returning to a pre-colonial state that history has made unrecoverable. Generative histories alter the state space itself. Removal justice must therefore ask what can be dismantled, what requires transformation, what should be preserved, and what new relations must be generated to prevent a vacuum from becoming a new site of domination.

Criterion 17.16 (Just relation removal). A GR analysis of relation removal should consider the grounds for termination, residual dependencies and injuries, preservation of records and claims, transition burdens, replacement capacities, risks of equivalent domination, and the future possibility space created by removal.

This criterion makes removal a positive design problem rather than a purely negative act of subtraction.

17.6 Justice of Historical Trajectories

Sections 7 and 8 established that GR is trajectory-sensitive. Justice must therefore be trajectory-sensitive as well. Two political worlds can arrive at similar present states through different histories, and those histories can generate different obligations, identities, expectations, and vulnerabilities.

Let a relational history over $[t_0, t_1]$ be

$$\Gamma_{t_0:t_1} = \{\Xi_t\}_{t_0}^{t_1}, \quad (75)$$

where Ξ_t is the political configuration defined in Equation (71).

Definition 17.17 (Trajectory justice). *Trajectory justice* evaluates a political configuration in relation to the historical path through which subjects, relations, claims, dependencies, injuries, and possibilities were generated, rather than assuming that normatively equivalent endpoints erase differences of path.

Trajectory justice is not a demand to compensate for every historical difference. It identifies a class of cases in which path matters because it generates morally relevant residues. Expropriation can generate inherited wealth gaps and disrupted communities; exclusion can generate informational and educational deficits; political violence can generate durable fear, displacement, and institutional mistrust. The endpoint is partly constituted by these histories even when current formal rules appear equal.

Proposition 17.18 (Endpoint equivalence does not erase path-dependent obligations). *Suppose two configurations are equivalent with respect to a selected present-state metric, but one trajectory contains a normatively relevant process that generated durable claims, injuries, dependencies, or advantages still operative at the endpoint. Then present-state equivalence under that metric does not by itself eliminate trajectory-dependent obligations.*

Proof. The selected metric does not encode all normatively relevant historical effects by assumption. If the prior process generated durable claims, injuries, dependencies, or advantages that remain operative, then those effects form part of the current normative situation even though they are omitted by the metric. Therefore equality under the selected endpoint measure cannot establish the absence of trajectory-dependent obligations. $\square$

The proposition gives a formal expression to a familiar intuition behind reparative and transitional justice without committing GR to any single doctrine of reparation. It also explains why hysteresis matters normatively. If undoing the initiating cause does not restore the former relational configuration, then justice cannot be modeled as simple reversal.

Principle 17.19 (Historical non-reversibility). Where political transformation exhibits path dependence or hysteresis, corrective justice should not presume that removing the original cause restores the relational conditions that would have existed without it. Remedies must address the generated present rather than an imagined mechanical reversal of history.

This principle is especially important under background independence. Once history alters M_t , the set of available remedies at t_1 can differ from the set that would have been available at t_0 . Justice is therefore constrained by historically generated possibilities even while it can seek to transform those possibilities further.

17.7 Justice of Future Possibility Generation

The most distinctive GR extension concerns the future. Political institutions do not only distribute present goods or regulate present relations. They shape which relations can later be formed, which capacities can be developed, which claims can become visible, and which futures remain reachable. Justice therefore has a prospective generative dimension.

Definition 17.20 (Future-generative justice). *Future-generative justice* evaluates how present political arrangements distribute the capacity to create, revise, preserve, or foreclose future relational possibilities, including the ability of affected subjects to participate in the generation of those possibilities.

This definition should not be confused with maximizing the cardinality of a possibility set. More options are not always better. A just order can properly close possibilities for enslavement, arbitrary domination, fraud, or environmental destruction. The relevant issue is the structure and distribution of generative capacity.

If M_t is the present effective possibility space, political action can induce

$$\mathcal{K}_t : M_t \longrightarrow M_{t+1}. \quad (76)$$

Justice can therefore evaluate $\mathcal{K}_t$ itself: who controls it, whose possibilities expand or contract, what becomes irreversible, and whether later revision remains possible.

Distinction 17.21 (Option maximization and generative justice). Future-generative justice does not require maximizing the number of available options. It concerns the defensibility of the processes through which possibilities are opened, closed, distributed, and made revisable, together with the standing of affected subjects in those processes.

This distinction connects GR with capability-oriented theories while extending the temporal horizon. Capabilities concern what persons are substantively able to be and do; generative justice asks additionally who can participate in changing the conditions that determine future capabilities and relation types (Sen 1999; Sen 2009).

A political order can therefore be generous in current provision while highly restrictive in generative structure. It can supply welfare while denying institutional voice, education for critical agency, access to knowledge infrastructures, or lawful means of creating new forms of association. Conversely, an order can formally permit experimentation while systematically depriving some groups of the resources or standing required to make experimentation effective.

Principle 17.22 (Generative standing). Justice requires attention to the distribution of effective standing in the production and revision of future political possibilities, not only to the distribution of currently available options.

Generative standing is one reason irreversible political interventions deserve special scrutiny. When an action destroys ecological systems, archives, languages, institutional capacities, or avenues of political organization, it can remove possibilities from future agents who had no opportunity to participate in the decision.

Criterion 17.23 (Foreclosure scrutiny). The more irreversible a political intervention is, and the more extensively it alters the possibility spaces of absent, weakly represented, or future subjects, the stronger the justificatory burden should be concerning necessity, alternatives, distribution of risk, and preservation of future revision capacity.

This is a framework-level criterion rather than a decision rule. It does not determine how irreversible harms and benefits should be weighed, but it identifies possibility-space foreclosure as a distinctive object of justice.

17.8 Cross-Scale and Intergenerational Generative Justice

The preceding argument becomes more difficult when generation occurs across scales. A relation can appear beneficial at one scale while exporting burdens to another. A local institutional arrangement can stabilize a community while generating ecological costs elsewhere; a national policy can increase domestic welfare while externalizing risks across borders; a technological infrastructure can improve individual convenience while reorganizing labor markets, public discourse, and future governance capacities. GR therefore treats scale as part of the normative specification.

Let $\mathcal{R}_t^{(k)}$ denote relations at scale k . Write cross-scale generation schematically as

$$\mathcal{R}_t^{(k)} \longrightarrow \mathcal{R}_{t+1}^{(k+1)}, \quad \mathcal{R}_{t+1}^{(k+1)} \longrightarrow \mathcal{R}_{t+2}^{(k)}. \quad (77)$$

Justice must then ask not only whether a relation is acceptable at the scale at which it is designed, but what it generates elsewhere.

Definition 17.24 (Cross-scale generative justice). *Cross-scale generative justice* evaluates the distribution of benefits, burdens, standing, and generative capacity across interacting relational scales, including effects that are displaced from the scale at which a decision is authorized or evaluated.

This conception is especially relevant to environmental governance, global production, digital infrastructure, public finance, migration, and international institutions. The political boundary within which a decision is legitimate does not necessarily coincide with the relational boundary within which its effects are generated.

Intergenerational justice is the limiting case of this problem because many affected subjects do not yet exist as current political participants. Present institutions nevertheless alter their effective possibility spaces. The GR problem is not only distribution across generations, but generation of the conditions under which future agents will act, know, deliberate, and form relations.

Definition 17.25 (Intergenerational generative justice). *Intergenerational generative justice* concerns present responsibilities for the relational, ecological, epistemic, institutional, and normative possibility spaces transmitted to future subjects, including the preservation of capacities through which those subjects can revise rather than merely inherit the conditions produced for them.

This definition does not imply an obligation to preserve the present world unchanged. Preservation can itself freeze injustice. The concern is with transmissible generative capacity: whether future subjects inherit sufficient ecological, institutional, epistemic, and political conditions to participate in shaping their own relational world.

Principle 17.26 (Non-domination of the future). Present political agents should not treat future subjects merely as passive recipients of a world whose major relational possibilities have been irreversibly fixed for them. Where feasible, intergenerational justice favors preserving defensible capacities for future revision, contestation, and regeneration.

The principle is intentionally weaker than a requirement to maximize future freedom. It recognizes that every generation necessarily structures the world inherited by the next. The normative problem is whether that structuring becomes an unjustified monopolization of generative power.

Cross-scale and intergenerational justice also expose a representational difficulty. Those affected at distant scales or future times may have no direct voice in present institutions. GR therefore treats proxy institutions, scientific models, historical records,

fiduciary structures, and public reasoning as parts of the relational machinery through which absent interests can become observable. These mechanisms are fallible and politically contestable; their adequacy is itself a question of justice.

Open Problem 17.27 (Representation of absent and future subjects). GR does not yet provide a complete account of how present institutions should represent subjects who are absent, future, non-human, weakly organized, or otherwise unable to participate directly in relation formation. Any adequate extension must connect generative standing with justified forms of representation without assuming that current representatives can fully reconstruct future or external interests.

The open problem is not peripheral. Once justice concerns possibility-space generation, political philosophy must confront actors whose future conditions are shaped before they can contest the shaping process.

Limitation 17.28 (Generative justice is not a complete substantive theory). The framework developed here does not establish a unique distributive principle, a complete ordering of political worlds, or a final criterion of rightful relation formation. It identifies additional objects of justice—formation, transformation, removal, trajectories, and generative possibility—that substantive theories must address when normatively relevant. Different traditions can disagree about their weighting while accepting the expanded field of analysis.

This limitation preserves the distinction developed in Section 16. GR's ontology and dynamics cannot manufacture normative validity from descriptive structure. A relation is not just because it is generative, symmetric, stable, efficient, or historically entrenched. Nor is a transformation just merely because it expands future possibilities. The work of justification remains indispensable.

Synthesis 17.29 (Justice of generative relations). A generative relational political philosophy enlarges the object of justice from distributions and completed institutions to the life-cycle of relations and the production of political possibility. Justice can concern existing relational terms, the processes by which relations are formed, the procedures and burdens through which they are transformed, the obligations generated when they are removed, the historical trajectories that leave path-dependent claims, and the distribution of capacity to shape future possibility spaces. Because these processes operate across scales and generations, justice must also track effects displaced beyond the immediate parties and beyond the present. This extension does not displace distributive, recognitional, procedural, capability-based, or institutional theories. It asks those theories to confront an additional question: not only what a just political world contains, but how the relations and possibilities constituting that world are generated, reproduced, revised, and passed forward.

The resulting shift prepares the next problem. If justice evaluates the generation and transformation of political relations, governance cannot be understood only as the administration of an already given social order. Governance itself becomes intervention in generative fields, and legitimacy must be reconsidered under conditions in which both the objects and the evaluative criteria of governance can change.

18 Legitimacy and Good Governance as Emergent Evaluative Structures

Section 17 enlarged the object of justice from distributions and institutional states to the formation, transformation, removal, and reproduction of relations. This section turns

to two adjacent concepts that are indispensable to political philosophy but should not be collapsed into justice: *legitimacy* and *good governance*. Legitimacy concerns, among other things, the justification or recognized rightfulness of exercises of political authority; good governance concerns the quality of the processes, capacities, relations, and institutional practices through which collective affairs are governed. Neither concept is exhausted by social acceptance, institutional durability, policy effectiveness, or conformity with whatever standards happen to dominate at a given historical moment.

The established literature already distinguishes descriptive from normative legitimacy and disagrees over whether legitimacy depends primarily on procedures, substantive values, democratic participation, justified coercion, a right to rule, or some combination of these dimensions (Weber 1978; Beetham 1991; Buchanan 2004; Habermas 1996). Contemporary governance research is similarly plural. Effectiveness, accountability, participation, impartiality, rule-governed administration, responsiveness, and other criteria have all been proposed as dimensions of institutional quality, while the very expansion of the “good governance” agenda has generated criticism concerning conceptual inflation, ordering, feasibility, and contextual variation (Scharpf 1999; Grindle 2004; Rothstein and Teorell 2008).

GR does not attempt to replace these debates with a single universal index. Its contribution is to locate legitimacy and governance criteria within a background-independent and generative-relational architecture. The categories through which political authority becomes recognizable as legitimate or governance becomes recognizable as good can themselves have histories. They are formed through practices of justification, institutional experience, failures, conflicts, epistemic infrastructures, aesthetic and moral sensibilities, and changing relations among governors and governed. Yet their historical emergence does not settle their validity. The distinction established in Section 16 therefore remains decisive:

$$\begin{array}{l} \text{historical stabilization of an evaluative criterion} \\ \neq \text{normative validity of that criterion.} \end{array} \quad (78)$$

The same point applies to legitimacy itself. A regime can be widely accepted without being normatively legitimate; a normatively defensible institution can also suffer weak sociological acceptance. Likewise, a government can be administratively effective while governing unjustly, and it can satisfy an inherited checklist of “good governance” while destroying capacities required for future criticism, revision, or collective self-government.

Distinction 18.1 (Legitimacy, good governance, and justice). *Legitimacy*, *good governance*, and *justice* are overlapping but non-identical evaluative objects. Legitimacy concerns the standing of political rule, authority, and coercive or directive power; good governance concerns the quality of governing processes and capacities; justice concerns the normative structure of relations, distributions, institutions, and their generation. None can in general be inferred from either of the others.

This separation is especially important for GR. A relational system may reproduce itself effectively, generate compliance, solve coordination problems, and remain stable while also generating domination, exclusion, epistemic closure, or unjust dependency. Conversely, a just reform may initially reduce administrative efficiency or disrupt inherited expectations. GR therefore treats legitimacy and governance as multidimensional evaluative structures whose contents and conditions of application may evolve historically.

18.1 Historical Constitution of Political Legitimacy

Political legitimacy has both a sociological and a normative dimension. In Weber's influential sociological treatment, stable rule is partly explained by beliefs in the legitimacy of an order; the relevant object is the orientation of actors toward authority rather than an independent moral verdict on whether that authority is justified (Weber 1978). Normative political philosophy asks a different question: under what conditions is political power, coercion, or a claim to rule actually justified? Buchanan, for example, explicitly treats legitimacy as moral justification for the exercise of political power, while deliberative and public-reason traditions connect legitimacy to forms of justification among those subject to collectively binding norms (Buchanan 2004; Habermas 1996).

GR preserves this distinction but adds a historical-relational problem. Both the objects whose legitimacy is assessed and the criteria through which legitimacy is recognized can change. Let

$$\Lambda_t = (A_t, I_t, \mathcal{R}_t, \mathcal{N}_t, \mathcal{O}_t, H_t), \quad (79)$$

where A_t denotes relevant political subjects, I_t institutions or governing bodies, $\mathcal{R}_t$ their operative relations, $\mathcal{N}_t$ the available normative vocabulary, $\mathcal{O}_t$ the observables through which authority and its effects can be known, and H_t the inherited historical trajectory. A legitimacy judgment can then be represented schematically as

$$L_t(I) = \mathcal{L}(I_t; A_t, \mathcal{R}_t, \mathcal{N}_t, \mathcal{O}_t, H_t). \quad (80)$$

The notation does not imply that legitimacy can be reduced to a calculable scalar. Its purpose is to display the background dependence of the judgment. A change in $\mathcal{N}_t$ or $\mathcal{O}_t$ can make previously unrecognized grounds of objection visible; a change in A_t can alter who is understood to possess standing in processes of justification; a change in $\mathcal{R}_t$ can transform the actual dependency structure beneath formally unchanged constitutional rules.

Definition 18.2 (Sociological legitimacy). *Sociological legitimacy* refers to the historically stabilized recognition, acceptance, or belief through which a political order, institution, or exercise of authority is treated by relevant actors as rightful, appropriate, or entitled to obedience.

Definition 18.3 (Normative legitimacy). *Normative legitimacy* refers to the justifiability of political authority, coercion, or collectively binding rule under defensible evaluative standards. Its validity is not reducible to the degree of sociological acceptance it receives.

The two forms can interact recursively. Normative arguments can reshape public understandings of legitimate rule; widespread patterns of acceptance can stabilize institutions that subsequently influence education, law, public reason, and the available vocabulary of legitimacy. This gives legitimacy a generative history:

$$\mathcal{R}_t \longrightarrow \mathcal{N}_t^L \longrightarrow \text{legitimacy practices}_t \longrightarrow \mathcal{R}_{t+1}, \quad (81)$$

where $\mathcal{N}_t^L$ denotes the effective normative vocabulary of legitimacy.

Claim 18.4 (Acceptance does not establish normative legitimacy). No amount of historical persistence, sociological acceptance, institutional effectiveness, or successful reproduction is sufficient by itself to establish normative legitimacy.

The claim follows from the separation between genesis and validity. A political order can generate the very beliefs, categories, and institutions through which its authority is accepted. If acceptance alone constituted legitimacy, highly effective processes of ideological closure, exclusion, or manufactured dependency would become self-validating.

Claim 18.5 (Normative legitimacy does not guarantee sociological stability). A political arrangement can satisfy defensible standards of legitimacy while remaining contested, unfamiliar, weakly institutionalized, or insufficiently stabilized to generate widespread acceptance.

This second claim matters because GR treats stabilization as an empirical and generative property rather than a moral certificate. Legitimacy theory therefore requires a dual analysis: what relational processes produce acceptance, and what reasons can justify the authority whose acceptance is produced?

Historical change can also create a *legitimacy lag*. New technologies, transnational institutions, algorithmic infrastructures, environmental dependencies, or hybrid public–private governing arrangements may acquire substantial power before inherited concepts of authorization, representation, jurisdiction, accountability, or public justification can adequately describe them.

Definition 18.6 (Legitimacy lag). A *legitimacy lag* occurs when the generative transformation of political power, agency, or dependency outpaces the evaluative and institutional capacities through which claims to rule can be recognized, contested, and justified.

Legitimacy lag is therefore not merely a delay in public opinion. It is a mismatch between a transformed relational reality and the normative-observational background available for evaluating that reality. The remedy cannot be assumed in advance. It may require new institutions, new categories of political subjecthood, new forms of representation, or new epistemic capacities through which affected relations become visible.

Principle 18.7 (Legitimacy under background change). Where political transformations generate new subjects, dependencies, or sites of authoritative power, legitimacy assessment must be capable of revising both the set of agents entitled to justification and the institutional forms through which justification, contestation, and authorization are organized.

This principle links legitimacy directly to background independence. A theory that fixes the relevant subject set or institutional form in advance may fail precisely when politics generates new forms of rule.

18.2 Emergence of Governance Criteria

The language of “good governance” often appears as if it names a stable collection of universally desirable institutional properties. In practice, governance criteria have developed through heterogeneous traditions: democratic theory emphasizes participation, authorization, equality, and accountability; public administration emphasizes capacity, legality, professionalism, and implementation; development institutions have foregrounded effectiveness, transparency, voice, and institutional quality; political theory has defended criteria such as impartiality, non-domination, public justification, and responsiveness. Rothstein and Teorell’s proposal to define quality of government through impartiality itself arose partly from dissatisfaction with overly expansive and conceptually mixed governance vocabularies (Rothstein and Teorell 2008). Grindle’s argument for “good enough governance” similarly emphasizes that reform agendas can become unrealistically long and insufficiently attentive to sequencing, feasibility, and priority (Grindle 2004).

GR interprets this plurality neither as proof that governance standards are arbitrary nor as evidence that one historically dominant list should be treated as ontologically

fixed. Governance criteria are themselves evaluative observables. They identify features of governing relations that a community, theory, or institution has learned to treat as normatively salient.

Definition 18.8 (Governance criterion). A *governance criterion* is an evaluative distinction through which some feature of governing relations, processes, capacities, or consequences becomes recognizable as relevant to the quality of governance.

Examples include accountability, participation, impartiality, transparency, effectiveness, responsiveness, legality, accessibility, epistemic reliability, contestability, and the preservation of capacities for future revision. The GR claim is not that all these criteria are equally important in every context. It is that the very availability and salience of the criteria have histories.

Let the effective set of governance criteria at time t be

$$\mathcal{K}_t = \{k_{1,t}, k_{2,t}, \dots, k_{n,t}\}. \quad (82)$$

A conventional assessment may hold $\mathcal{K}_t$ fixed and score an institution I against its members. GR additionally asks how

$$\mathcal{K}_t \longrightarrow \mathcal{K}_{t+1} \quad (83)$$

occurs. Historical failures can create new criteria; previously marginalized experiences can reveal unobserved harms; technological transformation can make new accountability problems salient; ecological change can make long-horizon resilience central where short-run efficiency had dominated; and the appearance of new agents can alter what participation or representation requires.

Distinction 18.9 (Criterion genesis and criterion validity). The historical emergence of a governance criterion explains how it became available and salient; it does not by itself establish the criterion's normative authority. Conversely, the absence of a criterion from an inherited governance vocabulary does not show that the underlying relation is normatively irrelevant.

This distinction prevents two opposite errors. The first is presentist universalization: treating the current governance vocabulary as the completed list of politically relevant values. The second is historicist closure: treating each period's vocabulary as valid merely because it emerged within that period.

Governance criteria can also conflict. Transparency can undermine privacy; responsiveness can conflict with long-term commitments; efficiency can conflict with participation; impartial administration can coexist with substantively unjust law; extensive accountability procedures can reduce adaptive capacity. Scharpf's distinction between different sources of democratic legitimacy already illustrates the importance of not collapsing political input and effective output into a single dimension (Scharpf 1999).

Principle 18.10 (Vector evaluation of governance). GR treats governance quality as irreducibly multidimensional unless a substantive argument justifies reduction. In general, governance should be represented by a vector of evaluative dimensions rather than a single scalar score.

Schematically,

$$\mathbf{Q}_t(I) = (q_{1,t}(I), q_{2,t}(I), \dots, q_{n,t}(I)), \quad (84)$$

where the components correspond to currently defensible evaluative dimensions. A scalar index can still be constructed for particular empirical purposes, but its weighting becomes an explicit normative and methodological choice rather than a hidden metaphysical fact.

Remark 18.11 (The politics of indicators). Once governance criteria are operationalized as indicators, the act of measurement can itself become generative. Indicators influence funding, administrative priorities, reform agendas, professional incentives, and public expectations. GR therefore treats governance measurement as part of the relational system it describes rather than as a neutral external observation.

This observation links governance directly to the epistemic and classificatory power developed in Section 12. What is measured can become governable; what is not measured can disappear from institutional attention. The emergence of governance criteria is therefore simultaneously an epistemic and political process.

18.3 Good Governance under Changing Relational Conditions

If governance criteria and relational backgrounds can change, “good governance” cannot be represented adequately as permanent compliance with a fixed institutional template. This does not imply that every context licenses its own standards. It means that the application, weighting, and sometimes the content of governance criteria must remain sensitive to the relations through which political capacities and vulnerabilities are generated.

Let the relevant relational background be

$$\mathfrak{B}_t = (\mathcal{R}_t, \mathcal{G}_t, M_t, \mathcal{O}_t, \mathcal{K}_t). \quad (85)$$

A governance arrangement I_t is then evaluated not only through its immediate outputs but through its interaction with $\mathfrak{B}_t$.

Definition 18.12 (Relationally situated good governance). *Relationally situated good governance* is governance whose processes and interventions are defensible in relation to the historically generated subjects, dependencies, capacities, observables, and possibility spaces they affect, while remaining open to revision of the evaluative criteria through which that defensibility is assessed.

The definition is deliberately procedural and reflexive rather than a complete substantive criterion. It does not say that any locally accepted governance practice is good. It requires reasons concerning the actual relational consequences of governing and permits those reasons to be challenged as the relational background changes.

Proposition 18.13 (Static governance equivalence does not imply generative equivalence). *Suppose two governance arrangements $I^{(1)}$ and $I^{(2)}$ generate the same measured outcome vector at time t ,*

$$\mathbf{Q}_t(I^{(1)}) = \mathbf{Q}_t(I^{(2)}), \quad (86)$$

but induce different transformations of at least one component of $\mathfrak{B}_t$. Then equality of the current governance score does not establish equality of their generative governance quality.

Proof. By construction, the measured outcome vector captures only the selected evaluative dimensions at time t . If the arrangements transform relations, generative mechanisms, observables, possibility spaces, or future evaluative capacities differently, their future political consequences can diverge while the present score remains equal. A GR evaluation therefore requires information about the transformation of $\mathfrak{B}_t$ in addition to the present outcome vector. $\square$

The proposition generalizes the trajectory-sensitive argument developed for justice. An institution may deliver an efficient outcome by concentrating expertise in a way that

gradually destroys public contestability; another may deliver the same outcome while expanding institutional learning and the capacity of affected subjects to revise policy. A snapshot treats the two as equivalent. Generative analysis does not.

Good governance must therefore be temporally indexed. Some interventions sacrifice present efficiency to build future capacity; others achieve immediate performance by consuming institutional trust, ecological resilience, administrative competence, or civic participation. This creates a distinction between *performance extraction* and *capacity generation*.

Distinction 18.14 (Performance extraction and capacity generation). *Performance extraction* obtains present outputs by drawing down relational, institutional, epistemic, or ecological capacities. *Capacity generation* produces or preserves capabilities that support future coordination, learning, contestation, and adaptation. The two can coincide, but neither should be inferred from the other.

This distinction is useful precisely because effective government is not automatically good government. Effectiveness is politically important, but its normative significance depends partly on what is made effective, by what means, for whom, and with what consequences for future agency.

Principle 18.15 (Temporal adequacy of governance evaluation). Governance evaluation should include the temporal profile of institutional effects: present outputs, transition burdens, capacity formation or depletion, path dependence, and consequences for future revision.

A background-independent theory also needs to accommodate changes in the identity of the governed. Migration, demographic change, technological mediation, intergenerational effects, and transnational externalities can make the population affected by governance diverge from the population formally represented within it. Good governance under changing relational conditions must therefore track affectedness and standing rather than presupposing a permanently closed political constituency.

18.4 Governance as Intervention in Generative Relations

Conventional descriptions of governance often represent public action as the selection of policies from an available menu. GR adds a second-order problem: governance can alter the relational machinery through which future policy options, subjects, incentives, and conflicts are generated. Governance is therefore not only action *within* a political system; it is often intervention in the system's generative relations.

Let a governance intervention be denoted u_t . A first-order representation is

$$x_{t+1} = F(x_t, u_t), \quad (87)$$

where u_t changes the state of the system. A generative representation additionally allows

$$\begin{aligned} \mathcal{R}_{t+1} &= F_R(\mathcal{R}_t, u_t), \\ \mathcal{G}_{t+1} &= F_G(\mathcal{G}_t, \mathcal{R}_t, u_t), \\ M_{t+1} &= F_M(M_t, \mathcal{R}_t, \mathcal{G}_t, u_t). \end{aligned} \quad (88)$$

The intervention can therefore modify who relates to whom, how later relations are generated, and what actions become possible.

Definition 18.16 (Generative governance). *Generative governance* is governance that acts, intentionally or unintentionally, on the conditions through which future relations, subjects, capacities, observables, and possibility spaces are generated.

This definition captures many familiar forms of public action. Education policy does not merely allocate present resources; it changes future capabilities and patterns of participation. Competition law can alter market structure and the future distribution of bargaining power. Welfare institutions can reshape dependency relations and exit capacities. Infrastructure policy changes spatial and economic connectivity. Data-governance rules can alter the visibility, classification, and actionability of persons and groups. None of these effects is adequately represented as a one-time transfer between fixed subjects.

Principle 18.17 (Second-order governance). Where intervention predictably changes mechanisms that generate future relations or possibilities, governance should evaluate those mechanisms themselves, rather than only immediate outcomes.

Second-order governance does not imply centralized control over all social generation. That would contradict both epistemic limits and the value of autonomous relational formation. The point is analytical: governors should distinguish interventions that alter present states from interventions that alter the conditions of future generation.

The distinction also clarifies why some policies have persistent effects even after formal repeal. If an intervention changes $\mathcal{G}_t$, the return of a parameter to its previous value need not restore the former relational configuration. The hysteresis discussed in Section 8 therefore has a governance analogue.

Claim 18.18 (Governance can create its own future necessity). An intervention that changes generative relations can create dependencies, expectations, infrastructures, or institutional capacities that make continuation of the intervention—or some successor intervention—more necessary than it was before the original act of governance.

This is not inherently objectionable. Public education, public health infrastructure, legal institutions, or social insurance can intentionally create durable capacities and expectations. But the same mechanism can produce lock-in, administrative dependency, rent-seeking, surveillance infrastructures, or self-reproducing emergency powers. Generative governance therefore requires reflexive attention to the conditions of its own continuation.

Criterion 18.19 (Reflexive intervention review). Governance that alters generative mechanisms should periodically review the relations and dependencies produced by prior interventions, including whether those interventions changed the grounds for their own continuation.

This criterion is especially important under background independence: an intervention can transform the very problem to which it was initially a response.

18.5 Governance as Intervention in Generative Fields

Many politically consequential conditions are not localized in a single dyadic relation or institutional command. Trust, fear, accessibility, expectations, norms of public conduct, informational salience, spatial affordances, and cultural meanings are distributed across environments and repeated interactions. Section 9 introduced field-theoretic language as one possible formal vocabulary for such distributed relational conditions. GR can therefore distinguish direct intervention in particular relations from intervention in a broader generative field.

Let Φ_t denote a distributed relational condition that influences the transition propensities of multiple actors and relations. Then, schematically,

$$\dot{\mathcal{R}} = F(\mathcal{R}, \Phi_t, u_t). \quad (89)$$

A governance intervention can act not only on a particular R_{ij} but on Φ_t , thereby altering many later relations without issuing separate commands to each participant.

Definition 18.20 (Generative field). A *generative field* is a distributed relational condition that systematically shapes the formation, transformation, or salience of multiple relations within a domain. The term is a formal and conceptual abstraction; it does not by itself assert the existence of a literal physical field in social reality.

Definition 18.21 (Field governance). *Field governance* is deliberate intervention in distributed relational conditions with the aim or effect of altering the probabilities, costs, affordances, expectations, or meanings through which many subsequent relations are generated.

Examples can include the design of public space, institutional defaults, information architectures, educational environments, infrastructures of accessibility, public rituals, standards, and trust-building arrangements. A well-designed public space can alter encounter patterns without commanding any specific encounter; a disclosure regime can modify expectations across a market; an institutional culture can reshape which claims are speakable before any individual adjudication occurs.

Formal Analogy 18.22 (Field intervention). The field vocabulary is useful when the object of governance is distributed rather than dyadic. Its legitimate use requires an explicit mapping between the proposed field variable and observable relational conditions. Without such a mapping, “field” remains metaphor rather than model.

The field perspective also reveals a distinctive political danger. Distributed intervention can become difficult to perceive and contest. Architecture, ranking systems, defaults, affective environments, or cultural signals can shape conduct without presenting themselves as explicit commands. The absence of a command does not imply the absence of power.

Principle 18.23 (Contestability of field governance). The more governance operates through distributed, indirect, or environment-shaping mechanisms, the more important it becomes to preserve observability, intelligibility, contestability, and avenues for affected subjects to challenge the field conditions shaping their conduct.

This principle connects legitimacy to field governance. A policy can be behaviorally effective precisely because its mechanisms are backgrounded or difficult to articulate; that effectiveness can simultaneously weaken the conditions of public justification. GR therefore refuses to equate subtle governance with superior governance.

Field interventions also interact. Legal rules, market structures, urban design, media environments, education, and cultural expectations can couple nonlinearly. This makes simple attribution difficult and reinforces the methodological caution developed in Section 9: field language should organize inquiry, not conceal uncertainty behind mathematical vocabulary.

Limitation 18.24 (No presumption of controllability). GR does not assume that generative fields are fully knowable or controllable. Distributed systems can contain nonlinear feedback, local knowledge, unintended consequences, and endogenous adaptation. Field governance therefore increases rather than eliminates the need for epistemic humility and iterative revision.

The limitation matters normatively. A framework that recognizes generativity should be especially suspicious of claims that a complex political field can be engineered toward a uniquely optimal state.

18.6 Governance and the Preservation of Future Generativity

The preceding analysis produces a final governance problem. Because present governance can alter future possibility spaces, political evaluation must ask not only whether an intervention solves a current problem but also what capacities for later revision it preserves. This is the governance analogue of future-generative justice developed in Section 17.

The relevant object is not the sheer cardinality of future options. More possibilities are not automatically better. Some possibilities—enslavement, severe domination, irreversible ecological destruction, or systematic exclusion—can properly be foreclosed. Reversibility is not always possible or desirable. The normative concern is whether governance unnecessarily destroys capacities through which future actors can perceive problems, contest inherited arrangements, learn from evidence, generate alternatives, and revise relations.

Definition 18.25 (Future generativity of governance). The *future generativity of governance* is the extent and quality of the capacities, institutional pathways, relational openness, epistemic resources, and revisability that a governing arrangement leaves available for future collective problem recognition and transformation.

Schematically, let

$$\mathfrak{C}_t = (C_t^{\text{learn}}, C_t^{\text{contest}}, C_t^{\text{revise}}, C_t^{\text{record}}, C_t^{\text{generate}}) \quad (90)$$

denote capacities for learning, contestation, revision, historical recording, and generation of alternatives. A governance intervention should then be assessed partly by its transformation of $\mathfrak{C}_t$.

Principle 18.26 (Preservation of future generativity). Subject to independent demands of justice, safety, and legitimate constraint, governance should avoid unnecessarily destroying the relational and epistemic capacities through which future subjects can recognize problems, contest inherited arrangements, generate alternatives, and revise the conditions of collective life.

The qualification is essential. The principle is not libertarian option maximization and not a command to preserve every institution. Some relational structures should be dismantled precisely because they destroy the generativity of others. The principle instead makes long-run revision capacity a legitimate object of political evaluation.

Several institutional implications follow. Archives and records preserve the possibility of future re-evaluation. Education preserves capacities of interpretation and criticism. Institutional pluralism can preserve alternative pathways when dominant arrangements fail. Sunset clauses and review procedures can prevent temporary measures from becoming unexamined permanent structures. Redundancy can preserve resilience even where it appears inefficient in the short run. Public spaces and associational freedoms can preserve sites from which new relational forms emerge. None of these devices is universally required, but each illustrates governance directed toward the conditions of future generation rather than only present output.

Definition 18.27 (Generative stewardship). *Generative stewardship* is a mode of governance that treats present institutions as temporary custodians of capacities required for future learning, contestation, relation formation, and normative revision, rather than as entitled to reproduce their own structure indefinitely.

Generative stewardship changes the temporal self-understanding of governance. Institutions remain responsible for present coordination and protection, but they also bear

responsibilities concerning what future political worlds can still be generated after their interventions.

Claim 18.28 (Good governance includes the governance of closure). Because every institution closes some possibilities while enabling others, good governance requires explicit attention to which closures are necessary, which are reversible, which become path-dependent, and which destroy the conditions under which future closure decisions can themselves be contested.

This claim connects the section back to background independence. Political order always stabilizes some relations and therefore always introduces structure into the possibility space. The issue is not to eliminate closure but to govern closure reflexively.

Synthesis 18.29 (Legitimacy and governance under GR). A GR political philosophy treats legitimacy and good governance as emergent but non-arbitrary evaluative structures. Legitimacy requires analysis of both historically generated acceptance and normatively defensible justification. Governance criteria are generated, contested, operationalized, and revised within changing relational backgrounds. Governing acts can intervene in present states, generative relations, and distributed fields; they can also transform the future capacities through which political problems are perceived and revised. Good governance therefore cannot be identified with stability, compliance, efficiency, or inherited criteria alone. It must include reflexive evaluation of how governing processes generate the conditions of their own continuation and the possibilities available to future political subjects.

This reconstruction also prepares the transition to aesthetic judgment. Political actors do not encounter governance criteria only as explicit propositions. Orders can appear coherent, elegant, disorderly, intolerable, balanced, excessive, or harmonious before those perceptions are translated into fully articulated normative arguments. If evaluative salience itself is historically generated, then the relation between political aesthetics and political judgment becomes part of the same generative-relational problem. Section 19 therefore turns from explicit governance criteria to the formation of aesthetic and evaluative perception within political life.

19 Aesthetic Judgment within Political Evaluation

The preceding sections treated normativity, justice, legitimacy, and good governance primarily through concepts that can be articulated as reasons, criteria, claims, or evaluative structures. Political evaluation, however, does not begin only after such concepts have been explicitly formulated. Political actors encounter institutions, spaces, practices, bodies, technologies, and collective arrangements through perception before they encounter them through completed theories. An order can appear coherent or fractured, dignified or humiliating, harmonious or grotesque, elegant or cumbersome, alive or sterile, intolerable or strangely natural. These descriptions are not yet conclusions of moral or political philosophy. They belong to a prior and partly overlapping field of sensibility through which some features of a political world become salient enough to be noticed, named, criticized, admired, or defended.

Aesthetics therefore enters GR political philosophy in a broader sense than the philosophy of fine art. Kant's third *Critique* remains a canonical point of departure because aesthetic judgment there is neither reducible to determinate cognition nor to mere private sensation; it raises the problem of reflective judgment and a claim to communicability that cannot be obtained by simply applying a concept already given (Kant 2000).

Dewey relocates aesthetic experience within the transactions of organism and environment and resists isolating the aesthetic from ordinary experience (Dewey 1934). Bourdieu, from a very different direction, demonstrates that taste is socially differentiated and bound to historically structured dispositions and positions (Bourdieu 1984). Rancière connects politics and aesthetics through distributions of the sensible that organize what can be seen, said, heard, and counted as part of a common world (Rancière 2004). Arendt's appropriation of Kantian judgment likewise makes aesthetic reflection relevant to political judgment without simply identifying the two (Arendt 1982).

GR draws from these lineages while posing a more general generative question. Under what historical, spatial, temporal, material, and relational conditions does a configuration become available to a subject or collective as beautiful, ugly, fitting, excessive, coherent, dissonant, just, legitimate, or exemplary? The question is not answered by declaring all aesthetic or normative judgments relative. It instead asks how the *capacity to discriminate and experience evaluative significance* is generated, stabilized, revised, and sometimes broken.

Let a situated evaluative background be represented schematically as

$$\Sigma_{x,t} = (H_{\leq t}, \mathcal{R}_{x,t}, \Phi_{x,t}, \mathcal{O}_{x,t}, \mathcal{C}_{x,t}), \quad (91)$$

where $H_{\leq t}$ denotes the inherited history, $\mathcal{R}_{x,t}$ the relational configuration surrounding a subject or collective at location x and time t , $\Phi_{x,t}$ the material and affective environment, $\mathcal{O}_{x,t}$ the available observables and distinctions, and $\mathcal{C}_{x,t}$ the conceptual and cultural resources through which experience can be articulated. An aesthetic judgment concerning an object, practice, or political configuration y can then be written schematically as

$$J_{x,t}^{\text{aes}}(y) = \mathcal{J}_{\text{aes}}(y \mid \Sigma_{x,t}). \quad (92)$$

The notation does not reduce judgment to a deterministic function of context. It records that judgment occurs from within a historically formed relational situation rather than from a view outside history.

Definition 19.1 (Aesthetic sensibility). An *aesthetic sensibility* is a historically and relationally formed capacity to register, differentiate, and respond to qualities such as harmony, tension, proportion, excess, rhythm, disruption, elegance, ugliness, sublimity, or fittingness in experienced configurations. It includes perceptual and affective discrimination prior to, and often interacting with, explicit conceptual evaluation.

Distinction 19.2 (Formation and validity of aesthetic judgment). An account of how an aesthetic judgment becomes possible, salient, or socially stabilized is an account of its formation. It does not by itself establish the validity, universality, or defensibility of that judgment. GR therefore distinguishes the genesis of aesthetic sensibility from any philosophical claim concerning what is genuinely beautiful, sublime, fitting, or worthy of approval.

This distinction parallels the separation between normative genesis and normative validity developed in Section 16. It also protects the present argument from two opposite reductions. Aesthetic judgment is not treated as a timeless response immune to history, but neither is it reduced to whatever a historically situated population happens to prefer. The object of GR analysis is the generative formation of the field within which aesthetic significance can appear.

19.1 Historical Formation of Aesthetic Sensibility

Aesthetic sensibility is neither a blank faculty supplied anew at each moment nor a fixed list of preferences. It develops through repeated encounters, education, embodiment,

language, architecture, ritual, technology, memory, class position, religious practice, artistic conventions, and institutionalized distinctions. Bourdieu's analysis of taste is especially important because it demonstrates that dispositions toward cultural objects are patterned by social trajectories and positions rather than distributed as context-free individual preferences (Bourdieu 1984). Dewey's emphasis on the continuity between aesthetic experience and the interaction of organism and environment provides a different but complementary insight: sensibility forms within ongoing transactions rather than in an isolated spectator (Dewey 1934).

GR generalizes these insights beyond cultural consumption. Let S_t^{aes} denote a repertoire of aesthetic dispositions. Its evolution may be represented as

$$S_{t+1}^{\text{aes}} = \mathcal{F}_{\text{aes}}(S_t^{\text{aes}}, \mathcal{R}_t, \Phi_t, \mathcal{P}_t, H_t), \quad (93)$$

where $\mathcal{P}_t$ denotes recurrent practices of perception, judgment, training, imitation, contestation, and exposure. The equation is not offered as an empirical law. It displays the kinds of variables a generative account would have to track.

A sensibility can therefore be historically durable without being immutable. Repetition can deepen a perceptual habit; institutional prestige can stabilize a hierarchy of taste; a disruptive encounter can reveal previously unnoticed features; technological media can reorganize scale, speed, proximity, and attention; political transformation can make inherited forms appear newly intolerable or newly valuable.

Principle 19.3 (Historicity of evaluative perception). The objects of political evaluation and the capacities through which they become perceptually or affectively salient can have distinct but interacting histories. A transformation of sensibility can therefore alter political judgment even when the immediately observed institution remains formally unchanged.

The principle is stronger than the familiar claim that preferences change. A change of preference selects differently among already articulated alternatives. A transformation of sensibility can instead alter what is noticed as an alternative, what is experienced as a problem, and what kinds of contrast can be drawn at all.

For example, an architectural barrier can remain materially identical while becoming politically visible as exclusion only after new bodily, legal, or social experiences reorganize what counts as accessibility. A ritual of deference can persist while shifting from being experienced as dignified order to being experienced as humiliation. Conversely, an unfamiliar institutional practice can initially appear chaotic and later acquire a recognizable form as subjects learn its internal rhythm and purpose. The relevant transformation concerns not simply a proposition but the perceptual-evaluative field in which the proposition becomes intelligible.

Definition 19.4 (Evaluative-perceptual formation). An *evaluative-perceptual formation* is a historically stabilized configuration of dispositions, distinctions, expectations, affective responses, and interpretive resources through which certain features of a relational world become immediately or pre-reflectively salient as ordered, disordered, admirable, disturbing, fitting, excessive, or otherwise evaluatively marked.

The term “pre-reflective” should not be read as irrational. It refers to judgments and orientations that can precede explicit propositional articulation while remaining available for later reflection, criticism, and revision. Political reasoning often begins because something first *appears wrong*, not because a complete theory of wrongness was already available.

Remark 19.5 (No deterministic sociology of taste). The historical formation of sensibility does not imply that persons mechanically reproduce the tastes associated with their social position. Relational histories generate dispositions and probabilities, not complete scripts. Individuals and collectives can reinterpret, hybridize, resist, or deliberately re-train inherited sensibilities.

This openness is crucial for GR. If aesthetic sensibility were wholly determined by existing relations, no aesthetic rupture could disclose a new possibility. The generative account instead treats sensibility as historically formed and historically transformable.

19.2 Relational Conditions of Beauty, Harmony, and Disruption

The relational orientation of GR suggests that qualities such as harmony or disruption are not best understood as isolated properties of atomic objects. They often concern patterns among elements: proportions, contrasts, repetitions, tensions, transitions, alignments, interruptions, and expectations. This does not establish a relational definition of beauty in general. It identifies a class of aesthetic phenomena for which configuration matters more than isolated possession of a property.

Let a perceived configuration be represented by a relational structure

$$\mathcal{A}_t = (V_t, E_t, W_t, \Pi_t), \quad (94)$$

where V_t denotes perceptually relevant elements, E_t relations among them, W_t their intensities or weights, and Π_t the patterns, expectations, or ordering principles through which the configuration is apprehended. Aesthetic transformation can occur through changes in any of these components, but also through changes in the perceiver's effective Π_t .

Thus, an identical physical arrangement need not yield an identical aesthetic experience across histories. The reason need not be arbitrary subjectivism. The relational significance of the arrangement can differ because the pattern against which it is perceived has changed.

Proposition 19.6 (Relational background dependence of aesthetic equivalence). *Suppose an object or configuration y remains materially unchanged between t_1 and t_2 , but the effective relational background $\Sigma_{x,t}$ changes so that different relations, contrasts, expectations, or historical associations become salient. Then material identity of y is insufficient to establish aesthetic equivalence between $J_{x,t_1}^{\text{aes}}(y)$ and $J_{x,t_2}^{\text{aes}}(y)$.*

Proof. By Equation (92), aesthetic judgment is indexed not only to y but to the situated background through which y is encountered. If that background changes in a way that alters perceptually or affectively relevant relations, the input to the judgment is not equivalent even though the material object is unchanged. The proposition establishes the insufficiency of material identity for aesthetic equivalence; it does not determine which judgment, if either, is superior. $\square$

Harmony should likewise not be equated with homogeneity. A relational configuration can be experienced as coherent precisely because differentiated elements remain in productive tension. Disruption can also possess positive aesthetic force where it reveals an excluded relation or breaks an oppressive perceptual regularity. The GR vocabulary therefore does not privilege equilibrium over rupture.

Distinction 19.7 (Harmony and homogeneity). *Harmony* denotes a perceived relational organization in which differentiated elements are experienced as composing a meaningful or fitting whole. *Homogeneity* denotes similarity or reduction of difference. Harmony can include contrast, asymmetry, tension, and unresolved plurality; homogeneity can coexist with aesthetic or political deadness.

Distinction 19.8 (Disruption and disorder). *Disruption* is a break in an established pattern of perception, expectation, or relation. *Disorder* is a judgment concerning the absence, inadequacy, or unintelligibility of organization. A disruption can disclose a previously concealed order, while an apparently orderly configuration can depend on exclusion or suppression.

These distinctions matter politically because terms such as order, harmony, balance, ugliness, and chaos often migrate between aesthetic and political vocabularies. GR treats such migration as an object of analysis rather than as a valid inference. A politically hierarchical order can be aesthetically impressive; an emancipatory transformation can appear disruptive. Neither appearance settles the normative judgment.

Warning 19.9 (No aesthetic inference to political validity). No valid inference follows from “this political arrangement appears harmonious, beautiful, elegant, or orderly” to “this arrangement is just, legitimate, or good.” The aesthetic organization of political appearance and the normative justification of political relations are distinct evaluative problems.

19.3 Aesthetic Judgment beyond the Domain of Art

The relevance of aesthetics to political philosophy depends on refusing an unnecessarily narrow equation of aesthetic judgment with judgments about artworks. Dewey’s *Art as Experience* is useful here because it situates aesthetic experience within the rhythms and consummations of ordinary life rather than confining it to museum objects (Dewey 1934). GR extends this move into explicitly political environments.

People experience streets, bureaucracies, ceremonies, interfaces, assemblies, borders, classrooms, currencies, public documents, maps, uniforms, memorials, and digital platforms aesthetically as well as instrumentally. These objects and arrangements possess tempo, scale, visibility, friction, repetition, symmetry, density, atmosphere, and style. Such qualities can condition whether an institution appears accessible or forbidding, dignified or humiliating, trustworthy or suspicious, coherent or arbitrary.

Definition 19.10 (Political aesthetic object). A *political aesthetic object* is a politically consequential configuration whose perceptible organization contributes to how political relations are experienced and interpreted. Relevant features can include form, rhythm, arrangement, atmosphere, and mode of presentation. The object need not be an artwork or have been designed for aesthetic purposes.

This definition makes architecture and interface design obvious cases, but it also includes less visible forms. A queue distributes bodies through space and time. A form structures what can be said and in what categories. A parliamentary chamber arranges visibility and speaking positions. A currency materializes authority, trust, history, and exchangeability. A statistical dashboard produces a visual hierarchy of relevance. A checkpoint transforms distance, waiting, bodily movement, and exposure into an experienced political form.

The aesthetic dimension of such configurations is neither cosmetic nor necessarily dominant. It is one layer through which a relational arrangement becomes lived. GR is interested in this layer because it can alter future relations. A space experienced as welcoming can increase encounters; a hostile interface can discourage claims; a monumental architecture can intensify perceptions of authority; a repeated visual schema can naturalize classifications.

Principle 19.11 (Aesthetic mediation of relational experience). Where the perceptible form of an institution or environment systematically alters how actors approach, inter-

pret, inhabit, or avoid it, aesthetic organization becomes one generative mediator of political relations.

The principle does not imply intentional design. Aesthetic mediation can emerge from accumulated conventions, technical constraints, maintenance practices, or historical residues. Nor does it imply manipulation. An accessible and legible public environment can enable agency rather than covertly steer it. The evaluative question concerns what relations the aesthetic organization generates and under what conditions those effects remain observable and contestable.

Example 19.12 (Public space as an aesthetic-relational environment). A public square is not exhausted by its legal status or geometric dimensions. Seating, shade, entrances, sightlines, sound, policing, cleanliness, commercial activity, symbolic markers, and patterns of use jointly shape whether different persons experience the space as inviting, prestigious, unsafe, sacred, ordinary, surveilled, or available for collective action. The political significance arises from the generative interaction between spatial form and relational use, not from aesthetics considered in isolation.

This broader account also explains why political aesthetics cannot be confined to propaganda. Propaganda deliberately uses perceptible form to influence political judgment, but aesthetic mediation is much more general. Every political order acquires perceptible forms through which it is inhabited, even when no centralized actor designed those forms.

19.4 Political Orders as Objects of Aesthetic Perception

Political orders can themselves become aesthetic objects in a broader sense. Citizens and observers do not encounter constitutions, administrative systems, or forms of collective life only as lists of rules. They perceive patterns: simplicity or complexity, symmetry or imbalance, openness or closure, rhythm or paralysis, coherence or fragmentation. Political language routinely relies on aesthetic-spatial terms—balance, architecture, elegance, ugliness, harmony, rupture, disorder, decay—because institutional relations are often apprehended configurationally before they are fully decomposed into propositions.

Arendt's engagement with Kant is relevant because it treats judgment as a faculty that must orient itself among perspectives rather than simply subsume particulars under already fixed rules (Arendt 1982). Rancière's account of the distribution of the sensible goes further toward the political constitution of perceptibility itself: politics concerns, among other things, the organization and disruption of what is visible, audible, sayable, and countable within a shared world (Rancière 2004). GR translates these insights into its own architecture by treating perceptual organization as historically generated and capable of recursively altering the relations it renders salient.

Let P_t denote a political order and let $\mathfrak{A}_t(P_t)$ denote its effective aesthetic organization:

$$\mathfrak{A}_t(P_t) = (\text{vis}_t, \text{rhythm}_t, \text{scale}_t, \text{contrast}_t, \text{symbol}_t, \text{affect}_t). \quad (95)$$

These terms are placeholders for empirical dimensions rather than universal coordinates. They remind the analyst that political arrangements possess modes of appearance in addition to legal and material structures.

Definition 19.13 (Political aesthetic perception). *Political aesthetic perception* is the apprehension of a political order, institution, or relation through configurational qualities such as coherence, rhythm, proportion, visibility, atmosphere, tension, disruption, or symbolic form, prior to or alongside explicit normative reasoning.

Political aesthetic perception can assist judgment. Perceived inconsistency can direct attention toward institutional contradictions; felt humiliation can reveal a relation that legal categories have not yet adequately represented; dissonance between official symbolism and lived conditions can motivate inquiry. But aesthetic perception can also mislead. Monumentality can mask domination; procedural smoothness can conceal exclusion; symmetry can aestheticize false equivalence; apparent disorder can arise from genuine pluralism.

Distinction 19.14 (Diagnostic salience and justificatory force). An aesthetic perception can possess *diagnostic salience* by directing attention toward a relation, tension, or pattern that warrants investigation. It possesses *justificatory force* only if the resulting political or normative claim can be defended by reasons appropriate to that claim. Diagnostic salience does not automatically supply justificatory force.

This distinction allows GR to take aesthetic experience seriously without aestheticizing politics. Aesthetic response can begin an inquiry; it cannot end one merely by intensity.

Claim 19.15 (Political orders are doubly organized). Political orders possess both an operative relational organization and an organization of appearance. The two can reinforce one another, conflict, or evolve at different rates. Political analysis should therefore distinguish how an order works from how its operation becomes perceptible and experientially patterned.

The claim opens an important research direction. A reform may change formal rules without changing the inherited aesthetic organization through which affected persons encounter the institution. Conversely, a redesign of public presentation can create an appearance of transformation while operative relations remain substantially unchanged. GR can analyze these divergences because it refuses to identify reality with manifestation while also recognizing manifestation as generatively consequential.

19.5 Aesthetic Salience and Normative Recognition

The political importance of aesthetics becomes clearest when the distinction between *having a normative concept* and *being able to perceive a case as falling within its relevance* is taken seriously. A society can possess an abstract commitment to equality while failing to experience a particular relation as a politically significant inequality. It can possess a concept of dignity while treating a habitual humiliation as ordinary. Normative recognition requires not only a rule but sufficient salience for a concrete relation to become available to the rule.

Let $r \in \mathcal{R}_t$ be an existing relation and let N_t be an available normative vocabulary. The existence of N_t does not guarantee that r is recognized as normatively relevant. Introduce a salience relation

$$\chi_t(r, N_t) \in [0, 1], \quad (96)$$

where χ_t schematically represents the degree to which r is perceptually, affectively, and conceptually available for evaluation under N_t . The interval is illustrative rather than a demand for cardinal measurement.

Definition 19.16 (Aesthetic-normative salience). *Aesthetic-normative salience* is the degree and manner in which a relational configuration becomes perceptually or affectively prominent enough to enter explicit moral or political evaluation. It concerns availability to judgment, not the correctness of the judgment eventually made.

This distinction helps explain why normative innovation often involves more than inventing new principles. Political movements, testimony, literature, art, architecture, journalism, ritual, and changes in everyday practice can reorganize perception so that previously normalized relations become difficult to overlook. The process can precede settled terminology.

Principle 19.17 (Salience condition of practical evaluation). A normative category cannot guide practical evaluation of a concrete relation unless that relation is rendered sufficiently identifiable and salient for the category to be brought to bear. Political aesthetics can therefore affect normative practice by changing the conditions of recognition without determining the normative verdict.

The principle should not be interpreted as saying that all moral knowledge begins in aesthetic feeling. Some harms are identified through abstract reasoning, statistical inference, testimony, or legal doctrine despite lacking immediate perceptual force. GR instead claims that salience is one important interface between a normative vocabulary and the world to which it is applied.

Aesthetic salience can also be politically manipulated. Selective imagery can intensify the visibility of some suffering while backgrounding other suffering. Repetition can normalize exceptional measures. Interface design can make one policy option appear natural and another cumbersome. Ceremonial form can elevate one group into the visible center of a polity while rendering another peripheral.

Warning 19.18 (Salience can be engineered). Because perceptual and affective salience can be shaped through architecture, media, ritual, interfaces, classification, and repetition, the emergence of strong evaluative feeling does not establish that the underlying normative judgment is independently warranted. A GR analysis must examine the generative history of salience itself.

This is especially important for democratic judgment. If political actors can systematically alter what becomes visible, memorable, emotionally vivid, or aesthetically coherent, then power over the sensible becomes part of power over political evaluation. The problem links the present section directly to the epistemic-generative power developed in Section 12.

Claim 19.19 (Recognition can lag behind relation formation). A politically consequential relation can exist and reproduce itself before a corresponding evaluative sensibility or concept makes it recognizable as an object of justice, domination, harm, or exclusion.

The claim generalizes the legitimacy lag developed in Section 18. Historical transformation can generate new dependencies, vulnerabilities, or modes of agency faster than inherited evaluative sensibilities can register them. Political philosophy must therefore study not only the correctness of judgments but the conditions under which objects become available to judgment at all.

19.6 Aesthetic Formation of Political Possibility

Aesthetics does not only mediate recognition of the political world that already exists. It can participate in generating what appears politically possible. Political possibility has an imaginative dimension: subjects must be able to perceive or construct some configuration as conceivable before they can deliberate about whether to realize it. Images, narratives, spatial experiments, rituals, prototypes, artworks, and institutional performances can make previously unavailable relational forms perceptible.

This does not mean that imagination alone creates feasible possibilities. Material resources, institutions, technologies, laws, and power relations constrain what can be

enacted. The claim is narrower: a materially feasible arrangement can remain politically inert if it cannot become representable, imaginable, or experientially intelligible as a possible form of collective life.

Let M_t denote the effective political possibility space developed in Section 5. We can distinguish its materially and institutionally feasible region M_t^{feas} from the region that is imaginatively available to relevant actors, M_t^{imag} . Political action is often restricted to their intersection:

$$M_t^{\text{act}} \subseteq M_t^{\text{feas}} \cap M_t^{\text{imag}}. \quad (97)$$

The notation is schematic but clarifies a neglected source of closure. A political possibility can be excluded not because it is physically impossible, legally prohibited, or materially unaffordable, but because the existing aesthetic-symbolic field renders it unintelligible, ridiculous, frightening, or simply unthinkable.

Definition 19.20 (Aesthetic possibility formation). *Aesthetic possibility formation* is the generative process through which perceptible forms, narratives, symbols, spatial arrangements, or embodied practices render a previously obscure relational configuration imaginable as a possible form of collective life.

Ranci re's emphasis on reconfigurations of the sensible is relevant here because changes in visibility and sayability can alter who and what appears within political space (Ranci re 2004). GR adds a recursive dynamic: once a newly imaginable configuration becomes enacted even partially, the resulting relations can modify later sensibility and expand or contract subsequent possibility spaces.

Schematically,

$$\mathfrak{A}_t \longrightarrow M_t^{\text{imag}} \longrightarrow u_t \longrightarrow \mathcal{R}_{t+1} \longrightarrow \mathfrak{A}_{t+1}, \quad (98)$$

where $\mathfrak{A}_t$ denotes the aesthetic-perceptual field and u_t a political intervention or practice. Aesthetic possibility formation is thus recursively generative.

Proposition 19.21 (Imaginative expansion can precede feasible expansion). *A transformation of aesthetic or symbolic representation can enlarge M_t^{imag} without immediately enlarging M_t^{feas} . If the newly imaginable configurations subsequently motivate institutional, technological, or relational transformations, the earlier imaginative expansion can become one causal input into later enlargement of feasible political possibility.*

Proof. By definition, imaginative availability and material-institutional feasibility are distinct components of political possibility. A representational change can alter the former while leaving the latter unchanged at the same time point. If actors subsequently organize interventions in response to the newly available representation and those interventions alter relevant constraints or relations, M^{feas} can change at a later time. The proposition establishes a possible generative sequence, not a necessary one. $\square$

The qualification is important. Political aesthetics can also narrow imagination. Repeated representations of one institutional form as natural, inevitable, modern, civilized, efficient, or beautiful can make alternatives appear grotesque or archaic before their merits are examined. Aesthetic possibility formation is therefore normatively unsigned, like generativity more generally.

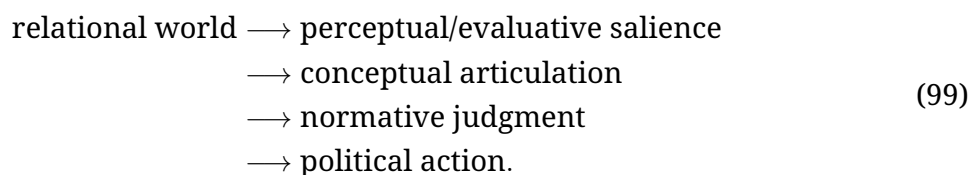
Distinction 19.22 (Aesthetic opening and normative endorsement). Rendering a political possibility imaginable is an *aesthetic opening*; judging that possibility desirable, just, or legitimate is a *normative endorsement*. The first can be a condition for considering the second, but it does not entail it.

This distinction provides a place for political art and experimental institutional design without romanticizing either. Their political value may sometimes lie in disclosing a possibility rather than proving its justice.

19.7 Historically Situated Perceptions of Justice and Good Governance

The final step is to reconnect aesthetics to the concepts developed in Sections 16, 17, and 18. Justice and good governance are not reducible to aesthetic judgments. Yet their practical operation depends partly on historically formed capacities to perceive relevant relations. A theory of justice can specify a principle, but political actors must still recognize which lived configurations instantiate domination, exclusion, humiliation, dependency, deprivation, or unfair standing. A theory of good governance can specify accountability or contestability, but observers must still perceive when an institution has become opaque, rigid, unresponsive, or experientially inaccessible.

This suggests a layered structure:



The arrows are not one-way. Concepts train perception; political action changes the world; transformed relations alter later salience. The sequence should therefore be interpreted as a recurrent loop rather than a linear psychology.

Definition 19.23 (Historically situated evaluative perception). A *historically situated evaluative perception* is the capacity, formed within a particular relational and historical configuration, to experience features of a political world as normatively or aesthetically significant before or alongside explicit theoretical judgment.

GR thereby avoids two reductions. It does not reduce justice to feeling, taste, or beauty. Nor does it assume that political evaluation begins with fully explicit principles applied to neutrally given facts. The facts relevant to political judgment become available through historically organized practices of perception, evidence, language, classification, memory, and sensibility.

Principle 19.24 (Perception–justification separation). Political philosophy should distinguish the conditions under which a relation becomes perceptible as normatively significant from the reasons by which a judgment concerning that relation is justified. A defensible political evaluation may require both adequate perceptual access and adequate normative argument.

This principle allows GR to explain why moral learning can involve transformations of sensibility. A person can know an abstract rule and later come to *see* a familiar institution differently; a society can possess legal equality while slowly acquiring a sensibility capable of noticing forms of exclusion previously normalized; an institution can learn to recognize harms only after affected persons create new vocabularies, images, testimonies, or practices that make those harms salient.

The same mechanism can operate in the opposite direction. Aestheticized order can obscure injustice. A highly coherent administrative system can appear exemplary because it is smooth, symmetrical, efficient, and legible, even while the relations it organizes remain exclusionary. A GR account of good governance must therefore examine whether aesthetic coherence tracks or merely masks defensible relational organization.

Claim 19.25 (Aesthetic coherence is neither necessary nor sufficient for good governance). A governance arrangement can be aesthetically coherent yet normatively defective, and a normatively defensible governance transformation can initially appear fragmented, disruptive, or inelegant. Aesthetic coherence may support intelligibility and trust, but it cannot substitute for substantive and procedural evaluation.

Comparison 19.26 (Justice, governance, and aesthetic perception). Generative justice evaluates the formation, transformation, persistence, and removal of relations. Good governance evaluates the quality of governing processes and their effects on present and future generative capacities. Aesthetic-political analysis evaluates how those relations and processes become perceptible, salient, imaginable, and experientially organized. The three domains overlap through a common relational world but remain analytically distinct.

The broader implication is that political philosophy requires an account not only of values and institutions but also of the formation of evaluative perception. If the observer and evaluator are historically embedded, then the capacity to recognize a political reality as unjust, legitimate, elegant, cruel, harmonious, or intolerable is itself part of the political history to be explained.

Synthesis 19.27 (Aesthetic judgment within GR political philosophy). GR treats aesthetic sensibility as a historically generated and revisable capacity through which relational configurations become perceptually and affectively significant. Beauty, harmony, disruption, ugliness, elegance, and related qualities can organize political experience without determining political validity. Political institutions and orders possess aesthetic forms; those forms can alter recognition, participation, trust, imagination, and the range of political possibilities that actors can perceive. Aesthetic salience can therefore mediate the transition from relational reality to normative recognition, while the genesis of that salience remains distinct from the justification of the judgment it helps to produce. Political aesthetics is consequently neither an ornamental supplement to political philosophy nor a substitute for ethics. It is one generative layer connecting ontology, perception, evaluation, and action.

The section also clarifies a broader feature of GR as a philosophical meta-language. Ontology asks what relational realities emerge; epistemology asks how they become knowable; aesthetics asks how they become perceptually and affectively salient; ethics and political philosophy ask how they should be evaluated; decision theory asks how embedded actors should intervene. These domains are distinguishable but recursively coupled. Section 20 turns from this internal GR reconstruction to its first systematic lineage comparison, examining liberalism and the generative constitution of freedom.

20 Liberalism and the Generative Constitution of Freedom

The preceding sections reconstructed political subjecthood, freedom, power, reality, normativity, justice, governance, and aesthetic evaluation within the generative relational framework. The argument now turns outward. Liberalism is the first major political-philosophical lineage against which GR should be compared because questions of liberty, rights, equality, legitimate coercion, and justification occupy a central place in both traditions. The comparison must nevertheless begin with a caution: *liberalism is not a single theory*. Classical liberal, egalitarian liberal, political-liberal, perfectionist, capability-oriented, and other liberal positions disagree about property, equality, autonomy, the state, and the content of liberty. Any contrast that treats liberalism as one homogeneous doctrine would therefore obscure rather than clarify GR's position.

The comparison developed here is accordingly structural. It identifies a recurrent liberal mode of analysis: political philosophy begins with persons or citizens whose standing matters, asks which liberties or rights they possess, and then asks when coercion, interference, unequal treatment, or institutional restriction can be justified. Locke's account of persons as naturally free and equal, Mill's defense of a protected sphere of

individual liberty, Berlin's distinction between negative and positive liberty, MacCallum's triadic analysis of freedom, and Rawls's account of equal basic liberties and legitimate political power provide different versions of this orientation (Locke 1988; Mill 1977; Berlin 1969; MacCallum 1967; Rawls 1999; Rawls 2005). GR inherits much of the normative importance of these questions. Its departure concerns the level at which the inquiry begins.

Instead of assuming that the subject, the relevant constraints, the action-space, and the normative coordinates of freedom are sufficiently specified before analysis begins, GR asks how each of these becomes generated and stabilized. The difference can be represented schematically as

$$\begin{array}{l} \text{liberal evaluation within a political background} \\ \longrightarrow \text{GR evaluation of that background and its generation.} \end{array} \quad (100)$$

The arrow does not denote historical replacement. Liberal questions remain meaningful inside a GR analysis. Rather, GR adds a prior and recursive level: the political background within which liberty is attributed may itself be an object of explanation and evaluation.

Comparison 20.1 (Liberalism and GR). Liberal political philosophy characteristically places strong normative weight on the freedom and standing of persons and asks when political power, coercion, or unequal institutional arrangements can be justified to them. GR preserves these questions but extends the analysis to the historical generation of persons, constraints, capacities, observables, and possibility spaces within which freedom and justification become intelligible.

This extension is particularly important because GR does not define freedom as a self-sufficient scalar quantity. Section 11 argued that freedom and constraint can be co-generated: some constraints constitute capacities, some present freedoms create future dependencies, and changes in relational structure can alter what actions are possible at all. The liberal comparison therefore provides a test of whether GR can preserve the normative force of liberty while refusing to treat its background as ontologically fixed.

20.1 Persons, Rights, and Liberty as Liberal Starting Points

A recurrent liberal commitment is that political authority does not enjoy an unlimited presumption in its own favor. Locke's political philosophy begins from natural freedom and equality and grounds legitimate government in the protection of rights and consent (Locke 1988). Mill formulates a strong presumption against coercive interference with mature persons, subject most famously to his harm principle (Mill 1977). Berlin's negative conception of liberty focuses attention on the area within which an agent is unobstructed by others, even as his discussion of positive liberty shows that the very meaning of political freedom is contested (Berlin 1969). Rawls places equal basic liberties within the first principle of justice and later reconstructs liberal legitimacy around fair terms of cooperation among free and equal citizens under conditions of reasonable pluralism (Rawls 1999; Rawls 2005).

These theories differ substantially, but they share an important analytical structure. They begin with some specification of the bearer of liberty or right and then assess institutions in relation to that bearer. We can schematically write a liberal freedom claim as

$$\mathcal{L} = (A, C, X, J), \quad (101)$$

where A denotes the relevant agent or rights-bearer, C the constraints or interferences at issue, X the actions, statuses, or opportunities with respect to which freedom is attributed, and J the justificatory structure governing permissible restrictions. This representation is intentionally broad enough to include important differences among liberal theories.

MacCallum's influential triadic analysis already shows that a statement of freedom is incomplete unless one specifies an agent, the preventing conditions from which that agent is free, and what the agent is free to do or become (MacCallum 1967). GR accepts this relational correction to an undifferentiated idea of liberty. Its additional claim is that the three terms of the triad need not remain fixed across historical transformation.

Definition 20.2 (Generatively indexed freedom relation). A *generatively indexed freedom relation* is a freedom attribution

$$\mathfrak{F}_t = \mathfrak{F}(A_t, C_t, X_t \mid \mathcal{R}_t, \mathcal{G}_t, M_t), \quad (102)$$

in which the agent, relevant constraints, available actions or becomings, relational configuration, generative mechanisms, and effective possibility space are all permitted to vary historically.

The point is not that liberal theory is incapable of historical variation. Mill's political writings are historically sensitive; Rawls's basic structure is institutional rather than atomistic; and capability-oriented work distinguishes formal resources from effective opportunities (Rawls 1999; Sen 1999). The distinction concerns theoretical depth. GR treats the constitution of the variables entering the freedom relation as itself a first-order object of political theory.

Inheritance 20.3 (The liberal burden of justification). GR inherits the liberal insistence that coercion, domination, exclusion, and restrictions on persons require justification rather than enjoying automatic authority by virtue of tradition, hierarchy, or mere historical persistence. Background independence does not remove this burden; it extends it to the processes that generate the background within which coercion and freedom are defined.

Rights can be treated similarly. Liberal theories often understand rights as claims, protections, or forms of standing that structure what others and political institutions may do. GR need not deny the normative force of rights in order to analyze their historical and relational formation. A right can be both historically instituted and normatively defensible. The distinction developed in Section 16 therefore remains essential:

$$\text{historical genesis of a right} \not\equiv \text{validity or invalidity of the right}. \quad (103)$$

Remark 20.4 (Historical constitution does not dissolve rights). To describe rights as historically articulated, institutionally stabilized, and relationally effective is not to reduce them to convention or to whatever a society happens to accept. GR separates the explanation of how a rights vocabulary and its institutional carriers emerge from the normative argument concerning which rights should be recognized and protected.

This distinction allows GR to enter liberal political philosophy without beginning from either anti-liberal skepticism or unexamined liberal premises. Rights and liberties remain possible objects of justification while their historical conditions of intelligibility and efficacy remain open to analysis.

20.2 The Political Subject in Liberal Theory

The most important contrast concerns political subjecthood. Liberal theories generally require a bearer of liberty, rights, interests, claims, or reasons. The bearer may be conceptualized as a natural person, moral person, citizen, autonomous agent, or participant in fair social cooperation. The metaphysical commitments behind these descriptions vary greatly. It would therefore be inaccurate to say that liberalism as such is committed to an isolated, pre-social, atomistic individual.

Rawls provides a useful example. His account of citizens as free and equal is a political conception tied to the idea of society as a fair system of cooperation, not a general metaphysical thesis that persons exist independently of institutions and social relations (Rawls 2005). Likewise, Sen's capability approach makes individual opportunities dependent on social, material, institutional, and personal conversion conditions (Sen 1999). Liberal thought can therefore accommodate substantial relational constitution.

GR's difference is more specific. Even where a liberal theory recognizes that persons are socially situated, the theory normally requires the political subject to be identifiable enough to bear claims before the principal normative analysis proceeds. GR instead makes the formation, persistence, transformation, and disappearance of political subjecthood itself part of the political problem.

Let the effective political subject at time t be represented as

$$A_t = \Phi_A(\mathcal{R}_{\leq t}, \mathcal{G}_{\leq t}, H_t, \mathcal{O}_t), \quad (104)$$

where H_t denotes relevant historical trajectories and $\mathcal{O}_t$ the observability and recognition conditions under which a subject can be identified and attributed standing. The expression does not imply that persons are fictitious outputs of institutions. It states that *political subjecthood as an effective role* depends on relational and historical conditions.

Distinction 20.5 (Moral standing and political subject formation). The claim that political subjecthood is historically generated is distinct from the claim that moral standing is conferred by existing political institutions. A person or affected being may possess claims against an institution even when that institution fails to recognize it as a political subject. GR therefore distinguishes the genesis of recognized political subjecthood from the normative question of who ought to count.

This distinction is crucial in cases of exclusion. If a political order historically defines citizenship, property-holding, legal personality, competence, or public reason in ways that exclude some affected actors, a theory that begins only after the subject set has been fixed risks treating the exclusion as external to the central problem. GR instead asks how the subject set was generated:

$$A_t^{\text{political}} \subseteq A_t^{\text{affected}}, \quad (105)$$

and whether the mechanisms determining that inclusion relation are defensible.

Claim 20.6 (Subject-set generation is politically evaluable). Where institutions or relational structures determine who can appear as a rights-bearer, citizen, claimant, representative, competent speaker, or affected party, the generation of the political subject set is itself an object of political evaluation rather than a neutral precondition of subsequent liberal analysis.

This claim does not undermine liberal concern for persons. It radicalizes it. If persons' political standing matters, then the processes by which some beings become publicly legible as persons with standing matter as well. The GR analysis of emergent subjecthood in Section 10 can therefore be read as an extension of liberalism's concern with equal standing into the generative conditions of standing itself.

20.3 Legitimate Constraint and Public Justification

A second major liberal problem concerns legitimate constraint. Locke asks how political authority over naturally free and equal persons can be justified; Mill limits coercive interference by the harm principle; Rawlsian political liberalism asks how the exercise of political power can be legitimate among citizens divided by reasonable pluralism (Locke 1988; Mill 1977; Rawls 2005). In contemporary public-reason traditions, the legitimacy of coercive power is often linked to reasons that citizens can reasonably accept or that can be justified to them as free and equal persons.

GR does not reject this justificatory project. It introduces two complications.

First, constraints are not only externally imposed prohibitions. Section 11 distinguished restrictive constraints from constitutive and generative constraints. Language rules, legal forms, educational requirements, infrastructure standards, procedural rules, and institutional boundaries can simultaneously limit immediate action and make new forms of coordinated action possible. A theory of legitimate constraint must therefore consider not merely whether a constraint removes an option but what relational capacities and future possibilities it helps produce.

Second, the public to whom justification is owed is itself historically organized. Public justification presupposes capacities for reason-giving, channels of communication, languages of claim-making, recognized forms of evidence, institutional arenas, and criteria of reasonable participation. These do not appear outside history.

Let a public-justification structure be represented as

$$\mathcal{J}_t = (A_t^{\text{pub}}, \mathcal{V}_t, \mathcal{O}_t, \mathcal{P}_t, \mathcal{N}_t), \quad (106)$$

where A_t^{pub} denotes those recognized as participants in public justification, $\mathcal{V}_t$ the available vocabularies of reason-giving, $\mathcal{O}_t$ the recognized observables and evidence, $\mathcal{P}_t$ the procedures and institutions through which reasons circulate, and $\mathcal{N}_t$ the normative coordinates by which reasons are assessed.

Principle 20.7 (Reflexive public justification). A background-independent theory of public justification should evaluate not only whether a policy is justified within an existing justificatory structure $\mathcal{J}_t$, but also whether the processes generating the participants, vocabularies, evidence rules, procedures, and normative coordinates of $\mathcal{J}_t$ are themselves open to defensible revision.

This principle extends rather than abolishes public justification. It asks how the justificatory forum is constituted and whether that constitution excludes relevant experiences or claims before deliberation begins. It also connects public reason to Sections 12, 14, and 16: power can shape observability, normalization can make some claims appear unreasonable, and evaluative capacities themselves have histories.

Comparison 20.8 (Justification within a background and justification of a background). A liberal justificatory question commonly asks whether coercion u_t can be justified to the relevant persons given the political and epistemic conditions under which they deliberate. GR adds a second question: whether the relational and generative conditions that determine who counts, what can be observed, which reasons can be articulated, and what alternatives can be considered are themselves justifiable.

The second question must not become infinitely regressive. Every act of justification occurs from within some historically situated language and set of capacities. GR therefore does not demand a view from nowhere. Its requirement is reflexive revisability: background conditions should not be immunized from political scrutiny merely because they are presupposed by present justificatory practice.

Limitation 20.9 (No background-free standpoint). Background independence in GR does not imply that political actors can deliberate outside all backgrounds simultaneously. It means that no particular background is granted unconditional ontological or normative immunity from possible reconstruction. Justification remains situated even when the conditions of situatedness become objects of later justification.

20.4 GR and the Historical Generation of Freedom

The central GR extension of liberal freedom is historical. At a given time, a person may face a set of available actions and constraints. Yet those opportunities are inherited from earlier institutional, technological, economic, educational, ecological, and interpersonal relations. What appears as the present domain of choice is partly the sedimented result of prior generation.

A static freedom assessment might evaluate

$$\mathfrak{F}_t = \mathfrak{F}(A_t, C_t, X_t). \quad (107)$$

A generative assessment instead considers

$$\mathfrak{F}_t = \mathfrak{F}(A_t, C_t, X_t; \mathcal{R}_{\leq t}, \mathcal{G}_{\leq t}, H_t), \quad (108)$$

because the agent, constraints, and available doings or becomings can all depend on historical trajectories.

This formulation clarifies a problem that liberal theories themselves often recognize in different forms. Formal permission can coexist with severe practical incapacity. Sen's capability perspective emphasizes that resources and formal rights do not map uniformly into substantive opportunities because conversion conditions vary (Sen 1999). GR accepts this insight and adds a temporal-generative layer: conversion conditions themselves are produced through prior relations and can be targets of political intervention.

Definition 20.10 (Historical freedom). *Historical freedom* is the effective capacity of an agent at time t considered together with the relational trajectories through which the agent's capacities, constraints, action-space, and access to future revision were generated.

Historical freedom makes two systems distinguishable even when they offer the same nominal set of choices at one moment. One system may have produced those choices through broad capacity formation and revisable institutions; another may temporarily permit the same options while preserving relations that can withdraw them unilaterally. The present menu is therefore not always sufficient to characterize the freedom structure.

Proposition 20.11 (Present choice equivalence does not imply historical freedom equivalence). *Suppose two political configurations provide an agent with the same immediately available action set X_t and the same presently observable prohibitions C_t . If the configurations differ in the historical-relational mechanisms that reproduce the agent's capacities, standing, or ability to revise future constraints, then they need not be equivalent with respect to historical freedom.*

Proof. Historical freedom is defined over both present effective capacity and the trajectories generating the conditions of that capacity. Equality of X_t and C_t fixes only part of the evaluative object. A difference in mechanisms reproducing capability, standing, or revisability therefore constitutes a difference in historical freedom even when current options coincide. The proposition establishes non-equivalence of the objects of evaluation, not a complete ranking of the two configurations. $\square$

The proposition also explains why temporary deregulation, one-time permission, or formal legal equality may fail to settle a freedom question. The relevant relation may remain fragile, revocable, path-dependent, or structurally dependent on capacities that are unevenly reproduced.

Remark 20.12 (History is not an automatic veto). Historical freedom does not imply that every unequal history invalidates every present relation, nor that political evaluation must reconstruct an unlimited causal past. The relevant historical depth depends on whether earlier generative processes continue to structure present capacities, dependencies, recognizability, or revision opportunities.

This formulation preserves a liberal concern with what persons can actually do while making the genesis and reproduction of that capacity visible.

20.5 GR and the Generation of Choice Spaces

The deeper extension concerns the choice space itself. Many political theories evaluate which options agents possess, how valuable those options are, or whether they can exercise them effectively. GR additionally asks how the set of options became available and whether political actors can participate in revising the processes that generate future options.

Let M_t denote the effective political possibility space and let

$$X_t(A) \subseteq M_t \quad (109)$$

denote the subset effectively accessible to agent A . A conventional freedom comparison can ask whether $X_t(A)$ is large, valuable, protected, or fairly distributed. GR adds the dynamical relation

$$M_{t+1} = \Gamma(M_t, \mathcal{R}_t, \mathcal{G}_t, u_t, H_t), \quad (110)$$

Here u_t denotes intervention, while Γ denotes the historically situated mechanism that reproduces or transforms the possibility space.

Distinction 20.13 (Choice freedom and choice-space freedom). *Choice freedom* concerns the options effectively available to an agent within a given possibility space. *Choice-space freedom* concerns the agent's effective standing and capacity to participate in the processes through which the relevant possibility space is reproduced, expanded, contracted, or reorganized.

This distinction does not imply that everyone must directly control every institution affecting future options. Complex societies require delegated authority, specialization, expertise, and durable rules. The normative issue is whether subjects are merely located within a space generated by others or possess defensible forms of participation, contestation, representation, exit, learning, and revision with respect to the processes that shape future possibility.

Section 11 called the stronger capacity *generative freedom*. The liberal comparison now clarifies its relation to familiar liberty concepts. Generative freedom does not replace negative freedom: protection against arbitrary interference remains important. It does not replace positive freedom or capability: substantive capacities remain important. It adds a temporal-relational dimension concerning who can influence the production of future capacities and options.

Definition 20.14 (Generative freedom in liberal comparison). Within the liberal comparison, *generative freedom* denotes the effective and normatively defensible capacity of political subjects to participate, directly or indirectly, in the formation and revision of the relational conditions that structure their future possibilities, without requiring complete control over those conditions.

Generative freedom does not require complete control. Background independence does not imply sovereign authorship of one's world. Persons inherit histories, ecological conditions, languages, technologies, institutions, and relations they did not choose. Generative freedom concerns standing within processes of transformation, not independence from relational inheritance.

Claim 20.15 (Freedom can concern the production of options). Where political institutions systematically determine which future options can come into existence, a complete freedom analysis may need to evaluate not only access to existing options but also subjects' standing in the processes that generate, suppress, or reorganize future options.

This claim becomes especially relevant under technological change. A new infrastructure can create actions that were previously unavailable, eliminate others, alter the costs of exit, generate new dependencies, and create new kinds of political subject. The relevant freedom problem can therefore involve a transition

$$M_t \longrightarrow M_{t+1}, \quad (111)$$

not merely movement of an agent from one point to another inside a fixed M .

Example 20.16 (Formal permission under a generated dependence). Suppose an institution formally permits an individual to leave a service at any time. If the surrounding relational infrastructure has evolved so that employment, identity verification, communication, or access to essential records are all mediated through that service, the legal permission to exit may coexist with a severely contracted effective exit space. GR would analyze both the formal liberty and the generative history that produced the dependency.

The example does not predetermine the normative conclusion. It demonstrates why the architecture generating choices can become part of the object of freedom analysis.

20.6 Liberal Primitives under Background Independence

The comparison can now be stated more precisely. GR does not claim that liberalism necessarily believes persons, rights, liberty, institutions, or public reason to be metaphysically eternal. Nor does it claim that liberal theories cannot analyze social structure, history, dependency, or material capability. The distinction is instead one of *framework architecture*. Liberal theories typically require some sufficiently stable specification of persons, liberties, rights, reasons, or institutions in order to formulate the normative question. GR allows those specifications themselves to become endogenous to the theory.

Let a political-philosophical background be

$$B_t = (A_t, \mathcal{R}_t, M_t, \mathcal{O}_t, \mathcal{N}_t, \mathcal{G}_t). \quad (112)$$

A fixed-background analysis holds enough of B_t fixed while evaluating political objects. GR may instead permit

$$B_t \longrightarrow B_{t+1}. \quad (113)$$

This includes changes in who counts as an agent, which relations are politically salient, what possibilities exist, what can be observed, which normative distinctions are available, and which mechanisms generate future states.

Proposition 20.17 (Fixed-background liberal analysis as a restricted GR case). *Consider a GR political model in which, over the interval relevant to a particular inquiry,*

$$A_t = A, \quad M_t = M, \quad O_t = O, \quad N_t = N, \quad G_t = G, \quad (114)$$

and the politically relevant relation types are held fixed. Under these restrictions, GR can evaluate freedom, rights, coercion, and justification within the fixed background without requiring a generative analysis of background transformation. The resulting inquiry can therefore reproduce the logical form of many familiar liberal problems as a restricted case.

Proof. Background independence is a permission to treat background components as dynamical when the problem requires it, not a requirement that every component vary in every model. If the components in Equation (114) are fixed, the remaining political problem concerns relations, actions, constraints, and justifications inside the stipulated background. The generative variables are then constant parameters for the interval of analysis. Liberal-style questions concerning permissible interference, protected liberties, rights, distribution, and public justification can be formulated without contradiction inside that restricted GR model. $\square$

The proposition is important for the intellectual positioning of GR. It means the framework need not define itself through wholesale rejection. Background independence generalizes fixed-background inquiry in much the same way that a dynamical treatment can contain a static approximation as a locally useful case. The question is not whether every liberal analysis is invalid, but when holding the background fixed conceals the political phenomenon that matters.

Criterion 20.18 (Background-release criterion). A liberal-style fixed-background analysis should be supplemented by a generative relational analysis when the political question materially depends on the historical generation or transformation of one or more of the following: the subject set, relation types, effective capacities, possibility space, observability conditions, justificatory procedures, or normative categories.

The criterion also limits GR's own tendency toward unnecessary complexity. If none of these background transformations is relevant, introducing a full generative ontology may add formal burden without explanatory gain.

The relation between liberalism and GR can therefore be summarized as one of inheritance, extension, and reflexive reconstruction. GR inherits liberal concern for the standing of persons, the burden of justification placed on coercion, the value of protected liberty, and the importance of institutions capable of sustaining fair terms of political life. It extends these concerns to the generation of the agents, relations, capacities, observables, and possibilities upon which liberal evaluation depends. And it reconstructs freedom as not only a condition within a political world but, in some contexts, a capacity to participate in the generation of the world's future relational possibilities.

Synthesis 20.19 (Liberalism under a generative relational reconstruction). Liberalism supplies GR with indispensable political questions concerning liberty, rights, equality, coercion, and justification. GR does not displace these questions. It changes their ontological and temporal setting. The liberal subject becomes historically and relationally constituted political subjecthood; liberty becomes a generatively indexed relation; constraint can be restrictive, constitutive, or generative; public justification becomes dependent on historically generated publics, vocabularies, observables, and procedures; and the choice space itself becomes a dynamical political object. Under fixed-background conditions, familiar liberal analysis remains available as a restricted case. Where the background changes, GR asks an additional question: how are the conditions under which persons can be free generated, reproduced, and transformed?

This first lineage comparison demonstrates the general method that the following sections will use. GR should neither erase the achievements of established political philosophies nor define novelty through exaggerated opposition. Its distinctive claim lies in relocating their characteristic normative problems within a background-independent theory of generative relations. Section 21 applies the same method to republicanism, where the relational structure of freedom is already more explicit and the comparison therefore shifts from interference to the historical generation of domination and dependence.

21 Republicanism and the Generative Constitution of Domination

Among the major lineages considered in this paper, contemporary republicanism is one of the closest to GR at the level of political diagnosis. Republican freedom is not exhausted by the absence of actual interference. A person may be left alone and nevertheless remain unfree if another retains an uncontrolled capacity to intervene in that person's choices. The paradigmatic contrast is therefore not simply interference versus non-interference, but independence versus subjection to a power that one does not control. Contemporary neo-republican theory develops this idea through the concept of freedom as non-domination, especially in the work of Pettit, while Skinner reconstructs an associated neo-Roman tradition in which dependence on the will of another is itself a condition of unfreedom (Pettit 1999; Skinner 1998). Lovett further systematizes domination through the relation between social dependency and imbalances of power (Lovett 2010).

GR shares with republicanism the rejection of a purely episodic picture of freedom. The political significance of a relation does not depend only on what happens at a particular instant; it depends on the structure of possible interventions, dependencies, exit conditions, and institutional protections that organize the relation across time. This makes republicanism an especially important interlocutor for a generative relational political philosophy. Yet the proximity also clarifies the point of departure. GR asks not only whether an actor is dominated within a given relational structure, but how the structure that makes domination possible is generated, how the relevant positions become available, how dependence is reproduced across scales, and how the rules governing future relations can themselves become objects of domination or contestation.

The comparison can be represented schematically as

republican question: Is an agent subject to uncontrolled power?

GR extension: How are the agent and dependency generated, (115)
and how is the field of control reproduced or transformed?

The second question does not replace the first. It embeds it in a historical and generative analysis.

Comparison 21.1 (Republicanism and GR). Republicanism already treats freedom as structurally relational: an agent can be unfree even when no one presently interferes, because the agent remains dependent on another's uncontrolled capacity. GR inherits this structural insight and extends it by treating dominating and dependent positions, the relations connecting them, the generators that reproduce those relations, and the possibility spaces in which domination can occur as historically variable and potentially emergent.

The resulting GR account is therefore not a rejection of non-domination. It is an attempt to place non-domination inside a background-independent and recursively generative political ontology. The core shift is from domination as a property of a specified dependency relation to domination as a phenomenon whose relational preconditions, positional architecture, and future reproduction must themselves be explained.

21.1 Freedom as Non-Domination

The republican conception of freedom is commonly presented through a contrast with freedom as non-interference. If another person possesses the uncontrolled capacity to intervene in my choices, I may remain dependent on that person's goodwill even when intervention never occurs. The benevolent master remains a master. What matters is therefore not only the frequency of interference but the structural fact that one person's choices remain exposed to another's discretionary power (Pettit 1999; Skinner 1998).

This structure can be represented minimally by distinguishing actual intervention from controlled exposure. Let $I_t(B, A)$ denote an intervention by B in the affairs of A at time t , and let $C_t(B, A)$ denote an effective capacity of B to alter those affairs without being suitably constrained by a control structure in which A stands as an equal. A republican diagnosis of domination does not require

$$I_t(B, A) \neq 0. \quad (116)$$

It can arise from the standing relation

$$C_t(B, A) > 0 \quad \text{under conditions of dependency and insufficient control.} \quad (117)$$

The notation is schematic. It does not imply that domination can ordinarily be measured by a single scalar. Its role is to mark the conceptual distinction between an exercised intervention and a standing capacity that structures the other's position.

Definition 21.2 (Republican domination relation). A *republican domination relation* exists when an agent or group is dependent, in a politically relevant domain, on a power that another agent, group, institution, or organized structure can exercise without adequate control by those subject to it. The relation may persist even when the power is not presently exercised.

Pettit's later democratic theory emphasizes that public coercion need not itself constitute domination when citizens enjoy an equally shared form of control over those who govern (Pettit 2012). This is important for GR because it prevents a simple equation between freedom and the elimination of all interference. Laws, institutions, and constraints can help constitute non-domination when they secure people against dependence on uncontrolled private or public power.

Inheritance 21.3 (Structural freedom). GR inherits the republican insight that freedom is a structural condition, not merely a count of unimpeded choices. Political freedom depends on the organization of power, dependency, institutional control, and the security with which agents can occupy their positions over time.

This inheritance fits closely with Section 11, which argued that freedom and constraint can be co-generated. A legal constraint on one actor may expand another actor's effective freedom by disabling a power of arbitrary exclusion or coercion. Conversely, formal permission can coexist with severe dependency when one actor controls the conditions under which another can use that permission. Republicanism therefore supplies

a powerful bridge between ordinary liberty analysis and GR's concern with the relational generation of possibility.

The GR extension begins when the terms of the domination relation are allowed to vary. Instead of writing domination simply as $D(A, B)$, the framework writes

$$D_t(A, B) = D(A_t, B_t, \mathcal{R}_t, \mathcal{G}_t, \mathcal{O}_t, M_t, H_t), \quad (118)$$

where the actors, relational structure, generative mechanisms, observables, possibility space, and inherited history can all change. Domination can therefore be generated, transformed, displaced, or dissolved through changes that occur outside the immediate dyad.

Extension 21.4 (From non-domination to generative non-domination). GR extends republican freedom from protection against uncontrolled power within an already specified political field to protection against uncontrolled power over the generation and revision of the relational field itself.

This is a stronger demand, but it should not be read as an all-or-nothing criterion. No political subject can control every condition of its own formation. Generative non-domination concerns politically consequential dependencies in which some actors or structures acquire asymmetric and insufficiently contestable control over the formation, transformation, or closure of others' relational possibilities.

21.2 Dependence and Structural Power

Republicanism becomes especially close to GR when domination is analyzed through dependency. Lovett's general theory, for example, places social relationships and dependency at the center of domination and connects domination to imbalances of power within those relationships (Lovett 2010). The point is not merely that one party possesses more resources. The asymmetry becomes politically significant because one party depends on a relation whose terms the other can control to a disproportionate degree.

GR can represent a dependency relation by distinguishing the value of a relation from the cost of losing or revising it. Let R_{AB} be a relation on which A depends. Let $E_A(R_{AB})$ represent the effective exit or substitution set available to A , and let $T_A(R_{AB})$ represent the transformations of that relation that A can initiate or contest. A relation becomes structurally vulnerable when both sets are severely restricted while B retains substantial control over the relation's terms:

$$|E_A(R_{AB})| \ll |E_B(R_{AB})|, \quad |T_A(R_{AB})| \ll |T_B(R_{AB})|. \quad (119)$$

Again, cardinality is illustrative rather than a proposed universal measure. The important issue is asymmetric control over exit, substitution, and transformation.

Definition 21.5 (Generative dependency). A *generative dependency* is a dependency relation whose continuation or termination significantly conditions an actor's capacity to form, revise, or access other politically consequential relations in the future.

This definition adds a temporal layer to ordinary dependency. Dependence on one relation may be consequential because it acts as a gateway to many others. Employment may organize access to income, status, residence, social recognition, or future opportunities. Membership may condition access to institutional voice. A technical platform or monetary infrastructure may mediate a wide family of later transactions. The political depth of the dependency therefore depends partly on its downstream generative reach.

Let $\mathcal{D}_t(A)$ denote the set of relations on which A is effectively dependent, and let $\Gamma^+(R)$ denote the downstream relations whose formation is enabled or constrained by R . Then a dependency can be shallow or generatively deep depending on the structure of

$$R \longrightarrow \Gamma^+(R). \quad (120)$$

The point is not that every dependence is domination. Human life is constituted by dependence, interdependence, care, ecological reliance, infrastructures, and institutional cooperation. GR therefore rejects any inference from dependence as such to unfreedom.

Distinction 21.6 (Dependence and domination). Dependence is a relational condition in which an actor's effective capacities are significantly conditioned by a relation or by another actor. Domination arises only when such dependence is coupled to an asymmetry of insufficiently controlled power. Mutual dependence, democratically controlled dependence, or dependence embedded in robust rights and contestation need not constitute domination.

This distinction matters because a background-independent theory cannot simply idealize independence from all relations. GR is relational by construction. Freedom cannot mean absence of dependency in any general sense, because agents themselves are generated and sustained through relations. The relevant question is instead how dependency is organized, whether power within it is contestable, how alternatives can be generated, and whether one party can unilaterally reshape the other's future possibilities.

Claim 21.7 (Generative depth of domination). Domination is generatively deeper when control over one dependency relation enables control over a wider family of future relations, observables, or possibility spaces on which the dependent actor's agency subsequently relies.

This claim connects republicanism to the account of generative power developed in Section 12. A dominating relation can reproduce itself not only by coercing compliance but by shaping exit costs, relation-forming opportunities, classifications, institutional recognition, and the alternatives that might otherwise weaken the dependency.

21.3 Historical Generation of Relations of Domination

Republican theory identifies the political wrong of domination with impressive structural clarity. GR asks an additional historical question: how did the relation acquire the structure that makes domination possible? A present imbalance of power can be the result of accumulated law, institutional design, inherited classification, resource concentration, technological mediation, prior coercion, or a long sequence of individually modest relational changes. A domination relation therefore has a genealogy even when its present operation appears simple.

Let a dependency at time t be represented by D_t . A static analysis asks whether D_t is dominating. A generative analysis asks how

$$D_{t-k} \longrightarrow D_{t-k+1} \longrightarrow \cdots \longrightarrow D_t \quad (121)$$

was produced, and how the sequence altered the relevant generators and possibilities along the way.

Definition 21.8 (Historical generation of domination). The *historical generation of domination* is the process through which relational transformations create, intensify, stabilize, or transmit dependencies coupled to insufficiently controlled power.

This historical perspective changes at least three aspects of republican analysis. First, it distinguishes a relation's present form from its generative trajectory. Two relations can exhibit similar present asymmetries while carrying different inherited obligations, vulnerabilities, or repair requirements because they were generated differently. Second, it makes visible the accumulation of asymmetry. Domination need not originate in one decisive act; it can emerge through repeated small changes that gradually alter exit, bargaining, recognition, or access to alternatives. Third, it exposes the possibility that domination can survive the formal abolition of the relation that originally generated it.

Suppose a dominating relation R^D is formally terminated at t_0 . If its historical operation has altered the distribution of capacities, classifications, institutions, or downstream relations, then

$$R_{t < t_0}^D \longrightarrow (\mathcal{R}_{t_0}, \mathcal{G}_{t_0}, M_{t_0}) \quad (122)$$

can remain politically consequential after R^D itself disappears. The same point was developed normatively in Section 17: termination of an unjust relation does not automatically erase the effects generated by its history.

Principle 21.9 (Historical residue of domination). The removal of a formally dominating relation is not sufficient for generative non-domination when that relation has produced durable asymmetries in the capacities, alternatives, classifications, or relation-forming opportunities of the formerly dependent parties.

This principle does not imply that every historical asymmetry generates an indefinite claim. It states only that republican freedom should not be assessed exclusively from the formal status of a present relation when the generative effects of prior domination remain active.

The historical account also helps explain why domination can become normalized. A long-lived dependency may be reproduced through expectation, classification, and institutional practice until the asymmetry appears as the ordinary background of interaction. Section 14 described precisely this recursive process. Republican critique can identify the resulting subjection; GR adds an account of how the relation became sufficiently stable to appear normal and how normality can contribute to its reproduction.

Comparison 21.10 (Republican diagnosis and GR genealogy). Republicanism provides a criterion for identifying unfreedom in relations of uncontrolled dependence. GR adds a genealogy of how those relations, dependency structures, and control asymmetries are generated and how their effects can persist after their formal reorganization.

21.4 Generation of Dominating and Dependent Positions

A further GR extension concerns the units that occupy domination relations. Political analysis often describes one actor as dominating another, but the underlying structure can be generated before particular individuals enter it. Offices, legal statuses, ownership forms, organizational hierarchies, technical permissions, and institutional classifications can create positions with asymmetric powers. Persons then enter those positions and inherit capacities that are partly independent of their individual character.

Let Π_t denote a set of institutionally or relationally stabilized positions and let

$$\rho_t : A_t \longrightarrow \Pi_t \quad (123)$$

assign actors to positions. The power attached to an actor can then depend partly on the structure of the position:

$$P_t(A) = P(A_t, \rho_t(A), \mathcal{R}_t, \mathcal{G}_t). \quad (124)$$

This allows domination to be reproduced even when the individual occupants of the positions change.

Definition 21.11 (Generated domination position). A *generated domination position* is a socially, institutionally, or technically produced position that carries a structurally asymmetric capacity to control the terms, continuation, or transformation of relations on which others depend.

Definition 21.12 (Generated dependency position). A *generated dependency position* is a produced position whose occupants depend on relations whose essential terms, alternatives, or transformation pathways are substantially controlled elsewhere.

These definitions move analysis away from a moralized picture in which domination is reduced to one bad actor choosing to mistreat another. A benevolent occupant can leave a dominating position intact. Conversely, a person can occupy a constrained position without any single identifiable dominator if the asymmetry is distributed across rules, infrastructures, conventions, and institutional arrangements.

Proposition 21.13 (Positional reproduction of domination). *If a domination relation is encoded primarily in a stable positional structure Π_t rather than in the contingent preferences of its current occupants, replacing the occupants while preserving Π_t need not remove the domination relation.*

Proof. By assumption, the relevant asymmetry is carried by the powers, dependencies, and transformation rights attached to positions in Π_t . Changing the identities of the occupants leaves those relational properties intact. Unless replacement also changes the positional structure or the controls governing its powers, the conditions of domination can therefore persist. The proposition concerns structural persistence and does not imply that individual conduct is politically irrelevant. $\square$

This proposition gives a precise GR form to the republican idea that benevolence does not substitute for freedom. What matters is not merely who occupies the powerful position but whether the structure leaves another subject exposed to uncontrolled power. GR adds that the position itself has a history and a generator. The political task may therefore require transformation not only of behavior but of the rules that produce and reproduce the position.

Remark 21.14 (Subjects and positions are co-generated). The relation between actors and positions is not necessarily one-way. Institutions generate roles, but repeated action by occupants can transform the role itself. GR therefore treats positional domination as recursively generated rather than as a fixed institutional container.

This recursion also complicates the identity of the dominator. Some forms of domination may be attributable to a coordinated collective actor; others may be distributed across institutions and routines whose participants possess only partial control. GR can therefore preserve republican concern with subjection while avoiding the assumption that every dominating structure has a single intentional master.

21.5 Non-Domination within Changing Relational Fields

Republican freedom is often described as a robust status: one is not free merely because interference happens not to occur, but because institutions and social relations secure one against the possibility of uncontrolled interference (Pettit 1999; Pettit 2012). GR accepts the importance of robustness but asks how robustness should be understood when the relational field itself changes.

Suppose non-domination at time t is assessed against a field

$$\mathfrak{F}_t = (A_t, \mathcal{R}_t, \mathcal{G}_t, M_t, \mathcal{C}_t), \quad (125)$$

where $\mathcal{C}_t$ denotes the control and contestation structures that constrain power. Even if the field secures non-domination at t , its generators can evolve:

$$\mathfrak{F}_t \longrightarrow \mathfrak{F}_{t+1}. \quad (126)$$

A new technology, institutional arrangement, classification regime, dependency, or organizational form can generate powers not covered by the earlier control structure. The problem is then not simply that an old dominator acquired more power; a new domination relation can emerge because the architecture of dependence has changed faster than the architecture of contestation.

Definition 21.15 (Control lag). *Control lag* is the temporal mismatch between the emergence of a politically consequential power or dependency and the development of institutions, practices, or capacities capable of subjecting that power to adequate control.

Control lag is the republican analogue of the legitimacy lag introduced in Section 18. A new relation may be economically, technically, or administratively effective before political institutions possess concepts or procedures capable of making its power contestable. In a background-independent framework, non-domination therefore cannot be guaranteed once and for all by a fixed institutional design.

Principle 21.16 (Adaptive non-domination). A non-dominating political order must preserve controls over existing powers and capacities to detect, contest, and revise newly generated forms of dependence and control.

This principle changes the temporal orientation of republican freedom. The political objective is not merely to reach a state in which current powers are adequately controlled. It is to maintain a generative capacity for control under changing relational conditions. Democratic contestation, transparency, institutional revision, collective organization, and epistemic recognition can therefore have value partly because they preserve the ability to respond to powers that do not yet exist in their present form.

The same reasoning applies to exit. An actor may currently possess a formally adequate alternative, but future transformations can close it. Conversely, a dependent relation can become less dominating when new alternatives, solidarities, institutions, or technologies expand the dependent party's effective substitution and transformation sets. Thus non-domination can be generated as well as protected.

Claim 21.17 (Non-domination is itself generative). Institutions of non-domination do not merely constrain existing power. At their strongest, they generate capacities for contestation, alternative relation formation, institutional learning, and future revision that reduce dependence on uncontrolled power across changing circumstances.

This claim brings republicanism into close contact with GR's account of future generativity. A non-dominating order is not simply one with fewer masters at a snapshot in time. It is one whose relational architecture makes it difficult for mastery to regenerate unnoticed or uncontested.

21.6 Generative Relational Freedom under Changing Dependency Structures

The comparison can now be stated more precisely. Republican freedom asks whether persons or groups enjoy a secure status of non-domination. GR accepts that criterion as politically important but adds a second-order question: who controls the generation of the dependencies, positions, relation types, and possibility spaces through which domination can arise?

This yields a stronger conception of freedom:

Definition 21.18 (Generative republican freedom). *Generative republican freedom* is a condition in which political subjects are protected against uncontrolled power not only over their existing choices and relations, but also over the formation, transformation, and closure of the relational possibilities on which their future agency depends.

The definition has three components. First, it preserves republican non-domination: current powers should not subject others to uncontrolled dependence. Second, it adds generative reach: control over future relation formation and possibility spaces can itself become dominating. Third, it adds revisability: because the relational background changes, the institutions of non-domination must themselves remain capable of adaptation and contestation.

Let C_t denote the control structure constraining power and let $\mathcal{G}_t$ denote the generator of politically consequential relations. Ordinary republican analysis can often focus on whether

$$C_t \text{ adequately constrains powers generated within } \mathcal{G}_t. \quad (127)$$

GR adds the requirement that control extend, where feasible, to the generative architecture itself:

$$C_t \rightsquigarrow \text{Contest}(\mathcal{G}_t, M_t, \Pi_t), \quad (128)$$

where Π_t denotes stabilized political positions. The notation $\rightsquigarrow$ marks an institutional orientation rather than a total capacity to redesign society at will.

Principle 21.19 (Contestability of generators). Where a generative mechanism systematically structures politically consequential dependencies, the republican demand for contestability should extend, as far as institutionally possible, from particular exercises of power to the rules and infrastructures that generate the dependency itself.

This is perhaps the most direct GR extension of republicanism. It suggests that political freedom can require contestability at multiple levels:

$$\begin{aligned} &\text{contest an intervention,} \\ &\text{contest a standing power,} \\ &\text{contest a dependency relation,} \\ &\text{contest the position that carries the power,} \\ &\text{contest the generator that reproduces the position and relation.} \end{aligned} \quad (129)$$

The levels need not all be activated in every case. Their value is diagnostic: they distinguish disputes over a particular exercise of authority from disputes over the machinery that continuously regenerates the authority relation.

Proposition 21.20 (Republicanism as a fixed-background limit). *Suppose the relevant actors A , dependency relations $\mathcal{D}$, positional structure Π , generative rules $\mathcal{G}$, possibility space M , and control structure C are treated as fixed over the interval of analysis. Then GR's account of domination reduces, for that interval, to the familiar republican question of whether actors are subjected to insufficiently controlled power within the specified relational structure.*

Proof. When A , $\mathcal{D}$, Π , $\mathcal{G}$, M , and C are fixed, no explanatory work is required to account for their generation or transformation during the interval. The remaining political question concerns the distribution and control of power across the specified relations. This is precisely the structural domain in which republican non-domination is designed to operate. GR adds explanatory content only when one or more of these background elements becomes variable. $\square$

This proposition parallels the fixed-background result developed for liberalism in Section 20. It also prevents an exaggerated novelty claim. GR need not displace republican theory when the background can responsibly be held fixed. Its distinctive contribution appears when domination is generated through transformations of dependencies, roles, infrastructures, classifications, or state spaces themselves.

Synthesis 21.21 (Republicanism within GR). Republicanism contributes to GR a powerful structural conception of freedom as independence from uncontrolled power. GR extends that conception historically and generatively. It asks how dependencies are produced, how dominating and dependent positions are stabilized, how domination persists through historical residue, how new powers outrun inherited control structures, and how political subjects can participate in contesting not only exercises of power but the generators that reproduce relations of dependence. The resulting conception is not freedom from relation, but freedom within relational life from forms of generative subjection that others can impose without adequate control.

This synthesis marks a significant difference between GR and theories that begin from non-interference alone. Yet it also shows why republicanism is not merely one external comparator among others. Its emphasis on structural dependence, robust freedom, institutions, and contestability already occupies terrain close to generative relational political philosophy. The GR move is to make the terrain itself dynamic: the subjects, dependencies, positions, controls, and spaces of possible relation are all permitted to emerge and transform. The next lineage comparison approaches a related problem from a different direction by examining theories in which the constitution of the self by social relations is already central.

22 Communitarianism and the Co-Generation of Selves and Communities

The communitarian critique of liberalism is an important interlocutor for GR because it contests a picture of political subjects as fully specifiable prior to the social relations, practices, languages, traditions, and attachments through which they become intelligible to themselves and to others. In the debates surrounding Rawlsian liberalism, figures commonly grouped under the communitarian label—including Michael Sandel, Charles Taylor, Alasdair MacIntyre, and Michael Walzer—challenged, in different ways, the abstraction of persons from constitutive attachments and historically situated forms of life (Sandel 1998; Taylor 1985; MacIntyre 2007; Walzer 1983). The label itself is imperfect: these thinkers do not constitute a single school, and several resisted or complicated the designation. The present section therefore uses *communitarianism* as a conventional name for a family of arguments concerning social constitution, embedded agency, tradition, shared meanings, and the political significance of communal forms rather than as a claim of doctrinal unity.

GR shares much of the motivation behind this critique. A political subject is not treated as an isolated bearer of preferences that can be completely described before entering social relations. Capacities for language, practical reasoning, recognition, memory, identity, and action can be generated through relational histories. Yet GR also resists a symmetrical mistake: replacing the individual as the fundamental primitive with *community* as a new fundamental primitive. Communities themselves have boundaries, membership criteria, narratives, institutions, media, material infrastructures, internal asymmetries, relations to outsiders, and mechanisms of reproduction. These too have histories. They can emerge, split, merge, decay, migrate, overlap, and transform. Their

norms and interpretive horizons may be contested by the very persons whose identities they help constitute.

The GR extension is therefore a move from social embeddedness to *co-generation*. Instead of choosing between

$$\text{individual} \longrightarrow \text{community} \quad \text{and} \quad \text{community} \longrightarrow \text{individual}, \quad (130)$$

GR studies a coupled process of the form

$$(A_t, C_t, \mathcal{R}_t, \mathcal{G}_t, H_t) \longrightarrow (A_{t+1}, C_{t+1}, \mathcal{R}_{t+1}, \mathcal{G}_{t+1}, H_{t+1}), \quad (131)$$

where A_t denotes effective subjects or agents, C_t communal formations, $\mathcal{R}_t$ the relevant relational configuration, $\mathcal{G}_t$ the mechanisms that reproduce or transform those relations, and H_t inherited history. The equation is schematic. Its purpose is to prevent either side of the relation from being granted unconditional ontological priority.

Comparison 22.1 (Communitarianism and GR). Communitarian approaches emphasize that selves are constituted within social practices, traditions, languages, and attachments. GR inherits this anti-atomistic insight but generalizes it into a background-independent account in which communities, their boundaries, their membership rules, their normative vocabularies, and the subjects formed within them can all be generated and transformed. The GR question is therefore not only how community constitutes the self, but how selves and communities recursively participate in constituting one another.

This co-generative approach makes communitarianism especially useful to the larger argument of the paper. It connects Section 10's account of political subjecthood with Sections 13, 14, and 16: communal forms can become effective realities, stabilize expectations of normality, and cultivate evaluative capacities. The background-independent commitment of Section 5 likewise prevents communal forms from being treated as fixed containers of political life.

22.1 Social Constitution of the Self

The communitarian critique is strongest when read not as a denial of individual agency but as a challenge to the idea that agency can be specified independently of the contexts that make reasons, commitments, identities, and forms of recognition intelligible. Sandel's critique of the Rawlsian subject argues that a conception of the person as always prior to and detachable from its ends understates the extent to which some commitments can be constitutive of who a person understands herself to be (Sandel 1998). Taylor's criticism of atomism similarly emphasizes the social conditions under which capacities associated with individuality and freedom become possible, while his broader work treats identity as formed through historically situated horizons of significance and dialogical relations (Taylor 1985). MacIntyre, from a different philosophical direction, stresses the tradition-constituted character of practical reasoning and the narrative organization of human action (MacIntyre 2007).

GR can express this insight by refusing to model the political subject as an invariant input A whose preferences alone change. Instead,

$$A_t = \Phi_A(\mathcal{R}_{\leq t}, L_t, I_t, P_t, H_t), \quad (132)$$

where L_t denotes linguistic and symbolic resources, I_t institutional conditions, P_t practices in which the person participates, and H_t the relevant historical inheritance. The function Φ_A is not a proposed empirical law. It marks the analytical claim that capacities and identities may depend on historically accumulated relations rather than being exhaustively given prior to them.

Inheritance 22.2 (The socially constituted subject). GR inherits from communitarian and related relational critiques the proposition that politically relevant subjecthood can depend on constitutive social relations. Language, recognition, practical traditions, institutions, and shared practices can participate in generating capacities through which a person becomes an effective political subject.

This inheritance is compatible with individuality. To say that an agent is socially constituted is not to say that the agent is reducible to current communal norms. A person may reinterpret inherited languages, reject traditions, leave associations, combine memberships, or generate new practices. Indeed, the capacity for such revision may itself be relationally cultivated. GR therefore distinguishes *relational constitution* from *communal determination*.

Distinction 22.3 (Relational constitution and communal determination). *Relational constitution* means that some capacities, identities, and forms of agency depend on relations and histories that the subject did not create alone. *Communal determination* would mean that the community fixes the subject's identity or legitimate ends in a way that leaves no politically relevant space for reinterpretation, exit, contestation, or recombination. GR accepts the former as a general possibility and rejects the latter as a necessary consequence.

The distinction matters politically. If social constitution were interpreted as complete determination, then critique of inherited norms would become conceptually difficult: resistance could only repeat the community that produced it. But generative relational systems can generate capacities that exceed the conditions of their origin. Literacy acquired within one tradition can make other traditions accessible; institutional membership can generate skills later used to contest the institution; a communal vocabulary can be recombined to articulate a criticism previously unavailable within that community. Generated capacities can therefore alter the relations that generated them.

This is an instance of recursive re-entry. Suppose A_{t+1} contains a capacity generated through relations in C_t . The generated capacity can subsequently act upon C_t :

$$C_t \longrightarrow A_{t+1} \longrightarrow \Delta C_{t+1}. \quad (133)$$

The subject is neither ontologically prior to the community nor a passive product of it. Subject formation and communal transformation can form a feedback loop.

Principle 22.4 (Constitutive relations can generate revisability). A relation that participates in constituting an agent can also generate capacities through which that agent later revises, contests, exits, or transforms the relation. Constitutive dependence therefore does not entail permanent normative subordination to the source of constitution.

This principle is especially important for political philosophy. Family, language, religion, educational institutions, professional practices, and political communities can be constitutive without acquiring unlimited authority over the persons shaped by them. Genesis does not entail normative jurisdiction.

22.2 Community as a Constitutive Relational Context

Communitarian theory also redirects attention from isolated agents to the shared practices through which goods acquire social meaning. Walzer's account of complex equality, for example, emphasizes that distributive principles depend on the meanings social goods have within particular spheres and communities rather than on a single distributive metric valid independently of social interpretation (Walzer 1983). Whatever one

concludes about this substantive proposal, it highlights a problem that GR takes seriously: political objects do not arrive with all their meanings already attached.

A currency, citizenship, public office, educational credential, religious role, or family status becomes politically intelligible through networks of practice and interpretation. The same material object can carry different rights, duties, expectations, and symbolic meanings across relational contexts. In GR terms, communal formations contribute to the production of observables and evaluative categories:

$$C_t \longrightarrow (\mathcal{O}_t, \mathcal{V}_t, \mathcal{N}_t), \quad (134)$$

where $\mathcal{O}_t$ denotes socially available distinctions, $\mathcal{V}_t$ evaluative capacities, and $\mathcal{N}_t$ normative vocabularies. Communities can therefore be generators of political intelligibility, not merely aggregations of persons who already possess a complete normative language.

Definition 22.5 (Communal relational context). A *communal relational context* is a sufficiently stabilized configuration of relations, practices, symbols, institutions, memories, and expectations through which participants acquire shared or partially shared capacities for identification, interpretation, coordination, and evaluation.

The definition deliberately avoids requiring perfect consensus, territorial closure, cultural homogeneity, or a single collective will. Many communities are internally divided. Their members may disagree about what the community is, what its history means, which practices are central, who belongs, and what obligations membership creates. Such disagreement does not necessarily dissolve the formation; it can itself become a recurrent relation through which the community is reproduced.

Remark 22.6 (Community without homogeneity). For GR, a community need not be modeled as a homogeneous cultural container. It may be a dynamically stabilized field of overlapping relations whose internal contestation is part of its mode of persistence. Sharedness can be partial, asymmetric, and historically revised.

This conception also clarifies why multiple membership is not anomalous. An individual can participate at once in families, professions, religions, linguistic publics, cities, states, online networks, scientific communities, diasporas, and political movements. These formations need not be nested cleanly. Their normative demands can conflict, and their boundaries can intersect differently across domains.

Let $\mathcal{C}_t(A)$ denote the set of communal formations in which an agent A participates at time t :

$$\mathcal{C}_t(A) = \{C_t^{(1)}, C_t^{(2)}, \dots, C_t^{(n)}\}. \quad (135)$$

The agent's effective identity and political position may depend not only on each membership independently but also on the couplings among them. A professional role can transform religious practice; migration can alter family relations; political institutions can redefine linguistic identities; digital infrastructures can connect previously distant communities. The relational domain is therefore multiplex rather than communally singular.

Extension 22.7 (From embeddedness to relational multiplicity). GR extends the communitarian emphasis on embedded selves by treating agents as participants in multiple, overlapping, and sometimes incompatible relational formations. The relevant political problem is not simply the relation between an individual and *the* community, but the dynamics through which multiple communal contexts jointly generate capacities, identities, obligations, and conflicts.

This extension helps prevent the communitarian critique from being interpreted as a choice between atomistic individualism and a unitary communal whole. GR replaces that binary with a heterogeneous relational ecology.

22.3 Ontological Privilege and the Community Primitive

Once the socially constituted character of the self is recognized, it is tempting to treat community as the deeper ontological unit. GR resists this move for the same reason it resists treating the individual as an unquestioned primitive: the supposed primitive itself can be generated.

A community has to acquire boundary, continuity, membership, memory, symbolic resources, and some capacity for reproduction. These features can be represented schematically as

$$C_t = \Phi_C(\mathcal{R}_t, B_t, M_t^{\text{mem}}, L_t, I_t, \mathcal{G}_t, H_t), \quad (136)$$

where B_t denotes boundary and membership practices, M_t^{mem} collective memory or archival resources, L_t symbolic and linguistic forms, I_t institutions, $\mathcal{G}_t$ generative mechanisms, and H_t inherited trajectories. None of these need remain fixed.

Claim 22.8 (Communities are effective formations rather than necessary primitives). A community can be politically and socially real while remaining historically generated. Its capacity to organize identity, obligation, recognition, or distribution does not require that its boundaries or normative content be ontologically prior to the relations through which it is reproduced.

This claim extends Section 13. A community may be an effective reality precisely because it produces durable consequences: it organizes recognition, distributes resources, preserves memories, shapes language, and conditions future relations. But effective reality does not imply eternal identity. Communities can persist through substantial changes in membership, territory, practice, or institutional form if relevant patterns of continuity are maintained.

The invariance-first discussion of Section 6 becomes useful here. Community identity need not be reduced to persistence of a substance or an unchanged population. One can instead ask what transformations the community can undergo while remaining recognizable as the same effective formation for the purposes at issue. Different domains may preserve different invariants: a religious community may privilege doctrinal or ritual continuity; a political community may privilege institutional succession; a diaspora may privilege memory, language, kinship, or narrative links despite territorial dispersion.

Interpretation 22.9 (Community identity as transformation-relative persistence). GR treats the identity of a community as dependent on which relational invariants are preserved under the transformations relevant to a given inquiry. This permits continuity without assuming an immutable communal essence.

The same approach helps analyze boundary politics. Membership criteria are not merely descriptions of a pre-existing collective. They can participate in producing the collective by controlling who is recognized, whose practices count as representative, which memories enter the archive, and which voices can authorize future interpretations.

Definition 22.10 (Boundary-generative power). *Boundary-generative power* is the effective capacity to shape who or what can enter, remain within, represent, or be excluded from a communal formation, and thereby to influence the community's subsequent relational and normative development.

Boundary-generative power connects communitarian questions to Section 12. A community can be constitutive for its members while its mechanisms of constitution remain politically asymmetric. Those who control educational curricula, religious interpretation, citizenship rules, archives, media, or membership procedures may influence which versions of the community can reproduce themselves.

Warning 22.11 (Communal constitution does not confer normative immunity). The fact that a community helps constitute identity does not by itself justify its existing authority, boundaries, exclusions, or inherited norms. Relational genesis and effective reality remain distinct from normative validity.

This safeguard is essential to the GR use of communitarian insights. Otherwise, a theory intended to correct atomistic abstraction could inadvertently naturalize historically produced communal power.

Liberal responses to the communitarian debate reinforce this caution. Kymlicka, among others, argued that liberal autonomy can acknowledge the importance of cultural membership and social context rather than presupposing a socially unencumbered chooser (Kymlicka 1989). GR therefore should not present the liberal–communitarian debate as a settled opposition between isolated selves and communal selves. Its concern is different: even theories that recognize social embeddedness can still hold fixed the categories and backgrounds through which embeddedness is described.

22.4 Co-Emergence of Individuals and Communities

The stronger GR proposal is co-emergence. Individuals and communities are analytically distinguishable, but their effective forms can develop through coupled feedback. A community can generate language, identity, recognition, resources, and capacities; individuals and subgroups can reproduce, reinterpret, fragment, or transform the community. Neither direction needs to be temporally or ontologically absolute.

Let A_t denote a vector of effective subject formations and C_t a vector of communal formations. A minimal coupled system can be written as

$$\begin{aligned} A_{t+1} &= F_A(A_t, C_t, \mathcal{R}_t, \mathcal{G}_t, H_t), \\ C_{t+1} &= F_C(C_t, A_t, \mathcal{R}_t, \mathcal{G}_t, H_t). \end{aligned} \tag{137}$$

The formulation is intentionally symmetrical in logical form without assuming symmetry in power. Some communities exercise far greater influence over members than individual members exercise over the community; other formations may be fragile and dependent on a small number of participants. Co-generation concerns reciprocal participation in formation, not equal causal weight.

Definition 22.12 (Self–community co-generation). *Self–community co-generation* is a recursive process in which communal relations participate in generating the capacities, identities, and positions of political subjects, while the actions, interpretations, departures, innovations, and conflicts of those subjects participate in reproducing or transforming communal formations.

This definition changes several familiar political questions. The problem of exit, for example, is no longer only whether a person has formal permission to leave a community. Leaving may require capacities, alternative relations, recognition, material support, or linguistic resources generated partly by the very community one seeks to leave. At the same time, exit can transform the community by changing membership, authority, demographic reproduction, or public interpretation.

Similarly, the question of cultural preservation is not simply whether a community should be protected from external interference. Preservation policies can alter the generative mechanisms of the culture they aim to preserve. Formalizing a language, fixing a canon, subsidizing a ritual, or legally recognizing a customary authority can change who has interpretive power and which variants reproduce. Preservation is therefore itself generative intervention.

Principle 22.13 (Preservation transforms what it preserves). When political institutions intervene to preserve a community, tradition, language, or practice, the intervention can alter the relations, authorities, incentives, and classifications through which the preserved formation reproduces itself. Preservation should therefore be analyzed as a mode of generative transformation rather than as simple freezing of an antecedent object.

This principle is important for multicultural and minority-rights debates. It does not entail opposition to cultural protection. It means that the relevant evaluative object includes the institutional form through which protection is provided and the internal relations that the protection stabilizes or changes.

Co-generation also clarifies internal dissent. A dissenter is not necessarily external to the community whose norms she contests. Her criticism may be intelligible only because she inhabits its language and history. Yet by contesting inherited interpretations she can participate in generating a different future version of the community.

Example 22.14 (Internal critique as recursive generation). Suppose a religious or cultural community supplies a member with a vocabulary of dignity, obligation, and interpretation. The member uses that vocabulary to criticize an inherited exclusionary practice and helps establish a new institutional interpretation. The community has participated in generating a capacity that subsequently transforms the community. The process is neither adequately represented as autonomous choice against community nor as passive conformity to community.

The same logic applies to political nations, professional communities, academic disciplines, and movements. Their members are formed by inherited practices while also participating in their revision. GR therefore treats communal continuity and personal autonomy not as mutually exclusive ontological principles but as potentially coupled achievements whose compatibility depends on generative structure.

Proposition 22.15 (Co-generation blocks unilateral ontological priority). *If subject formations A_t depend for their reproduction on communal formations C_t , while C_t simultaneously depends for its reproduction on the activities and interpretations of A_t , then neither A_t nor C_t can be treated as explanatorily sufficient for the coupled dynamics without additional assumptions that break the reciprocal dependence.*

Proof. Under the coupled system in Equation (137), the update rule for A_{t+1} contains C_t , while the update rule for C_{t+1} contains A_t . Eliminating either term requires an additional reduction, closure assumption, or effective approximation. The proposition therefore establishes a limitation on unilateral explanatory sufficiency, not a claim that individuals and communities have equal causal influence or identical ontological status in every model. $\square$

The proposition gives formal expression to the central GR departure. The relevant unit of analysis can be the coupled generative system rather than either side in isolation.

22.5 Community Formation within Background-Independent Relational Dynamics

The final GR extension follows from background independence. Even a co-generative account can remain background-dependent if it assumes fixed categories of person, community, membership, language, territory, relation, or norm. GR instead permits the background defining communal life to transform.

Let a communal background be represented schematically as

$$\mathcal{B}_t^C = (A_t, C_t, \mathcal{T}_t^{\text{rel}}, M_t, \mathcal{O}_t, \mathcal{V}_t, \mathcal{N}_t), \quad (138)$$

where $\mathcal{T}_t^{\text{rel}}$ denotes available relation types, M_t the relevant possibility space, $\mathcal{O}_t$ observables and classificatory distinctions, $\mathcal{V}_t$ evaluative capacities, and $\mathcal{N}_t$ normative structures. Background-independent analysis allows

$$\mathcal{B}_t^C \longrightarrow \mathcal{B}_{t+1}^C. \quad (139)$$

Community formation can therefore change not only members or norms within a stable communal form, but also what counts as membership, communication, presence, territory, memory, or collective action.

Digital networks provide an obvious illustration. A community can persist without geographical co-presence, develop algorithmically mediated visibility, delegate memory to platforms, and acquire new forms of membership or exclusion. Migration can produce diasporic communities spanning jurisdictions and generations. Human–AI interaction may eventually alter practices of authorship, mediation, memory, interpretation, or representation within communities. These developments do not simply add new members to old containers; they can modify the relational architecture through which community is constituted.

Extension 22.16 (Background-independent communitarian insight). GR preserves the communitarian insight that political subjects are constituted within social contexts while dropping the assumption that the context must have a fixed ontology. Subjects, communities, membership rules, relational media, observables, normative vocabularies, and possibility spaces can co-evolve.

This background-independent extension also changes how political philosophy approaches communal conflict. A conflict may concern not only which value should prevail within a shared framework, but which framework should organize the conflict. Parties may disagree about the relevant community, the unit of membership, the authority of tradition, the meaning of representation, or the kinds of reasons that count. Such conflicts are partly *background conflicts*.

Definition 22.17 (Communal background conflict). A *communal background conflict* is a political conflict in which disagreement concerns not only outcomes or norms within a shared communal framework but also the constitution of the framework itself—its boundaries, membership, authority, observables, categories, or procedures of revision.

This concept helps connect communitarian questions to the larger architecture of the paper. Liberal public justification may struggle when the participants and reasons relevant to justification are themselves contested; republican non-domination may require attention to who controls community-defining institutions; generative justice must ask who can participate in forming, transforming, or leaving relational structures; and legitimacy can depend on whether the processes defining the political community remain revisable and contestable.

GR therefore does not resolve the liberal–communitarian debate by choosing one side. It reframes the ontology of the debate. The contrast between the unencumbered individual and the constitutive community becomes a special case within a broader generative problem.

Claim 22.18 (Generative reformulation). Political inquiry should ask how subjects, communities, boundaries, meanings, and capacities co-generate over time, and how the mechanisms of co-generation become objects of freedom, domination, justice, legitimacy, preservation, and transformation.

Once posed in this form, the political significance of community lies neither in its status as an eternal moral source nor in its reduction to voluntary association. It lies in the generative work communal relations perform and in the political organization of the processes through which they reproduce and change.

Synthesis 22.19 (Communitarianism within GR). The communitarian critique supplies GR with a powerful inheritance: persons are not intelligible as fully formed political atoms independent of languages, practices, histories, institutions, and attachments. GR extends this inheritance in four directions. First, it generalizes constitutive relations beyond a single individual–community dyad. Second, it treats communities themselves as emergent effective realities rather than final primitives. Third, it models selves and communities as recursively co-generative. Fourth, it makes the background of communal formation—membership, relation types, observables, normative vocabularies, and possibility spaces—historically transformable. The result is a relational account that preserves the importance of community without granting communal formations ontological or normative immunity.

The comparison therefore marks another step in the paper’s broader argument. GR can inherit the anti-atomistic insights of communitarian thought while declining to replace one fixed ontology with another. Political philosophy becomes an inquiry into the conditions under which both subjects and communities become possible, acquire effective reality, reproduce themselves, and remain open to revision.

23 Historical Materialism and the Marxian Foundations of GR

Historical materialism occupies a different position in this paper from the other political-philosophical lineages considered in the surrounding sections. Liberalism, republicanism, communitarianism, genealogy, critical theory, and process philosophy are important interlocutors against which the commitments of Generative Relational theory (GR) can be clarified. Historical materialism is also an interlocutor, but it is more than that. It is one of GR’s principal intellectual ancestries. The GR framework developed in this paper inherits from Marxian thought a set of commitments that are already deeply historical, relational, anti-substantialist, and practice-oriented: social forms are historically generated rather than natural givens; individuals are formed within social relations; political and legal forms cannot be understood in isolation from material life; apparently stable social realities can embody historically specific relations; and transformative practice changes the conditions under which subsequent action occurs (Marx 1845; Marx and Engels 1845; Marx 1859; Marx 1867; Wolff and Leopold 2025).

For that reason, the difference between GR and historical materialism cannot plausibly be stated as a contrast between a “static” Marxism and a “dynamic” GR, between an “individualist” Marxism and a “relational” GR, or between a supposedly linear nineteenth-century theory of history and a nonlinear contemporary one. Marx’s writings already resist such simplifications, and later Marxist traditions made the problem still more complex. Engels explicitly rejected a reading in which the economic factor acts as the sole historical cause (Engels 1890). Gramsci reconstructed historical materialism as a philosophy of praxis attentive to hegemony, civil society, culture, and historically situated consciousness (Gramsci 1971). Althusser developed structural causality, overdetermination, uneven development, and anti-humanism precisely to resist simple expressive or mechanical models of social determination (Althusser 2005; Althusser et al. 2016). Cohen, from a very different direction, reconstructed a

more systematic and analytically explicit version of historical materialism centered on productive development (Cohen 1978). These disagreements within Marxism matter because GR should be compared with the strongest available versions of its ancestry rather than with a textbook caricature.

The distinctive GR move is therefore better understood as a *generalization and radicalization of the historicizing impulse*. GR asks what follows if the historical and relational analysis Marx directed toward modes of production, classes, institutions, consciousness, and social forms is extended to the background conditions of analysis themselves. Production, class, labor, the human subject, relation types, causal mechanisms, observables, evaluative categories, and even effective spaces of possibility are not exempt in principle from generative analysis. GR also gives the notion of generation a more explicit recursive architecture: relations can generate new entities, relation types, observables, rules, and possibility spaces that subsequently re-enter the system as conditions of further generation. Finally, GR provisionally supplements this background-independent generative ontology with an invariance-first postulate and an integrated mathematical language drawn from dynamical systems, symmetry, fields, geometry, topology, and algebra.

Inheritance 23.1 (Historical materialism as constitutive ancestry). GR inherits from historical materialism the historicity of social forms, the relational constitution of subjects, the importance of material and institutional conditions, the practical character of social transformation, and the rejection of political categories as timelessly self-explanatory. These are constitutive inheritances of GR, not positions introduced in opposition to Marxism.

Extension 23.2 (The GR extension of the historicizing impulse). GR extends historical-materialist inquiry by refusing to grant permanent analytical privilege to any familiar social ontology. The framework permits production, class, labor, human subjecthood, observables, generative mechanisms, and effective possibility spaces themselves to become historically generated and transformable objects of inquiry.

This section develops that relationship in detail. The purpose is not to determine whether GR should be classified as a form of Marxism. Such a classificatory question is less useful here than a structural one: which problems, commitments, and explanatory strategies does GR inherit from historical materialism, and at what points does the framework introduce additional commitments that cannot simply be read off from the Marxian tradition?

23.1 Historical Materialism as GR's Primary Intellectual Ancestry

The most important Marxian inheritance is methodological before it is doctrinal. Marx repeatedly rejects explanations that begin from abstract political or philosophical categories and then treat those categories as self-sufficient causes. In the 1859 Preface, legal and political forms are said to arise from material conditions of life and to be intelligible in relation to the social production through which people enter historically specific relations of production (Marx 1859). In the *Theses on Feuerbach*, the human essence is denied the status of an abstraction inherent in the isolated individual and is instead situated in the ensemble of social relations; the same text insists on practice and on the reciprocal transformation of circumstances and human activity (Marx 1845). The *German Ideology* similarly begins from historically situated human activity, production, needs, and forms of cooperation rather than from an abstract subject outside history (Marx and Engels 1845).

These moves supply several foundational GR intuitions. First, a political object may be real and consequential without being ontologically primitive. Class, property, commodity, state, legal personality, and political consciousness can be historically generated formations. Second, relations can be constitutive rather than merely external links among already completed entities. Third, social explanation must attend to the reproduction and transformation of the conditions under which subjects act. Fourth, political theory cannot simply detach its normative and conceptual vocabulary from the historical world whose organization makes that vocabulary intelligible.

A schematic Marxian relation can be written as

$$(P_t, F_t, R_t, I_t) \longrightarrow (S_t, C_t, L_t, \Pi_t), \quad (140)$$

where P_t denotes productive activity, F_t productive forces, R_t relations of production, and I_t inherited institutional conditions; the right-hand side schematically represents social forms S_t , forms of consciousness C_t , legal or political structures L_t , and effective political positions Π_t . Equation (140) is not offered as Marx's own formal model. It expresses the explanatory orientation that familiar political and ideological forms are historically conditioned by practical-material relations rather than being analytically self-originating.

Principle 23.3 (Historical constitution before abstract classification). Where a political category can plausibly be explained through a history of material, institutional, and relational formation, GR inherits the historical-materialist preference for reconstructing that formation before treating the category as a timeless analytical primitive.

The principle is visible throughout the present paper. Political subjects were reconstructed in Section 10; freedom and constraint in Section 11; power in Section 12; effective reality in Section 13; normality in Section 14; and normativity in Section 16. This sequence is recognizably Marxian in spirit even when the specific objects and formal vocabulary differ from those of historical materialism.

The connection is especially strong in GR's treatment of reality. Marx's analysis of the commodity does not dismiss the commodity form as unreal because it is historically generated. On the contrary, historically specific social relations can acquire object-like regularity and exercise real constraint (Marx 1867). This provides an important precedent for GR's concept of *effective reality*: historical generation and causal effectiveness are compatible. A generated social form may be contingent in origin yet highly stable, externally consequential, and capable of reproducing the conditions of its own continuation.

Comparison 23.4 (Contingency and reality). Historical materialism already undermines the inference from historical contingency to unreality. GR generalizes this lesson: an entity, relation, normality, observable, or evaluative category may be historically generated and nevertheless become an effective reality with reproducible consequences. The GR extension concerns the breadth and recursive architecture of what can be generated, not the discovery that generated social forms can be real.

23.2 Material Production and Explanatory Privilege

The point at which GR begins to move beyond historical materialism is not that production is unimportant. Material production remains indispensable to political life. Human beings require food, shelter, energy, infrastructures, tools, logistics, and forms of coordinated labor; political orders are inseparable from the ways these conditions are produced and distributed. Marx's 1859 formulation gives relations of production and

productive forces an explicit explanatory importance in the constitution and transformation of social formations (Marx 1859). Cohen's influential reconstruction makes this priority especially explicit by interpreting historical development around the growth of productive power and the compatibility or incompatibility of economic structures with that growth (Cohen 1978). The contemporary philosophical literature continues to describe historical materialism as centrally concerned with the rise and fall of forms of society in relation to productive development, while also emphasizing substantial scholarly disagreement about the precise strength of this claim (Wolff and Leopold 2025).

GR does not reject this explanatory strategy. It rejects only its elevation into an unconditional ontological hierarchy. In some domains and historical conjunctures, productive relations may dominate explanation. In others, legal architecture, epistemic infrastructure, ecological conditions, religious organization, technological mediation, demographic structure, informational systems, or artificial agents may exert partly autonomous generative effects. More strongly, the relative explanatory importance of these domains can itself be historically generated.

Let

$$\mathcal{G}_t = \mathcal{G}(R_t^{\text{prod}}, R_t^{\text{legal}}, R_t^{\text{ep}}, R_t^{\text{tech}}, R_t^{\text{eco}}, R_t^{\text{symbolic}}, \dots) \quad (141)$$

represent the effective generative architecture of a historical configuration. GR does not assume that every term has equal causal weight. Nor does it deny that one domain can become structurally dominant. It leaves the weighting, coupling, and dominance structure open to historical and empirical determination.

Distinction 23.5 (Explanatory priority and ontological privilege). A relation type has *explanatory priority* when it contributes more than competing relation types to explaining a specified phenomenon under specified conditions. A relation type has *ontological privilege* when the theory treats it as fundamental in advance of such inquiry. GR permits the former and resists the latter.

This distinction allows GR to preserve a strong historical-materialist analysis where it works. A capitalist labor relation, ownership regime, or technological organization can be the dominant generator of a political phenomenon without being declared the metaphysical foundation of every possible political world. The issue is methodological flexibility rather than anti-materialism.

The same point applies to the familiar metaphor of base and superstructure. Marx's writings and later Marxist interpretations do not support a single uncontested mechanical model. Engels's 1890 letter to Joseph Bloch explicitly warns against reducing the materialist conception of history to the proposition that the economic element is the only determining factor; political, legal, ideological, and inherited circumstances also participate in historical struggles (Engels 1890). Gramsci's account of hegemony further expands the political significance of civil society, cultural leadership, consent, and intellectual organization (Gramsci 1971). Althusser's structural causality and overdetermination reject the idea that the complexity of a social formation can be reduced to the simple expression of one essence (Althusser 2005; Althusser et al. 2016).

Remark 23.6 (GR is not an argument against material explanation). Background independence does not require GR to flatten all explanatory factors into an undifferentiated relational pluralism. Material production can be dominant, decisive, or constraining in a given analysis. The GR claim is narrower: such dominance should be demonstrated within a generative configuration rather than installed as an unrevisable ontological background.

23.3 Class and Historically Generated Social Forms

Class analysis is another domain in which GR inherits more than it rejects. Marxian theory shows how positions in systems of production and property can organize interests, dependencies, capacities, forms of consciousness, and political conflict. Class is therefore not merely an attribute attached to otherwise self-sufficient individuals. It is a relational position in a historically specific organization of social reproduction. This feature aligns closely with GR's insistence that politically relevant identities can be generated by relational structures.

In GR notation, a class-like position can be represented schematically as

$$\Pi_t^{\text{class}}(t) = \Phi\left(R_t^{\text{ownership}}, R_t^{\text{labor}}, R_t^{\text{control}}, R_t^{\text{dependency}}, I_t, H_t\right), \quad (142)$$

where the position is generated by a configuration of ownership, labor, control, dependency, institutions, and historical inheritance. This representation makes no claim that class can be exhausted by these variables. Its purpose is to emphasize that the relevant political unit is a generated relational position rather than a purely intrinsic property of an isolated subject.

GR nevertheless generalizes the same logic beyond class. An actor may simultaneously occupy positions generated through citizenship, race, gender, religion, disability, platform dependence, debt, data infrastructures, migration status, professional credentialing, algorithmic classification, kinship, or ecological vulnerability. Some of these positions interact with class; some are partly constituted through class relations; some may possess relative autonomy; and their salience can vary historically. GR therefore treats class as a paradigmatic example of generated political position without assuming that every politically significant relation can be reduced to class.

Inheritance 23.7 (Relational position rather than intrinsic label). GR inherits from Marxian class analysis the methodological idea that major political categories can be relational positions generated by social organization rather than intrinsic labels of isolated persons.

Extension 23.8 (Plural generation of political position). GR extends this relational logic by permitting political positions to be generated through heterogeneous and interacting relation types whose hierarchy is not fixed in advance. Class may be dominant in a given configuration without exhausting the ontology of politically consequential positioning.

This extension also changes the analysis of collective identity. A class position does not automatically generate a class subject capable of coordinated action. Organizational infrastructures, languages of interpretation, institutions, media, shared experience, expectations, and political practice participate in the conversion of structural position into collective agency. Marxian and especially Gramscian traditions already recognize this problem. GR formulates it as a transition between generated position and emergent subjecthood:

$$\Pi_t \not\Rightarrow A_t^{\text{collective}} \quad \text{without additional generative mechanisms.} \quad (143)$$

The distinction prevents structural location from being treated as an already completed political subject. It also connects historical materialism with the account of emergent political subjecthood developed in Section 10.

23.4 Praxis and Embedded Historical Agency

The concept of praxis is another direct ancestor of GR's embedded-agent model. The *Theses on Feuerbach* criticizes contemplative materialism for treating reality merely as

an object rather than as practical human activity; it also emphasizes that human beings change circumstances while being formed within them (Marx 1845). This reciprocity prefigures a central GR motif: agents act from within generative fields whose structures condition their capacities, while their actions can alter those structures.

A minimal recursive schema is

$$A_t \xrightarrow{a_t} \Delta \mathcal{R}_{t+1} \longrightarrow A_{t+1}, \quad (144)$$

where A_t acts under relational conditions at time t , the action contributes to a change in those conditions, and the changed relations participate in generating the later agent. Neither actor nor structure appears as a completely external cause of the other.

Inheritance 23.9 (Praxis as recursive embedded action). GR inherits from the Marxian concept of praxis the refusal to separate agents from the historical circumstances they transform. Political action is simultaneously conditioned by inherited relations and capable of participating in their transformation.

Gramsci deepens this point by treating Marxism as a philosophy of praxis in which intellectual, cultural, and political activity participate in the formation of collective will and hegemony rather than merely observing an external historical process (Gramsci 1971). For GR, this is especially important because it undermines the fantasy of the theorist as a historyless evaluator positioned outside the system. Political concepts, methods, and theories can enter institutions, education, public discourse, administration, and organization. They may thereby become part of the generative conditions of the world they describe.

This does not mean that theory is true because it is politically efficacious, nor that all knowledge is reducible to praxis. It means that the epistemic and political consequences of theory cannot always be separated cleanly. A political theory may alter classification, salience, institutional design, or collective imagination, which changes subsequent evidence and action conditions.

Distinction 23.10 (Embeddedness and epistemic collapse). The embeddedness of theory in history does not entail that truth reduces to political efficacy or social acceptance. GR distinguishes the historical generation and effects of an epistemic framework from the independent question of whether its claims are adequately justified.

Praxis therefore connects Marxian historical materialism with GR's later claims about reflexive normativity. The evaluator, researcher, and political actor are all generated participants in history, but this embeddedness creates a demand for reflexive criticism rather than a license to abandon epistemic standards.

23.5 Structural Causality and Overdetermination

Althusser is particularly important for locating where GR does *not* break cleanly from twentieth-century Marxism. A simple contrast between “Marxism as economic causation” and “GR as relational complexity” would ignore Althusser's explicit attempt to conceptualize social formations as complex structured wholes characterized by uneven development, structural causality, and overdetermination (Althusser 2005; Althusser et al. 2016). On this view, no concrete historical contradiction can be read as the unmediated expression of a single simple cause. Elements of a social formation acquire their effects through their position in a structured whole, and multiple determinations can be condensed in the same conjuncture.

GR shares three major intuitions with this approach. First, causal efficacy can be relational and positional rather than intrinsic. Second, historical configurations can contain multiple interacting determinations whose effects are not reducible to additive linear causes. Third, unevenness and conjuncture matter: the same nominal relation may function differently in differently organized wholes.

A GR representation can therefore begin from something like

$$\dot{x}_t = F_t(x_t, \mathcal{R}_t^{(1)}, \dots, \mathcal{R}_t^{(n)}), \quad (145)$$

where the effect of any relation $\mathcal{R}_t^{(k)}$ depends on its coupling to the others rather than operating as an isolated cause. The function F_t itself may be historically conditioned.

GR nevertheless adds two further moves. The first is recursive generativity: the structured whole need not merely determine the trajectory of elements already specified within it. Its operation can generate new elements, new relation types, new observables, or new generative mechanisms. The second is background independence: the effective space in which the structured whole is represented need not remain fixed.

Comparison 23.11 (Overdetermination and recursive generativity). Althusserian overdetermination asks how multiple determinations operate through a structured social whole. GR accepts this as a powerful model of relational causation but adds the possibility that the operation of the whole can generate new relata, new relational grammars, new observables, new generators, and new effective state spaces. Overdetermination concerns complex determination within a structured configuration; recursive generativity additionally concerns transformation of the architecture by which future configurations can be formed.

This difference should not be exaggerated into a claim that Althusser assumed an entirely fixed structure. His work explicitly addresses transformation, contradiction, conjuncture, and uneven development. The narrower point is that GR turns the mutability of the representational and generative background into an explicit foundational commitment rather than treating it as an implication to be reconstructed case by case.

Remark 23.12 (Althusser as a near-relative). Among Marxist traditions, Althusserian structural causality is one of the closest precedents for GR's rejection of simple causal hierarchy. The difference is therefore architectural rather than binary: GR generalizes the domain of relations, formalizes recursive generation, and makes background revisability and provisional invariance explicit.

23.6 Historical Constitution of the Evaluator

Historical materialism also provides important resources for a problem that becomes central once GR enters political philosophy: the evaluator is historically situated. If forms of consciousness, categories of interpretation, and political languages arise within social relations, then the normative theorist cannot simply be imagined as standing outside history with an ungenerated vocabulary. Marx's account of ideology and social consciousness already places thought within material and social organization (Marx 1859; Wolff and Leopold 2025). Gramsci radicalizes this insight through the philosophy of praxis, hegemony, and the role of intellectual organization in producing historically effective common sense and collective will (Gramsci 1971).

GR expresses the point by allowing the evaluative apparatus itself to vary:

$$\mathcal{V}_t = \Phi_V(\mathcal{R}_{\leq t}, \mathcal{O}_t, \mathcal{L}_t, \mathcal{I}_t, H_t), \quad (146)$$

where $\mathcal{V}_t$ denotes available evaluative capacities and vocabularies, $\mathcal{O}_t$ observables, $\mathcal{L}_t$ conceptual and linguistic resources, $\mathcal{I}_t$ institutional structures, and H_t inherited history. An evaluator situated at t is therefore not epistemically or normatively generated from nowhere.

Inheritance 23.13 (Historicity of consciousness and evaluation). GR inherits from Marxian and Gramscian traditions the proposition that modes of understanding and evaluation are historically conditioned by social organization and practice. The evaluator is part of the world being evaluated.

The GR extension is to connect this historicity to background-independent epistemology and normativity. Not only particular judgments but also the space of recognizable observables, the categories under which harms become visible, and the methods by which evidence is evaluated may change. A society may contain a relation before it possesses the vocabulary required to identify that relation as domination, discrimination, exploitation, epistemic exclusion, or some other politically salient structure. Conversely, inherited evaluative categories may persist after the generative conditions that made them adequate have changed.

This creates a reflexive requirement. If evaluators have histories, then GR itself has a history. Its concepts of relation, generation, invariance, justice, and background independence are not exempt from revision. The framework can claim methodological usefulness without claiming an ahistorical view from nowhere.

Principle 23.14 (Reflexive historicization). A framework that historicizes political subjects and evaluative categories must permit its own categories, methods, and evaluative practices to become objects of historical and generative analysis.

This principle is one reason the invariance-first ontology was presented in Section 6 as a provisional postulate rather than as a final metaphysical discovery.

23.7 Generalization beyond Production Relations

GR's first major extension of the Marxian relational domain is from production-centered relations to a more general theory of relation formation. This extension should not be misunderstood as a denial that Marx studied law, politics, religion, money, technology, family, ideology, or nature. Marx's work clearly ranges beyond a narrow sociology of the workplace. The claim is instead about the architecture of the framework: GR does not assign in advance a universally privileged class of relation through which all other politically consequential relations must ultimately be explained.

The generalized relational domain developed in Section 4 therefore admits, where relevant, relations such as

$$\mathfrak{R}_t = \{R_{HH}, R_{HI}, R_{HC}, R_{HAI}, R_{HE}, R_{HG}, R_{NN}, R_{SS}, \dots\}_t, \quad (147)$$

where the symbols can denote human-human, human-institution, human-currency, human-AI, human-environment, human-religious or transcendent-object, neuron-neuron, and system-system relations. The notation does not imply equivalence among these relations. It marks their eligibility for generative analysis when they alter later entities, relations, observables, capacities, or possibility spaces.

This shift has consequences for political philosophy. A currency can be historically generated through human institutions yet later condition action as an effective relatum. An AI system may be produced within labor and capital relations yet subsequently participate in generating epistemic dependency, administrative classification, communication patterns, or authority. A religious or transcendent object can become politically

consequential through the relations people form toward it without the framework first settling the metaphysical status of that object. Ecological relations can generate political vulnerability and agency structures that cannot be represented adequately as relations among humans alone.

Extension 23.15 (Generalized relational domain). GR generalizes the historical-materialist analysis of socially constituted relations into a domain in which any relation that is demonstrably generative for the political system may become analytically relevant, without requiring all such relations to be reduced in advance to production relations.

This does not abolish the distinction between social, biological, technological, ecological, symbolic, and other domains. On the contrary, GR's domain translation rules require the relevant mechanisms and observables to be specified. Generalization of admissible relations is not ontological flattening.

23.8 Generalization beyond Human Social Relations

A second extension concerns the scope of relational reality. Historical materialism is principally a theory of human social and historical formation, even where nature, technology, objects, and infrastructures enter centrally into the analysis. GR aims at a domain-general relational grammar that can also be applied to sub-personal, ecological, technological, and hybrid systems. The motivation is not to dissolve political philosophy into neuroscience or physics. It is to allow political realities to be traced across scales when their conditions of generation cross conventional disciplinary boundaries.

Consider a simplified cross-scale chain:

$$\mathcal{R}_t^{\text{neural}} \longrightarrow E_t^{\text{capacity}} \longrightarrow \mathcal{R}_t^{\text{interpersonal}} \longrightarrow E_t^{\text{institutional}} \longrightarrow \mathcal{R}_{t+1}^{\text{neural}}. \quad (148)$$

No arrow is intended as a one-way reduction. A neural organization can participate in generating cognitive capacities; capacities participate in interpersonal relations; interpersonal relations stabilize institutions; institutions restructure learning, attention, stress, language, and therefore some conditions of cognition. The political relevance lies in the reciprocal cross-scale organization.

The same logic applies to human–AI systems. If an artificial system mediates information, recommendation, classification, memory, or communication, the politically significant object may not be the human or AI considered separately but the relational assemblage through which capacities and dependencies are generated. Likewise, ecological conditions can enter political relations not merely as passive resources but as dynamic systems whose transformations alter feasible forms of life.

Distinction 23.16 (Domain generality and reductionism). A domain-general relational grammar permits similar structural questions to be asked across different scales and kinds of system. Reductionism claims that the phenomena of one domain can be exhaustively explained in the vocabulary of another. GR adopts the former and does not presuppose the latter.

This extension is one reason GR can function as a candidate meta-language across philosophical domains. Ontology, political philosophy, philosophy of mind, epistemology, aesthetics, and ethics may involve different effective objects, but they can share questions about relation formation, emergence, stabilization, invariance, transformation, and recursive re-entry.

23.9 Recursive Generativity beyond Historical Transformation

The third and perhaps most important extension concerns the meaning of *generation*. Historical materialism is already a theory of historical transformation. Modes of production change; classes and institutions form and dissolve; material conditions and forms of consciousness transform; social relations can become fetters and enter periods of crisis or revolution (Marx 1859). GR preserves this historical dynamism but makes a stronger distinction between change within a specified generative architecture and transformation of the architecture of generation itself.

A minimal historical-dynamical model is

$$x_{t+1} = F(x_t). \quad (149)$$

A relational model allows the relations themselves to change:

$$\mathcal{R}_{t+1} = F(\mathcal{R}_t). \quad (150)$$

GR then permits

$$(\mathcal{E}_t, \mathcal{R}_t, \mathcal{G}_t, \mathcal{O}_t, M_t) \longrightarrow (\mathcal{E}_{t+1}, \mathcal{R}_{t+1}, \mathcal{G}_{t+1}, \mathcal{O}_{t+1}, M_{t+1}), \quad (151)$$

where emergent entities $\mathcal{E}$, relations $\mathcal{R}$, generative mechanisms $\mathcal{G}$, observables $\mathcal{O}$, and effective possibility spaces M may all change.

The difference matters because generated structures can become inputs to subsequent generation. Exchange relations can generate monetary institutions, which then condition later exchange. Political organization can generate legal persons, which subsequently enter contracts and exercise powers. Technologies generated within prior productive relations can reorganize communication, attention, knowledge, and labor in ways that create new relation types. Norms generated through social practice can later constrain and enable further practice.

Principle 23.17 (Historical transformation and recursive generation). Historical transformation changes configurations through time. Recursive generativity additionally permits the products of historical relations to become new relata, observables, rules, generators, or possibility conditions of later historical transformation.

This formulation also pluralizes the mechanisms of transformation. Contradiction remains one important mechanism, but GR does not grant contradiction exclusive status. Cooperation, recombination, learning, technological mediation, institutional feedback, criticality, bifurcation, symmetry breaking, environmental perturbation, and cross-scale coupling can also produce qualitatively new relational organizations. Section 8 therefore replaced a unitary vocabulary of qualitative historical change with a mechanism-sensitive plurality.

Comparison 23.18 (Dialectical change and generative dynamics). The Marxian dialectical tradition supplies GR with a powerful intuition that historical change can be nonlinear, cumulative, conflictual, and qualitatively transformative. GR's contribution is not the discovery of nonlinearity but the attempt to distinguish multiple generative mechanisms and to integrate them into a framework in which relations, generators, observables, and possibility spaces may themselves transform.

23.10 Background Independence beyond Fixed Historical Ontology

The fourth extension is background independence. Historical materialism historicizes a great deal that earlier philosophy had naturalized: property forms, classes, states, legal

relations, consciousness, and modes of production. GR asks whether the same historicizing move should be applied to the representational background of theory itself.

Suppose a historical-materialist analysis specifies a state space M containing variables for productive forces, relations of production, class structure, political institutions, and ideological forms. The analysis may be highly dynamic while M remains fixed as the space within which dynamics occur. GR permits a stronger possibility:

$$x_t \in M_t, \quad M_t \not\subseteq M_{t+1}. \quad (152)$$

The historical process may generate or destroy dimensions of the effective state space. New political subjects can emerge; new relations become possible; new observables become measurable or intelligible; new institutional forms alter action spaces; new technologies create actions that were previously unavailable; new normative categories render previously unrecognized harms politically salient.

Extension 23.19 (Background-independent historicization). GR extends the historicizing impulse of historical materialism to the subject set, relation types, observables, generative mechanisms, evaluative coordinates, and effective possibility spaces used to represent political reality. Historical transformation can therefore change not only the contents of a political world but aspects of the background through which that world is specified.

This is not equivalent to claiming that nothing can be held fixed for analysis. Empirical inquiry often requires temporary stabilization of variables, scales, and categories. The distinction introduced in Section 5 remains crucial: analytical fixation is a modeling decision, whereas ontological privilege treats the fixed structure as exempt in principle from historical explanation.

Historical materialism itself motivates the GR move. Once property, class, state, law, and consciousness have been shown to possess histories, the burden shifts toward explaining why the theorist's own categories should remain outside that historical field. GR answers by treating every familiar background as revisable in principle, subject to the practical limits of a particular model.

Claim 23.20 (Radicalized historicization). GR can be read as extending historical materialism's own methodological impulse: structures once treated as natural or universal become historical objects, and the same operation is then applied recursively to the categories, observables, generators, and possibility spaces through which historical objects are represented.

23.11 Invariance-First Generative Relationalism as an Extension of Historical Materialism

The final difference is also the most speculative. Historical materialism does not ordinarily begin from symmetry or invariance as an ontological primitive. Its fundamental explanatory vocabulary concerns human beings in practical-material relations, productive forces and relations, class structure, modes of production, and historical transformation. GR provisionally introduces a different foundational hypothesis: before privileging any particular realized relation or social object, it assumes an invariance structure sufficient to make transformation, equivalence, and continuity intelligible. The relational world is then treated as a historically realized manifestation in which symmetries may be represented, broken, stabilized, or reorganized.

Schematically,

$$S \xrightarrow[H_t, \mathcal{G}_t]{\text{realization / differentiation}} \mathcal{R}_t \longrightarrow \mathcal{E}_t, \quad (153)$$

where $\mathcal{S}$ denotes a provisionally assumed invariance structure, $\mathcal{R}_t$ a historically realized relational configuration, and $\mathcal{E}_t$ the effective entities, positions, observables, and categories emergent within that realization. The notation is programmatic rather than a claim that social history literally obeys a specific physical symmetry group.

This move serves two purposes. First, it gives GR a language for continuity without requiring persistent substances. A political formation can undergo major material and institutional transformation while certain transformation-sensitive invariants remain identifiable. Second, it allows the framework to compare distinct historical manifestations without assuming that one familiar social ontology is the universal background of all comparison.

Postulate 23.21 (Provisional invariance in the Marxian extension). GR provisionally assumes that some structure of invariance is sufficient to render comparison and transformation intelligible across changing relational realizations. This assumption is methodological and ontological in status, but it is explicitly revisable and carries no automatic normative authority.

The postulate marks a genuine departure from historical materialism. It should therefore not be retroactively attributed to Marx, Engels, Gramsci, or Althusser. Nor does it imply that symmetry is justice, that historical differentiation is injustice, or that a more symmetric social arrangement is normatively superior. The relation between invariance and normativity remains a separate philosophical problem.

A useful way to summarize the genealogy is

$$\begin{array}{l}
 \text{historical constitution of social reality} \\
 \Downarrow \\
 \text{relational and practical transformation} \\
 \Downarrow \\
 \text{complex determination and historically situated evaluation} \\
 \Downarrow \\
 \text{background-independent recursive generativity} \\
 + \\
 \text{provisional invariance-first ontology.}
 \end{array} \tag{154}$$

Synthesis 23.22 (From historical materialism to GR). The most defensible relation between GR and Marxism is neither rejection nor simple continuation. GR inherits the historical-materialist reconstruction of social reality as relational, practical, and historically produced; it incorporates later Marxist insights into hegemony, structural causality, overdetermination, and the historicity of evaluators; and it extends that inheritance by generalizing the relational domain, formalizing recursive generativity, allowing backgrounds and possibility spaces themselves to transform, and provisionally introducing invariance as a pre-relational comparative primitive.

This synthesis explains why historical materialism occupies a privileged place in the genealogy of GR while not exhausting its present architecture. GR can recover historical-materialist analyses as important model classes inside the wider framework. When production, class, and material reproduction dominate the relevant generative system, a historical-materialist model may provide the most informative description. When other relation types, cross-scale processes, newly generated observables, or transformations of the effective possibility space become central, GR permits the analysis to widen without treating that widening as a departure from historical explanation itself.

Proposition 23.23 (Historical materialism as a restricted generative model). *Let a GR model be restricted such that (i) human social relations constitute the relevant domain, (ii) productive forces and relations of production possess dominant explanatory weight, (iii) the effective subject and relation types are fixed for the modeled interval, and (iv) generative change is represented primarily through transformations of social formations within that background. Under these restrictions, the GR architecture can represent a historical-materialist model class without contradiction.*

Proof. Under conditions (i)–(iv), the generalized relational domain is restricted to the human social domain, the plural generative architecture assigns dominant explanatory weight to productive organization, background variation is suppressed for the interval under analysis, and recursive generation is represented through historically transformed social forms. None of these restrictions contradicts GR’s broader postulates, because background independence requires revisability in principle rather than variation in every model, and explanatory pluralism permits historically contingent dominance. Historical materialism can therefore be embedded as a restricted model class within GR while GR retains the capacity to relax those restrictions when the research problem requires it. □

The proposition clarifies the sense in which GR is “built on top of” historical materialism. It does not mean that Marxism is merely one arbitrary influence among many, nor that GR preserves every substantive Marxian thesis. It means that the historical-materialist move from abstract political categories toward historically generated relations provides part of the foundational logic that GR subsequently generalizes. In that sense, GR’s distance from Marxism is produced by extending some of Marxism’s most powerful methodological commitments further than the inherited ontology in which they were initially formulated.

24 Genealogy and the Generative Production of Subjects, Truth, and Normality

Genealogy is among the closest methodological relatives of Generative Relational theory (GR) because it already refuses to treat subjects, norms, truths, and institutions as ahistorical givens. Foucault’s genealogical analyses reconstruct how historically specific practices, techniques, institutions, classifications, and relations of power participate in producing the objects they appear merely to regulate. The prison does not simply constrain a pre-given delinquent subject; disciplinary practices participate in constituting forms of subjectivity, normality, documentation, and knowledge through which such subjects become intelligible and governable (Foucault 1977). Sexuality is not treated as a natural domain that power merely represses from the outside; Foucault instead analyzes the historical multiplication of discourses, examinations, confessions, classifications, and forms of expertise through which sexuality becomes an object of knowledge and a site of political intervention (Foucault 1978). Genealogy therefore already advances far beyond a political ontology in which fully formed agents confront power as an external force.

GR inherits this anti-foundational and historical orientation. The framework developed in the preceding sections similarly treats political subjects, freedom, power, normality, effective reality, and normativity as generated rather than primitive. Yet the relation between genealogy and GR is not one of simple identity. Genealogy is primarily a historical-critical practice: it traces descent, emergence, discontinuity, contingency, and the heterogeneous practices through which present categories acquired their apparent

necessity. GR attempts to place such historical production within a more explicit general architecture of recursive generation. It asks not only how a subject, norm, or regime of truth emerged, but how the mechanisms that generate subjects, observables, classifications, and relations can themselves transform; how emergent structures re-enter later dynamics; how generative effects propagate across scales; and how historical transformation can alter the effective possibility space in which future political objects become thinkable and actionable.

The point is therefore not that genealogy lacks mechanisms. Foucault's analyses are densely concerned with mechanisms: surveillance, examination, confession, normalization, documentation, institutional routines, governmental rationalities, and the coupling of power and knowledge. Nor is the point that genealogy is merely descriptive while GR is explanatory. Genealogy itself explains how contingent historical practices contributed to the formation of present objects and subjects. The GR extension is more specific. It introduces a common generative language in which these mechanisms can be represented alongside other forms of relation-generation, connected to background independence, and compared across domains without assuming that the categories produced in one historical configuration remain fixed in another.

Inheritance 24.1 (Genealogy as an ancestry of historical production). GR inherits from Foucauldian genealogy the refusal to treat subjects, normalities, epistemic categories, and institutional forms as natural or transhistorical givens. It also inherits the insight that power can be productive rather than merely prohibitive and that knowledge practices can participate in constituting the objects they claim to describe.

Extension 24.2 (The GR extension of genealogical production). GR extends genealogical analysis by embedding historically specific mechanisms of subject-formation, normalization, classification, and truth-production within a recursive framework in which relations, generators, observables, and effective possibility spaces can themselves be generated and transformed.

The comparison developed here is consequently one of proximity rather than opposition. Genealogy already occupies much of the conceptual terrain on which GR operates. The question is whether GR can supply a more systematic language for connecting genealogical production to dynamical transformation, cross-scale emergence, background independence, and the recursive generation of future relational worlds.

24.1 Historical Production of Subjects

Foucault's genealogical work displaces the political subject from the position of unquestioned starting point. In *Discipline and Punish*, disciplinary institutions analyze, compare, rank, document, train, and correct bodies; the result is not merely obedience but the production of subjects who can be observed, classified, normalized, and made useful (Foucault 1977). Foucault's broader work on sexuality, governmentality, and technologies of the self similarly treats subjectivity as historically formed through practices in which individuals are made objects of knowledge and are induced to relate to themselves in particular ways (Foucault 1978; Foucault 1983).

This genealogical orientation closely anticipates the argument of Section 10. A political subject need not be understood as an ontologically prior bearer of interests who subsequently enters relations. Subjecthood may instead be a relatively stabilized outcome of relations of classification, discipline, recognition, documentation, legal attribution, institutional positioning, and self-interpretation. A schematic genealogical formulation is

$$(\mathcal{P}_t, \mathcal{D}_t, \mathcal{I}_t, \mathcal{C}_t) \longrightarrow S_t, \quad (155)$$

where $\mathcal{P}_t$ denotes relations and practices of power, $\mathcal{D}_t$ discursive practices, $\mathcal{I}_t$ institutions and administrative techniques, and $\mathcal{C}_t$ classificatory schemes. The political subject S_t is not reducible to any one of these elements; it is an effective formation sustained through their historically specific interaction.

Comparison 24.3 (Genealogical subject formation and GR subject emergence). Genealogy and GR agree that political subjecthood can be historically produced. GR adds a more explicit recursive question: once S_t emerges, how does the subject re-enter the system as a generator of later relations, classifications, institutions, and possibilities? Subject-formation is therefore treated not only as an endpoint of historical production but also as an input into subsequent generative dynamics.

This recursive re-entry matters politically. A category produced administratively can later become a basis for self-identification, mobilization, contestation, institutional design, or counter-classification. A recognized political subject can acquire rights, organizational capacities, archives, spokespersons, and representational infrastructures that alter the conditions under which later subjects are formed. Conversely, a category can become so deeply institutionalized that it structures later perception even after the original practices that generated it have changed.

Let the subject generated at time t possess capacities $K(S_t)$ that affect later relations. Then

$$(\mathcal{P}_t, \mathcal{D}_t, \mathcal{I}_t, \mathcal{C}_t) \longrightarrow S_t \longrightarrow (\mathcal{P}_{t+1}, \mathcal{D}_{t+1}, \mathcal{I}_{t+1}, \mathcal{C}_{t+1}). \quad (156)$$

Equation (156) expresses a characteristic GR addition: produced subjects become participants in the production of subsequent relational worlds.

Principle 24.4 (Recursive subject formation). When historically generated subjects acquire capacities to reproduce, resist, reinterpret, or reorganize the practices through which subjecthood is constituted, subject formation becomes recursively generative rather than unidirectional.

This principle also prevents a deterministic reading of genealogy. If subjects are produced through power relations, it does not follow that they are passive products incapable of altering those relations. Foucault himself insists that power relations imply possibilities of resistance and transformation rather than an all-enclosing mechanism of determination (Foucault 1983). GR formalizes this openness by treating subject formation and relational transformation as coupled processes rather than as one-way causation.

24.2 Power–Knowledge Relations

Foucault's concept of power/knowledge is especially important for GR because it rejects a clean separation between a political world and a neutral epistemic apparatus that merely observes it. The examination, for example, is simultaneously a technique of control and a procedure for producing knowledge. Observation, documentation, ranking, and comparison make individuals visible in specific ways; the resulting records and categories then become resources for further intervention (Foucault 1977). Knowledge is therefore not merely an instrument subsequently used by power. Particular relations of power help establish what can be observed, recorded, compared, and treated as a relevant object of knowledge, while those epistemic practices reorganize the field of power in return.

GR can represent this reciprocity through the coupled evolution of power relations $\mathcal{P}_t$, observables $\mathcal{O}_t$, classificatory structures $\mathcal{C}_t$, and epistemic institutions $\mathcal{K}_t$:

$$\mathcal{P}_t \longrightarrow (\mathcal{O}_t, \mathcal{C}_t, \mathcal{K}_t) \longrightarrow \mathcal{P}_{t+1}. \quad (157)$$

The arrows should not be interpreted as a single linear causal sequence. They represent a reciprocal generative coupling in which power conditions observability and knowledge practices, while knowledge practices condition later distributions and techniques of power.

Definition 24.5 (Epistemic-generative coupling). An *epistemic-generative coupling* exists when relations of power help generate the categories, observables, procedures, or institutions through which a domain becomes knowable, and those epistemic structures subsequently alter the relations of power operating in that domain.

This definition connects genealogy directly with the account of power developed in Section 12. Power over classification or observability is not secondary to political power. It can shape which entities become recognizable, which differences become measurable, which populations become administratively visible, and which deviations become actionable. In this sense, epistemic infrastructure participates in generating political reality.

The GR extension concerns the mutability of the epistemic architecture itself. Foucault's genealogy already shows that forms of knowledge have histories. GR generalizes this observation by treating the effective set of observables and classificatory operators as explicit components of the generative background:

$$\Theta_t = (\mathcal{R}_t, \mathcal{G}_t, \mathcal{O}_t, \mathcal{C}_t, \mathcal{K}_t). \quad (158)$$

Historical transformation may therefore involve not only a change in beliefs about a stable object, but a change in what can count as an object, what can be observed about it, and what classificatory operations are institutionally available.

Distinction 24.6 (Knowledge change and observable-space change). A change in knowledge occurs when agents revise propositions within a relatively stable epistemic space. A change in the observable space occurs when the categories, measurements, distinctions, or procedures by which objects become epistemically available are themselves transformed. Genealogy frequently reconstructs the latter; GR makes it an explicit component of background-independent generative analysis.

This distinction is central to the paper's broader meta-philosophical ambition. Political epistemology cannot be treated as a detachable layer placed above an already constituted political ontology. The epistemic apparatus can participate in producing the effective ontology to which it subsequently responds.

24.3 Genealogical Production of Normality

The Foucauldian analysis of normalization provides perhaps the closest historical analogue to the GR account developed in Section 14. Discipline works not only by prohibiting acts but by establishing fields of comparison, measures of performance, ranks, thresholds, averages, and deviations. The examination combines observation with normalizing judgment, generating detailed records through which individuals can be located relative to an administratively meaningful norm (Foucault 1977). Normality is therefore not simply discovered in a pre-existing distribution. It is produced through a historical coupling of observation, classification, intervention, and institutional repetition.

A GR formulation can distinguish several stages:

$$\mathcal{R}_t \longrightarrow \mathcal{O}_t \longrightarrow \mathcal{C}_t \longrightarrow N_t \longrightarrow \mathcal{I}_t \longrightarrow \mathcal{R}_{t+1}, \quad (159)$$

where $\mathcal{R}_t$ denotes relational practices, $\mathcal{O}_t$ observational procedures, $\mathcal{C}_t$ classification, N_t an effective normality structure, and $\mathcal{I}_t$ interventions that feed back into subsequent relations.

Claim 24.7 (Normality as a generative political object). When classifications and norms alter the behavior, opportunities, treatment, or self-understanding of those classified, normality is not merely a representation of social reality. It becomes a generative political object that participates in producing the distributions and identities to which it subsequently appears to refer.

This claim draws together Foucault's normalization analysis and Hacking's later discussions of classifications that interact with the people classified (Hacking 1999). GR adds a dynamical emphasis: a normality structure can become attractor-like when institutions, incentives, expectations, and self-adjustments repeatedly push trajectories back toward a recognized region of conduct. But the analogy must remain disciplined. A social norm is not literally a dynamical-system attractor merely because it is stable. The formal analogy becomes useful only where a specified state space, update mechanism, and stability structure can be articulated.

Formal Analogy 24.8 (Normalization and attractor-like stabilization). A normalized social configuration may be represented as attractor-like when deviations activate relational mechanisms that systematically redirect trajectories toward a recurrent region of behavior or classification. The analogy concerns the organization of return dynamics, not a claim that social normality obeys a physical law of motion.

Genealogy also reveals that normalization is inseparable from asymmetries of visibility. Some subjects are intensively examined, recorded, diagnosed, or compared while others are positioned as evaluators, experts, administrators, or implicit reference groups. The production of normality can therefore distribute not only statuses but epistemic positions. GR treats these asymmetries as part of the generative relation itself.

Criterion 24.9 (Genealogical analysis of normality). A GR genealogy of normality should reconstruct at least: (i) the practices producing relevant observations; (ii) the classifications organizing those observations; (iii) the institutional mechanisms stabilizing the classifications; (iv) the interventions triggered by normal/deviant distinctions; and (v) the feedback through which those interventions alter later distributions and self-understandings.

This criterion shows why GR's account of normality is indebted to genealogy while also extending it. The aim is not only to reveal that a norm has a contingent history, but to specify the recursive generative architecture through which the norm persists, transforms, or loses efficacy.

24.4 Truth Regimes and Historical Epistemology

Foucault's analyses of truth are often misunderstood if they are summarized as the claim that truth is simply created by power. His concern is more specific: societies organize procedures, authorities, institutions, discourses, and techniques through which statements acquire epistemic status, experts are authorized, objects become visible, and some claims become actionable as knowledge. His work on power/knowledge therefore concerns the historical conditions under which truth claims are produced, circulated, validated, and attached to practices of government (Foucault 1977; Foucault 1978; Foucault 1983).

GR should preserve a similar distinction. Let p be a proposition concerning some event or structure. The truth-value of p should not be identified with its institutional recognition. What varies historically are the relations through which p can be observed, recorded, justified, preserved, transmitted, and accepted as a legitimate claim. We may therefore distinguish

$$\text{Truth}(p) \quad \text{from} \quad \text{Recog}_t(p), \quad (160)$$

where $\text{Recog}_t(p)$ denotes the historically situated capacity of an epistemic system to recognize, justify, or reconstruct p .

Distinction 24.10 (Truth and regime of truth-recognition). A proposition's truth is not identical to the historically organized procedures through which it becomes recognizable as true. Genealogical analysis concerns, among other things, the latter: the institutions, practices, authorities, records, classifications, and standards through which truth claims acquire effective epistemic status.

This distinction prevents GR from collapsing into epistemic relativism while retaining the genealogical insight that access to truth is institutionally and historically mediated. A true event may leave no archive. A testimony may be excluded from admissible evidence. A category necessary to describe an injury may not yet exist. Records may be destroyed. A group may lack authority to speak within an established epistemic order. In each case, the historical conditions of recognizability matter even if the underlying event or proposition is not itself created by those conditions.

A regime of truth-recognition can be represented schematically as

$$\mathcal{T}_t = \Psi(\mathcal{O}_t, \mathcal{K}_t, \mathcal{A}_t, \mathcal{V}_t, \mathcal{M}_t), \quad (161)$$

where $\mathcal{O}_t$ denotes observables, $\mathcal{K}_t$ epistemic institutions, $\mathcal{A}_t$ authorized speakers or procedures, $\mathcal{V}_t$ standards of validation, and $\mathcal{M}_t$ material systems of record and memory. Equation (161) does not define truth as a social product. It models the historically variable infrastructure through which truth can become politically and epistemically effective.

Principle 24.11 (Historical recognizability). The political consequences of truth depend not only on whether something is true, but also on whether the relational system can observe, preserve, reconstruct, articulate, and authorize it as a recognizable claim at a later time.

This principle connects genealogy with GR's broader concern for archives, future recognizability, and historical judgment. A political order can exercise epistemic power not only by producing falsehoods but by shaping which traces survive, which testimonies count, which categories exist, and which methods future evaluators can use. The generative stakes are therefore intertemporal.

24.5 Generative Mechanisms beyond Genealogical Reconstruction

The proximity between genealogy and GR makes it important to state the difference narrowly. GR does not add "mechanism" to an otherwise mechanism-free genealogy. Foucault's histories already reconstruct mechanisms of discipline, examination, normalization, confession, documentation, government, and subjectivation. Nor does GR improve genealogy merely by translating those mechanisms into equations. Formalization without empirical content would add little.

The GR extension lies instead in the attempt to build a common language for several kinds of generative transformation that genealogy can reveal historically but does not

generally organize into a single formal architecture. Three extensions are especially important.

First, GR distinguishes changes in a state from changes in the generator of states. Let x_t denote an effective political configuration and $\mathcal{G}_t$ the mechanisms generating its transitions. Genealogy may show historically how a disciplinary technology helped produce x_{t+1} . GR additionally asks whether the emergence of that technology changed the generative operator itself:

$$\dot{x} = F_{\mathcal{G}_t}(x), \quad \mathcal{G}_t \longrightarrow \mathcal{G}_{t+1}. \quad (162)$$

A prison, census, diagnostic category, platform, algorithmic infrastructure, or bureaucratic archive may alter not simply the present distribution of behavior but the mechanisms through which later behavior is classified and governed.

Second, GR emphasizes recursive re-entry. A generated category, institution, or subject can become a new relatum in subsequent relations:

$$\mathcal{R}_t \longrightarrow E_{t+1} \longrightarrow \mathcal{R}_{t+1}(E_{t+1}, \cdot). \quad (163)$$

This makes the temporality of production explicit. What is generated at one stage can become infrastructure at another.

Third, GR distinguishes transformation within a possibility space from transformation of the possibility space itself. Genealogy already demonstrates that categories and practices once taken as natural can have histories. GR formulates the stronger background-independent possibility that the effective set of actors, observables, relation types, and admissible transformations can itself change:

$$M_t \longrightarrow M_{t+1}. \quad (164)$$

Here M_t is not a metaphysical totality but the effective political-epistemic possibility space available to a given relational system.

Comparison 24.12 (Genealogical reconstruction and generative modeling). Genealogical reconstruction asks how a present category, subject, practice, or truth regime emerged through heterogeneous historical contingencies and relations of power. Generative modeling asks, in addition, how the reconstructed mechanisms modify later generators, observables, relation types, and possibility spaces. The two tasks are complementary rather than mutually exclusive.

This complementarity matters methodologically. Genealogy protects GR from premature formal abstraction. A mathematical model built without reconstructing the concrete practices that constitute its variables risks naturalizing categories that are themselves historical products. GR, in turn, can help articulate counterfactual and dynamical questions that historical reconstruction alone may leave implicit: under what perturbations does a classification regime remain stable; when does normalization become self-reinforcing; what kinds of institutional change alter the generator rather than merely its outputs; which emergent subjects acquire enough capacity to reorganize the system that produced them?

Research Question 24.13 (From genealogical contingency to generative dynamics). For any historically constituted political object, which reconstructed mechanisms merely reproduce its current configuration, which transform its internal state, and which alter the generative architecture or possibility space from which future configurations can emerge?

The research question captures the division of labor. Genealogy supplies disciplined historical reconstruction of heterogeneous origins and power relations. GR attempts to connect those reconstructions to a general language of recursive transformation without erasing their historical specificity.

24.6 Background-Independent Extension of Genealogical Analysis

The final GR extension concerns the status of the background against which genealogy operates. Foucault repeatedly destabilizes what appears natural by showing that categories, subjects, institutions, and epistemic forms have histories. In this respect genealogy already performs a form of background destabilization. GR makes this operation explicit and general: no fixed set of political subjects, relation types, observables, normative coordinates, or effective state spaces is granted permanent ontological priority.

Let

$$\Theta_t = (A_t, \mathcal{R}_t, \mathcal{G}_t, \mathcal{O}_t, \mathcal{N}_t, M_t) \quad (165)$$

represent a historical political-epistemic background composed of effective agents A_t , relations $\mathcal{R}_t$, generative mechanisms $\mathcal{G}_t$, observables $\mathcal{O}_t$, normative coordinates $\mathcal{N}_t$, and possibility space M_t . A background-independent genealogical extension allows

$$\Theta_t \longrightarrow \Theta_{t+1} \quad (166)$$

without presuming that any component of Θ remains fixed across all historical regimes.

Principle 24.14 (Background-independent genealogy). A genealogical analysis is background-independent in the GR sense when the categories required to describe the history—including subject-types, relation-types, observables, evaluative distinctions, and admissible transformations—are themselves open to historical generation and revision rather than being treated as transhistorical coordinates.

This principle clarifies both the proximity and the difference between genealogy and GR. Foucault's practice often exemplifies precisely this destabilization, but GR attempts to formulate it as a general methodological commitment that can travel beyond the specific domains Foucault analyzed. Section 4 extends the relational domain to such cases as human–AI, human–institution, human–currency, organism–environment, sub-personal, and cross-scale relations. Genealogical analysis can travel into these domains, while GR supplies a common generative grammar for comparison without presuming a single ontology or normative vocabulary.

The invariance-first postulate introduced in Section 6 adds a further difference. Genealogy is characteristically suspicious of appeals to transhistorical essences. GR shares that suspicion with respect to familiar political objects, but provisionally assumes that some invariance structure is required if transformations across changing relational realizations are to remain comparable at all. This is not an attempt to restore an eternal human essence or universal political subject. The postulate concerns transformation structure rather than substantive political content.

Distinction 24.15 (Transhistorical essence and provisional invariance). A transhistorical essence specifies what a political object fundamentally is across history. A provisional invariance structure specifies what must remain comparable under a stated class of transformations for historical identity, equivalence, or continuity to be analytically tractable. GR rejects the first as a default assumption and adopts the second only provisionally and revisably.

This is perhaps the sharpest point of divergence. Genealogy's critical force often comes from demonstrating that what presents itself as necessary is historically contingent. GR accepts this lesson but asks what kinds of invariance make the recognition of transformation itself possible. The answer is not supplied by genealogy and is not claimed here as a final metaphysics. It is a working ontological hypothesis that allows GR to combine radical historicity with nontrivial comparison across changing worlds.

Synthesis 24.16 (Genealogy within Generative Relational political philosophy). Genealogy provides GR with a powerful method for reconstructing the contingent production of subjects, normalities, truth practices, and relations of power. GR preserves that inheritance while adding four commitments: recursive re-entry of generated structures; transformation of generative mechanisms; background-independent change of effective possibility spaces; and a provisional invariance structure for cross-historical comparison. The programmes overlap without becoming identical. Genealogy disciplines GR's historical claims, while GR seeks to connect genealogical production to a broader generative architecture.

The significance of this comparison extends beyond the interpretation of Foucault. It illustrates the broader positioning strategy of the paper. GR does not derive its distinctiveness by claiming that existing traditions ignored history, relations, emergence, or power. Genealogy demonstrates that such a claim would be untenable. The distinctive ambition lies instead in the systematic conjunction of background independence, generalized relationality, recursive generativity, emergent observability and normativity, and an invariance-oriented formal language. Section 25 continues this comparative inquiry by turning from genealogy's historical production of subjects and truth to Critical Theory's problem of reflexive normative grounding.

25 Critical Theory and Reflexive Normative Grounding

Critical Theory is one of the closest philosophical interlocutors for Generative Relational theory (GR) because it has long refused a clean separation between social explanation and normative evaluation. From Horkheimer onward, the Frankfurt School tradition has treated critique as historically situated, socially embedded, empirically informed, and practically oriented toward emancipation rather than as the application of an external moral metric to an otherwise self-contained social world (Horkheimer 1972). Later developments sharpened the normative problem rather than abandoning it. Habermas sought to reconstruct normative resources within communicative practices and democratic institutions (Habermas 1984; Habermas 1996); Honneth located forms of freedom and justice within institutionalized relations of recognition and social freedom (Honneth 2015); Fraser insisted that critical theory must analyze both political-economic and status-cultural structures of injustice (Fraser and Honneth 2003); and contemporary accounts of immanent critique have continued to ask how criticism can arise from within forms of life without reducing validity to whatever those forms already endorse (Jaeggi 2018).

GR shares this basic problematic. It rejects the fiction of an evaluator situated outside history and accepts that the conceptual resources through which domination, injustice, legitimacy, freedom, and social pathology become visible are themselves historically conditioned. Yet GR introduces a further difficulty. If political backgrounds are generative and background-independent, then not only particular norms but also the *capacities to evaluate*, the relevant observables, the categories through which claims are articulated, and the institutional procedures through which reasons become authoritative may change. Critical theory's familiar question—how critique can be immanent to a social world while transcending its defects—therefore becomes, in GR, a question about critique inside a system whose normative coordinate space can itself be generated and transformed.

The comparison should not be framed as if Critical Theory presupposed a fixed normative world while GR alone discovered historicity. The Frankfurt School tradition is already deeply reflexive about the historical conditions of knowledge and critique. The

GR extension concerns the *architecture* of that reflexivity. It asks whether the normative background, the evaluative subject, the observable space, and the mechanisms through which critique becomes practically efficacious can all be represented within one recursively generative framework.

Inheritance 25.1 (Critical theory as a reflexive normative ancestry). GR inherits from Critical Theory the embeddedness of critique in social reality, the inseparability of social diagnosis and normative evaluation, the importance of historically situated emancipatory struggles, and the requirement that theory reflect on the social conditions of its own standpoint.

Extension 25.2 (The GR extension of reflexive critique). GR extends this reflexive programme by allowing not only social institutions and norms but also evaluative capacities, observables, justificatory procedures, and normative possibility spaces to become objects of generative analysis. Critique therefore operates within, and may transform, the conditions under which later critique becomes possible.

The purpose of this section is consequently not to choose between “internal” and “external” moral criticism. It is to reconstruct a more general problem: how can historically generated agents criticize a historically generated relational world when the language, capacities, and procedures of criticism are themselves part of that world and may change through the very practice of critique?

25.1 Historically Situated Critique

Horkheimer’s distinction between traditional and critical theory remains a foundational point of departure because it denies that social theory is merely a neutral classificatory enterprise standing outside the social process it studies. Critical theory is tied to historically specific relations of domination and to practical efforts at transformation; the theorist is socially situated, and theory can itself become a force within social development (Horkheimer 1972). This orientation already anticipates several GR commitments developed earlier in the paper: the embedded evaluator of Section 16, the historical constitution of political subjects in Section 10, and the generative role of interventions developed in Sections 7 and 18.

The crucial inheritance is not simply that theory has a social context. A weak sociological statement would say that theorists happen to occupy positions in history. The stronger critical-theoretical proposition is that the form, interests, categories, and practical orientation of theory are connected to the structure of the society from which theory emerges. The relation between social theory and its object is therefore reflexive rather than purely observational.

GR can represent this relation schematically as

$$\mathcal{C}_t = \Psi(\mathcal{R}_{\leq t}, \mathcal{O}_t, \mathcal{V}_t, \mathcal{I}_t, \mathcal{K}_t), \quad (167)$$

where $\mathcal{C}_t$ denotes a critical standpoint or practice, $\mathcal{R}_{\leq t}$ the inherited relational history, $\mathcal{O}_t$ available observables, $\mathcal{V}_t$ evaluative capacities, $\mathcal{I}_t$ institutional conditions, and $\mathcal{K}_t$ available epistemic resources. Equation (167) does not reduce critique to those conditions. It states that a critical standpoint has conditions of emergence that can themselves be investigated.

Principle 25.3 (Situated critique). No critical standpoint is assumed to arise outside the relational world it evaluates. Its concepts, observables, evaluative capacities, and practical possibilities have histories, even when the claims advanced from that standpoint aspire to validity beyond the circumstances of their genesis.

This final qualification is essential. To explain where criticism comes from is not to determine whether it is justified. The distinction developed in Section 16 therefore remains operative:

$$\text{genesis of critique} \not\Rightarrow \text{validity of critique.} \quad (168)$$

Critical Theory already struggles with this tension. If critique is wholly external, it risks becoming socially ungrounded or paternalistic. If it is wholly reducible to existing social norms, it risks merely reproducing the order it seeks to criticize. GR inherits this dilemma but treats both the social grounding and the normative coordinates as generatively variable.

Comparison 25.4 (Critical theory and the embedded evaluator). Critical Theory and GR both reject the image of a view from nowhere. GR's additional claim is that the evaluator's available categories and the space of evaluable objects can themselves be transformed by historical dynamics. Reflexivity therefore concerns not only the social position of the critic but the generation of the evaluative architecture through which criticism becomes possible.

25.2 Immanent Normativity

Immanent critique is one of the principal strategies through which Critical Theory has tried to avoid the opposition between simple internal acceptance and externally imposed standards. It draws normative resources from tensions, contradictions, claims, practices, and self-understandings already operative within a social form, and uses them to expose failures or unrealized possibilities. Contemporary reconstructions emphasize that such critique is neither mere consistency checking nor unconditional acceptance of participants' explicit beliefs. Its force can depend on implicit commitments, practical contradictions, social pathologies, and possibilities generated within the form of life itself (Jaeggi 2018).

GR is strongly compatible with this orientation because an immanent standard is itself a relation between a social configuration and normative possibilities generated within it. Let $\mathcal{N}_t^{\text{act}}$ denote normatively operative practices at time t and $\mathcal{N}_t^{\text{pot}}$ denote normative possibilities that the system's own practices, institutions, claims, or capacities make available but do not adequately realize. A schematic immanent critique can then compare

$$\Delta_t^{\text{im}} = D(\mathcal{N}_t^{\text{act}}, \mathcal{N}_t^{\text{pot}}), \quad (169)$$

where D does not need to be a numerical distance. It denotes a structured discrepancy between realized and immanently available normative organization.

The GR extension begins when $\mathcal{N}_t^{\text{pot}}$ is itself historically generated. A society may acquire new capacities of mutual justification, recognition, political participation, or harm perception that were not previously available in the same form. Critique can therefore expose not only inconsistency with existing standards but a failure to reorganize institutions in response to newly generated normative capacities.

Definition 25.5 (Generative immanent critique). *Generative immanent critique* evaluates a relational formation by reconstructing normative capacities, commitments, contradictions, and unrealized possibilities generated within that formation, while allowing the relevant evaluative space itself to change through historical development and critical practice.

This differs from a model in which the critic simply discovers a fixed norm latent in practice. The norm may emerge through social learning, struggle, institutional experi-

mentation, conceptual innovation, or changes in relations that make previously unavailable comparisons possible. A relation that once appeared merely customary can later become recognizable as domination; an institutional arrangement once experienced as unavoidable can become criticizable once an alternative mode of coordination has been generated and demonstrated.

Habermas's communicative turn provides an especially important comparison. His reconstruction of communicative practices seeks normative resources in the validity claims and reciprocal presuppositions of linguistic interaction, and his political theory connects legitimacy to discursive processes in which citizens can participate in the formation of law (Habermas 1984; Habermas 1996). GR does not reject this reconstruction. It asks instead which relational and institutional conditions make such communicative capacities effective, how those conditions change, and whether new forms of interaction can generate new justificatory capacities.

Distinction 25.6 (Immanent source and final authority). The fact that a normative resource is immanent to a social practice explains one route by which critique can be socially grounded. It does not by itself establish that the resource is normatively final, universally sufficient, or immune to later criticism.

The distinction protects GR from equating historical embeddedness with normative closure. Immanence supplies a source of criticism; reflexive validation remains a further task.

25.3 Social Constitution of Normative Possibility

Critical Theory has repeatedly emphasized that normativity requires social conditions for its realization. Habermas's democratic theory joins normative justification to an account of the social and institutional conditions required for public communication, law, and democratic will-formation (Habermas 1996). Honneth develops a different but related argument: forms of individual freedom are socially mediated and depend on institutionalized relations in which subjects can recognize one another and realize capacities that cannot be exercised in isolation (Honneth 2015). Fraser's work similarly resists reducing injustice to either economic distribution or cultural recognition alone, insisting that multiple institutional orders can jointly condition whether people can participate as peers (Fraser and Honneth 2003).

These approaches move political philosophy away from the idea that normative possibility exists independently of social organization. GR takes the next step by treating normative possibility as part of an evolving possibility space. Let

$$M_t^N = \Phi_N(\mathcal{R}_t, \mathcal{I}_t, \mathcal{O}_t, \mathcal{V}_t, \mathcal{K}_t) \quad (170)$$

denote the effective normative possibility space at time t : the set or structured field of claims, comparisons, justificatory practices, institutional alternatives, and evaluative distinctions that can become socially intelligible and practically actionable under the current configuration.

This notation does not imply that morally valid possibilities are limited to those currently imaginable. It distinguishes a question of *availability* from a question of *validity*. A valid claim may be unavailable to a historical society because it lacks the conceptual, epistemic, or institutional resources needed to articulate it. Conversely, an available evaluative category may be deeply unjust.

Claim 25.7 (Normative possibility is socially generated). The practical availability of a normative judgment depends partly on social and relational conditions that make the

relevant objects, harms, comparisons, reasons, and institutional alternatives recognizable. Political transformation can therefore enlarge, contract, or reorganize the effective space of normative possibility without thereby determining which judgments within that space are valid.

This is a significant bridge between Critical Theory and GR. It preserves the critical-theoretical insight that freedom and justification require social mediation while connecting that insight to background independence. Institutions do not merely realize norms inside a fixed normative space; they can help generate the capacities and observables through which new normative claims become possible.

A simple example is institutionalized voice. A political order that creates durable channels through which previously excluded groups can record experience, articulate grievances, compare cases, and contest classifications may generate more than an additional opportunity to express pre-existing judgments. It can alter the epistemic and evaluative relations through which previously dispersed experiences become recognizable as a common political problem. The new institutional relation can therefore contribute to the generation of a new normative object.

Remark 25.8 (Availability is not validity). GR's concept of normative possibility is historical and relational, but it is not a theory that equates justice with historical possibility. The effective space M_t^N describes what can become intelligible and actionable under specified conditions; it does not define the outer boundary of normative truth or justification.

25.4 Historical Formation of Evaluative Standpoints

Once normative possibility is socially constituted, the standpoint of the critic becomes a substantive object of analysis. Critical Theory has repeatedly confronted this issue. The first generation's critique of instrumental reason generated the problem of how critique could preserve a rational basis after diagnosing domination as pervasive. Habermas's later work can be read in part as an attempt to reconstruct context-transcending validity from historically situated communicative practices, thereby avoiding both an external metaphysical standpoint and the self-undermining effects of total critique (Habermas 1984; Habermas 1996). Contemporary immanent critique continues to negotiate this relation between social embeddedness and critical distance (Jaeggi 2018).

GR reformulates the problem as transformation of the evaluative background. Let

$$\Xi_t = (\mathcal{O}_t, \mathcal{V}_t, \mathcal{L}_t, \mathcal{J}_t, \mathcal{I}_t) \quad (171)$$

denote an evaluative background composed of observables, evaluative capacities, conceptual resources, justificatory procedures, and institutional conditions. A critical standpoint $\mathcal{C}_t$ is formed within Ξ_t . Critical practice can also help transform that background:

$$\mathcal{C}_t \curvearrowright \Xi_t \longrightarrow \Xi_{t+1}. \quad (172)$$

The curved arrow denotes intervention rather than logical implication. Critique can introduce distinctions, reclassify harms, create new justificatory expectations, change institutional procedures, or alter what counts as publicly relevant evidence.

Principle 25.9 (Reflexive standpoint formation). A critical standpoint should be analyzed both as a product of a historical evaluative background and as a potential contributor to the transformation of that background.

This principle excludes two simplifications. First, the critic is not an ahistorical observer equipped with a complete normative vocabulary in advance. Second, historical conditioning does not reduce the critic to a passive expression of prevailing social structures. Critical practice can be generative.

The latter point matters for political philosophy because many forms of critique alter the conditions of future evaluation. A new legal category, public concept, testimonial practice, or institutional forum can persist after the immediate dispute that generated it. Later actors then inherit a different evaluative environment. The history of critique is therefore partly a history of the production of future critical capacities.

Distinction 25.10 (Standpoint genesis and standpoint authority). The historical formation of an evaluative standpoint and the authority of the claims made from that standpoint are different questions. GR requires the former to be reconstructed and the latter to remain open to reasoned challenge.

This is the reflexive analogue of the genesis-validity distinction. A theory that refuses to reconstruct its standpoint risks disguising historical conditions as universality; a theory that reduces authority to genesis cannot explain why historically generated critique can be better or worse justified.

25.5 Emergent Evaluative Capacities

The strongest GR extension of Critical Theory appears at the level of *evaluative capacity*. Critical theory often asks which normative expectations are already contained in practices, which experiences of injustice motivate struggles, or which institutional relations embody unrealized forms of freedom. GR adds a prior generative question: how does a person or collectivity acquire the capacity to experience, classify, and articulate something as normatively salient in the first place?

An evaluative capacity is not merely possession of a proposition such as “domination is wrong.” It includes the practical and perceptual ability to identify a configuration as domination, distinguish relevant similarities across cases, connect experience to a concept, recognize who is affected, and participate in practices through which the judgment can be challenged or shared. These capacities can be generated by education, struggle, testimony, institutional learning, new records, conceptual innovation, artistic experience, technological mediation, and changing social relations.

GR can schematically represent their formation as

$$\mathcal{V}_{t+1} = G_V(\mathcal{V}_t, \mathcal{R}_t, \mathcal{O}_t, \mathcal{E}_t, \mathcal{I}_t, H_t), \quad (173)$$

where $\mathcal{E}_t$ includes experiences and encounters made salient within the current relational world. The point is not that all evaluative learning follows a single function G_V . The notation identifies evaluative capacity itself as an object of generative explanation.

Definition 25.11 (Evaluative-capacity emergence). *Evaluative-capacity emergence* is the process through which agents or collectivities acquire new abilities to perceive, articulate, compare, justify, or contest the normative significance of relations, institutions, experiences, and possible futures.

This definition connects Section 16 to the critical-theoretical tradition. Honneth’s theory of recognition, for example, emphasizes that experiences of disrespect can become moral motives for social struggle and that institutional relations can embody forms of social freedom (Honneth 2015). Fraser’s critique of reduction to recognition alone highlights that cultural status and political economy can jointly structure whose claims are

visible and whose participation is possible (Fraser and Honneth 2003). GR generalizes the mechanism: relations do not merely distribute recognized goods or identities; they can condition the capacities by which a field of injustice becomes perceptible.

Claim 25.12 (Normative learning can be generative). Normative learning is generative when it produces capacities, concepts, observables, or institutional practices that alter which future relations can be recognized, criticized, justified, or transformed.

This claim helps explain why critique cannot be represented only as a verdict imposed on a completed social state. Critique can produce new evaluative equipment. Once generated, that equipment can persist, spread, be institutionalized, be suppressed, or itself become an object of criticism.

Warning 25.13 (No automatic progress). The emergence of new evaluative capacities does not imply moral progress. Systems can also generate capacities for exclusion, dehumanization, ideological rationalization, or increasingly sophisticated forms of domination. GR treats evaluative-capacity formation as normatively unsigned until the capacities and their consequences are separately assessed.

The warning prevents the language of generation from becoming a disguised philosophy of progress. Critical Theory's sensitivity to ideology and domination remains indispensable precisely because generative systems can produce critical capacities and oppressive capacities at the same time.

25.6 Reflexive Critique within Generative Relational Systems

The preceding analysis yields a more general model of critique. A relational system generates subjects, observables, evaluative capacities, and institutions. Some of those generated structures support a critical practice. That practice evaluates the system from which it emerged and may intervene in its organization. If the intervention succeeds, the later system can contain different relations, observables, evaluative capacities, and critical possibilities. Critique therefore enters a recursive loop:

$$\begin{aligned}\Theta_t &\longrightarrow \mathcal{C}_t \longrightarrow \Delta\Theta_{t+1}, \\ \Theta_{t+1} &= \Theta_t \oplus \Delta\Theta_{t+1},\end{aligned}\tag{174}$$

where Θ_t denotes the relevant generative-relational configuration and $\mathcal{C}_t$ a critical practice generated within it. The operator $\oplus$ indicates historical recomposition rather than simple addition.

Definition 25.14 (Reflexive generative critique). *Reflexive generative critique* is critique that (i) reconstructs the historical-relational conditions of its own emergence, (ii) evaluates the relations and generative mechanisms that sustain the object of criticism, (iii) distinguishes the genesis of its evaluative resources from their validity, and (iv) recognizes that critical intervention can transform the conditions under which subsequent observation and evaluation occur.

This definition extends rather than abandons immanent critique. When the relevant evaluative background is sufficiently stable, familiar critical-theoretical strategies can operate inside GR without modification. The added machinery becomes necessary when critical struggle changes the relevant subjects, observables, relation types, institutions, or normative possibility space.

Proposition 25.15 (Critical Theory as a restricted generative case). *Suppose, for an interval $[t_0, t_1]$, that the effective evaluative background Ξ , the relevant subject types, and*

the space of normatively intelligible claims are sufficiently stable, while social institutions and practices vary within that background. Then an immanent or reconstructive critical-theoretical analysis can be represented as a restricted GR model in which critique evaluates contradictions, pathologies, or unrealized normative possibilities without requiring transformation of the evaluative background itself.

Proof. Under the stated assumptions, $\Xi_t = \Xi$ for $t \in [t_0, t_1]$, so the relevant observables, evaluative capacities, justificatory procedures, and subject types can be treated as fixed analytical coordinates. Social relations and institutions may still change, and critique can compare their realized organization with normative possibilities available within Ξ . This is precisely a fixed-background restriction of the broader GR architecture. If critique or historical transformation changes Ξ , the restriction no longer holds and the full generative analysis is required. $\square$

The proposition gives the comparison a non-adversarial form. GR does not claim that existing Critical Theory is invalid because it lacks a vocabulary of background transformation. It argues that immanent and reconstructive critique remain powerful within domains where the relevant normative coordinates are stable enough to support them. GR becomes more demanding when the very grammar of evaluation changes.

The deepest continuity between the two traditions is methodological. Both reject a political philosophy in which the theorist simply selects timeless principles and applies them from outside social life. Both require attention to historically specific institutions, powers, experiences, and forms of reason. Both understand critique as practically consequential. GR integrates these insights into a theory of recursive generation without a fixed political background. Critique is then simultaneously an outcome of relational history, an evaluation of that history, and a possible generator of a different future evaluative world.

Synthesis 25.16 (Critical theory and GR). Critical Theory supplies GR with a powerful model of historically situated, socially grounded, and practically oriented critique. GR extends that model by treating the conditions of critique—subjects, observables, evaluative capacities, justificatory procedures, and normative possibility spaces—as potentially generative and transformable. Reflexive critique then becomes not only critique *within* history but a process that can participate in generating the future conditions of normative judgment.

26 Feminist and Relational Political Philosophy

Feminist political philosophy and relational approaches to autonomy, care, dependency, embodiment, and structural injustice constitute another close family of interlocutors for Generative Relational theory (GR). Long before GR formulates subjecthood, freedom, vulnerability, and political agency as relationally generated, feminist philosophy had already criticized images of the agent as self-sufficient, disembodied, socially unencumbered, and insulated from relations of care and dependency. Relational-autonomy scholarship explicitly reconstructs autonomy in light of the social conditions under which agents form identities, capacities, self-trust, and practical possibilities (Mackenzie and Stoljar 2000; Nedelsky 2012). The ethics and politics of care have made dependency and the organization of care central to justice rather than residual exceptions to otherwise independent citizenship (Kittay 1999; Tronto 1993). Feminist accounts of oppression and structural injustice further show how apparently individual choices can be organized by social positions, institutional routines, cultural meanings, and interlocking structures that no single actor controls (Young 1990; Young 2011; Crenshaw 1991).

GR therefore should not present itself as discovering that autonomy is relational, that human beings are vulnerable, or that hidden structures shape agency. Those are major achievements of feminist political thought itself. The GR contribution is narrower and more architectural. It asks how dependencies, capacities, embodied subjects, social positions, and structural powers are *generated, stabilized, coupled across scales, and transformed through time*; how the relations that enable agency can also produce vulnerability or domination; and how emergent structures can re-enter the system as conditions of later autonomy, care, and political subjecthood.

The relation between feminist political philosophy and GR is especially important because it tests whether GR's generalized relational language can preserve normative and historical specificity. A framework that treats human-human, human-institution, human-technology, and sub-personal relations within a common grammar risks becoming too abstract to register gendered labor, racialized vulnerability, embodied dependence, or unequal distributions of care. Feminist theory therefore functions not merely as a source of examples but as a constraint on GR's level of abstraction: a relational meta-language is politically useful only if it can represent asymmetry, embodiment, dependency, intersection, and historically structured difference without dissolving them into generic connectivity.

Inheritance 26.1 (Feminist relational inheritance). GR inherits from feminist and relational political philosophy the rejection of atomistic agency, the political centrality of care and dependency, the embodied and situated character of subjectivity, the importance of structural and intersectional power, and the insight that formally voluntary choices can be conditioned by unequal relational environments.

Extension 26.2 (The GR extension). GR extends these insights by placing the generation and transformation of dependency, agency, vulnerability, and relational position within a recursively generative and background-independent framework. The extension concerns how the relations that constitute subjects can themselves change type, scale, observability, and generative consequence over historical time.

This section accordingly does not ask whether feminist political philosophy is "relational enough." It asks what becomes visible when its relational insights are combined with GR's account of recursive generation, changing possibility spaces, cross-scale coupling, and emergent political subjecthood.

26.1 Relational Autonomy

Relational autonomy provides the most direct bridge between feminist political philosophy and the account of freedom developed earlier in this paper. The collection edited by Mackenzie and Stoljar reconstructed autonomy against an individualistic image in which an already formed agent merely selects among options (Mackenzie and Stoljar 2000). Relational approaches instead investigate how social relations shape the capacities required for autonomous agency: self-respect, self-trust, imagination, practical reasoning, access to alternatives, and the ability to revise one's commitments. Nedelsky similarly develops a relational account in which law structures the relations through which autonomy is possible, rather than treating autonomy as a protected sphere created simply by withdrawing collective interference (Nedelsky 2012).

This is already close to the argument of Section 11. GR likewise rejects the idea that freedom can be inferred from the absence of immediate interference alone. Yet GR adds a temporal-generative emphasis. An agent's autonomy at time t depends not only on the relations currently surrounding the agent but on the history through which the relevant capacities, options, identities, and dependencies were generated.

Let a_t denote an agent, $M_t(a)$ the effective possibility space available to that agent, $\mathcal{C}_t(a)$ the capacities required to navigate and revise that space, and $\mathcal{R}_{\leq t}(a)$ the inherited relational history relevant to those capacities. A GR representation of autonomy can be written schematically as

$$\text{Aut}_t(a) = \Phi(M_t(a), \mathcal{C}_t(a), \mathcal{R}_{\leq t}(a), \mathcal{I}_t, \mathcal{O}_t), \quad (175)$$

where $\mathcal{I}_t$ denotes institutional conditions and $\mathcal{O}_t$ the observables through which relevant constraints and alternatives can be recognized. The notation is not a proposed scalar metric of autonomy. Its purpose is to prevent the analysis from collapsing autonomy into an instantaneous property of a decision.

Definition 26.3 (Generative relational autonomy). *Generative relational autonomy* is an agent's historically produced and relationally sustained capacity to participate meaningfully in the formation, evaluation, revision, and transformation of the practical possibility spaces that shape the agent's life.

This definition extends relational autonomy in two directions. First, it emphasizes the generation of the capacities through which autonomous reflection is possible. Second, it includes some capacity to participate in the formation of the background against which later choices are made. Autonomy therefore concerns not only whether an agent can choose $x \in M_t$ but also whether the relational conditions of M_t are revisable and whether the agent can participate in that revision.

Distinction 26.4 (Choice autonomy and generative autonomy). *Choice autonomy* concerns the agent's relation to options already available within a practical field. *Generative autonomy* additionally concerns the relational processes through which that field, its relevant capacities, and its future alternatives are produced and revised.

The distinction does not imply that every autonomous decision requires control over all social conditions. Such a demand would make autonomy impossible. The point is comparative and political: two agents may face formally similar options while inhabiting radically different generative histories. One may possess durable exit capacities, social recognition, economic security, epistemic resources, and credible alternatives; the other's apparent options may depend on relations that systematically erode those same capacities.

Proposition 26.5 (Choice equivalence does not imply autonomy equivalence). *Suppose two agents a and b select the same action x from observationally similar choice sets at time t . If the relational histories that generated their capacities, dependencies, exit possibilities, or practical alternatives differ in autonomy-relevant ways, equality of observed choice does not entail equality of autonomy.*

The proposition formalizes a point central to feminist critiques of voluntarism. The same observable decision can have different political meanings when generated under different relations. GR supplies a trajectory-sensitive language for making this difference explicit rather than inferring autonomy from choice alone.

Remark 26.6 (Relational constitution without social determinism). To say that autonomy is relationally generated does not imply that agency is reducible to social determination. Relations can generate capacities for refusal, reinterpretation, resistance, imaginative departure, and reorganization. The relation between constitution and agency is therefore recursively generative rather than one-directional.

This recursive point matters for the feminist concern that emphasizing social formation can inadvertently make resistance unintelligible. GR instead treats agents as emergent structures capable of feeding back into the relational conditions that helped form them. A generated subject can become a generator.

26.2 Dependency, Vulnerability, and Care

Feminist theories of care and dependency challenge another background assumption of much modern political philosophy: that dependency is an exceptional condition contrasted with a normal state of independence. Kittay's work places dependency and dependency work at the center of equality and justice, while Tronto treats care as a political practice whose organization reflects and reproduces power (Kittay 1999; Tronto 1993). Fineman's vulnerability approach similarly criticizes the construction of an autonomous liberal subject insulated from the universal and institutionally mediated vulnerabilities of embodied life (Fineman 2008).

GR is compatible with this shift because it does not treat independence as an ontological baseline. An agent's capacities are sustained through relations to caregivers, infrastructures, institutions, technologies, ecological systems, and other persons. The relevant political question is therefore not whether dependency exists but how dependencies are organized, distributed, recognized, and transformed.

Definition 26.7 (Generative dependency). A *generative dependency* is a dependence that conditions an agent's future capacities, possibilities, identity, or ordinary functioning. The relevant support may come from another agent, institution, infrastructure, environment, or relational system, and its organization can alter later relations.

Generative dependency is normatively unsigned. Some dependencies expand agency. A child depends on care, education, language, and recognition to develop capacities that later enlarge practical freedom. Adults depend on public health, legal systems, transportation, knowledge infrastructures, and social cooperation. Other dependencies become exploitative or dominating when the supporting party or structure holds uncontrolled power over access, exit, or survival.

Distinction 26.8 (Dependency and domination). Dependency is not identical to domination. Dependency describes a constitutive relational condition; domination concerns the organization of power within or around that condition. A dependency can be mutually sustaining, institutionally protected, asymmetrical but non-dominating, or organized so that vulnerability becomes a source of arbitrary or structurally uncontrolled power.

This distinction links feminist care theory to the republican analysis of Section 21. Republicanism asks whether dependency subjects one actor to another's uncontrolled power. Feminist care theory adds that dependency cannot simply be eliminated because care and interdependence are constitutive features of human life. GR combines these insights by treating the political organization of dependency itself as a generative problem.

Let $D_t(a, b)$ denote a dependency relation between a and b , and let $K_t(D)$ denote the institutional and material conditions surrounding that relation. Its later form can be represented schematically as

$$D_{t+1} = G_D(D_t, K_t(D), P_t, C_t(a), C_t(b), H_t), \quad (176)$$

where P_t denotes relevant power relations. The equation emphasizes that dependency has a history and an institutional environment. Care policy, labor law, family norms, technological systems, disability infrastructures, migration regimes, and wealth distribution can reorganize who depends on whom, under what terms, and with what capacities for contestation or exit.

Principle 26.9 (Political organization of dependency). A GR analysis of dependency evaluates not only whether dependency exists but how political arrangements distribute dependency, dependency work, vulnerability, recognition, bargaining power, and the capacities generated through care.

The principle prevents a misleading ideal of emancipation in which justice means minimizing all dependency. Some dependencies are the medium through which capacities are generated. The normative task is instead to distinguish dependencies that cultivate or sustain agency from dependencies organized through abandonment, extraction, invisibility, or domination.

Care itself is generative in this sense. It does not merely preserve a pre-existing subject. Care can produce bodily capacities, linguistic capacities, self-trust, social membership, practical confidence, and future agency. Yet care relations can also generate exhaustion, unequal opportunity, economic dependency, or subordinated status for those who perform them. The same relational field can therefore generate capacities for one subject while constraining another.

Claim 26.10 (Dual-sided generativity of care). Care relations can simultaneously generate capacities in care recipients and generate burdens, dependencies, vulnerabilities, or political claims for caregivers. Their evaluation therefore requires analysis of both sides of the relation and of the institutions that distribute care work.

This is a direct example of why GR resists evaluating a relation solely by one endpoint. A successful care outcome for one subject does not settle the justice of the relational process that produced it.

26.3 Embodied and Situated Subjectivity

Feminist political philosophy has also challenged the abstraction of political subjects from embodiment, social position, and lived experience. Bodies are not interchangeable vessels carrying otherwise identical political agency. Pregnancy, disability, illness, aging, exposure to violence, reproductive labor, racialization, sexuality, and differential access to space can shape practical possibility in ways that are irreducible to formally equal rights. Feminist analyses of vulnerability and care therefore connect political subjectivity to embodied conditions rather than treating the body as external to political theory (Kittay 1999; Fineman 2008).

GR can accommodate this without claiming that bodies are merely social constructions. The framework distinguishes material embodiment from the relational fields through which bodily states become politically salient, classified, supported, stigmatized, disciplined, or transformed. Biological and material realities can constrain or enable action while their political meaning and institutional consequences remain historically variable.

Definition 26.11 (Embodied situated subject). An *embodied situated subject* is a political subject whose capacities, vulnerabilities, identity, recognizability, and effective possibility space are partly generated through relations among bodily conditions, material environments, social classifications, institutions, technologies, and other agents.

The definition is deliberately non-reductive. It does not reduce embodiment to discourse, nor does it treat biological description as politically self-interpreting. The political subject emerges through relations among heterogeneous layers.

A schematic representation is

$$\mathcal{S}_t^{\text{pol}} = \Omega(B_t, \mathcal{R}_t^{\text{inter}}, \mathcal{R}_t^{\text{inst}}, \mathcal{R}_t^{\text{mat}}, \mathcal{O}_t, H_t), \quad (177)$$

where B_t represents relevant bodily conditions, and the relational terms denote interpersonal, institutional, and material relations. The form Ω should not be read as a deterministic function assigning political identity from bodily state. It records the analytic proposition that political subjecthood can depend on couplings among these dimensions.

Warning 26.12 (No reduction of embodiment to social relation). GR's generalized relational ontology does not license the inference that bodily or material conditions are exhausted by social interpretation. A politically effective reality can involve material constraints that persist independently of how a society classifies them. The generative-relational question concerns how material, social, epistemic, and institutional relations become coupled.

This warning is important because a meta-framework can become imperial if it re-describes every domain as merely a special case of social relation. GR instead requires heterogeneous relata and domain-specific mechanisms. A neuron–neuron relation, a caregiving relation, a legal status, and a bodily impairment may interact, but they are not thereby ontologically identical.

Situatedness also has an epistemic dimension. Different relational positions can expose agents to different evidence, harms, dependencies, and practical constraints. This does not mean that every situated belief is valid, but it does mean that epistemic access itself can be relationally structured. Feminist standpoint traditions and intersectional analysis are therefore relevant to GR's earlier claim that evaluators and observables have histories.

Principle 26.13 (Situated access). Differences in relational position can generate differences in access to politically relevant evidence, harms, dependencies, and possibilities. Political epistemology should therefore analyze the generation and distribution of epistemic access rather than presuming a uniformly situated observer.

The principle connects feminist situatedness to the paper's broader account of historical recognizability and emergent evaluative capacity. A political system can fail not only by distributing resources unjustly but also by organizing relations so that some experiences remain difficult to register within available categories.

26.4 Structural Power and Hidden Relational Conditions

Feminist theories of oppression and structural injustice offer a particularly strong precedent for GR's account of power. Young's work emphasizes that injustice can be structural rather than reducible to intentional wrongdoing by identifiable individual agents (Young 1990; Young 2011). Crenshaw's analysis of intersectionality demonstrates that political and legal categories can fail when race and gender are treated as separable axes rather than as intersecting structures that organize concrete vulnerability and exclusion (Crenshaw 1991). These approaches already move beyond dyadic power toward relational configurations whose effects emerge from institutions, classifications, practices, and social positions.

GR's concept of generative power in Section 12 can therefore be understood as continuous with feminist structural analysis. Its added emphasis is that structural power can operate not only by constraining outcomes within a given field but by generating the field's positions, categories, visibility conditions, and future relations.

Definition 26.14 (Hidden relational condition). A *hidden relational condition* is a relation, dependency, classification, infrastructure, or institutional coupling that materially shapes an agent's effective possibilities or political standing while remaining absent, backgrounded, or inadequately represented in the dominant description of the decision or institution under evaluation.

Examples include unpaid care that makes formal employment possible, immigration status that alters bargaining power, inaccessible infrastructure that converts impairment into exclusion, or legal categories that recognize one axis of discrimination while

obscuring another. The point is not that hidden conditions are literally invisible. They are hidden relative to the operative model of the political situation.

Claim 26.15 (Formal equality can coexist with generative asymmetry). Two agents can possess formally identical legal rights while occupying relational systems that generate unequal capacities to exercise those rights, unequal exposure to dependency, unequal burdens of reproduction and care, or unequal recognizability of injury.

This claim is familiar in feminist political philosophy; GR's contribution is to connect it to the architecture of possibility-space generation. If political arrangements differentially shape $M_t(a)$ and $M_t(b)$, then equality of formal entitlement does not imply equality of effective or generative freedom.

Intersectionality is especially important here because it blocks a simplistic additive model. If social position were merely the sum of independent variables, one might write

$$P(a) = P_{\text{gender}}(a) + P_{\text{race}}(a) + P_{\text{class}}(a) + \dots \quad (178)$$

Crenshaw's analysis instead motivates attention to interactions for which the political effect of one relation depends on the configuration of others (Crenshaw 1991). GR represents this more naturally as a coupled relational configuration:

$$P_t(a) = \Pi\left(\mathcal{R}_t^{(1)}(a), \mathcal{R}_t^{(2)}(a), \dots, \mathcal{R}_t^{(n)}(a)\right), \quad (179)$$

where Π need not be additive and may contain interaction, threshold, feedback, or path-dependent effects.

Comparison 26.16 (Intersectionality and generative relational analysis). Intersectionality prevents GR from treating relational plurality as a list of separable relations. GR in turn supplies a dynamic vocabulary for asking how intersecting positions are generated, stabilized, transformed, and coupled to later possibility spaces. The two approaches are compatible only if GR preserves the historical specificity of the power relations under study rather than translating them into content-free network structure.

This last qualification is essential. A graph with many edges is not an intersectional analysis. The political meaning of the relations—gendered, racialized, colonial, economic, familial, legal, technological—must remain in the model.

26.5 Generative Formation of Dependency and Agency

The preceding subsections permit a stronger formulation of the relation between dependency and agency. Political theories often treat these concepts as endpoints on one axis: more dependency means less agency, and more independence means more agency. Feminist care theory already destabilizes that opposition because dependency can be the condition through which capacities are cultivated. GR generalizes the point by treating both dependency and agency as products of generative histories.

Let $\mathcal{D}_t(a)$ denote the dependency configuration of agent a and $\mathcal{A}_t(a)$ the agent's effective capacities for action, reflection, contestation, and relation transformation. Then the relevant question is not whether $\mathcal{D}_t(a)$ is large or small in the abstract, but how its organization enters the generation of $\mathcal{A}_{t+1}(a)$:

$$\mathcal{A}_{t+1}(a) = G_A(\mathcal{A}_t(a), \mathcal{D}_t(a), \mathcal{R}_t(a), \mathcal{I}_t, \mathcal{C}_t, H_t). \quad (180)$$

Some dependencies can build future agency by generating capabilities, security, or relational support. Others can reduce agency by making exit costly, weakening self-trust, controlling information, or concentrating authority in actors on whom the subject depends.

Principle 26.17 (Dependency–agency non-monotonicity). The relation between dependency and agency is non-monotonic. Increasing relational dependence can under some conditions generate future agency, while reducing a dependency can under other conditions destroy capacities or supports required for effective agency.

This mirrors the non-monotonic relation between freedom and constraint in Section 11. Relational categories cannot be evaluated solely by their sign at one moment; their generative consequences matter.

Example 26.18 (Care as capacity generation). A care relation may impose immediate dependence while generating bodily security, language, confidence, social competence, or practical capacities that enlarge future agency. The same relation can nevertheless be unjust if the caregiver’s labor is coerced, unrecognized, or organized through structural inequality. GR therefore evaluates the coupled generative trajectory rather than assigning the relation a single normative value.

Agency itself can then feed back into dependency structures. Subjects organize collectively, alter legal arrangements, develop new technologies, establish care institutions, refuse inherited roles, or create new recognition practices. The trajectory is recursive:

$$\mathcal{D}_t \longrightarrow \mathcal{A}_{t+1} \longrightarrow \Delta \mathcal{R}_{t+1} \longrightarrow \mathcal{D}_{t+2}. \quad (181)$$

Definition 26.19 (Generative relational agency). *Generative relational agency* is the historically developed capacity of a subject or collective to participate in altering the relations, dependencies, classifications, and possibility spaces through which its own and others’ future agency is produced.

This concept should not be read as a demand that every individual become sovereign over the conditions of life. It is instead a political criterion concerning whether social systems monopolize generative authority or distribute meaningful capacities for participation, contestation, and revision.

Limitation 26.20 (No replacement of feminist specificity by GR vocabulary). GR cannot substitute the generic terms “dependency,” “relation,” or “generative power” for historically specific feminist analyses of gendered care, reproductive labor, racialized violence, disability, sexuality, family organization, or intersectional exclusion. The meta-language is useful only insofar as it preserves the concrete content and empirical asymmetries identified by those traditions.

The limitation is methodological as well as political. A theory that universalizes too quickly can reproduce the very erasures that relational and intersectional feminist theories were developed to expose.

26.6 Cross-Scale Relational Extensions

The final GR extension concerns scale. Feminist political philosophy frequently reveals relations that conventional public/private distinctions hide: household labor supports labor markets; bodily reproduction sustains institutions; interpersonal violence interacts with legal classification; care infrastructures shape economic participation; and cultural representations affect self-conception and public recognition. GR’s cross-scale language offers a way to represent these connections without treating any one level as analytically sufficient.

For present purposes, consider a sequence of effective levels:

$$\mathcal{R}_t^{\text{body}} \leftrightarrow \mathcal{R}_t^{\text{interpersonal}} \leftrightarrow \mathcal{R}_t^{\text{household}} \leftrightarrow \mathcal{R}_t^{\text{institutional}} \leftrightarrow \mathcal{R}_t^{\text{economic}} \leftrightarrow \mathcal{R}_t^{\text{political}}. \quad (182)$$

The arrows are bidirectional because relations at one scale can condition and reorganize relations at others. The equation is not a claim that these levels form a universal hierarchy. It is a device for preventing analysis from isolating a political outcome at one scale from the conditions generated elsewhere.

Principle 26.21 (Cross-scale feminist relational analysis). Where an apparent political phenomenon at one scale depends on generative conditions at another, the relevant unit of analysis should include the cross-scale coupling rather than treating one level as exogenous background.

This principle helps explain why care, embodiment, and household relations can be politically constitutive even when a formal political theory begins with citizens interacting in public institutions. The “private” level may generate capacities, constraints, time distributions, vulnerabilities, and dependencies that determine who can participate in those institutions and on what terms.

The same logic applies downward as well as upward. Institutional arrangements can alter bodily exposure, stress, reproductive choices, access to medicine, disability accommodation, and patterns of violence. Political relations therefore become embodied, and embodied conditions re-enter political relations. GR’s generalized relational domain is useful here precisely because it allows material, institutional, interpersonal, technological, and sub-personal relations to be represented without assuming that they are reducible to one scale.

Claim 26.22 (No privileged scale of relational justice). A generative-relational analysis of justice cannot assume in advance that the politically decisive scale is the individual, household, institution, market, state, or body. The relevant scale is determined by the relational mechanism through which capacities, burdens, vulnerabilities, and possibilities are generated.

This is one place where feminist political philosophy materially constrains GR’s meta-framework ambition. Cross-domain generality must not produce cross-scale blindness. The framework needs enough formal abstraction to connect domains while remaining capable of returning to the specific histories through which gendered and intersectional structures are reproduced.

Synthesis 26.23 (Feminist relational political philosophy and GR). Feminist and relational political philosophy already establish that selves are socially constituted, autonomy is relational, dependency is politically organized, embodiment matters, care generates capacities and burdens, and structural power can operate through intersecting conditions not reducible to individual intention. GR does not replace these insights. It extends them by treating dependencies, agencies, classifications, and possibility spaces as recursively generated structures whose relations can transform across time and scale. The resulting synthesis shifts the question from whether subjects are independent to how political systems generate the relations through which autonomy, vulnerability, care, dependency, and agency become possible in the first place.

The comparison therefore strengthens rather than weakens the broader thesis of this paper. GR’s background independence means that neither the autonomous individual nor the dependent subject, neither the household nor the state, and neither vulnerability nor agency must be fixed as the permanent unit of political analysis. Its generative commitment asks how these formations arise and change. Feminist political philosophy supplies indispensable substantive constraints on that abstraction by insisting that those generative processes are embodied, historically unequal, care-dependent, and often structured by relations that conventional political descriptions leave in the background.

27 Postcolonial and Decolonial Political Thought

Postcolonial and decolonial political thought provide an especially demanding test for Generative Relational theory (GR). These traditions already reject the image of political order as a neutral field populated by pre-given subjects. Colonial rule did not merely constrain actors who otherwise remained unchanged. It produced classifications, administrative identities, racialized and civilizational hierarchies, regimes of knowledge, territorial partitions, legal statuses, linguistic asymmetries, and differentiated capacities to appear as authoritative political subjects. Fanon analyzes colonialism as formative of racialized subjectivity and political possibility, Said shows how representational practices participate in the production of an “Orient” available to imperial knowledge and rule, Spivak foregrounds the problem of representation and the difficulty of transparent subaltern speech, and Quijano’s account of coloniality of power places durable social classification and Eurocentric knowledge within the continuing structure of the modern/colonial world (Fanon 2008; Fanon 2004; Said 1978; Spivak 1988; Quijano 2000). Later decolonial work develops this problem in terms of colonial matrices of power, delinking, border thinking, and the reconstruction of epistemic and political possibilities (Mignolo 2011; Mignolo and Walsh 2018).

GR therefore should not claim that it discovers the historical production of political categories, colonial subjectivity, epistemic hierarchy, or the persistence of colonial structures after formal decolonization. Those are central achievements of postcolonial and decolonial thought themselves. The more limited GR contribution is architectural. It asks how colonial relations alter the generators through which subjects, classifications, observables, normalities, and possibility spaces are reproduced; how these generated structures re-enter later relations; how colonial effects persist through path dependence after the initiating institutions have changed; and how decolonial transformation can be represented as a reconstruction of relational and generative conditions rather than as a simple reversal of colonial rule.

Distinction 27.1 (Lineages). Postcolonial and decolonial thought are overlapping but non-identical intellectual formations. Postcolonial theory developed through, among other sources, anti-colonial thought, literary and cultural criticism, Marxism, poststructuralism, and analyses of representation associated with figures such as Fanon, Said, and Spivak. Decolonial theory, especially the modernity/coloniality tradition associated with Quijano, Mignolo, Walsh, and related scholars, places particular emphasis on coloniality as a durable matrix of power and knowledge and on projects of epistemic and political delinking. GR treats them as interlocutors with intersecting problems rather than collapsing them into a single doctrine.

This distinction matters methodologically. A meta-language that erases differences among anti-colonial, postcolonial, decolonial, Indigenous, Black, feminist, and subaltern traditions would reproduce the abstraction problem that these traditions repeatedly diagnose. GR can be useful only if the common generative grammar preserves historical specificity and asymmetry.

Inheritance 27.2 (Postcolonial and decolonial inheritance). GR inherits the claims that political subjects and categories can be historically constituted through colonial power; that knowledge, classification, representation, and administration participate in political domination; that formal termination of colonial rule need not terminate colonial structures; and that transformation therefore concerns epistemic, relational, institutional, and material conditions as well as legal sovereignty.

Extension 27.3 (The GR extension). GR extends these insights by representing coloniality as a recursively generative configuration capable of altering relation types, observ-

ables, evaluative coordinates, and effective possibility spaces. It further treats decolonial transformation as a problem of changing the generators of future relations rather than merely changing occupants of inherited positions.

The extension is intentionally modest. It does not redescribe colonial history as a dynamical system and thereby claim explanatory superiority. It asks whether GR's concepts of background transformation, recursive generativity, cross-scale coupling, and emergent normality can provide a common formal language for mechanisms that post-colonial and decolonial traditions have already identified in historically richer terms.

27.1 Colonial Generation of Political Categories

Colonial political orders depend on distinctions that are not merely descriptive. Categories such as colonizer and colonized, civilized and primitive, metropolitan and native, citizen and subject, governable and dangerous, or fully human and deficiently human can organize law, mobility, education, labor, property, representation, and access to political standing. Fanon's analysis of colonial racialization is especially important because it shows that such classification is not external to subjectivity: the colonial world enters the formation of the self, bodily experience, language, aspiration, and recognition (Fanon 2008; Fanon 2004). Quijano likewise treats colonial social classification, particularly racial classification, as constitutive of a durable global pattern of power rather than as a superficial ideology added to an otherwise independent economy (Quijano 2000).

GR interprets this as a problem of category generation. Let $\mathcal{C}_t$ denote a set of politically operative classifications, $\mathcal{R}_t^{\text{col}}$ the relevant colonial relations, and $\mathcal{I}_t$ the institutional machinery through which classifications are recorded and enacted. Then the colonial classificatory field can be written schematically as

$$\mathcal{C}_{t+1} = G_C(\mathcal{C}_t, \mathcal{R}_t^{\text{col}}, \mathcal{I}_t, \mathcal{O}_t, H_t), \quad (183)$$

where $\mathcal{O}_t$ denotes the observables through which persons and populations become legible to administrative or epistemic systems, and H_t denotes inherited history. The point is not that colonial classification follows a universal mathematical law. The equation records that categories can be reproduced through coupled legal, bureaucratic, epistemic, economic, linguistic, and social relations.

Definition 27.4 (Colonial generative category). A *colonial generative category* is a historically produced classification that does more than describe a population or relation. Once institutionally stabilized, it changes the rights, expectations, observability, mobility, resources, vulnerabilities, or future relational possibilities of those classified through it.

This distinction between descriptive and generative classification is central. A category becomes politically generative when its use changes what can subsequently happen. If a classification controls access to land, education, movement, testimony, labor markets, public office, or protection, then the category participates in producing the relational world that later appears to confirm it.

Principle 27.5 (Classification–reality feedback). When a political classification systematically alters the relations and resources available to classified subjects, the category can contribute to producing the empirical patterns later taken as evidence for the classification itself.

The principle connects colonial analysis to the feedback account of normality developed in Section 14. Colonial classifications can produce differential education, wealth,

mobility, exposure to violence, or public recognition; these effects can then be represented as if they expressed natural differences between the classified populations. The apparent ontology is partly generated by the classificatory regime.

This does not imply that every distinction used under colonialism was invented ex nihilo. Colonial regimes frequently encountered pre-existing languages, identities, hierarchies, political formations, and conflicts. Their generative power often consisted in selecting, translating, hardening, recombining, or administratively fixing distinctions whose earlier meanings were different. GR therefore rejects a simple before/after model in which an internally homogeneous precolonial society is disrupted by a single external force.

Warning 27.6 (No pristine precolonial baseline). Background-independent analysis does not require an imagined pure precolonial state. Colonial transformation interacts with pre-existing relations, conflicts, institutions, ecological conditions, and forms of hierarchy. The relevant question is how colonial intervention reconfigures those relations and their later generative consequences.

The warning is also normatively important. Critique of colonial generation does not entail idealization of every prior arrangement. GR evaluates how relations are generated and transformed, not whether they are historically older.

27.2 Historical Production of Epistemic Hierarchies

Colonial rule is also an epistemic ordering. Said's analysis of Orientalism shows how scholarly, literary, administrative, and cultural representation can participate in constructing an object of knowledge whose intelligibility is bound to asymmetrical relations between the knower and the known (Said 1978). Spivak complicates any response that simply reverses the direction of representation: the problem is not solved by assuming that an unmediated subaltern voice becomes transparent as soon as the colonial intermediary is removed (Spivak 1988). Quijano and later decolonial theorists similarly emphasize Eurocentrism and the geopolitical organization of knowledge as dimensions of coloniality (Quijano 2000; Mignolo 2011; Mignolo and Walsh 2018).

GR connects these arguments to its earlier claim that observables and evaluators have histories. An epistemic hierarchy is not merely a ranking among already available propositions. It can determine which experiences become recordable, which languages count as scholarly or administrative media, whose testimony is presumptively credible, which archives are preserved, which classifications organize research, and which conceptual distinctions are available to describe political reality.

Definition 27.7 (Epistemic-generative hierarchy). An *epistemic-generative hierarchy* is an asymmetrical relational structure that differentially distributes the capacity to produce, authorize, preserve, circulate, classify, or revise politically consequential knowledge, thereby affecting the later observability of persons, events, and relations.

Let K_t denote the politically effective body of recognized knowledge, A_t^K the set of authorized epistemic positions, L_t the linguistic and conceptual media of articulation, and $\mathcal{A}_t$ the archive and record infrastructure. Then

$$K_{t+1} = G_K(K_t, A_t^K, L_t, \mathcal{A}_t, \mathcal{R}_t^{\text{power}}, H_t). \quad (184)$$

The equation is schematic, but it identifies the generative objects that a purely propositional model of knowledge would miss. The political question is not only whether a statement is true; it is also whether a relational system allows the relevant evidence, speaker, concept, and record to enter the field of future inquiry.

Distinction 27.8 (Truth and epistemic authority). The political generation of epistemic authority does not imply that truth is generated by authority. GR distinguishes the truth of a proposition from the historically organized capacity of institutions and communities to recognize, preserve, contest, or act upon that proposition.

This distinction parallels the separation between truth and its historical recognition developed in Section 24. Colonial power can suppress true testimony, preserve false classifications, destroy archives, privilege certain methods, or make some experiences difficult to articulate. Those facts concern historical recognizability and epistemic power; they do not require a relativist theory according to which all truth is reducible to colonial discourse.

Claim 27.9 (Epistemic background transformation). A sufficiently deep colonial epistemic transformation changes not only the distribution of accepted beliefs but also the effective background of inquiry: admissible speakers, categories, archives, languages, methods, and standards of relevance.

This is one place where background independence becomes politically substantive. If the epistemic background changes, later actors do not merely disagree within the same conceptual space. They may inherit different capacities to formulate questions, retrieve histories, or recognize harms. Decolonial epistemic reconstruction therefore cannot be reduced to adding neglected propositions to an otherwise unchanged knowledge system.

27.3 Colonial Transformation of Relational Possibility Spaces

Colonialism transforms possibility spaces. Conquest, dispossession, forced labor, racialized legal status, extraction, borders, education systems, language policies, infrastructures, property regimes, and administrative classifications can alter what forms of movement, association, livelihood, political organization, and self-description remain feasible. Fanon’s anti-colonial writings analyze the colonial world as an organized field of partition and constraint, not merely a collection of individual discriminatory acts (Fanon 2004). Decolonial accounts of coloniality likewise emphasize that the modern/colonial structure continues beyond the formal end of colonial administration (Quijano 2000; Mignolo 2011).

In GR terms, the effect is not simply

$$x_t \longrightarrow x_{t+1}, \quad (185)$$

with both states located in a fixed political space M . Colonial transformation can instead be represented as

$$M_t \xrightarrow{\mathcal{R}_t^{\text{col}}, \mathcal{G}_t^{\text{col}}} M_{t+1}^{\text{col}}, \quad (186)$$

where $\mathcal{G}_t^{\text{col}}$ denotes the generative mechanisms through which colonial relations alter future possibilities.

Definition 27.10 (Colonial possibility-space change). A *colonial possibility-space transformation* occurs when colonial relations alter the set, accessibility, cost, intelligibility, or institutional recognition of future actions and forms of life, rather than merely selecting among possibilities that remain otherwise unchanged.

This concept is broader than legal prohibition. A possibility can remain formally legal while becoming materially inaccessible, epistemically unavailable, socially unintelligible, or institutionally unsupported. Conversely, colonial rule can generate new positions and pathways—including administrative, commercial, educational, military,

and intermediary roles—whose existence depends on the colonial order itself. The transformed possibility space is therefore neither a simple contraction nor a uniform loss. It is a reorganization with asymmetrical distributions of newly generated and newly destroyed possibilities.

Principle 27.11 (Asymmetric possibility generation). Colonial transformation can simultaneously expand possibilities for some actors and institutions while contracting or reorganizing those available to others. Evaluation therefore requires attention to the distribution and generative consequences of possibility-space change, not merely to aggregate institutional complexity or economic expansion.

The principle blocks a common analytic error. Roads, schools, markets, and bureaucratic capacities do not by themselves show that colonial transformation enlarged political freedom. The same infrastructure can support new capacities while reproducing domination; its political effect depends on ownership, control, access, classification, and the relations through which it operates.

The possibility-space approach also clarifies why formal decolonization need not reverse colonial effects. If colonial rule changes landholding, language competence, administrative categories, infrastructure, trade dependence, elite formation, archives, or educational institutions, then removing the formal sovereign relation at t_1 does not restore M_{t_0} . History is path-dependent.

Proposition 27.12 (Non-reversibility of formal decolonization). *If colonial transformation changes one or more generators of the effective political possibility space, then terminating the formal colonial relation is insufficient, in general, to restore the precolonial possibility space.*

Proof. Let the effective possibility space at time t be generated by $M_t = \Phi(\mathcal{R}_t, \mathcal{G}_t, H_t)$. Suppose colonial rule changes $\mathcal{G}_t$ and contributes to the historical state H_t . Removal of the formal colonial relation changes part of $\mathcal{R}_t$, but $\mathcal{G}_t$ and H_t need not return to their earlier values. Therefore Φ need not reproduce the earlier possibility space. The conclusion is structural rather than empirical: reversal requires additional conditions beyond termination of the initiating formal relation. $\square$

This proposition formalizes a point that postcolonial and decolonial traditions make historically: political independence and decolonization are not synonymous.

27.4 Generation and Stabilization of Colonial Normality

Colonial power is most durable when its distinctions become ordinary. A regime need not continuously announce every hierarchy if institutions, habits, language, built environments, educational systems, economic dependencies, and representational practices reproduce expectations about who belongs where, who may speak, whose knowledge is authoritative, what kinds of mobility are natural, and which forms of inequality appear inevitable. Said's *Orientalism* is exemplary here because representation is not merely false description; repeated representational structures help stabilize an intelligible distinction between West and Orient within asymmetrical relations of knowledge and power (Said 1978). Fanon's work similarly describes the embodied and psychic effects of a world in which racial hierarchy is lived as an organized social reality (Fanon 2008).

GR represents this stabilization through the normality loop introduced in Section 14:

$$\mathcal{C}_t^{\text{col}} \longrightarrow \mathcal{I}_t \longrightarrow \mathcal{B}_t \longrightarrow \mathcal{E}_t \longrightarrow \mathcal{C}_{t+1}^{\text{col}}, \quad (187)$$

where $\mathcal{C}_t^{\text{col}}$ denotes colonial classifications, $\mathcal{I}_t$ institutionalization, $\mathcal{B}_t$ patterned behavior, and $\mathcal{E}_t$ expectations and interpretations generated from those patterns.

Definition 27.13 (Colonial normality). *Colonial normality* is a stabilized relational configuration in which historically produced colonial distinctions and asymmetries become embedded in ordinary expectations, classifications, institutional routines, and practical possibilities, thereby reducing the extent to which their reproduction requires explicit justification at every iteration.

Normality is not legitimacy. A colonial order may become socially predictable without becoming normatively defensible. Nor is colonial normality necessarily consensual. It can persist amid resistance, strategic compliance, ambivalence, hybridization, and competing practices. The concept concerns reproduction, not universal acceptance.

Distinction 27.14 (Normalization and consent). The normalization of a relation does not establish that affected subjects endorse it. A configuration can become institutionally ordinary and behaviorally reproduced under conditions of coercion, dependency, limited alternatives, strategic adaptation, or contested meaning.

This distinction is crucial for political philosophy because otherwise stable reproduction can be mistaken for legitimacy. GR therefore treats stability as a dynamical property and legitimacy as an evaluative question, consistent with Sections 14 and 18.

Colonial normality also exhibits recursive re-entry. Once a classification is stabilized, it can shape data collection, school curricula, administrative records, neighborhood organization, marriage patterns, labor segmentation, or public imagery. Those generated patterns then become the inputs to later classification and policy. The relation between representation and reality is therefore neither purely symbolic nor mechanically material. It is recursively coupled.

Claim 27.15 (Colonial reality feedback). Colonial categories can become increasingly resistant to revision when institutions generate social patterns that are subsequently interpreted through the same categories that helped produce them.

The claim is especially compatible with Quijano's account of coloniality because it explains how a classification can outlive the colonial institution in which it was initially consolidated (Quijano 2000). Persistence does not prove invariance at the fundamental level; it can be the consequence of deep recursive stabilization.

27.5 Decolonial Transformation as Relational Reconfiguration

If coloniality is generative, decolonization cannot be modeled adequately as subtraction alone. Removing a colonial government, deleting a classification from law, renaming an institution, or adding previously excluded authors can matter greatly, but each may leave intact the relations and generators through which inherited asymmetries reproduce themselves. Fanon's analysis of postcolonial political dangers already treats liberation as a problem extending beyond the departure of the colonial ruler (Fanon 2004). Decolonial theory makes a related point through its emphasis on coloniality as a durable matrix and on transformations of knowledge, subjectivity, and political practice (Mignolo 2011; Mignolo and Walsh 2018).

GR describes a deeper decolonial transformation as a coupled change in

$$(\mathcal{R}_t, \mathcal{G}_t, \mathcal{O}_t, \mathcal{C}_t, M_t) \longrightarrow (\mathcal{R}_{t+1}, \mathcal{G}_{t+1}, \mathcal{O}_{t+1}, \mathcal{C}_{t+1}, M_{t+1}), \quad (188)$$

where relations, generators, observables, classifications, and possibility spaces are transformed together.

Definition 27.16 (Decolonial generative transformation). A *decolonial generative transformation* is a politically directed reconfiguration that alters not only inherited colonial outcomes but also the relations, classifications, epistemic infrastructures, and generative mechanisms through which colonial asymmetries would otherwise be reproduced.

This definition intentionally does not prescribe a single substantive decolonial program. Different historical contexts involve different colonial relations, surviving institutions, languages, property systems, racial classifications, ecological conflicts, and political agents. Background independence implies that the relevant generators must be identified rather than assumed in advance.

Principle 27.17 (Decolonization beyond substitution). Replacing the personnel occupying inherited positions is insufficient when the relations and generators defining those positions continue to reproduce the same asymmetries.

This principle applies to political offices, epistemic institutions, economic structures, cultural canons, and administrative classifications. A decolonial intervention can therefore target the rules by which positions are formed, recognized, and connected, rather than only redistributing access to pre-existing positions.

Yet GR must also resist a second simplification: decolonial transformation is not equivalent to restoration of an uncontaminated past. Colonial histories generate irreversible changes, mixed institutions, new identities, languages, dependencies, and hybrid forms. The future cannot generally be produced by applying an inverse operator to colonial history.

Distinction 27.18 (Decolonization and reversal). Decolonial transformation is not, in general, the inverse of colonial transformation. Because colonial relations alter generators, archives, infrastructures, identities, and inherited histories, the postcolonial system contains conditions that did not exist before colonial rule. Decolonization is therefore a problem of generative reconstruction under historical irreversibility.

The distinction makes room for creation rather than nostalgia. It also aligns with decolonial vocabularies of delinking and pluriversality insofar as those projects seek to open alternative modes of knowledge and political life rather than simply reinstall a singular historical form (Mignolo 2011; Mignolo and Walsh 2018). GR does not endorse every substantive claim made under those labels; it identifies the structural problem of expanding the field of generative alternatives.

27.6 Generative Reconstruction of Postcolonial Possibility Spaces

The final GR extension concerns reconstruction after colonial transformation. A postcolonial political system inherits a relational field shaped by both colonial and noncolonial histories. The normative task is not exhausted by distributing goods more equally within the inherited space. It also concerns which futures can be generated, which histories remain recognizable, which relations can be revised, and who can participate in producing the categories through which political reality is understood.

Let M_t^{post} denote an effective postcolonial possibility space. Generative reconstruction can be represented schematically as

$$M_{t+1}^{\text{post}} = \Psi \left(M_t^{\text{post}}, \Delta \mathcal{R}_t, \Delta \mathcal{G}_t, \Delta \mathcal{O}_t, \Delta \mathcal{A}_t, H_t \right), \quad (189)$$

where $\Delta \mathcal{A}_t$ denotes changes in agency and participation in the generation of the political background. The objective is not mathematically to maximize the cardinality of

M. Some possibilities are domination-producing or mutually incompatible. The evaluative problem concerns the justice of the mechanisms by which possibilities are opened, closed, distributed, and made revisable.

Definition 27.19 (Generative postcolonial reconstruction). *Generative postcolonial reconstruction* is the historically situated process of altering inherited colonial relations and generators while developing capacities, epistemic infrastructures, institutions, and forms of agency through which affected populations can participate in producing and revising future political possibility spaces.

This definition connects the present section to generative justice in Section 17. Decolonial justice is not simply backward-looking compensation, though repair can be indispensable. It also concerns whether historical asymmetries continue to structure the generation of future options and political subjects.

Principle 27.20 (Postcolonial future-generativity). A postcolonial political order should be evaluated partly by whether inherited colonial structures continue to monopolize the generation of political categories, knowledge, institutional positions, and future possibilities, or whether those generative capacities become contestable and pluralized.

Pluralization does not imply that every epistemic claim or political practice must receive equal authority. The distinction between genesis and validity established in Section 16 remains essential. Expanding participation in knowledge production or political background formation does not eliminate standards of evidence, argument, justice, or accountability. It changes who can participate in developing, contesting, and revising them.

Comparison 27.21 (Postcolonial/decolonial thought and GR). Postcolonial and decolonial theories already analyze colonial subject-formation, representation, epistemic hierarchy, durable coloniality, and the incompleteness of formal decolonization. GR does not supersede these analyses. Its proposed contribution is a common generative language for connecting category formation, epistemic authority, normality, background transformation, path dependence, and future possibility generation across scales.

Limitation 27.22 (Abstraction and epistemic domination). A universal relational vocabulary can itself become epistemically colonial if it treats locally developed concepts, historical experiences, and political struggles as raw instances of categories defined elsewhere. GR therefore cannot claim meta-theoretical authority merely by translating postcolonial and decolonial concepts into its own notation. Translation must remain reversible, contestable, and accountable to the conceptual distinctions of the source traditions.

This limitation is especially important for the paper's broader claim that GR may function as a philosophical meta-language. A meta-language worthy of that role cannot require every tradition to become a dialect of GR. Its task is better understood as constructing interfaces: identifying when different traditions address structurally comparable generative problems while preserving non-equivalent histories, concepts, and normative commitments.

Synthesis 27.23 (Colonial and postcolonial generativity). The postcolonial and decolonial comparison extends GR's political philosophy in five steps. Colonial power can generate political categories rather than merely apply them; epistemic hierarchies can shape the observability and future recognizability of political reality; colonialism can transform the effective possibility space rather than merely restrict actions inside a fixed background; colonial normality can recursively stabilize generated distinctions; and decolonial transformation can therefore require reconstruction of the generators through which future relations, knowledge, subjects, and possibilities are produced.

The resulting GR claim is deliberately narrower than a comprehensive theory of colonialism. It is that colonial and decolonial political thought reveals a domain in which background independence, recursive generativity, emergent normality, and justice toward future possibility generation become inseparable. Colonial rule can change not only who possesses power but the relational and epistemic architecture through which power, subjecthood, knowledge, and political possibility become intelligible. A generative relational political philosophy must therefore evaluate both inherited structures and the processes that determine which postcolonial futures can come into being.

28 Process and Relational Philosophies as Metaphysical Interlocutors

Process and relational philosophies are among the closest metaphysical interlocutors for GR because they already challenge the assumption that reality is best described as a collection of self-subsisting substances whose relations are secondary additions. In different vocabularies, process-oriented traditions give explanatory priority to becoming, event, activity, transition, individuation, interdependence, or internally related organization. Whitehead's mature metaphysics is paradigmatic: his "actual occasions" are not inert substances that later enter relations, but processes whose constitution already involves the inheritance and integration of prior actuality (Whitehead 1978). More broadly, process philosophy has been characterized by the thesis that natural existence is more adequately understood through processes and modes of change than through fixed stabilities (Rescher 1996). Relational approaches in contemporary metaphysics and philosophy of science likewise resist the picture of intrinsic objects first and relations second; structural realism, for example, locates important continuity across theoretical change at the level of structure rather than persistent descriptions of individual objects (Ladyman 2024).

GR shares this anti-substantialist orientation, but its relation to process philosophy is not one of simple identification. Saying that "everything is process" does not yet specify which transformations preserve identity, which relations are admissible, how relation-types themselves change, when a process generates a new effective entity, how observables emerge, or how several processual descriptions remain comparable through historical transformation. Nor does the declaration that relations are fundamental automatically solve the problem raised by background independence: a theory can be relational while still presupposing a fixed universe of relata, a fixed type-space of relations, a fixed state space, or a fixed process grammar.

The distinctive GR extension therefore has three layers. First, GR treats process and relation as historically generative rather than merely ontologically primary. Second, it provisionally places invariance prior to any particular relational realization, asking what remains comparable when both relata and relation-types change. Third, it allows the effective background of process itself—state spaces, observables, generative rules, scales, and available transformations—to be historically reorganized. In this sense, process philosophy supplies GR with a profound metaphysical inheritance, but GR attempts to embed processuality within the wider architecture already developed in Sections 5, 6, and 7.

Comparison 28.1 (Process philosophy and GR). Process philosophy gives ontological priority to becoming, event, or process over static substance. GR inherits this rejection of substance priority but does not treat "process" as a sufficient final primitive. It asks which invariances make transformations identifiable, how processes generate new relata and process-types, and how the background within which processes are represented

can itself change.

This comparison is especially important for the paper's larger argument. Many GR claims—emergent subjecthood, recursive generativity, effective reality, historical normality, and changing evaluative capacities—would be difficult to formulate coherently within a metaphysics that required stable substances as the primary bearers of political properties. Process and relational philosophies therefore provide more than analogies. They help articulate the metaphysical conditions under which political subjects, institutions, norms, and worlds can be treated as temporally extended achievements rather than timeless givens. At the same time, GR must preserve domain differences: a process ontology in metaphysics does not by itself imply any particular political theory, just as a relational ontology does not by itself establish justice, equality, or emancipation.

28.1 Becoming before Substance

The first shared commitment is the priority of becoming over static substance. A picture centered on substances begins with entities whose identities are already fixed enough for change to be described as alteration of their properties. In schematic form,

$$X \longrightarrow X', \quad (190)$$

where the identity of the bearer X is analytically prior to the change under study. A process-oriented account reverses the explanatory order. What appears as a stable entity may instead be the relatively persistent organization of a history of activities, events, or transitions:

$$\Gamma_{\leq t} \longrightarrow E_t, \quad (191)$$

where $\Gamma_{\leq t}$ denotes a trajectory or family of processes and E_t an effective entity stabilized through that history.

Whitehead's account of actual occasions is much more specific than this schematic formulation, and GR does not adopt his cosmology wholesale. Yet the metaphysical reversal is important. Whitehead rejects the idea that the world is fundamentally composed of enduring bits of substance to which process merely happens; actuality is instead constituted through becoming and relation (Whitehead 1978). Rescher likewise presents process metaphysics as an alternative to substance-centered ontology, giving activity, occurrence, and development explanatory priority (Rescher 1996). The general lesson for GR is not that every political phenomenon should be translated into Whiteheadian vocabulary, but that persistence itself can require explanation.

Political philosophy often relies on nouns whose apparent stability conceals generative histories: person, citizen, state, class, institution, currency, public, minority, electorate, property, normality. GR asks whether some of these are better treated as stabilized products of ongoing processes. A state, for example, persists through administrative reproduction, legal recognition, territorial practices, fiscal flows, archives, coercive institutions, diplomatic relations, symbolic narratives, and recurrent acts of representation. The relevant object can be politically real without being metaphysically primitive.

Definition 28.2 (Process-stabilized political entity). *A process-stabilized political entity is an effective political object whose practical identity depends on the sufficiently persistent reproduction, coordination, or transformation of constitutive processes over a specified historical interval and scale.*

This definition does not imply that every entity dissolves into an unstructured flow. On the contrary, GR requires a theory of relative persistence. If nothing could be re-identified across transformation, then neither history nor political responsibility would

be intelligible. The processual claim is therefore paired with the invariance problem developed in Section 6: what must remain sufficiently stable for a changing formation to count as the same institution, subject, practice, or conflict?

A useful way to state the relation is

$$\text{persistence} \neq \text{absence of change.} \quad (192)$$

Persistence may itself be an achievement of ongoing change. A living institution can survive because it continually recruits, trains, records, repairs, replaces, interprets, and adapts. A language persists because speakers repeatedly generate utterances that are never literally identical. A political identity can survive while its membership, symbols, institutions, and practical meanings shift.

Principle 28.3 (Dynamic persistence). In a generative relational system, persistence may be produced by organized transformation. Stability should therefore be analyzed as a dynamical achievement before it is interpreted as evidence of underlying substance.

The political importance of dynamic persistence is substantial. It blocks a familiar inference from longevity to naturalness. A relation that has reproduced itself for centuries may be deeply historical rather than ontologically necessary. Conversely, rapid change in surface manifestations need not imply loss of identity if relevant invariants remain. GR thus uses process thought not to celebrate flux for its own sake, but to distinguish persistence, transformation, and identity more carefully.

Remark 28.4 (Process does not abolish entities). GR does not replace a world of entities with a vocabulary in which entities are forbidden. Effective entities remain indispensable for explanation, responsibility, law, and action. The processual claim concerns explanatory priority: some entities are best understood through the generative processes that stabilize them rather than assumed as self-explanatory primitives.

This qualification is particularly important in political philosophy. If persons or institutions were treated as unreal merely because they are processually constituted, the framework would become normatively unusable. GR instead distinguishes ontological primacy from effective reality: a subject can be generated and still be real enough to bear claims, suffer harms, exercise agency, or incur obligations.

28.2 Relations before Objects

The second affinity is relational priority. A substantialist picture often begins with already individuated objects and then asks which relations connect them. A stronger relational ontology permits at least some properties and identities to depend constitutively on relations. The relevant structure is not merely

$$A + B + R(A, B), \quad (193)$$

but rather

$$\mathcal{R} \longrightarrow (A, B, \dots), \quad (194)$$

where the effective identity of the relata can be partly generated within the relational configuration itself.

GR has already used this idea in its accounts of political subjecthood, freedom, power, and community. An employer and employee, creditor and debtor, ruler and subject, citizen and non-citizen, colonizer and colonized, or human user and artificial agent are not

always roles that can be completely specified independently of the relations that distinguish them. This insight has important affinities with relational approaches across philosophy, including feminist relational autonomy, structural realism, and Barad's agential realism. Barad explicitly rejects a division of the world into independently constituted natural and social realms and develops an account in which phenomena are constituted through material-discursive relations (Barad 2007). GR does not inherit the full apparatus of agential realism, but it shares the refusal to treat all relata as analytically complete before relation.

Inheritance 28.5 (Relational constitution). GR inherits from relational philosophies the idea that the identity, capacities, or properties of some relata are constituted partly through the relations in which they participate. This inheritance supports the GR analysis of emergent political subjects, relational freedom, dependence, and effective reality.

Yet "relations before objects" is still not the final GR formulation. It leaves open what counts as a relation, which transformations map one relational configuration into another, how relation-types arise, and whether the relational domain itself remains fixed. A graph-theoretic model, for example, can be thoroughly relational while assuming a fixed node set, edge types, adjacency rules, and state space. Such a model may be analytically powerful, but it is not background independent in the stronger GR sense.

The GR extension therefore replaces a single relational structure $\mathcal{R}$ with an evolving relational grammar:

$$(\mathcal{E}_t, \mathcal{T}_t, \mathcal{R}_t) \longrightarrow (\mathcal{E}_{t+1}, \mathcal{T}_{t+1}, \mathcal{R}_{t+1}), \quad (195)$$

where $\mathcal{E}_t$ denotes effective relata and $\mathcal{T}_t$ admissible relation types. The point is not that every historical process changes all three components. It is that the theory should not ontologically prohibit such change in advance.

Extension 28.6 (From relational ontology to generative relational ontology). A relational ontology becomes generative in the GR sense when relations can participate in producing new relata, new relation types, new observables, or new conditions of subsequent relation formation. Relationality specifies dependence; generativity specifies the production and transformation of the architecture of dependence.

This distinction explains why the "G" in GR cannot be omitted. A purely relational analysis can describe a network of dependency at t . A generative relational analysis additionally asks how that network came to exist, which mechanisms reproduce it, how its nodes and relation-types can change, what new entities it generates, and how generated entities re-enter later relations.

Example 28.7 (Currency as generated relatum). Currency illustrates the difference. Exchange relations can contribute to stabilizing a monetary form. Once stabilized, currency becomes a relatum in new relations: wages, prices, debts, savings, taxation, credit, monetary policy, and political membership can be reorganized around it. The generated entity therefore becomes a condition of subsequent generation. A description of relations among pre-given persons and a pre-given currency misses this recursive ontogenesis.

The same pattern can occur with institutions, classifications, technologies, legal statuses, and political identities. The relation generates a relatively stable object; the object subsequently reorganizes relations. Process and relational philosophies make this conceptual movement intelligible. GR attempts to make it systematic.

28.3 Process Ontology and Historical Transformation

Process ontology also provides a metaphysical setting in which historical transformation can be treated as more than the movement of fixed objects through a fixed sequence of states. If entities are process-stabilized and relations constitutive, historical change can reorganize the conditions under which entities persist and relations reproduce.

A minimal processual history might be written

$$\Gamma : X_{t_0} \rightarrow X_{t_1} \rightarrow \cdots \rightarrow X_{t_n}, \quad (196)$$

where the sequence records the evolution of an already specified state description. GR requires a richer object:

$$\Gamma_{extGR} : (\mathcal{E}_t, \mathcal{R}_t, \mathcal{G}_t, \mathcal{O}_t, M_t) \longrightarrow (\mathcal{E}_{t+1}, \mathcal{R}_{t+1}, \mathcal{G}_{t+1}, \mathcal{O}_{t+1}, M_{t+1}), \quad (197)$$

where $\mathcal{G}_t$ contains generative mechanisms, $\mathcal{O}_t$ observables, and M_t the effective possibility space. Historical transformation can therefore affect not only what exists within a model but the form of the model's own ontology and observability.

This is where process metaphysics meets the historical materialist inheritance discussed in Sections 3 and 23. Historical materialism gives GR a powerful account of socially produced forms and historically changing relations. Process philosophy contributes a more general metaphysical refusal to make stable things primary. GR attempts to synthesize these impulses without reducing either to the other: history is not merely an instance of universal metaphysical flux, and metaphysical process is not reducible to social production.

Distinction 28.8 (Processuality and historicity). *Processuality* concerns the ontological priority of becoming, event, or transformation. *Historicity* concerns the dependence of present formations on temporally situated trajectories, inheritances, contingencies, and path-dependent transformations. A system may be processual without the historically specific explanatory commitments required by political analysis. GR requires both.

The distinction matters because an abstract process metaphysics can become politically empty if it treats every transformation as an instance of the same general becoming. Political history involves asymmetric inheritance. Slavery, colonialism, legal exclusion, industrialization, war, technological infrastructure, and administrative classification leave residues that shape later capacities and possibilities. The relevant process is therefore indexed by historically specific relations and irreversibilities.

This is also where the dynamical vocabulary of Section 8 becomes useful. Process philosophy tells GR why becoming can be metaphysically primary; dynamical systems and statistical physics supply more differentiated questions about the organization of that becoming. Historical transformation may involve attraction, path dependence, bifurcation, metastability, hysteresis, critical transition, or symmetry breaking. These mechanisms are not deduced from process ontology, but process ontology makes it unsurprising that stability itself can require a dynamical explanation.

Synthesis 28.9 (Process ontology and generative history). For GR, process philosophy contributes an ontology of becoming, historical materialism contributes socially and materially situated historicity, and modern dynamical mathematics supplies differentiated languages of transformation. Generative relational theory attempts to coordinate these three levels rather than identify any one of them with the others.

The synthesis also clarifies why GR does not adopt a universal “flow” as an explanatory answer. To say that everything changes is too weak. The political problem is to identify what changes, what remains invariant, which mechanisms generate the change, which possibilities are opened or closed, and which histories are sedimented into later relations.

28.4 Invariance before Particular Relational Realizations

The sharpest departure from many process and relational philosophies appears at the level of invariance. If everything relevant is described only as process, then comparison across transformation can become underdetermined. To say that X_t became X_{t+1} presupposes some criterion by which the two are related as stages of one history rather than unrelated events. To say that two different institutional forms instantiate the same political relation likewise presupposes an equivalence criterion.

GR addresses this through the provisional invariance-first postulate developed in Section 6. Let $\mathcal{S}$ denote an assumed family of invariances or transformation structures. Particular relational configurations are then understood as realizations:

$$\mathcal{S} \xrightarrow{\rho_t} \mathcal{R}_t, \quad (198)$$

where ρ_t is a historically situated realization or representation map. Different configurations may differ substantially while remaining comparable under selected invariants.

Postulate 28.10 (Invariance before particular realization). GR provisionally treats certain invariance structures as explanatorily prior to particular relational realizations when such invariances are required to define identity, equivalence, continuity, or transformation across changing configurations. The postulate is methodological and revisable; it is not a claim that a final timeless symmetry ontology has been metaphysically established.

This postulate should not be confused with the claim that invariance is more “real” than process in an absolute metaphysical hierarchy. Its role is narrower. Process without an equivalence structure cannot by itself explain why a transformed object is the same object, why two manifestations instantiate the same relation, or why a historical sequence counts as transformation rather than replacement.

Structural realism offers a useful nearby intuition. One motivation for structural realism is that mathematical structure can display continuity even when theoretical descriptions of individual objects change (Ladyman 2024). GR does not simply adopt structural realism: its target includes social, political, epistemic, and normative emergence, and it allows the effective structures used for description to be historically generated. Yet the idea that continuity may reside in preserved structure rather than persistent substance is highly congenial to the invariance-first move.

Formal Analogy 28.11 (Identity through preserved transformation structure). Suppose two historical configurations $\mathcal{R}_t$ and $\mathcal{R}_{t'}$ differ in their material components and surface descriptions. If there exists a transformation T within a specified admissible class such that a relevant invariant I satisfies

$$I(\mathcal{R}_t) = I(T\mathcal{R}_t) = I(\mathcal{R}_{t'}), \quad (199)$$

then the configurations may be treated as equivalent with respect to I even though they are not identical. The political interpretation of I must be independently justified; mathematical invariance does not establish normative equivalence.

This last warning is essential. A patriarchal institution and a colonial institution might share a formal pattern of asymmetric dependence, but formal similarity does not erase their historically specific meanings. Conversely, two institutions may look superficially similar while differing in the generative history that gives them political significance. Invariance is therefore a tool for disciplined comparison, not a permission to abstract away all difference.

Warning 28.12 (Invariance is not normative authority). No inference runs from preservation under transformation to political legitimacy, justice, goodness, or desirability. An oppressive structure may be highly invariant and historically robust. GR uses invariance to analyze continuity and equivalence, while normative evaluation remains a separate task.

The invariance-first postulate thus supplies something process philosophy alone may leave implicit: a language for continuity without substance. It permits GR to say simultaneously that political forms are processual and that some patterns remain identifiable through their transformation.

28.5 Background Independence beyond Fixed Process Ontologies

A process ontology can still be background-dependent. It may declare that processes are fundamental while presupposing a fixed process space Π , a fixed family of events, a fixed temporal parameter, a fixed set of relations, or fixed laws governing transition. In that case, the ontology has replaced substances with processes but has not made the background itself dynamical.

GR therefore distinguishes

$$\pi_t \in \Pi \quad (200)$$

from

$$\pi_t \in \Pi_t, \quad \Pi_t \neq \Pi_{t+1}, \quad (201)$$

where the second formulation allows the effective process space to change. The difference parallels the earlier distinction between state change within M and transformation of M itself.

Definition 28.13 (Process background). A GR model is *independent of a fixed process background* to the extent that it does not require the complete type-space of admissible processes, relata, relations, observables, and transformations to remain fixed across the historical interval under analysis.

This definition is intentionally graded rather than absolute. In empirical work, every model fixes some background for tractability. The relevant question is whether those fixed elements are treated as methodological approximations or elevated into ontological necessities. GR permits local background fixing while preserving the theoretical possibility that the fixed background itself has a history.

The political importance of this move can be seen in technological change. Before a new communication infrastructure, artificial agent, financial instrument, or legal form exists, certain relations may not merely be rare; they may be absent from the effective space of socially actionable possibilities. Once generated, the innovation can create new process types:

$$\Pi_t \longrightarrow \Pi_{t+1} = \Pi_t \cup \Delta\Pi, \quad (202)$$

where $\Delta\Pi$ contains genuinely new classes of interaction or coordination. The new possibilities then alter political concepts that had been formulated under the earlier process space.

Similarly, colonial administration, industrialization, digitization, and ecological disruption can reorganize temporalities, scales, and forms of interaction. The background-independent question is not merely what processes occur, but how the available repertoire of processes becomes historically generated.

Extension 28.14 (Beyond fixed process ontology). GR extends process ontology by treating the ontology of process itself as potentially emergent. Process types, transformation

rules, scales, and effective spaces of becoming can be generated, stabilized, and reorganized by prior generative relations.

This extension is particularly relevant to political philosophy because normative concepts can be tied to obsolete process spaces. A theory of privacy, property, participation, responsibility, or agency developed under one technological and institutional background may become underdetermined when new process types emerge. Background independence requires that political philosophy remain capable of revising not only its answers but the ontology of the situations to which its concepts apply.

Remark 28.15 (Background independence is not unlimited formal plasticity). Allowing process spaces to change does not imply that every ontology is equally adequate or that formal categories can be revised arbitrarily. Background transformations remain constrained by empirical histories, causal structures, inherited institutions, material environments, and the provisional invariances that make comparison possible.

GR therefore occupies a middle position between fixed process ontology and unconstrained ontological fluidity. The background is revisable, but revision itself is historically and relationally conditioned.

28.6 Recursive Generativity as a Further Relational Commitment

The final extension concerns recursion. Process philosophy gives priority to becoming; relational philosophy emphasizes constitution through relations. GR adds the stronger claim that generated products can become conditions of subsequent generation, thereby transforming the architecture through which later processes occur.

The minimal recursive form is

$$\mathcal{R}_t \xrightarrow{\mathcal{G}_t} E_{t+1} \longrightarrow \mathcal{R}_{t+1}(E_{t+1}, \cdot) \longrightarrow \mathcal{G}_{t+1}, \quad (203)$$

where an emergent entity E_{t+1} becomes a relatum in later relations and can participate in transforming the generative mechanism itself.

This is stronger than ordinary process succession. The issue is not merely that one event causes another. The output can alter the rule, space, or ontology governing subsequent events. Institutions provide obvious political examples. A repeated practice becomes formalized; the resulting institution acquires legal authority; that authority changes incentives, classifications, and capacities; those changes modify the conditions under which later institutions can form.

Definition 28.16 (Recursive process generativity). *Recursive process generativity* occurs when the products of a process become inputs, relata, rules, observables, constraints, or background conditions in subsequent processes, thereby modifying the architecture of later generation.

Whitehead's process metaphysics already contains a profound image of inheritance: actual occasions arise through the integration of antecedent actuality, and achieved actuality becomes data for subsequent becoming (Whitehead 1978). GR finds this recursive orientation congenial. Its political use, however, is more specific and historically indexed. The relevant outputs may be legal categories, infrastructures, norms, memories, classifications, technologies, or subject capacities, and their re-entry can be asymmetric and contested.

Recursive generativity also explains why GR resists a simple micro-to-macro emergence model. If lower-scale relations generate a higher-scale formation that then reorganizes lower-scale relations, the causal architecture is not one-way:

$$\mathcal{R}_t^{(k)} \longrightarrow E_{t+1}^{(k+1)} \longrightarrow \mathcal{R}_{t+2}^{(k)}. \quad (204)$$

The higher-scale entity need not be metaphysically independent to have effective causal and political consequences.

Principle 28.17 (Generated structures can become generators). A structure generated at one stage or scale can acquire enough stability and causal organization to participate in generating later relations, entities, observables, or possibility spaces. Emergence therefore need not terminate explanation; it can create new generative levels.

This principle links process philosophy directly to the political ontology developed earlier in the paper. A citizen is generated through legal and social relations but can subsequently act politically. A currency emerges through institutional practices but can reorganize labor and exchange. A norm is historically formed but can alter perception and action. An archive is produced by institutions but can later determine which histories remain reconstructible. In each case, the generated becomes generative.

Proposition 28.18 (Process ontology is not sufficient for recursive generativity). *A theory can be processual without being recursively generative in the GR sense. If its state-transition rule preserves a fixed ontology, fixed observables, fixed process types, and fixed possibility space, then the theory describes becoming but does not represent the generation of new generative architecture.*

Proof. Let a processual model be specified by $x_{t+1} = F(x_t)$ on a fixed state space M with fixed observables $\mathcal{O}$ and a fixed transition rule F . The model may exhibit arbitrarily complex trajectories, but by construction its ontology of states, observables, and admissible transitions remains fixed. Recursive generativity in the stronger GR sense requires that at least one component of the generative architecture—for example M_t , $\mathcal{O}_t$, $\mathcal{T}_t$, or $\mathcal{G}_t$ —can itself be transformed through the system’s history. Processuality alone therefore does not entail recursive generativity. $\square$

The proposition identifies the precise point at which GR moves beyond a general metaphysics of becoming. The distinctiveness lies not in discovering that reality changes, nor in asserting that relations matter, but in building a common architecture for the historical generation of the very structures through which change and relation become possible.

Synthesis 28.19 (Process-relational inheritance and GR extension). GR inherits from process and relational philosophies three indispensable insights: becoming can be ontologically prior to static substance; relations can participate in constituting relata; and persistence can be dynamically achieved. GR extends this inheritance by adding provisional invariance, background independence, generalized relational domains, and recursive generativity. The resulting framework treats process not as an ultimate slogan but as one layer in a theory of how entities, relations, process-types, observables, evaluative categories, and possibility spaces emerge and transform together.

The comparison also clarifies GR’s broader meta-philosophical ambition. Whitehead sought a metaphysical scheme broad enough to connect scientific, aesthetic, ethical, and religious dimensions of experience (Whitehead 1978). Barad similarly develops an explicitly intertwined ontology, epistemology, and ethics (Barad 2007). GR’s own meta-language project should therefore not be presented as historically unprecedented. Its more specific proposal is to construct a background-independent and invariance-oriented generative grammar through which ontology, epistemology, aesthetics, ethics, political philosophy, and decision can be analyzed as coupled but non-reducible domains.

The next comparison with pragmatism can then shift from metaphysical process to epistemic practice. If process and relational philosophies explain why becoming and

constitution should be taken seriously, pragmatism asks how inquiry and action proceed from within such a changing world.

29 Pragmatism and Historically Embedded Inquiry

Pragmatism is a particularly close epistemological and methodological interlocutor for GR because it already rejects the image of inquiry as the detached contemplation of a finished world. In the classical pragmatist tradition, inquiry is fallible, purposive, experimental, temporally extended, and connected to the consequences of action. Peirce's early account of inquiry begins from the disturbance of doubt and treats belief as something stabilized through methods of investigation rather than secured by indubitable foundations (Peirce 1877). His pragmatic maxim subsequently links conceptual content to conceivable practical bearings (Peirce 1878). James broadens pragmatism into a method for tracing the practical difference made by competing ideas (James 1907). Dewey radicalizes the orientation still further: inquiry is not merely the correction of representations but the controlled transformation of an indeterminate situation into one whose distinctions and relations are sufficiently settled for action (Dewey 1938). In political thought, Dewey also connects inquiry, communication, public formation, and democratic problem solving (Dewey 1927).

GR inherits much of this orientation. It rejects an external spectator model, treats theories and methods as fallible, and understands political knowledge as situated within the relational worlds it attempts to interpret. Yet GR also extends the pragmatist problematic in a specific direction. Inquiry does not merely occur *in* a historical situation; inquiry can participate in generating the entities, observables, categories, evaluative capacities, methods, and possibility spaces through which later inquiry becomes possible. The object of inquiry and the architecture of inquiry can therefore co-evolve.

The resulting comparison is not between a dynamic GR and a supposedly static pragmatism. Classical pragmatism is already deeply processual. The relevant distinction concerns the level at which transformation is represented. A pragmatist inquiry may transform a problematic situation while retaining, for analytical purposes, a relatively stable set of observables, methods, agents, and possible interventions. GR asks what follows when those structures themselves become historical variables. In this respect, the background-independent orientation of Section 5, the recursive generativity of Section 7, and the emergent normativity of Section 16 provide a wider architecture within which pragmatist inquiry can be reconstructed.

Comparison 29.1 (Pragmatism and GR). Pragmatism treats inquiry as situated, fallible, experimental, and action-oriented. GR inherits these commitments while adding an explicit theory of recursive generation: inquiry and action may transform not only beliefs or situations, but also the relata, observables, evaluative coordinates, generative mechanisms, and possibility spaces that structure later inquiry.

This affinity matters for political philosophy. Political inquiry is rarely conducted under conditions in which all relevant subjects, harms, interests, categories, or futures are already known. Institutions learn through intervention; publics form around problems; technologies create new dependencies; legal concepts reveal some relations and obscure others; and the act of classifying a problem can alter the behavior of those classified. A political theory that treats inquiry as merely the acquisition of better information about a fixed object therefore misses part of the process. GR treats inquiry itself as a generative relation embedded within political history.

29.1 Inquiry as Situated Practice

The first major affinity between pragmatism and GR is the rejection of inquiry from nowhere. Peirce's anti-Cartesian orientation denies that inquiry begins by discarding all inherited belief and reconstructing knowledge from an indubitable foundation. Actual inquiry begins within already inhabited practices of belief, doubt, inference, and correction (Peirce 1877). Dewey similarly rejects the separation of knowing from doing. In his mature logic, inquiry begins from a problematic or indeterminate situation and proceeds through operations that transform the situation itself (Dewey 1938). The inquirer is therefore not external to the world of inquiry.

GR expresses this situatedness relationally. Let an inquiry episode at time t be represented schematically by

$$\mathcal{I}_t = (A_t, \mathcal{R}_t, \mathcal{O}_t, \mathcal{M}_t, \mathcal{V}_t, \mathcal{H}_t), \quad (205)$$

where A_t denotes relevant inquirers and affected agents, $\mathcal{R}_t$ the relational configuration, $\mathcal{O}_t$ available observables, $\mathcal{M}_t$ methods of inquiry, $\mathcal{V}_t$ evaluative capacities or criteria, and $\mathcal{H}_t$ the inherited historical trajectory. No term in this tuple is presumed to be view-independent simply because it appears in the model. The notation records what the inquiry can currently mobilize.

Definition 29.2 (Historically embedded inquiry). *Historically embedded inquiry* is inquiry whose questions, observables, methods, evidential relations, evaluative capacities, and possible interventions are conditioned by a relational history in which the inquirer is itself situated.

This definition makes situatedness stronger than the sociological observation that investigators have contexts. The relevant claim is constitutive. What can be asked may depend on the available vocabulary; what can be observed may depend on institutional and technical infrastructures; what can count as evidence may depend on record-keeping systems; what can be tested may depend on political permission, material capacity, or prior classifications. Inquiry is therefore partly shaped by the relational world whose transformation it may later influence.

Dewey's notion of an indeterminate situation is especially useful here because it prevents the problem from being reduced to ignorance inside the mind of an observer. A situation can be practically unsettled: relations conflict, expectations fail, consequences become uncertain, or existing categories cease to organize action effectively (Dewey 1938). GR generalizes this intuition by allowing the indeterminacy to concern the structure of the relevant political ontology itself. A novel technology, for example, may create a relation for which existing categories of worker, consumer, author, agent, or responsible actor are inadequate. Inquiry then has to participate in constructing the distinctions through which the problem becomes intelligible.

Principle 29.3 (Embedded Inquiry Principle). Political inquiry should be analyzed as a relation within the historical system under study rather than as an external operation upon it. Its methods, categories, and interventions may therefore enter the causal and generative structure of subsequent political reality.

The political significance is substantial. Public inquiries, commissions, judicial procedures, censuses, audits, scientific assessments, and policy experiments do not merely reveal facts. They can create categories, redistribute attention, alter incentives, confer recognition, and reorganize institutional responsibilities. The pragmatist emphasis on inquiry as practice thus connects directly with the GR analysis of observability and generative power developed earlier in the paper.

Remark 29.4 (Situatedness without epistemic closure). Historically situated inquiry does not imply that every belief is equally warranted within its own context. Peircean fallibilism is compatible with disciplined comparison, criticism, experimentation, and correction. GR likewise distinguishes the historical genesis of an epistemic practice from the validity of particular claims produced within it.

29.2 Fallibilism and Revisability

The second affinity is fallibilism. Peirce's philosophy makes fallibility a constitutive feature of inquiry rather than an accidental weakness. Inquiry progresses not by achieving an unquestionable standpoint but by preserving practices through which error can be detected and corrected (Peirce 1877; Peirce 1878). Pragmatism therefore replaces the aspiration to certainty with an architecture of revisability.

GR extends the scope of that revisability. Ordinary fallibilism is often stated at the level of propositions:

$$B_t \rightsquigarrow B_{t+1}, \quad (206)$$

where a belief B_t is revised in light of evidence or argument. GR asks whether the structures through which beliefs become formulable and testable may also require revision:

$$(\mathcal{O}_t, \mathcal{M}_t, \mathcal{V}_t, M_t) \longrightarrow (\mathcal{O}_{t+1}, \mathcal{M}_{t+1}, \mathcal{V}_{t+1}, M_{t+1}). \quad (207)$$

Observables, methods, evaluative capacities, and the effective space of possible descriptions may themselves change.

Definition 29.5 (Second-order fallibilism). *Second-order fallibilism* is the commitment that not only particular beliefs and judgments but also the categories, observables, methods, evaluative coordinates, and background assumptions through which inquiry proceeds remain in principle revisable.

Second-order fallibilism connects directly to the provisional invariance-first ontology of Section 6. GR does not exempt the symmetry/invariance postulate from criticism merely because it operates at a foundational level. The postulate remains an assumed research commitment whose adequacy depends on whether it continues to organize inquiry across changing domains. Pragmatist fallibilism therefore supplies an epistemic discipline for GR's own metaphysical ambition.

The same principle applies politically. A polity may correctly revise a policy while leaving untouched the categories that generated the problem. It may reform a welfare rule while preserving an inadequate distinction between dependent and independent subjects; revise an algorithm while preserving the classification scheme that produces the relevant exclusions; or improve a consultation procedure while retaining a concept of the public that systematically omits affected groups. GR therefore distinguishes first-order correction from background revision.

Distinction 29.6 (First-order and background revision). *First-order revision* modifies a belief, policy, or action within a relatively stable inquiry architecture. *Background revision* modifies some part of the architecture—for example a category, observable, method, evaluator, relation type, or possibility space—through which first-order inquiry is organized.

This distinction does not mean that background revision is always superior. Excessive revision can destroy comparability, institutional memory, or the stable conditions needed for learning. Fallibilism is not an instruction to change everything continuously. It is a refusal to immunize any level of inquiry from possible reconsideration.

Principle 29.7 (Revisability without permanent destabilization). A fallibilist generative framework should preserve enough continuity for cumulative learning while leaving its background assumptions open to revision when persistent anomalies, exclusions, or failed interventions indicate that the inherited inquiry architecture is inadequate.

This balance between persistence and revisability is one point at which GR's invariance language becomes useful. Inquiry requires continuity across revision: records, concepts, and observations must remain comparable enough for change to be intelligible. But continuity need not require identical categories across time. It may instead depend on partial invariants, translation relations, or preserved structural correspondences.

29.3 Action and Consequence

Pragmatism also resists the isolation of meaning and knowledge from action. Peirce's pragmatic maxim interprets the meaning of a conception partly through the conceivable practical effects associated with it (Peirce 1878). James famously presents pragmatism as a method for tracing the practical differences produced by competing ideas (James 1907). Dewey places consequences and experimental action at the center of inquiry: hypotheses are not only contemplated but operationalized in attempts to transform problematic situations (Dewey 1938).

GR inherits this action-oriented orientation but distinguishes several levels of consequence. Let a_t be an intervention. A simple outcome model represents

$$x_{t+1} = F(x_t, a_t). \quad (208)$$

The intervention changes the state. A generative account permits a wider transformation:

$$(a_t, \mathcal{R}_t, \mathcal{G}_t, M_t) \longrightarrow (x_{t+1}, \mathcal{R}_{t+1}, \mathcal{G}_{t+1}, M_{t+1}). \quad (209)$$

The action may change not only an outcome but the relational configuration $\mathcal{R}$, the generative mechanisms $\mathcal{G}$, and the effective possibility space M .

Definition 29.8 (Generative consequence). A *generative consequence* is a consequence of action that alters the conditions under which later relations, entities, observables, evaluations, or actions can be generated.

This concept broadens the political meaning of consequence. A law can solve an immediate coordination problem while generating a new administrative category. A subsidy can alter not only present resource allocation but long-run organizational incentives. A public technology can create new forms of dependence and new expectations of availability. A judicial decision can produce a vocabulary through which previously diffuse harms become recognizable. These are consequences not merely because later states differ, but because the architecture of subsequent action has changed.

Claim 29.9 (Consequential depth). Two interventions can have similar immediate outcomes while differing sharply in generative consequence. Political evaluation should therefore distinguish the value of a present result from the relational and possibility-space structures through which that result is reproduced.

This point also prevents an overly simple instrumentalism. If practical success is measured only by whether an intervention achieves its stated objective, the intervention may appear successful while degrading future capacities for learning, contestation, revision, or alternative formation. The future-generativity concerns developed in Section 18 therefore supplement rather than replace pragmatist attention to consequences.

A second complication is reflexivity. Once actors anticipate how an inquiry or intervention classifies them, they may alter their behavior. Consequences then feed back into the meaning and operation of the category itself. Political concepts can therefore acquire performative dimensions: their use becomes part of the process by which the phenomena they describe are stabilized or transformed.

Remark 29.10 (Practical consequence and normative validity). The fact that a belief, category, or institution has useful consequences does not by itself establish its truth or justice. GR retains the distinctions among practical efficacy, epistemic warrant, and normative validity developed in earlier sections.

29.4 Inquiry within Dynamical Possibility Spaces

The most distinctive GR extension appears when the space of possible inquiry is allowed to change. Classical pragmatism already contains resources for this move. Deweyan inquiry transforms a problematic situation instead of merely selecting a representation of it (Dewey 1938). Political publics can likewise form around shared consequences that were not previously organized as public problems (Dewey 1927). GR makes the stronger implication explicit by treating the effective possibility space as time-dependent:

$$M_t^I \longrightarrow M_{t+1}^I, \quad (210)$$

where M_t^I denotes the currently available space of hypotheses, distinctions, interventions, and inferential routes relevant to inquiry.

Definition 29.11 (Inquiry possibility space). An *inquiry possibility space* is the effective set of distinctions, hypotheses, observables, methods, evidential relations, and interventions that can be meaningfully formulated or enacted within a specified historical-relational configuration.

An inquiry can expand this space by generating a new measurement technology, concept, analogy, category, or institutional procedure. It can contract the space by destroying archives, excluding forms of testimony, standardizing away variation, or legally prohibiting certain investigations. It can also change the topology of the space: previously distant questions may become connected through a new model, while formerly equivalent categories become sharply differentiated.

This is the epistemic analogue of the political background independence developed in Section 5. Inquiry is not always navigation through a fixed set of possible questions. It can be the generation of new questions and new routes of answerability.

Principle 29.12 (Inquiry-space generativity). Inquiry is generative when its operations alter the effective space of subsequent inquiry—for example by creating or eliminating observables, concepts, methods, hypotheses, evidential relations, or actionable distinctions.

The political implications are direct. A society may lack not only the answer to a problem but the institutional or conceptual capacity to formulate it. The emergence of concepts such as a new form of discrimination, a novel environmental risk, or an unprecedented technological dependency can reorganize political attention before any stable policy answer exists. Conversely, the disappearance of records or the suppression of categories can narrow what future actors are able to recognize.

GR therefore distinguishes uncertainty *within* a possibility space from uncertainty *about the adequacy of the space itself*. The first can often be addressed through more evidence. The second may require conceptual invention, institutional experimentation, or reconstruction of the background.

Distinction 29.13 (Epistemic uncertainty and generative inadequacy). *Epistemic uncertainty* concerns which state, hypothesis, or judgment is warranted within an available inquiry space. *Generative inadequacy* concerns whether that inquiry space contains the distinctions, observables, methods, or possibilities needed to represent the problem adequately at all.

This distinction helps explain why additional data sometimes fails to resolve political disagreement. The participants may not merely disagree over facts inside a shared frame; they may inhabit differently generated spaces of relevance, classification, and possibility.

29.5 Action as Generative Transformation

If inquiry occurs through action and action can transform the inquiry space, political practice becomes more than the implementation of conclusions reached beforehand. Intervention can be epistemic and ontological at once: it can reveal relations, create institutions, establish categories, generate capacities, and change the space of later alternatives.

Let the effective inquiry-political configuration be

$$\Theta_t = (\mathcal{E}_t, \mathcal{R}_t, \mathcal{G}_t, \mathcal{O}_t, \mathcal{V}_t, M_t). \quad (211)$$

A generative intervention a_t can be represented as

$$\mathcal{T}_{a_t} : \Theta_t \mapsto \Theta_{t+1}. \quad (212)$$

The intervention is not merely a move in the existing political game if $\mathcal{T}_{a_t}$ changes the available entities, relations, generators, observables, evaluative capacities, or possibility space.

Definition 29.14 (Generative intervention). A *generative intervention* is an action whose politically relevant effects include transformation of the conditions under which later political relations, inquiries, evaluations, or actions are produced.

This definition gives a more precise GR reading of experimentalism. Policy experimentation, for example, is not only a test of whether an intervention works. It may alter expectations, create constituencies, train administrators, generate new evidence, normalize a practice, or establish infrastructure that changes future policy feasibility. The experiment partly produces the world in which its own results will later be interpreted.

Claim 29.15 (Action-generated evidence). In reflexive political systems, evidence about an intervention may be partly generated by the intervention itself because the intervention changes the relations, capacities, expectations, or classifications through which outcomes are observed.

This does not invalidate experimentation. It changes what careful interpretation requires. An inquiry must distinguish effects revealing a pre-existing structure from effects produced by the intervention's own generative transformation. The distinction can be difficult because both may occur simultaneously.

Generative intervention also clarifies the relationship between inquiry and governance developed in Section 18. Governance can be experimental without being normatively neutral. The selection of what to experiment on, who bears risk, which outcomes are measured, and which futures are preserved are themselves political decisions. Experimental action therefore remains subject to justice, legitimacy, and future-generativity constraints.

Principle 29.16 (Experimental responsibility). The more strongly an inquiry or intervention can modify the generative conditions of future political life, the less adequate it is to evaluate that intervention solely by immediate problem-solving success. Its distribution of risk, reversibility, epistemic preservation, and effects on future agency must also be considered.

This principle keeps GR from turning pragmatism into technocratic trial-and-error. Inquiry is situated among unequal actors and unequal capacities to absorb failure. A failed experiment imposed on a vulnerable population cannot be justified merely by the knowledge it generates. Generativity therefore intensifies rather than suspends normative responsibility.

29.6 Reflexive Inquiry within Changing Relational Worlds

The final extension concerns reflexivity. In a generative relational system, inquiry can alter the world; the altered world can change the inquirer; and the changed inquirer can revise the methods and values through which later inquiry proceeds. The relevant loop is therefore

$$\mathcal{I}_t \longrightarrow \mathcal{A}_t \longrightarrow \Theta_{t+1} \longrightarrow \mathcal{I}_{t+1}, \quad (213)$$

where $\mathcal{I}_t$ denotes inquiry, $\mathcal{A}_t$ action or intervention, and Θ_{t+1} the transformed relational world and inquiry background.

Definition 29.17 (Reflexive generative inquiry). *Reflexive generative inquiry* is inquiry that treats its own categories, methods, evaluative commitments, institutional location, and generative effects as possible objects of subsequent inquiry and revision.

This formulation brings together several themes developed throughout the paper. From historical materialism, GR inherits the refusal to detach thought from historical practice. From genealogy and Critical Theory, it inherits attention to the historical constitution of subjects, truth practices, and evaluative standpoints. From pragmatism, it inherits fallibilism, experimental inquiry, and the connection between knowledge and action. GR's additional claim is that these dimensions can be expressed within a common recursive architecture in which the background of inquiry itself is generative.

Political philosophy is thereby placed inside its own object domain. A theory of freedom may alter how actors articulate constraint. A classification of domination may make previously diffuse dependencies politically visible. A theory of justice may reorganize claims, institutions, and expectations. Political philosophy can therefore become part of the relational history it interprets.

Principle 29.18 (Reflexive Inquiry Principle). A generative political philosophy should preserve the revisability of its own concepts and methods because successful theorization can alter the political reality to which those concepts and methods are later applied.

This principle does not entail self-defeating relativism. Reflexivity means that evaluation continues under conditions of historical embeddedness, not that evaluation is impossible. Inquiry can still compare consequences, test claims, preserve evidence, expose contradiction, and criticize domination. The additional demand is that the framework also examine how its own interventions reorganize the conditions of future knowing and judging.

Proposition 29.19 (Pragmatist inquiry as a restricted GR case). *Suppose an inquiry is fallible, experimental, consequence-sensitive, and situated within a problematic historical context, while the relevant ontology, relation types, observables, evaluative coordinates,*

and inquiry possibility space remain sufficiently stable over the interval of analysis. Then the inquiry can be represented within GR without invoking the full machinery of background transformation. The additional GR machinery becomes necessary when inquiry or action alters one or more of those background structures.

Proof. Under the stated stability conditions, GR can hold the relevant components of Θ_t fixed and represent inquiry as revision of beliefs, actions, and local states within that background. This preserves the core pragmatist structure of situated, fallible, experimental inquiry. If inquiry changes effective entity types, relation types, observables, evaluative coordinates, generative rules, or the possibility space, the fixed-background representation is insufficient. The transformation must then be represented at the level of Θ_t itself. Pragmatist inquiry is therefore recoverable as a restricted GR case, while inquiry that transforms the background requires the broader generative-relational architecture. $\square$

Synthesis 29.20 (Pragmatist inheritance and GR extension). GR inherits from pragmatism an anti-foundational, fallibilist, action-oriented conception of inquiry. It extends that inheritance by treating the conditions of inquiry as historically generable: methods, observables, evaluative capacities, political subjects, and possibility spaces can be transformed through the recursive interaction of inquiry and action. The result is not a rejection of pragmatism but a background-independent reconstruction of its experimental impulse.

This comparison prepares the transition to the paper's comparative synthesis. No individual GR component is without precedent. Historicity, relational constitution, non-domination, embedded selves, genealogy, immanent critique, relational autonomy, decolonial transformation, process ontology, and fallibilist inquiry all have substantial philosophical histories. The next section therefore considers their integration within a common GR architecture: background independence, an invariance-oriented ontology, and recursive generativity in political philosophy.

30 Comparative Positioning of Generative Relational Political Philosophy

The preceding sections have compared Generative Relational theory (GR) with a series of major political-philosophical and adjacent philosophical lineages. The purpose of the present section is not to add another competitor to that sequence. It is to state, in a compact and systematic form, what becomes visible only after the comparisons are considered together. GR is not distinguished by any single one of the following claims taken in isolation: that political subjects are historically constituted; that freedom is relational; that domination can be structural; that communities shape selves; that production and class relations are historically generative; that subjects and normalities can be genealogically produced; that critique is historically situated; that autonomy is relational and embodied; that colonial power reorganizes epistemic and political categories; that becoming precedes substance; or that inquiry is fallible and embedded in practice. Each of these insights has substantial precedents.

The distinctive ambition of GR lies instead in the *joint architecture* through which these insights are connected. The framework combines background independence, a provisional invariance-first ontology, a generalized relational domain, recursive generativity, multiscale co-generation, the emergence of effective reality and normality, the

emergence of observability and evaluative capacity, a formal language drawn from modern physics and algebra, an embedded account of the evaluator, and an account of emergent normativity that refuses to reduce validity to genealogy. The result is less a thesis about one political value than a proposal concerning the level at which political philosophy should sometimes operate.

Synthesis 30.1 (Distinctiveness by conjunction). GR should not be positioned by claiming unique ownership over historicity, relationality, emergence, nonlinearity, critique, or situated inquiry. Its stronger claim is architectural: it attempts to integrate these dimensions within one background-independent generative language in which political entities, relation-types, observables, evaluative capacities, generative mechanisms, and possibility spaces may all become objects of historical analysis.

This formulation also clarifies the relation between GR and the lineages examined in Sections 20–29. GR need not replace them. In many domains, a liberal, republican, Marxian, genealogical, critical-theoretical, feminist, decolonial, processual, or pragmatist analysis may be more specific and therefore more illuminating than a high-level GR description. GR becomes relevant when the inquiry concerns how the background presupposed by such analyses was generated, how several domains of explanation interact, or how political transformation alters the conditions of future political description and evaluation.

Principle 30.2 (Comparative non-reduction). A lineage incorporated into GR as a restricted or neighboring model should retain the distinctions that make it theoretically informative. Formal unification is successful only if it enables translation across frameworks without erasing historically or normatively important differences among them.

30.1 Background Independence

The first commitment is background independence. Earlier sections showed that many political theories work productively by holding some background sufficiently stable. A set of persons, institutions, rights, relations, observables, or justificatory procedures is specified, and analysis proceeds within that domain. GR does not reject such modeling. It asks when the background itself becomes the object of political explanation.

Let a political configuration be represented schematically by

$$\Theta_t = (A_t, \mathcal{R}_t, \mathcal{G}_t, \mathcal{O}_t, \mathcal{V}_t, M_t), \quad (214)$$

where A_t denotes effective agents or subjects, $\mathcal{R}_t$ relations, $\mathcal{G}_t$ generative mechanisms, $\mathcal{O}_t$ observables, $\mathcal{V}_t$ evaluative capacities or coordinates, and M_t the effective possibility space. A fixed-background political theory may investigate trajectories inside a configuration for which several of these terms are treated as sufficiently stable. GR asks when political transformation requires

$$\Theta_t \longrightarrow \Theta_{t+1} \quad (215)$$

in a stronger sense: not merely a new value of a state variable, but a transformation of the categories or spaces by which political states are individuated.

The comparison with liberalism in Section 20 illustrated this distinction particularly clearly. Liberal analysis can ask whether constraints imposed on persons are justified, while GR additionally asks how the relevant persons, constraints, liberties, and choice spaces became available as political objects. Republicanism, examined in Section 21, already moves further toward relational structure by analyzing dependence and domination; GR adds the question of how dominating positions and dependency structures themselves are generated and transformed. Historical materialism and genealogy go

further still by making social formations and subjects historical. GR generalizes that historicizing impulse through its commitment to background independence, extending analysis to the effective ontology and possibility space of the model itself.

Definition 30.3 (Political background independence). A political theory is *background-independent in the GR sense* to the extent that it does not exempt its effective subjects, relation-types, observables, evaluative coordinates, generative mechanisms, or possibility spaces from possible historical generation and transformation.

Background independence is therefore graded rather than binary. A model may be background-independent with respect to subjecthood but fixed with respect to relation-types; dynamic with respect to institutions but fixed with respect to its observables; historically sensitive with respect to norms but fixed with respect to the possibility space in which norms are compared. GR uses the concept diagnostically to make these commitments visible.

Remark 30.4 (Background independence and analytical fixation). Treating a variable as fixed for a particular inquiry does not imply that it is ontologically fixed. GR distinguishes legitimate analytical fixation from an unexamined claim of ontological primacy. This distinction permits local models without abandoning the broader research programme of background independence.

30.2 Provisional Invariance-First Ontology

The second commitment concerns continuity across transformation. Background independence creates a difficult problem: if agents, relations, observables, categories, and possibility spaces may all change, what makes comparison across configurations intelligible? GR's provisional answer is invariance-first rather than substance-first.

The framework does not claim that symmetry is the ultimate substance of political or social reality. It adopts a weaker postulate: comparison across transformations requires some structure that is preserved, approximately preserved, or transformably identifiable across the cases being compared. Let $\mathcal{T}$ denote an admissible transformation and I an invariant or covariant structure relevant to the comparison. Then the minimal idea is

$$I(\Theta_t) \simeq I(\mathcal{T}(\Theta_t)) \quad (216)$$

for the class of transformations under which the relevant identity is being tracked. The precise content of I , the class of admissible transformations, and the interpretation of $\simeq$ remain domain dependent.

This move distinguishes GR from two opposite strategies. A substance-first ontology secures identity by presupposing persistent entities. A radical flux ontology may emphasize becoming so strongly that the criteria of continuity become unclear. GR instead treats invariance as a provisional research postulate that permits continuity without requiring the familiar political object to be fundamental.

Postulate 30.5 (Provisional invariance). GR provisionally assumes only as much invariance as is required to make transformation, comparison, and re-identification intelligible in a specified domain. The content, scope, and adequacy of that invariance remain revisable.

The comparison with process and relational philosophies in Section 28 makes the role of this postulate especially clear. GR inherits becoming before substance and relations before isolated objects, but it adds an explicit question concerning what survives transformation sufficiently to support comparison. This does not make invariance morally

authoritative. A stable invariant can characterize domination as readily as emancipation.

Distinction 30.6 (Ontological invariance and normative value). The persistence of a structure under transformation is an ontological or formal property. Whether that structure should be preserved is a separate normative question. Invariance therefore supplies a language of continuity, not a criterion of justice.

30.3 Generalized Relational Domain

The third commitment concerns the scope of relational analysis. Historical materialism, feminist relational theory, republicanism, communitarianism, genealogy, and pragmatism all foreground relations in important but domain-specific ways. GR generalizes the admissible relational domain without treating all relations as equivalent.

A GR analysis may include relations among humans, institutions, technologies, currencies, legal categories, environments, artificial systems, infrastructures, symbolic objects, biological systems, or sub-personal components when those relations participate in the generation of the political phenomenon under study. The point is not ontological flattening. Human–human recognition, human–AI interaction, neuron–neuron coupling, human–currency dependence, and state–state relations differ radically in phenomenology, scale, moral status, and causal organization. The commonality lies only in the possibility that each can enter a generative relational architecture.

Definition 30.7 (Generalized relational admissibility). A relation is admissible to GR analysis when its formation, transformation, persistence, or removal makes a relevant difference to the generation of entities, capacities, observables, evaluations, or possibility spaces in the domain under study.

This criterion extends the Marxian emphasis on social and production relations without denying its specific explanatory strength. It also extends feminist relational accounts of autonomy and dependency without translating embodiment, care, or intersectionality into content-free network edges. A generalized relational domain therefore requires two simultaneous commitments: formal openness concerning what may enter the analysis and substantive discipline concerning what each relation means.

Warning 30.8 (Relational flattening). The statement that heterogeneous phenomena can be represented within a common relational grammar does not imply that their relations possess the same ontology, causal power, political meaning, or normative status. A formalism that erases those differences has failed as a translation device.

30.4 Recursive Generativity

The fourth commitment is the strongest meaning of the “G” in GR. Many existing lineages are historical, processual, or dynamic. GR does not distinguish itself by adding temporal change. Its stronger claim concerns recursive generation: generated products may become conditions of subsequent generation.

The simplest schematic form is

$$\mathcal{R}_t \longrightarrow E_{t+1} \longrightarrow \mathcal{R}_{t+1}(E_{t+1}, \cdot) \longrightarrow E_{t+2}, \quad (217)$$

where a relational configuration generates an effective entity or structure E_{t+1} , which then re-enters later relational dynamics as a relatum, constraint, resource, observable, or generator. Currency, institutions, classifications, legal statuses, technical infrastructures, and political subjects can exhibit this general form.

The stronger version allows the generative machinery itself to change:

$$\mathcal{G}_t \longrightarrow \mathcal{G}_{t+1}. \quad (218)$$

The process therefore does not merely update the state produced by a stable rule. It can transform the rule-space, relation-types, observables, or possibility structure under which later states are produced.

Definition 30.9 (Recursive generativity). *Recursive generativity* is the capacity of generated relations, entities, categories, observables, capacities, or rules to re-enter the system as conditions of later generation, including the possible transformation of the mechanisms by which generation occurs.

This formulation differentiates GR from a merely dynamic social theory. It also clarifies its relation to dialectics. Dialectical traditions already supply powerful accounts of contradiction, mediation, historical transformation, and qualitative change. GR treats dialectical transformation as one important family of generative mechanisms while also admitting bifurcation, critical transition, path dependence, learning, recombination, institutional feedback, symmetry breaking, and other mechanisms where appropriate. The difference is not that GR is dynamic and dialectics is not; it is that GR attempts to make the family of possible generative mechanisms explicit and non-unitary.

Claim 30.10 (Generativity beyond state change). A transformation is generative in the stronger GR sense when its politically relevant consequences include alteration of the architecture of later generation—for example, what can count as an entity, relation, observable, evaluative distinction, rule, or possible state.

30.5 Multiscale Co-Generation

The fifth commitment is multiscale co-generation. Political philosophy often works at a privileged scale: the individual, the institution, the class, the discourse, the community, or the state. GR instead treats scale as an analytical choice whose adequacy must be justified by the phenomenon under study.

Let $\mathcal{R}_t^{(k)}$ denote relational structure at scale k . A multiscale generative system allows

$$\mathcal{R}_t^{(k)} \longrightarrow E_{t+1}^{(k+1)} \longrightarrow \mathcal{R}_{t+1}^{(k)}, \quad (219)$$

so higher-order formations emerge from lower-scale relations and later feed back into those relations. This is not a claim that every macrostructure supervenes in a simple reductionist way on a microlevel. The relevant scales may be biological, psychological, interpersonal, organizational, institutional, technological, economic, ecological, or geopolitical, and causal influence can be distributed in several directions.

The feminist and relational comparison in Section 26 made the political importance of this especially visible. Vulnerability, care, dependency, and agency can be generated through embodied capacities, household relations, labor markets, legal institutions, and infrastructures simultaneously. Postcolonial analysis in Section 27 similarly showed how categories imposed at administrative and epistemic scales can reorganize identities, institutions, and future political possibility.

Principle 30.11 (Scale non-privilege). GR assumes no universal explanatory privilege for a single scale. The relevant unit of explanation is the smallest multiscale architecture sufficient to represent the generative process without erasing mechanisms that materially alter the result.

This principle is methodological rather than metaphysical. It does not require every analysis to model every scale. It requires only that omitted scales be treated as analytical abstractions rather than silently declared irrelevant in principle.

30.6 Emergent Reality and Normality

The sixth commitment concerns how relatively stable realities emerge from relational histories. GR distinguishes ontological presence from *effective reality*: a structure becomes effectively real within a domain when it is sufficiently stabilized to have reproducible consequences for observation, action, coordination, constraint, or further generation. This concept allows institutions, currencies, classifications, collective agents, and normalities to be politically real without requiring them to be ontological primitives.

Normality illustrates the recursive structure especially well. Repetition can generate expectations; expectations can support classifications; classifications can organize institutions and behavior; those institutions and behaviors can in turn reproduce the pattern that appears normal. Schematically,

$$\text{regularity} \longrightarrow \text{expectation} \longrightarrow \text{classification} \longrightarrow \text{normalization} \longrightarrow \text{new regularity.} \quad (220)$$

This is compatible with genealogical analyses of normalization while embedding them in a wider architecture of recursive generativity.

Distinction 30.12 (Stabilization and fundamentality). A pattern may become highly stable, widely recognized, and causally efficacious without becoming ontologically fundamental. Stability is therefore evidence of successful reproduction, not proof of necessity.

The distinction is politically consequential. A long-lived institution or classification can appear natural precisely because the mechanisms generating it have become backgrounded. GR analysis attempts to recover those mechanisms without inferring that historical contingency makes the structure unreal. The relevant claim is neither “everything is constructed” nor “everything stable is natural,” but that effective reality can be historically generated and recursively reproduced.

30.7 Emergent Observability and Evaluative Capacity

The seventh commitment concerns the conditions of recognition and evaluation. Political philosophy often asks whether a phenomenon is unjust, dominating, harmful, legitimate, or beautiful once that phenomenon has already been identified. GR adds a prior question: how did the system acquire the observables, categories, records, sensitivities, and evaluative capacities required for the phenomenon to become recognizable under that description?

Let $\mathcal{O}_t$ denote available observables and $\mathcal{V}_t$ evaluative capacities. GR allows

$$(\mathcal{O}_t, \mathcal{V}_t) \longrightarrow (\mathcal{O}_{t+1}, \mathcal{V}_{t+1}), \quad (221)$$

where historical processes create new categories of evidence, new distinctions of harm, new forms of moral salience, or new aesthetic capacities for perceiving order and rupture.

This commitment connects several earlier comparisons. Genealogy historicizes the production of subjects, truth practices, and normality. Critical Theory asks how critique can arise from within historically constituted social orders. Feminist philosophy reveals harms and dependencies obscured by abstract models of autonomy. Postcolonial and decolonial thought shows how epistemic hierarchies determine whose categories and testimony become authoritative. Pragmatism treats inquiry as revisable and action-oriented. GR attempts to place these insights within a common language of generated observability and evaluative capacity.

Definition 30.13 (Evaluative-capacity emergence). *Evaluative-capacity emergence* is the historical generation or transformation of the capacities, distinctions, sensitivities, methods, or concepts through which a relation or event can become normatively or aesthetically salient.

The concept does not imply that what becomes salient is therefore correctly evaluated. It specifies a condition of possible judgment, not the validity of the judgment itself.

Principle 30.14 (Recognizability before evaluation). Where a harm, dependency, relation, or political possibility is unavailable to the effective observables of a system, normative evaluation may fail before disagreement over normative principles even begins. Political epistemology is therefore constitutively connected to political normativity.

30.8 Integrated Physics- and Algebra-Equipped Formalism

The eighth commitment concerns formal language. GR's relationship to modern physics and algebra is easily misunderstood if the framework is described as "using physics in politics." Nonlinear dynamics, networks, statistical models, agent-based systems, and complexity methods have long been applied to social and historical phenomena. GR's distinctive claim is not methodological priority. It is the attempt to use several mathematical languages within one ontological and generative architecture.

Different formalisms answer different questions. Dynamical systems represent trajectories, stability, basins, and bifurcations. Statistical physics offers languages for collective organization, phases, susceptibility, and critical phenomena. Field approaches represent distributed conditions beyond pairwise interactions. Symmetry and group-theoretic reasoning organize invariance and admissible transformations. Representation theory offers a language for distinct manifestations of related structures. Geometry and topology provide tools for characterizing possibility spaces and their connectivity. Algebra studies composition of transformations and can be extended to transformations acting on other transformations.

Principle 30.15 (Formal division of labor). GR should select formal tools according to the structure of the generative question rather than force heterogeneous political phenomena into a single mathematical idiom. Formal unity lies in the shared architecture of generation and transformation, not in universal use of one equation family.

This principle distinguishes an integrated research language from mathematical decoration. An attractor should not be invoked merely because a political configuration is stable; a phase transition should not name every abrupt change; symmetry breaking should not be used as a synonym for injustice; and a field should not be posited simply because influences are diffuse. Each formalism requires a translation rule specifying what its variables, transformations, and observables mean in the political domain.

Criterion 30.16 (Formal admissibility). A physical or algebraic formalism is admissible to a substantive GR model only when the relevant political entities, relations, transformations, observables, and empirical interpretation can be specified sufficiently to distinguish the formal claim from metaphor.

At the meta-theoretical level, however, these mathematical languages already contribute conceptually by differentiating mechanisms that ordinary political vocabulary can conflate. The methodological gain lies in replacing a single language of "change" with a structured repertoire of possible transformations.

30.9 Embedded Evaluators and Reflexive Theory

The ninth commitment is reflexivity. Historical materialism, genealogy, Critical Theory, feminist standpoint-oriented work, decolonial epistemology, and pragmatism all undermine the image of an observer who stands outside the social world. GR integrates this insight by treating the evaluator, method, and theory as elements of the generative system they analyze.

Let Q_t denote a theory or evaluative framework situated at time t . If the theory changes political language, institutional categories, or evaluative capacities, then

$$Q_t \longrightarrow \Theta_{t+1} \longrightarrow Q_{t+1}. \quad (222)$$

The theory's future object is partly shaped by its own historical uptake. Political philosophy can therefore become performative in a weak but important sense: concepts of domination, recognition, injustice, autonomy, or legitimacy can alter what actors notice, demand, institutionalize, or contest.

Definition 30.17 (Embedded evaluator). An *embedded evaluator* is an observer, theorist, institution, or practice of judgment whose categories, methods, and evaluative capacities are historically situated within, and potentially consequential for, the relational world being evaluated.

Reflexivity does not make theory impossible. It changes what rigor requires. A GR analysis should ask not only whether its claims are well supported but also which categories it introduces, what it renders observable, which relations its formalization suppresses, and how its own concepts may alter subsequent political practice.

Principle 30.18 (Reflexive revisability). Because political theory can become part of the history it interprets, GR should preserve the revisability of its own primitives, ontological postulates, formal models, and normative distinctions.

This principle explains why the invariance-first ontology remains explicitly provisional. A framework committed to historical generation cannot coherently exempt its own conceptual architecture from possible revision.

30.10 Emergent Normativity without Normative Reductionism

The tenth commitment concerns normativity. GR treats evaluative categories and capacities as historically emergent, but it does not infer that normative validity is reducible to the history that generated them. This distinction is indispensable. Without it, a theory of emergence would risk turning successful stabilization into justification and power into validity.

The architecture can be represented as

$$\text{normative genesis} \longrightarrow \text{evaluative availability} \longrightarrow \text{judgment}, \quad (223)$$

while the question

$$\text{is the judgment justified?} \quad (224)$$

remains analytically distinct. The first sequence is historical and generative. The second is normative and may require reasons, procedures, comparisons, translations, or principles not exhausted by causal genealogy.

Distinction 30.19 (Genesis and validity). An account of how a normative category, evaluative capacity, or judgment became historically possible does not by itself establish whether that category or judgment is justified. Conversely, the possibility of normative justification does not require denying the historical genesis of the capacities through which justification is articulated.

This position places GR between two unsatisfactory extremes. A fixed-background normativism can obscure the historical production of its own evaluative vocabulary. A reductive historicism can dissolve validity into the fact that a norm became socially established. GR instead proposes reflexive normativity: evaluative capacities have histories, their histories can be criticized, and normative reasoning can itself participate in revising the conditions of later evaluation.

The aesthetic analysis of Section 19 reinforces this point. Aesthetic salience may help make a political relation perceptible as harmonious, intolerable, elegant, grotesque, or ruptured, thereby conditioning moral or political attention. Yet salience is not validity. The same recursive separation applies to justice, legitimacy, and good governance.

Principle 30.20 (Non-reductive emergent normativity). GR analyzes the historical generation of normative categories and evaluative capacities while maintaining a second-order space in which their claims, procedures, exclusions, and consequences remain open to justification and critique.

Comparative Synthesis

The ten commitments can now be summarized without assigning evaluative priority among the traditions compared in the preceding sections. Each lineage illuminates a different region of the architecture: liberalism foregrounds justified liberty and coercion; republicanism structural dependence and non-domination; communitarianism socially constituted selves and communal horizons; historical materialism production, praxis, class, and historical social forms; genealogy subject-formation, normalization, and power/knowledge; Critical Theory immanent critique and historically situated normativity; feminist relational philosophy dependency, care, embodiment, and structural power; postcolonial and decolonial thought colonial category-formation and epistemic asymmetry; process philosophy becoming and relational constitution; pragmatism fallible and transformative inquiry.

GR's comparative position is not that these lineages are incomplete because they fail to contain GR. Rather, GR treats them as partially overlapping projections of a more general generative problem-space. The framework becomes distinctive only when the projections are connected within a single architecture in which the background itself can change.

This synthesis supports a final comparative proposition.

Proposition 30.21 (GR as an architecture of restricted projections). *Suppose a GR model Θ admits a family of restrictions $\{\rho_i\}$ that hold selected components of Θ fixed, privilege particular relation-types or scales, or constrain the admissible forms of transformation. Then distinct political-philosophical lineages may be represented, for limited comparative purposes, as theoretically meaningful projections $\rho_i(\Theta)$ without implying that the lineage is reducible to GR or that GR is historically prior to it.*

Proof. A restriction ρ_i can suppress degrees of generative freedom in the general architecture by fixing, for example, the subject set, normative coordinates, relevant relation-types, or possibility space. The resulting model can then foreground a narrower problem such as justified interference, non-domination, class relations, normalization, care

Table 2: Comparative synthesis of GR commitments and neighboring philosophical emphases. The table indicates affinity, not exclusivity or intellectual priority.

GR commitment	Comparative significance
Background independence	Extends historical and relational analysis to subjects, relation-types, observables, evaluative coordinates, generators, and possibility spaces themselves.
Provisional invariance-first ontology	Supplies revisable criteria of continuity across transformation without requiring familiar political substances to be fundamental.
Generalized relational domain	Allows heterogeneous human, institutional, technological, ecological, symbolic, and cross-scale relations into one analytical grammar without claiming ontological equivalence.
Recursive generativity	Treats generated structures as potential inputs to later generation and allows transformation of generative mechanisms themselves.
Multiscale co-generation	Refuses universal explanatory privilege for one scale and models feedback among embodied, interpersonal, institutional, infrastructural, ecological, and political levels.
Emergent reality and normality	Explains how historically contingent structures can become stable, causally efficacious, and politically real without becoming fundamental or normatively justified.
Emergent observability and evaluative capacity	Makes the historical production of recognizability, salience, categories, methods, and evaluative sensitivity part of political analysis.
Physics- and algebra-equipped formal language	Uses distinct formal systems to discriminate mechanisms of transformation rather than treating mathematical vocabulary as decorative metaphor.
Embedded evaluators and reflexive theory	Places theorists, methods, and evaluative practices inside the histories they interpret and therefore under conditions of possible revision.
Non-reductive emergent normativity	Historicizes evaluative capacities while preserving the distinction between normative genesis and normative validity.

dependency, or situated inquiry. Because the restriction preserves only selected structure, it cannot reproduce the full semantic, historical, or normative content of the corresponding lineage. It therefore establishes formal comparability rather than theoretical reduction. Conversely, relaxing the restriction returns the wider GR question of how the fixed structures themselves may have been generated or transformed. Hence GR can function as a comparative meta-language while the neighboring theories retain irreducible substantive content. □

Remark 30.22 (No hierarchy of lineages). The projection language is methodological rather than evaluative. It does not rank political philosophies, identify a “more advanced” tradition, or imply that broader formal scope yields better substantive judgment. A narrower theory can be more informative when its distinctions fit the problem under study.

The comparative result can therefore be stated succinctly. GR is not best understood as a new answer to one inherited political question. It is a proposal to widen the architecture within which inherited questions are formulated. Freedom becomes connected to the generation of choice spaces; domination to the generation of dependency; community to the co-generation of selves and memberships; historical materialism to the gen-

eration of social forms and their background conditions; genealogy to the production of subjects, normalities, and truth-recognition; critique to the emergence of evaluative capacities; care and vulnerability to cross-scale dependency formation; decolonization to reconstruction of generated possibility spaces; process to invariance across becoming; and inquiry to transformation of its own epistemic background.

Synthesis 30.23 (Comparative position of GR). Generative Relational political philosophy is best characterized as a developing background-independent meta-framework that connects historically constituted relations, recursive generation, emergent realities, changing observability, evaluative formation, and political action within a common but revisable architecture. Its distinctiveness lies not in replacing existing political-philosophical lineages but in making their backgrounds mutually comparable and in asking how those backgrounds themselves are generated.

The consequence is meta-philosophical. Once political ontology, political epistemology, aesthetic salience, normative evaluation, and decision are all treated as historically coupled components of a generative relational system, the boundaries among philosophical domains become analytically porous. Section 31 therefore turns from comparative positioning to the structural coupling of political philosophy with other philosophical domains, and Section 32 develops the more ambitious proposal of GR as a candidate philosophical meta-language.

31 Political Philosophy as a Coupled Philosophical System

The comparative synthesis of Section 30 suggests a further consequence. If political subjects, relations, observables, evaluative capacities, and possibility spaces are historically generated, then political philosophy cannot be cleanly insulated from ontology, epistemology, aesthetics, ethics, decision theory, or philosophy of history. The point is not that disciplinary distinctions become useless. Each domain isolates a different family of questions and develops its own standards of argument. The stronger claim is structural: under a generative relational description, the outputs of one philosophical domain can become conditions of possibility for another, while the latter can feed back into the former.

A political ontology determines what entities and relations are available for political description. Political epistemology determines which of those entities and relations become observable, reconstructible, or contestable. Aesthetic and evaluative perception shape salience before many political problems are fully articulated propositionally. Ethics supplies reasons for evaluation, while political institutions organize how such reasons are translated into collective decisions. Decisions then transform relations, institutions, archives, technologies, environments, and future possibility spaces. Philosophy of history becomes necessary because these transformations are path-dependent and because the categories through which they are later judged may themselves change.

GR therefore treats political philosophy not as a self-contained layer placed on top of an independently specified social world, but as one region of a recursively coupled philosophical system.

Definition 31.1 (Coupled philosophical system). A set of philosophical domains $\{D_1, \dots, D_n\}$ forms a *coupled philosophical system* when outputs generated in one domain become constitutive inputs to another. The coupling is recursive when these dependencies feed back through historical action or institutional transformation.

This definition is intentionally weaker than a claim of conceptual identity. Ontology is not reducible to epistemology, aesthetics is not reducible to ethics, and political

decision theory is not simply applied moral philosophy. Coupling means that the domains cannot always be varied independently while preserving the political object under study.

A schematic cycle is

$$\mathcal{E}_t \longrightarrow \mathcal{O}_t \longrightarrow \mathcal{S}_t \longrightarrow \mathcal{V}_t \longrightarrow \mathcal{D}_t \longrightarrow \mathcal{R}_{t+1}, \quad (225)$$

where $\mathcal{E}_t$ denotes effective ontology or reality, $\mathcal{O}_t$ observability and epistemic access, $\mathcal{S}_t$ salience and perceptual organization, $\mathcal{V}_t$ evaluative structure, $\mathcal{D}_t$ decision or intervention, and $\mathcal{R}_{t+1}$ the transformed relational configuration. Because $\mathcal{R}_{t+1}$ participates in generating the next effective ontology, the sequence is recursive rather than linear.

Principle 31.2 (Philosophical coupling principle). When political action modifies the relational conditions under which entities, evidence, salience, evaluative capacities, or future decisions are generated, political philosophy must treat the relevant philosophical domains as dynamically coupled rather than merely adjacent.

The remainder of this section develops the principal couplings separately before returning to their joint structure.

31.1 Political Ontology and Emergent Political Reality

Political philosophy ordinarily requires an ontology before it can formulate a normative problem. It must identify, at least provisionally, the entities that can bear rights, exercise power, suffer domination, authorize institutions, enter agreements, make claims, or be represented. Classical and contemporary theories therefore rely on some effective inventory of persons, groups, states, institutions, offices, resources, actions, and relations. Yet Sections 10 and 13 argued that this inventory need not be ontologically primitive.

In GR, political ontology is an effective and historically revisable ontology. A state, corporation, currency, public, class, community, administrative category, or artificial agent may become politically real when a sufficiently stable relational organization grants it reproducible causal, interpretive, institutional, or normative consequences. Such entities can subsequently enter new relations and thereby participate in generating further political realities.

This creates an ontological recursion:

$$\mathcal{R}_t \longrightarrow E_{t+1} \longrightarrow \mathcal{R}_{t+1}(E_{t+1}, \cdot) \longrightarrow E_{t+2}. \quad (226)$$

An emergent entity is therefore not merely the endpoint of explanation. Once stabilized, it can become a new relatum and a new source of political causation.

Claim 31.3 (Political ontology is generatively open). For GR, the set of politically relevant entities is not assumed to be closed in advance. Historical processes can generate new effective subjects, institutions, objects, relation-types, and collective formations that subsequently require political evaluation.

This claim matters for political philosophy because normative theories often presuppose the bearer of the norm. Questions such as who may consent, who can be harmed, what counts as property, what constitutes a political community, or whether an artificial system can exercise delegated authority depend partly on prior ontological classification. The classification is not merely semantic. Once institutionalized, it can reorganize legal standing, responsibility, resource flows, visibility, and future interaction.

The coupling with epistemology is immediate. An entity can be politically consequential yet poorly recognized by prevailing categories; conversely, an administrative classification can help stabilize an entity by making it legible to institutions. Political ontology and political epistemology therefore co-evolve.

Distinction 31.4 (Ontological reality and political recognition). The effective political reality of a structure is not identical to its recognition by prevailing political institutions. Recognition can stabilize, amplify, or suppress effective reality, but unrecognized relations may remain causally and normatively consequential.

This prevents GR from turning political ontology into official classification. It also prepares the transition to political epistemology.

31.2 Political Epistemology and Historical Recognizability

Political judgment depends on what can be known, recorded, compared, reconstructed, and communicated. Yet the epistemic infrastructure of political life is itself historical. Archives can be created or destroyed; categories can become available or disappear; institutions decide what counts as admissible evidence; measurement practices render some relations visible while leaving others obscure; and social power can alter whose testimony is preserved or treated as authoritative. Genealogical analyses and Critical Theory already make much of this historical dependence. GR adds the further question of how the political space of observability itself changes when the background is allowed to evolve.

Let $\mathcal{O}_t$ denote the effective set of observables and $\mathcal{K}_t$ the available epistemic practices, records, and inferential resources. Then political recognizability at time t is not simply a function of what exists:

$$\text{Recog}_t(X) = \Psi(X, \mathcal{O}_t, \mathcal{K}_t, \mathcal{R}_t, H_t), \quad (227)$$

where H_t denotes the inherited historical trajectory.

The political importance of this structure is substantial. A harm may occur before a legal or moral vocabulary exists to name it. A dependency relation may be causally real before institutions possess the measurements needed to detect it. A historical event may have occurred even though later destruction of archives makes it difficult to reconstruct. Conversely, new instruments, concepts, testimonies, or comparative methods may make previously obscure relations politically salient.

Principle 31.5 (Historical recognizability). Political reality and political recognizability are distinct. Political epistemology must therefore analyze not only whether a claim is true or justified, but also the historically generated conditions under which the relevant object can become identifiable, evidentially reconstructible, and publicly contestable.

This position does not imply that truth is created by epistemic institutions. Section 24 already separated truth from historically organized conditions of truth-recognition. The same separation applies here. GR's concern is the political generation of access to truth, not the reduction of truth to access.

Epistemic change also feeds back into ontology. Once a relation becomes measurable or classifiable, institutions can act on it; once institutions act on it, new practices and identities can stabilize around the classification. Hacking's analysis of interactive classifications and Foucault's work on examination and normalization exemplify nearby mechanisms, although GR places them within a more general recursive architecture. Political epistemology is therefore not simply the study of beliefs about an independently fixed political world. It participates in changing the effective world that later political judgment encounters.

Proposition 31.6 (Epistemic intervention can be ontologically generative). *Suppose a new political observable $o \notin \mathcal{O}_t$ becomes available at $t + 1$, and institutional action is con-*

ditioned on values of o . If that action modifies relations, incentives, classifications, or capacities, then the epistemic innovation can participate in generating a politically different effective ontology at later times.

Proof. By assumption, o expands the effective observable set from $\mathcal{O}_t$ to $\mathcal{O}_{t+1}$. Institutional decisions conditioned on o alter at least one component of the relational configuration $\mathcal{R}_{t+1}$. If the altered relations stabilize new roles, categories, capacities, or entities, then the effective ontology $\mathcal{E}_{t+2}$ differs from that available prior to the epistemic intervention. Hence an epistemic innovation can become generatively ontological through politically mediated feedback. $\square$

The proposition is modest but important. It shows why political ontology and political epistemology cannot always be separated by assigning one to “what exists” and the other to “what we know.” Under recursive institutional action, knowledge practices can help reorganize what later exists as a politically effective structure.

31.3 Political Aesthetics and Evaluative Perception

Section 19 argued that aesthetic judgment is relevant to political philosophy because political attention is not produced by propositional reasoning alone. People encounter political worlds through patterns of salience, harmony, rupture, proportion, ugliness, elegance, order, disorder, familiarity, and estrangement. These modes of perception can make some configurations available for subsequent moral or political articulation.

The claim is not that justice is a species of beauty, nor that aesthetic approval justifies political authority. Kantian judgment, Deweyan aesthetics, Bourdieu’s sociology of taste, Rancière’s distribution of the sensible, and Arendt’s appropriation of judgment all illustrate different ways in which perception, sensibility, public appearance, and judgment can matter politically Kant 2000; Dewey 1934; Bourdieu 1984; Rancière 2004; Arendt 1982. GR’s concern is the generative connection among these phenomena.

Let $\mathfrak{A}_t$ denote an historically formed field of aesthetic and evaluative sensibility. Then the political salience of an object X can be represented schematically as

$$\text{Sal}_t(X) = \Sigma(X, \mathfrak{A}_t, H_t, \mathcal{R}_t). \quad (228)$$

A change in $\mathfrak{A}_t$ can make a previously ordinary configuration appear intolerable, dignified, grotesque, harmonious, oppressive, or politically imaginable in a new way.

Distinction 31.7 (Salience and validity). Aesthetic or affective salience can condition whether a political relation becomes available for normative attention, but salience does not establish the normative validity of the judgment subsequently made about that relation.

This distinction preserves the autonomy of normative reasoning while recognizing that evaluation requires something to become perceptually and conceptually salient in the first place. Political aesthetics therefore occupies a mediating position between epistemology and ethics. It concerns not only what can be known, but how a political configuration becomes experienced as worthy of attention and capable of entering evaluative articulation.

Aesthetic fields are also politically generative. Architecture, ceremony, public symbols, media forms, interfaces, spatial ordering, and representational conventions can reorganize what appears central or peripheral, visible or invisible, dignified or disposable. These changes can alter imagined possibility spaces before they alter formal institutions. The imagined and the feasible are not identical, but the former can participate in generating the latter through action.

Principle 31.8 (Evaluative-perception coupling). Normative political judgment is often preceded by a historically formed mode of evaluative perception. Political philosophy should therefore distinguish the validity of a judgment from the generative conditions that make its object perceptually and conceptually salient.

This coupling becomes especially important under conditions of novelty. When new technologies, ecological crises, forms of dependency, or political subjects emerge, established concepts may lag behind experience. Aesthetic and affective perception can then register tensions before a stable normative vocabulary has formed. GR does not treat such perception as infallible. It treats it as one pathway through which normative salience can emerge.

31.4 Political Ethics and Emergent Normativity

Political philosophy cannot avoid ethics because claims about justice, legitimacy, domination, responsibility, vulnerability, or good governance already contain evaluative commitments. Yet Section 16 argued that the capacities through which such distinctions are made have histories. The resulting problem is not whether politics should be normative, but how normative judgment remains possible when the evaluator, vocabulary, and evaluative coordinates are historically situated.

GR addresses this problem through a double commitment. First, normative capacities are generatively situated:

$$\mathcal{V}_t = V(H_t, \mathcal{R}_t, \mathcal{O}_t, \mathcal{A}_t, \dots). \quad (229)$$

Second, the genesis of $\mathcal{V}_t$ does not settle the validity of judgments made through it.

Principle 31.9 (Reflexive political normativity). Political ethics should treat evaluative capacities as historically generated and therefore revisable, while preserving a second-order space in which the reasons, exclusions, consequences, and procedures associated with those capacities remain open to critique.

This is why GR repeatedly insists on

$$\text{normative genesis} \neq \text{normative validity}. \quad (230)$$

The distinction allows political philosophy to historicize its own evaluative standpoint without collapsing into the view that whatever history has produced is justified.

The coupling with epistemology is straightforward: normative judgment depends on descriptions and evidence, while evidential systems can be distorted by power or historical loss. The coupling with aesthetics concerns salience. The coupling with ontology concerns the identification of subjects, harms, relations, and responsibilities. The coupling with decision theory concerns action under uncertainty. Thus political ethics functions within a network of dependencies rather than above them.

Rawlsian public justification, Habermasian discourse, Sen's comparative reasoning, feminist relational ethics, and Critical Theory provide different substantive and procedural resources for evaluating political claims Rawls 2005; Habermas 1996; Sen 2009. GR does not select one of these as its universal normative foundation. It instead asks how such evaluative procedures operate under changing backgrounds and how they can remain reflexively revisable when the conditions of political judgment themselves evolve.

Open Problem 31.10 (Normative continuity under background change). GR still requires a more complete account of how normative continuity should be maintained

when the subjects, observables, evaluative capacities, and possibility spaces relevant to a political judgment change substantially. The invariance-first postulate provides a language for comparison, but it does not by itself supply substantive principles of justice or goodness.

The open problem is deliberate. A meta-framework should not conceal the point at which substantive normative theory is still required.

31.5 Political Decision Theory and Generative Intervention

Political decision theory usually asks what an agent should choose given beliefs, preferences, constraints, risks, or collective procedures. GR adds a generative complication: political actions can alter not only outcomes but also the future architecture in which later decisions are made.

Let a_t be an intervention selected from an effective action space A_t^{act} . In a fixed-background representation, the intervention changes a state:

$$x_{t+1} = F(x_t, a_t). \quad (231)$$

In a generative representation, the intervention may additionally change relations, generators, observables, evaluative capacities, or the action space itself:

$$\Theta_{t+1} = \mathcal{F}(\Theta_t, a_t), \quad \Theta_t = (\mathcal{E}_t, \mathcal{R}_t, \mathcal{G}_t, \mathcal{O}_t, \mathcal{V}_t, M_t). \quad (232)$$

The decision therefore has both first-order and second-order consequences.

Definition 31.11 (Generative intervention). A *generative intervention* is an action whose politically relevant consequences include alteration of the mechanisms, relations, observables, capacities, or possibility spaces that structure later rounds of action and evaluation.

This definition captures why institutional design, education, constitutional change, technological regulation, archival policy, infrastructure, and public-space design cannot always be assessed solely by immediate outcomes. Such interventions can change who becomes capable of acting, which options later exist, what counts as evidence, which dependencies are reproduced, and what future actors are able to revise.

Political decisions are also made under incomplete and historically changing knowledge. Dewey's conception of inquiry as transformation of an indeterminate situation is therefore particularly relevant Dewey 1938. The political agent often acts before the relational consequences of intervention are fully known. GR adds the requirement that uncertainty be evaluated not only over outcomes but over changes in the generative architecture itself.

Criterion 31.12 (Generative decision assessment). Where relevant, a political intervention should be assessed along at least four dimensions: immediate consequences; effects on relational structure; effects on future capacities and observability; and effects on the revisability of later decisions.

The fourth dimension is especially important. An intervention that produces desirable short-term outcomes while destroying future capacities for correction, contestation, or learning may be generatively dangerous even when its first-order performance appears successful. This connects decision theory to the generative stewardship principle developed in Section 18.

Remark 31.13 (Decision theory without total control). Generative analysis does not imply that political actors can engineer complex relational systems from above. Background independence and recursive generativity make comprehensive prediction unlikely in many domains. The appropriate implication is often greater attention to reversibility, monitoring, institutional learning, and preservation of future corrective capacity rather than stronger claims of control.

Political decision theory thus becomes inseparable from epistemology, ethics, and philosophy of history: actors decide with incomplete knowledge, under historically generated norms, in systems where interventions become part of the history conditioning later choices.

31.6 Philosophy of History and Relational Trajectories

The final coupling concerns history. GR is trajectory-sensitive by construction. Two political configurations that are observationally similar at a single time can have different meanings, obligations, vulnerabilities, and future dynamics because they were generated through different histories. Sections 7, 8, and 17 repeatedly relied on this distinction.

Let a relational history be

$$\Gamma_{[t_0, t]} = \{\Theta_\tau : \tau \in [t_0, t]\}. \quad (233)$$

Then political evaluation at t may depend not only on Θ_t but on properties of $\Gamma_{[t_0, t]}$: how a relation was formed, whose actions sustained it, which alternatives were excluded, what harms accumulated, which records were preserved, and what forms of agency were generated or destroyed.

Principle 31.14 (Trajectory-sensitive political judgment). When historical paths produce persistent relational effects, political judgment should not treat present-state equivalence as sufficient for normative or causal equivalence.

This principle underlies claims about historical responsibility, transitional justice, colonial residue, institutional memory, path dependence, and hysteresis. It also explains why reversing an initiating policy does not necessarily restore the prior political world. Once a process has altered subjects, institutions, expectations, infrastructures, archives, or possibility spaces, the path cannot in general be erased by reversing one parameter.

The philosophy of history also feeds back into epistemology. Historical narratives determine which trajectories become publicly intelligible. They feed into ethics by structuring responsibility and recognition. They enter aesthetics through collective memory and symbolic representation. They enter decision theory because expectations about historical dynamics shape intervention. Political philosophy therefore requires not only a theory of political states but a theory of historically evolving relational trajectories.

Distinction 31.15 (Historical explanation and historical justification). Explaining how a political order emerged does not justify that order. Conversely, condemning an order does not eliminate the need to explain the generative trajectory through which it became stable and politically effective.

This distinction mirrors the broader GR separation between genesis and validity. Philosophy of history supplies part of the explanatory architecture within which normative judgment becomes historically responsible.

31.7 Coupling among Philosophical Domains

The preceding subsections can now be assembled into a common architecture. Political ontology asks what becomes politically real. Political epistemology asks what becomes knowable and recognizable. Political aesthetics concerns what becomes salient and perceptually available for evaluation. Political ethics asks what reasons support or criticize the resulting judgments. Political decision theory asks how embedded actors should intervene under uncertainty. Philosophy of history tracks how those interventions become trajectories that regenerate the conditions of later ontology, knowledge, salience, evaluation, and action.

The coupling can be represented schematically as

$$\begin{aligned} \mathcal{E}_t &\longrightarrow \mathcal{O}_t \longrightarrow \mathfrak{A}_t \longrightarrow \mathcal{V}_t \longrightarrow \mathcal{D}_t \\ &\longrightarrow \mathcal{R}_{t+1} \longrightarrow \mathcal{E}_{t+1}, \end{aligned} \tag{234}$$

with historical memory H_t conditioning every stage rather than appearing as a final external variable.

The arrows should not be read as a strict temporal sequence. Ontology, epistemology, aesthetics, normativity, and decision frequently interact simultaneously and bidirectionally. The diagram is a grammar of dependence, not a universal chronology.

Proposition 31.16 (Non-separability under recursive coupling). *Suppose two philosophical domains D_i and D_j are linked such that an output of D_i enters the generative conditions of D_j , and an output of D_j later alters the generative conditions of D_i . Then, for the period in which the feedback operates, a model that varies D_i while holding D_j fixed cannot in general represent the full generative dynamics of the coupled system.*

Proof. Let $y_j(t+1) = F_j(y_j(t), g_i(t))$, where $g_i(t)$ is an output generated in D_i , and let $y_i(t+2) = F_i(y_i(t+1), g_j(t+1))$, where $g_j(t+1)$ is generated in D_j . Fixing D_j removes the dependence of $y_i(t+2)$ on $g_j(t+1)$ and therefore suppresses one feedback path present in the original system. The restricted model may remain useful locally, but it no longer represents the full recursive dynamics. $\square$

This proposition formalizes a methodological point rather than a claim that every philosophical problem requires total-system analysis. Domain separation remains useful whenever feedback is weak, slow, or irrelevant to the question at hand. GR's contribution is to make the assumption of separability visible and revisable.

Principle 31.17 (Selective coupling). GR does not require every inquiry to include every philosophical domain. It requires only that potentially generative couplings not be excluded by assumption when they materially affect the problem under study.

This selective principle prevents the meta-framework from becoming analytically unbounded. A theory that insists on modeling everything at once would be unusable. GR instead treats disciplinary boundaries as methodological cuts whose adequacy depends on whether the omitted couplings are negligible for the inquiry.

The political consequence is substantial. A dispute about justice may reveal an epistemic problem because the affected relation is poorly observable. The epistemic problem may reveal an aesthetic or classificatory problem because certain experiences fail to become salient. Reforming the classification may generate new political subjects. Recognition of those subjects may change ethical obligations. Institutionalizing the new obligations may transform the decision environment and thereby alter the future relational trajectory. What appeared initially as one “political” problem can therefore propagate across philosophical domains.

Synthesis 31.18 (Political philosophy as a coupled philosophical system). Within GR, political ontology, epistemology, aesthetics, ethics, decision theory, and philosophy of history are distinct but potentially recursively coupled domains. Their coupling arises because the entities, observables, forms of salience, evaluative capacities, interventions, and historical trajectories generated in one domain can become conditions of possibility for the others. Political philosophy is therefore best treated as an open generative system whose disciplinary boundaries are analytically useful but ontologically and historically revisable.

This conclusion prepares the final meta-philosophical move of the paper. If the same generative grammar can describe transitions from ontology to observability, from observability to salience and evaluation, from evaluation to action, and from action to new relational ontology, GR may function not only as a framework for political philosophy but as a candidate meta-language connecting philosophical domains more generally. Section 32 develops that proposal while retaining two constraints already established here: cross-domain translation must not erase domain-specific distinctions, and formal unification must remain revisable rather than becoming a new fixed background.

32 GR as a Candidate Philosophical Meta-Language

Section 31 argued that political ontology, epistemology, aesthetics, ethics, decision theory, and philosophy of history can form a recursively coupled system. This section develops the stronger but still provisional proposal that GR can function as a *candidate philosophical meta-language*: a common grammar for representing how entities, relations, observables, evaluative capacities, norms, actions, and historical possibility spaces emerge and transform across otherwise distinct philosophical domains.

The proposal should be stated carefully. A meta-language is not automatically a superior first-order theory, nor does a common vocabulary imply that the domains translated into it lose their substantive autonomy. GR does not claim that ethics is secretly dynamics, that aesthetics is merely epistemology, or that ontology can be reduced to algebra. Nor does it claim that every philosophical question should be redescribed in GR terms. The narrower ambition is structural: where philosophical domains are linked by recurrent patterns of emergence, stabilization, observation, evaluation, intervention, and recursive transformation, a common language can make those dependencies explicit and comparable.

There are precedents for philosophy understood as integrative and framework-based activity. Carnap's work on linguistic frameworks made frameworks themselves explicit objects of philosophical analysis Carnap 1950. Sellars famously described philosophy as seeking a synoptic account of how different images of the world hang together, especially the manifest and scientific images Sellars 1962. Dewey treated philosophy less as access to a final standpoint than as reflective equipment for inquiry and reconstruction within experience Dewey 1938. Neurath's anti-foundationalism similarly emphasized that inquiry proceeds by revising an already inhabited conceptual and practical structure rather than rebuilding knowledge from an external, presuppositionless foundation Neurath 1983. GR shares aspects of each orientation but adds a specifically generative claim: the frameworks, images, observables, evaluative capacities, and inferential relations used by philosophy can themselves be products and inputs of historically changing relational systems.

Definition 32.1 (Candidate meta-language). A *candidate philosophical meta-language* is a revisable system of concepts and formal relations designed to represent recurrent

structural dependencies across multiple philosophical domains without requiring those domains to share one substantive ontology, one method, or one criterion of validity.

The term *candidate* is essential. GR proposes a common grammar to be tested by its explanatory, translational, formal, and critical usefulness. It does not assert that philosophical reality is exhausted by the grammar, nor that the grammar is immune to the historical transformations it describes.

Principle 32.2 (Humility). A philosophical meta-language may organize comparison across domains without acquiring normative or ontological sovereignty over those domains. The adequacy of a translation remains answerable to the phenomena, distinctions, and standards internal to the domain being translated.

This principle carries forward the non-reductive constraint of Section 30. GR claims representational reach, not philosophical rank.

32.1 A Common Grammar of Generative Emergence

The proposed meta-language begins from a recurring structure already encountered throughout the paper. A relational configuration gives rise to effective entities and patterns; some of these become observable; some become salient and evaluable; evaluative structures guide intervention; intervention alters the relational configuration; and the transformed configuration conditions what can subsequently emerge.

A minimal schematic grammar is

$$S \rightsquigarrow \mathcal{R}_t \rightsquigarrow \mathcal{E}_t \rightsquigarrow \mathcal{O}_t \rightsquigarrow \mathcal{V}_t \rightsquigarrow \mathcal{D}_t \rightsquigarrow \mathcal{R}_{t+1}, \quad (235)$$

where S denotes the provisionally assumed invariance structure, $\mathcal{R}_t$ the relational configuration, $\mathcal{E}_t$ effective ontology or emergent reality, $\mathcal{O}_t$ observability and epistemic articulation, $\mathcal{V}_t$ evaluative structure, and $\mathcal{D}_t$ decision or intervention. The arrows are not universal causal laws. They mark admissible generative dependencies that can be instantiated differently across domains.

The grammar is therefore not a linear pipeline. In many cases, observability alters effective ontology, evaluation alters perception, intervention alters the available categories of evaluation, and historical memory conditions every stage. A more adequate representation is a family of coupled transformations

$$\Theta_t = (\mathcal{S}_t, \mathcal{R}_t, \mathcal{E}_t, \mathcal{O}_t, \mathcal{V}_t, \mathcal{D}_t, M_t), \quad \Theta_t \xrightarrow{\mathfrak{T}_t} \Theta_{t+1}, \quad (236)$$

where M_t is the effective possibility space and $\mathfrak{T}_t$ is the historically situated generative transformation.

Definition 32.3 (Generative philosophical state). A *generative philosophical state* Θ_t is a provisional representation of the entities, relations, observables, evaluative structures, intervention capacities, and possibility spaces relevant to a philosophical problem at time t .

The point of this construction is not to claim that philosophy literally evolves by one master equation. It is to make explicit which parts of a philosophical problem are being held fixed and which are allowed to change. A traditional analysis might hold $\mathcal{E}$, $\mathcal{O}$, and M fixed while reasoning about $\mathcal{V}$. GR permits those background terms to become variables when the problem requires it.

Claim 32.4 (Meta-generative commonality). Philosophical domains that differ in subject matter may nevertheless share a common generative form when their objects of inquiry are produced, stabilized, observed, evaluated, acted upon, and recursively transformed through relational processes.

This claim is intentionally weaker than substantive unification. A theory of beauty and a theory of justice need not share the same standards, objects, or reasons in order for both to display a relation between historical formation, salience, evaluation, and action. GR's proposed meta-language operates at that structural level.

Remark 32.5 (Grammar rather than universal vocabulary). The commonality sought by GR is grammatical rather than lexical. Different domains may require irreducibly different concepts. The meta-language need not translate every domain-specific term into one generic substitute; it needs only to represent how domain-specific concepts participate in generative relations.

This distinction prevents the project from becoming an exercise in terminological homogenization. “Justice,” “beauty,” “truth,” “agency,” and “normality” can remain distinct concepts even when their emergence and historical transformation are represented within one generative grammar.

32.2 Relational Passage from Ontology to Epistemology

The first passage concerns the relation between what becomes effectively real and what becomes knowable. Traditional philosophical organization often treats ontology and epistemology as separate sequences: first determine what exists, then ask how it can be known. GR instead permits reciprocal constitution. Effective entities can become observable only under certain relational conditions, while practices of observation, classification, recording, and intervention can help stabilize what counts as an effective entity.

Let $E \in \mathcal{E}_t$ be an emergent entity or structure. Its epistemic availability can be represented schematically by

$$\text{Obs}_t(E) = \Phi_t(E, \mathcal{R}_t, \mathcal{I}_t, \mathcal{C}_t, H_t), \quad (237)$$

where $\mathcal{I}_t$ denotes epistemic infrastructures, $\mathcal{C}_t$ classificatory resources, and H_t historical records or inherited traces. The equation does not define observation numerically; it makes explicit that epistemic accessibility is relationally conditioned.

Principle 32.6 (Relational epistemic access). The effective reality of a phenomenon and the historical conditions under which it becomes observable should be analytically distinguished but jointly modeled when observation participates in stabilizing, classifying, or transforming the phenomenon itself.

This principle generalizes the distinction developed in Sections 13 and 24. A political category, scientific object, institutional fact, subjective state, or social pattern may exist or operate before prevailing epistemic practices can adequately identify it. Conversely, institutionalized observation can generate new effective objects by introducing classifications, standards, records, or measurable distinctions.

Carnap's framework-relative treatment of many philosophical questions provides one historical point of comparison: what can be meaningfully asserted depends in part on the framework within which terms and inferential relations are specified Carnap 1950. GR differs by historicizing the framework itself. Instead of treating framework choice primarily as a practical decision among already articulable languages, GR asks how the relations, practices, and material conditions of inquiry generate the available frameworks and how those frameworks feed back into the ontology of later inquiry.

Comparison 32.7 (Framework relativity and generative framework formation). Carnap makes explicit that many questions are meaningful only relative to a conceptual or linguistic framework. GR adds a generative problem: the formation, stabilization, contestation, and transformation of the framework are themselves historical-relational phenomena requiring analysis.

This is especially important for political philosophy. Recognition of a new harm, identity, dependency, or form of power may require not merely more information but new observational and classificatory resources. The ontology-to-epistemology passage is therefore also an epistemology-to-ontology feedback loop.

Proposition 32.8 (Epistemically mediated ontological stabilization). *Suppose an emergent structure E_t affects a relational system but becomes institutionally actionable only after an epistemic practice Q_t renders it observable and classifiable. If institutional action based on $Q_t(E_t)$ increases the persistence or causal reach of E_t , then epistemic mediation participates in the later effective stabilization of E .*

Proof. By assumption, E_t has pre-existing relational effects, but Q_t creates an institutional representation $q_t = Q_t(E_t)$. If actions conditioned on q_t modify relations so that E_{t+1} becomes more persistent or consequential, then the transition from E_t to E_{t+1} depends partly on the epistemic mediation. The epistemic practice therefore does not create the entirety of E , but it participates in the later stabilization of its effective reality. $\square$

The proposition captures one reason the ontology/epistemology boundary cannot always be treated as a one-way dependency.

32.3 Relational Passage from Epistemology to Evaluation

The second passage concerns the movement from observability to evaluability. Even when a phenomenon is observable, it does not automatically become salient as a philosophical or political problem. A system requires concepts, sensibilities, analogies, narratives, affective orientations, and evaluative capacities through which what is observed can acquire significance.

We can represent the transition as

$$\mathcal{O}_t \xrightarrow{\Sigma_t} \mathcal{A}_t \xrightarrow{\Xi_t} \mathcal{V}_t, \quad (238)$$

where Σ_t organizes salience and Ξ_t participates in evaluative articulation. Section 19 used aesthetics to show why this intermediate layer matters: judgments of harmony, rupture, ugliness, elegance, fittingness, or intolerability can structure political attention before an explicit normative argument is fully articulated.

Definition 32.9 (Evaluability). A phenomenon is *evaluatively available* at time t when the epistemic and perceptual resources of a community make it possible not merely to register the phenomenon but to articulate it within a space of reasons, values, or normative concern.

Evaluative availability is historically variable. A relation can be visible without being experienced as domination; an injury can be documented without being recognized as injustice; a form of dependence can be widespread without being conceptually available as a political problem. Conversely, a newly generated evaluative concept can reorganize perception so that previously ordinary patterns become salient.

Distinction 32.10 (Epistemic presence and normative salience). The availability of evidence that a relation exists does not entail that the relation is already available as an object of moral, aesthetic, or political evaluation.

This distinction helps explain why philosophical innovation can be politically significant even when it introduces no new empirical fact. A concept can alter the partition of the evaluative space by making certain similarities, differences, injuries, dependencies, or possibilities articulable.

Sellars's distinction between the manifest and scientific images offers a useful but different integrative precedent. His philosophical project sought a synoptic vision capable of relating the descriptive resources of science to the normative and intentional vocabulary through which persons understand themselves Sellars 1962. GR shares the integrative ambition but rejects a fixed two-image architecture. The relevant images, vocabularies, and evaluative capacities can proliferate, overlap, and transform historically.

Comparison 32.11 (Synoptic integration and generative plurality). Sellars's synoptic ambition seeks philosophical integration across major conceptual images. GR generalizes the integrative problem by allowing the number, boundaries, and contents of such images to be historically generated and relationally coupled.

This is one reason GR uses the language of a meta-language rather than a master image. Its task is to represent transformations among heterogeneous philosophical descriptions without requiring all of them to terminate in one privileged vocabulary.

32.4 Relational Passage from Evaluation to Action

The third passage connects normativity to intervention. Philosophical evaluation is often presented as a terminal judgment: an institution is unjust, an action impermissible, a work beautiful, a belief unwarranted. In a generative framework, however, evaluation also enters future relational dynamics because evaluative judgments can guide choices, institutional reforms, educational practices, technological design, and forms of collective attention.

Let V_t denote an evaluative structure and A_t an available action set. A practical transition can be represented as

$$\mathcal{D}_t = \Delta(V_t, K_t, A_t, C_t, H_t), \quad (239)$$

where K_t denotes available knowledge and C_t practical constraints. The function Δ should not be read as a complete decision rule; it marks the dependence of intervention on historically situated evaluative and epistemic conditions.

Principle 32.12 (Evaluation becomes generative through intervention). An evaluative judgment becomes generatively consequential when it participates in actions that alter later relations, capacities, institutions, observables, or possibility spaces.

This principle links ethics and political philosophy to decision theory. It also prevents a purely contemplative interpretation of the meta-language. The cycle is completed only when reasons and judgments enter a world that can be transformed by them.

Dewey's theory of inquiry is an important predecessor here. Inquiry for Dewey is not merely the accumulation of representations but a practical transformation of an indeterminate situation Dewey 1938. GR retains this action-oriented insight while extending the object of transformation: action can modify not only a problematic situation but the future generators, observables, and evaluative conditions under which later problems become intelligible.

Extension 32.13 (From problem-solving to generator transformation). GR distinguishes interventions that resolve a present problem within a stable background from interventions that alter the mechanisms generating later problems, agents, and alternatives.

This distinction is especially important in governance, education, technological design, and institutional reform. A policy can satisfy a present evaluative criterion while reducing future capacities to detect error, revise norms, contest decisions, or generate alternatives. Conversely, an intervention may be valuable partly because it preserves or expands future corrective capacity.

Criterion 32.14 (Meta-philosophical intervention criterion). When philosophical evaluation informs action, analysis should distinguish at least three levels: effects on present outcomes, effects on relational structure, and effects on the future conditions of observation, evaluation, and revision.

The criterion connects this section to the earlier arguments on future generativity and generative stewardship.

32.5 Relational Passage from Action to New Ontology

The fourth passage closes the recursive loop. Actions do not merely select among pre-existing states; some actions help generate new effective entities, institutions, identities, categories, infrastructures, and relation-types. The output of practical philosophy can therefore become the input of later ontology.

A schematic form is

$$\mathcal{D}_t \longrightarrow \Delta \mathcal{R}_{t+1} \longrightarrow \Delta \mathcal{G}_{t+1} \longrightarrow \mathcal{E}_{t+1}, \quad (240)$$

where $\mathcal{G}_{t+1}$ denotes the generative mechanisms through which later entities and relations are produced.

Examples are familiar across domains. Legal recognition can stabilize a new institutional subject; technological infrastructure can create new forms of dependency and agency; educational practices can generate new epistemic capacities; currency systems can create new forms of property and exchange; archival practices can determine what becomes historically reconstructible. In each case, action does not merely modify an object. It can reorganize the effective ontology of subsequent inquiry.

Definition 32.15 (Ontologically generative action). An action is *ontologically generative* when its relational consequences contribute to the formation, stabilization, transformation, or disappearance of entities or relation-types that become effective objects of later inquiry or action.

This definition does not imply that deliberate actors possess ontological control. Most large-scale ontological effects are distributed, path-dependent, and only partially anticipated. The concept refers to consequence, not sovereignty.

Warning 32.16 (No metaphysical voluntarism). The claim that action can participate in generating effective ontology does not imply that political or philosophical actors can create reality at will. Generative effects remain constrained by existing relations, material conditions, histories, other agents, and structures not under the actor's control.

The action-to-ontology passage is what makes the meta-language genuinely recursive. Once newly generated entities become relata, the entire cycle can begin again under altered conditions.

Corollary 32.17 (Philosophical recursion). *If evaluation informs action, action alters generative relations, and altered relations generate new effective entities or observables, then philosophical inquiry can participate indirectly in transforming the future objects of philosophy itself.*

This corollary is not a claim that philosophy uniquely drives history. It identifies one feedback route through which concepts and evaluations can enter broader generative processes.

32.6 Recursive Coupling across Philosophical Domains

The preceding passages can now be assembled into a recursively coupled architecture. The simplest cycle is

$$\mathcal{E}_t \rightarrow \mathcal{O}_t \rightarrow \mathcal{V}_t \rightarrow \mathcal{D}_t \rightarrow \mathcal{R}_{t+1} \rightarrow \mathcal{E}_{t+1}. \quad (241)$$

But the full GR picture includes cross-links, delays, path dependence, and multiscale feedback. For example, evaluative categories can shape observability directly; action can alter epistemic infrastructure without immediately changing ontology; historical narratives can alter evaluation; and emergent institutions can restructure the possibility space of future decisions.

A more general expression is

$$\Theta_{t+1} = \mathfrak{G}_t(\Theta_t, H_t, \eta_t), \quad (242)$$

where η_t denotes perturbations, contingencies, or inputs not represented within the current effective state, and $\mathfrak{G}_t$ is itself potentially historically variable.

The inclusion of $\mathfrak{G}_t$ is essential. If the generator were permanently fixed, the meta-language would describe recursion inside a stable architecture. GR's stronger generative commitment is that the architecture of recursion can itself evolve:

$$\mathfrak{G}_t \longrightarrow \mathfrak{G}_{t+1}. \quad (243)$$

Principle 32.18 (Recursive meta-generativity). A philosophical meta-language is generatively adequate only if it can represent not merely changes in philosophical contents but changes in the relations and transformation rules through which philosophical contents become available, connected, and revisable.

This is where the meta-language claim connects directly to Sections 5, 7, and 9. Background independence prevents the philosophical state space from being treated as permanently fixed; generativity allows new objects, observables, and rules to arise; algebraic and dynamical languages provide ways to represent transformations and compositions without pretending that one formalism captures every domain.

Proposition 32.19 (No final fixed philosophical partition under recursive meta-generativity). *Assume that the boundaries between philosophical domains are partly determined by the entities, observables, and inferential relations available at time t . If recursive generativity can alter those entities, observables, and inferential relations, then the partition of philosophy into domains cannot be assumed to remain permanently invariant.*

Proof. Let Π_t be a partition of philosophical problems induced by a structure B_t consisting of available entities, observables, and inferential relations. If generative transformation yields $B_{t+1} \neq B_t$, then the equivalence relations or boundary criteria inducing Π_t may no longer classify the transformed problems in the same way. Hence Π_{t+1} need not equal Π_t . A fixed partition is therefore an additional assumption, not a consequence of recursive generativity. $\square$

This proposition gives formal expression to a theme already visible in the present paper: once political philosophy engages truth, aesthetics, history, agency, and decision, inherited disciplinary boundaries become porous. Porosity does not imply disappearance. It implies historical revisability.

32.7 Meta-Theoretical Integration without Domain Reduction

The strongest danger in a meta-framework is reductive success: a language becomes so general that every phenomenon can be redescribed in it, but only because the re-description discards what matters. GR therefore requires explicit criteria for legitimate cross-domain translation.

Translation Rule 32.20 (Structure-preserving philosophical translation). A translation from domain D_i into GR is adequate only if it preserves the distinctions, dependency relations, and normative or epistemic constraints that are relevant to the question being translated. Formal similarity alone is insufficient.

For example, describing both aesthetic and moral judgments as evaluative structures does not license the inference that aesthetic reasons and moral reasons have the same validity conditions. Representing both neural and political systems as relational does not imply that neural interactions and political obligations instantiate the same kind of agency. Representing both scientific paradigms and political institutions as historically stabilized structures does not erase their different evidential and normative standards.

Distinction 32.21 (Meta-theoretical commensurability and substantive equivalence). Two domains can be commensurable at the level of a shared generative grammar while remaining substantively non-equivalent in ontology, method, evidence, or normativity.

This is the key anti-reductionist distinction of the meta-language proposal. A common grammar identifies structural questions; it does not predetermine first-order answers.

Sellars's synoptic aspiration is helpful here because philosophical integration need not mean simple reduction to one vocabulary Sellars 1962. Yet GR also departs from a hierarchy in which one image is granted final descriptive primacy. In the present framework, scientific, normative, phenomenological, historical, aesthetic, and political descriptions may constrain one another without being reducible to a single final image.

Principle 32.22 (Plural validity conditions). A GR meta-language may coordinate domains whose claims are assessed by different validity conditions. Integration requires explicit translation among those conditions, not their replacement by one universal criterion.

The same point applies to mathematics and physics. Section 9 argued that symmetry, dynamical systems, fields, geometry, and algebra can function as formal research equipment. At the meta-language level, these tools help represent transformation, invariance, coupling, and possibility-space structure. They do not supply the substantive meaning of justice, beauty, truth, agency, or legitimacy.

Limitation 32.23 (Formal generality is not substantive completeness). The ability to encode multiple philosophical domains within a common formal architecture does not show that the architecture contains all philosophically relevant information. Domain-specific concepts may carry semantic, phenomenological, historical, or normative content that is lost under excessive abstraction.

This limitation is especially important if GR is extended beyond political philosophy. A useful meta-language must remain capable of receiving correction from the domains it coordinates.

32.8 The Provisional and Revisable Character of the GR Meta-Language

The final requirement is reflexive. A framework committed to background independence, historical emergence, and embedded evaluation cannot coherently exempt its own meta-language from revision. GR must treat itself as one historically situated attempt to organize philosophical problems, not as the final vocabulary in which all future philosophy should be expressed.

Neurath's anti-foundationalist image of inquiry conducted while the conceptual ship is already at sea provides an apt methodological analogy Neurath 1983. GR similarly rejects the fantasy of stepping outside every inherited relation in order to reconstruct philosophy from a perfectly neutral starting point. Its concepts are produced within an intellectual history, borrowed partly from Marxian theory, process philosophy, pragmatism, critical theory, modern physics, algebra, and other traditions examined in this paper.

Principle 32.24 (Meta-reflexivity). GR must apply its historicizing and generative analysis to its own primitives, distinctions, formal resources, and domain boundaries. No element of the meta-language is exempt from later revision solely because it currently functions as a foundational term.

This principle includes the invariance-first assumption itself. Section 6 treated invariance as a provisional ontological postulate rather than a demonstrated final metaphysics. The same caution applies to the distinctions among relation, generator, observable, evaluator, and possibility space. Future philosophical or scientific developments may require these terms to be refined, split, generalized, or abandoned.

Criterion 32.25 (Revisability criterion for the GR meta-language). A future revision of GR is warranted when the existing meta-language persistently fails to preserve relevant distinctions, represent observed generative transformations, support cross-domain translation, or expose assumptions that materially affect philosophical judgment.

Revisability does not mean arbitrariness. A framework can be provisional while remaining disciplined by explanatory adequacy, internal coherence, formal clarity, empirical engagement where applicable, and the ability to preserve domain-specific distinctions.

Comparison 32.26 (Carnapian tolerance and GR reflexivity). Carnap's framework pluralism made the practical choice among linguistic frameworks philosophically explicit Carnap 1950. GR shares the refusal to absolutize one vocabulary but adds a historical-relational account of how framework choices, capacities, and alternatives themselves are generated, constrained, and transformed.

The distinction matters because not every framework is equally available to every historical actor. Power, education, archives, institutions, technologies, and language shape which concepts can be formulated, circulated, stabilized, or suppressed. Metaphilosophical pluralism therefore has its own political conditions.

Open Problem 32.27 (Justice of meta-language formation). If conceptual and philosophical frameworks are themselves generated under unequal historical and relational conditions, a further question arises: what would constitute justice in the generation, preservation, translation, and revision of philosophical vocabularies themselves?

This problem links the meta-language proposal back to the paper's political core. A framework that can describe its own formation must eventually examine whose distinctions it preserves, whose experiences it can render visible, what forms of knowledge it excludes, and what future conceptual possibilities it enables or forecloses.

Synthesis 32.28 (GR as a candidate philosophical meta-language). GR proposes a common but non-reductive grammar for representing passages from effective reality to observability, from observability to evaluation, from evaluation to action, and from action to new relational reality. Its meta-philosophical ambition rests on background independence, recursive generativity, multiscale relationality, provisional invariance, and explicit reflexivity. The proposal does not claim that all philosophical domains share one ontology or one criterion of validity. It claims that their recurrent generative couplings can often be represented within a shared architecture whose own terms remain historically revisable.

The meta-language proposal therefore marks an expansion of scope rather than a declaration of completion. Political philosophy remains the central testing ground of this paper because it makes the coupling among ontology, knowledge, evaluation, intervention, and history unusually visible. The final sections must now turn from constructive scope to theoretical discipline: the limits of physical formalization, operationalization, normative grounding, cross-scale representation, empirical identification, and the reflexivity of GR itself determine whether the framework can become more than an attractive philosophical grammar.

33 Theoretical Limits and Open Problems

The preceding sections have deliberately expanded the ambition of GR. The framework has been presented as background-independent, provisionally invariance-first, recursively generative, and generalized in relational scope. It has also been proposed as a way to connect political philosophy with epistemology, aesthetics, ethics, decision theory, philosophy of history, and other philosophical domains. Such breadth creates a corresponding burden of discipline. A framework that can redescribe almost any phenomenon in its own vocabulary can become explanatorily weak precisely because it is difficult to show where the vocabulary fails, when it adds no value, or what would count against a particular GR analysis.

The limits discussed here are therefore not external objections appended after the constructive work is complete. They are internal conditions of GR's intelligibility as a research programme. Background independence becomes empty if every background can be declared variable without specifying how. Invariance becomes vacuous if arbitrary features can be redescribed as invariants. Generativity becomes rhetorical if no distinction is made between ordinary causation and transformation of the conditions of later generation. Physical and algebraic language becomes ornamental if it supplies labels without models. Emergent normativity becomes relativistic if genesis is confused with validity. Cross-scale analysis becomes impressionistic if causal attribution cannot distinguish levels. Reflexivity becomes self-protective if every criticism is redescribed as another historical transformation of the framework.

Principle 33.1 (Discipline of theoretical expansion). The explanatory scope of GR should expand only when the corresponding concepts acquire clearer conditions of application, failure, translation, and revision. Greater generality without stronger constraints is not theoretical progress.

This principle gives the present section its role. It identifies the points at which GR remains incomplete, the conditions under which its formal language can be misleading, and the empirical and normative work required before the framework can support stronger claims than philosophical reconstruction.

33.1 Formalization beyond Physical Metaphor

Section 9 distinguished metaphor, formal analogy, and model. That distinction must remain operational throughout GR. Terms such as *attractor*, *criticality*, *phase transition*, *symmetry breaking*, *field*, and *topology* possess precise meanings in the mathematical and physical theories from which they originate. Their philosophical usefulness does not license the transfer of those meanings without an explicit map between formal structure and the political or social domain under study.

A sentence such as “trust is an attractor,” for example, can mean several different things. It may be a heuristic image suggesting self-reinforcement. It may denote a formal model in which a state variable converges toward a stable set. Or it may assert an empirically identifiable dynamical regime with a basin of attraction. These claims are not equivalent. The first can be philosophically suggestive without numerical specification; the third requires considerably more.

Criterion 33.2 (Formal transfer criterion). A physical or mathematical concept is used as more than metaphor in GR only when the analysis specifies at least: (i) the objects or states being represented, (ii) the admissible transformations among them, (iii) the structure preserved by the proposed mapping, and (iv) the consequences that would differ if the mapping were inappropriate.

The fourth condition is particularly important. If describing a political structure as an attractor, field, phase, or symmetry-breaking regime generates no discriminating consequence, then the formal vocabulary has not yet earned explanatory status. It may remain a useful analogy, but it should be marked as such.

Warning 33.3 (Physics-name substitution). Replacing an ordinary-language description with a term from physics does not constitute explanation. “Criticality,” “phase transition,” “symmetry breaking,” or “field” cannot serve as causal placeholders when the variables, transformations, and evidential consequences remain unspecified.

This warning also applies in the opposite direction. Mathematical precision can create an appearance of explanatory closure even when the substantive interpretation is weak. A perfectly defined dynamical system may faithfully describe its own variables while failing to capture the political entities, meanings, powers, or normative relations that matter to the question. Formal tractability and philosophical adequacy are independent achievements.

The background-independence vocabulary faces the same problem. In general relativity and quantum-gravity research, background independence is itself a contested and technically differentiated idea rather than a single binary property Belot 2011; Read 2023; Oriti 2014. GR therefore cannot rely on the prestige of the physical term. It must specify which political structures are being treated as dynamical and which remain fixed for the purpose of a particular analysis.

Distinction 33.4 (Formal inspiration and formal derivation). GR may be inspired by mathematical physics without being derivable from it. Structural similarity can motivate a model class; it cannot by itself establish that the social or political phenomenon obeys the same laws as the physical system.

The same caution applies to algebra. Composition, representation, equivalence, and invariance can clarify political transformations, especially transformations of transformations. An algebraic description becomes philosophically informative only when its operations correspond to interpretable changes in the domain rather than to notation introduced after the fact.

Open Problem 33.5 (Semantics of formal GR). GR lacks a general account of how formal objects, operators, invariants, and state spaces should be semantically anchored across heterogeneous domains. Developing such an account is necessary if the formal language is to constrain inquiry rather than merely organize it.

The appropriate ambition is therefore asymmetric. GR can legitimately use modern mathematics to enlarge the repertoire of questions and models available to political philosophy, but the burden of domain translation always runs from the formalism back to the phenomenon.

33.2 Operationalization of Generative Relational Concepts

GR's central concepts are intentionally abstract. A relational configuration $\mathcal{R}_t$, a generator $\mathcal{G}_t$, an observable structure $\mathcal{O}_t$, or a possibility space M_t can be instantiated in many ways. This abstraction supports cross-domain comparison, but it also creates an operationalization problem: a framework can appear universal because its variables are underspecified enough to fit any case after the fact.

The minimum empirical or case-analytic task is therefore not simply to identify “relations.” It is to decide what counts as a relation for the problem at hand, how relation strength or type is distinguished, what evidence indicates formation or dissolution, which structures are treated as generators rather than outputs, and what observable change would count as transformation of a possibility space rather than movement within it.

Definition 33.6 (Operational GR specification). An *operational GR specification* for a concrete inquiry is a domain-relative mapping from the abstract tuple

$$(\mathcal{E}_t, \mathcal{R}_t, \mathcal{G}_t, \mathcal{O}_t, \mathcal{V}_t, M_t)$$

to identifiable entities, relations, generative mechanisms, observables, evaluative structures, and feasible possibilities, together with rules for recognizing their change over the relevant historical interval.

Operationalization need not always mean quantitative measurement. Archival interpretation, legal analysis, ethnography, discourse analysis, historical reconstruction, and comparative case studies can all supply disciplined identifications. The requirement is not numerical reduction but explicitness about what evidence warrants each generative claim.

A useful research sequence is

$$\begin{aligned} \text{philosophical concept} &\longrightarrow \text{domain interpretation} \longrightarrow \text{observable traces} \\ &\longrightarrow \text{identification rule} \longrightarrow \text{robustness check.} \end{aligned} \quad (244)$$

The last step matters because many GR concepts are relationally underdetermined. The same institution can be represented as an entity at one scale, a relation at another, and part of a generator at a third. Such flexibility is not necessarily a defect, but the scale and role assignment must be justified by the research question.

Criterion 33.7 (Role-explicitness criterion). Whenever an object is represented as an entity, relation, generator, observable, evaluator, or element of the possibility space, the analysis should state why that role is appropriate at the chosen scale and what would change if an alternative role assignment were adopted.

This criterion prevents the formal tuple from becoming a set of interchangeable labels. It also makes model comparison possible: two GR analyses may disagree not about the facts but about which structures possess generative status.

Operationalization is especially difficult for possibility spaces. The set of actions actually observed is not identical to the set of actions that were feasible, imaginable, institutionally recognizable, legally admissible, or technologically realizable. GR therefore needs domain-specific methods for distinguishing at least several modalities of possibility.

Distinction 33.8 (Observed action space and effective possibility space). The set of actions that occurred during a historical interval is generally a strict subset of the effective possibilities available during that interval. Inferring M_t from observed actions alone risks mistaking non-occurrence for impossibility.

Counterfactual evidence, unrealized plans, legal permissions, technological capacities, institutional records, and contemporaneous debates may therefore be necessary to reconstruct a historical possibility space. Even then, the reconstruction remains fallible.

Open Problem 33.9 (Operationalization and ontological freezing). GR requires methods that make entities, relations, generators, and possibility spaces identifiable enough for research while avoiding the reification of temporary operational definitions into permanent ontological primitives.

Operational research necessarily freezes some background, which makes this problem especially difficult. Background independence is therefore best understood as a principle of revisability, not as a demand that every analysis vary every background variable simultaneously.

33.3 Normative Grounding under Emergent Normativity

Section 16 argued that normative concepts, evaluative capacities, and spaces of moral salience can themselves have histories. The resulting framework avoids treating justice, legitimacy, or good governance as timelessly given observables. Yet this advantage immediately creates a normative-grounding problem. If both evaluators and evaluative vocabularies emerge historically, what permits GR to criticize a historically stabilized order rather than merely explain the conditions under which it came to be regarded as acceptable?

The paper has repeatedly insisted on the distinction

$$\text{Genesis}(V) \neq \text{Validity}(V). \quad (245)$$

The distinction, however, is only a safeguard. It does not itself provide a substantive theory of validity.

Proposition 33.10 (Normative underdetermination by generative description). *A complete description of a generative relational history does not, by itself, determine a unique normative evaluation of that history.*

Proof. Let H denote a complete generative-relational description of a historical process and let V_1 and V_2 be distinct evaluative mappings compatible with the descriptive facts in H . Unless additional normative premises select between V_1 and V_2 , both mappings can assign different evaluations to the same history without contradiction in the descriptive model. Therefore the generative description alone does not determine a unique normative conclusion. $\square$

This proposition blocks a possible slide from ontology into ethics. No amount of information about attractors, relational histories, symmetry breaking, power reproduction, or possibility-space transformation can establish by itself that a configuration is just. Normative reasons must enter somewhere in the analysis.

Existing traditions provide several possible resources. Constructivist approaches emphasize procedures or forms of practical reasoning through which normative claims can be justified Korsgaard 1996; Scanlon 1998. Discourse-theoretic and justificatory approaches emphasize reciprocal justification and communicative conditions Habermas 1996; Forst 2012. Critical theory and immanent critique seek normative leverage within contradictions or commitments of existing forms of life Horkheimer 1972; Jaeggi 2018. GR can interact with these approaches, but it has not yet shown that one of them should be privileged as its own normative foundation.

Nor should the framework simply substitute *generativity* for justice. A highly generative system may produce domination, surveillance capacities, exploitative markets, destructive technologies, or expanding possibilities for one group by closing them for another.

Warning 33.11 (Generativity is not a master value). The capacity of a relation or institution to generate future possibilities does not by itself establish its normative desirability. Generativity must remain an object of evaluation as well as an evaluative consideration.

This warning also limits the idea of preserving future generativity introduced in Sections 17 and 18. Preservation of revisability, learning, and future possibility can be ethically important, but it cannot automatically override rights, protection from harm, equality, recognition, or other substantive values.

Research Question 33.12 (Normative architecture of GR). Can GR develop a normative architecture that remains compatible with emergent evaluative capacities and background independence while still supporting non-arbitrary criticism of domination, exploitation, exclusion, and generative closure?

A plausible future answer may be plural rather than foundationally singular. GR may coordinate several kinds of normative reason without reducing them to one metric. But until such an architecture is developed, the framework should present its normative claims as proposals requiring independent justification rather than consequences of its ontology.

33.4 Limits of the Invariance-First Assumption

The provisional invariance-first ontology is one of GR's most distinctive commitments and one of its most vulnerable. Section 6 treated invariance as an assumed primitive because comparison, continuity, and transformation appear to require some criterion by which different manifestations can be recognized as related. Yet several problems remain unresolved.

First, the relevant transformation group or equivalence relation is rarely given in advance. In mathematics and physics, invariance is always invariance *under specified transformations*. Political and historical inquiry must therefore answer: invariant with respect to what changes, at what scale, over what interval, and for which explanatory purpose?

Definition 33.13 (Identifying invariance). The *invariance-identification problem* is the task of specifying a non-arbitrary class of admissible transformations relative to which a proposed political, historical, epistemic, or normative structure counts as invariant.

Without that specification, almost any pattern can be made invariant by choosing a sufficiently permissive representation. Conversely, a transformation class can be chosen so strictly that meaningful historical continuity disappears.

Second, trivial invariants are always available. One can define an abstract property that remains unchanged merely because it has been constructed to do so. Such invariance provides no explanatory gain.

Criterion 33.14 (Non-trivial invariance). A proposed invariant is theoretically informative only if preserving it excludes relevant alternatives, supports comparison across transformations, or constrains the generative models admissible for the phenomenon under study.

Third, not every domain may possess a useful deep invariant. Some historical transformations may alter the very criteria by which continuity was previously judged. GR must therefore allow the possibility that the most appropriate invariant is local, approximate, scale-dependent, or temporarily absent.

Limitation 33.15 (No guarantee of global invariance). The invariance-first postulate does not imply that every philosophical domain possesses a single global invariant spanning all historical transformations. Invariance may be partial, local, approximate, or indexed to a restricted transformation class.

Fourth, the ontological interpretation of symmetry is itself contested. Philosophical work on symmetry and structural realism shows that moving from formal invariance to claims about what is fundamentally real requires additional argument Brading et al. 2023; Ladyman 2024. GR therefore cannot infer an ultimate ontology from the utility of invariance in representation.

Warning 33.16 (Method and ontology). The fact that an invariance-based representation organizes comparison successfully does not establish that invariance is the ultimate furniture of reality.

This is why the word *provisional* remains indispensable. The invariance-first postulate should be retained only so long as it improves the representation of continuity, equivalence, and transformation without forcing heterogeneous phenomena into artificial symmetry classes.

Open Problem 33.17 (Invariance under changing transformation classes). GR lacks a general account of continuity when the admissible transformation class itself evolves. A mature background-independent ontology must explain how invariance can be compared across histories in which the symmetry structure used to define invariance is also transformed.

This open problem lies near the conceptual center of GR. If solved poorly, invariance becomes a hidden fixed background. If solved well, it may provide the framework with a non-substantialist account of continuity compatible with genuine historical novelty.

33.5 Cross-Scale Representation and Causal Attribution

GR repeatedly invokes multiscale co-generation. Neural relations can condition cognition; persons participate in institutions; institutions shape persons; infrastructures structure markets; political classifications alter individual trajectories; macro-level orders can be reproduced through micro-level practice. This multiscale language is attractive because it resists explanatory monopoly by any single level. It also creates severe problems of representation and causal attribution.

A first problem is scale construction. “Micro” and “macro” are not natural labels that arrive with the phenomenon. The relevant scale may be biological, temporal, organizational, spatial, legal, epistemic, or institutional. Different decompositions can reveal different mechanisms.

Let

$$\pi_{k \rightarrow k+1} : X^{(k)} \rightarrow X^{(k+1)} \quad (246)$$

denote a coarse-graining or aggregation map from a lower-scale description to a higher-scale one. The existence of such a map does not determine whether higher-scale variables possess explanatory autonomy, whether the map is many-to-one, or whether downward constraints are causally independent of the lower-scale dynamics.

Distinction 33.18 (Cross-scale representation and cross-scale causation). A successful mapping between levels does not by itself establish a causal arrow between them. Representation, dependence, constraint, intervention, and causation must be distinguished.

Network neuroscience and complexity research illustrate both the usefulness and difficulty of scale-sensitive analysis: macroscopic patterns can emerge from network organization, while the choice of scale and network representation materially affects what is detected Sporns 2010; Page 2015. Comparable caution is required in political analysis.

A second problem is causal double counting. If an institutional rule is constituted by the actions and records of persons, and those persons act partly because of the institutional rule, describing both levels as independent causes can overstate explanation. Conversely, reducing the institution entirely to individual acts can erase the durable constraints that make those acts intelligible.

Criterion 33.19 (Cross-scale causal adequacy). A GR claim of cross-scale causal influence should specify the level-relative variables, the mapping among levels, the intervention or counterfactual contrast supporting the claimed direction of influence, and the reason the effect is not already fully represented by another level in the model.

A third problem concerns temporal scale. Processes that look stable over months may be transient over decades; relations that appear historically decisive at one temporal resolution may average out at another. Attractor, path-dependence, and hysteresis claims are therefore scale-sensitive as well.

Open Problem 33.20 (Dynamic scale formation). GR currently treats scale as revisable but lacks a general formalism for the endogenous generation, merging, splitting, and disappearance of explanatory scales themselves.

This problem matters especially for the meta-framework ambition. A cross-domain language cannot simply assume that philosophical, social, biological, and institutional scales align. The relations among scales must be demonstrated case by case.

33.6 Empirical Identification of Generative Mechanisms

The strongest empirical challenge for GR is mechanism identification. Historical trajectories are compatible with multiple generative explanations. A period of stability may reflect an attractor, institutional inertia, strategic equilibrium, resource constraints, measurement insensitivity, or simple absence of large perturbations. A sudden transition may reflect a bifurcation, exogenous shock, coordinated political action, legal redesign, technological change, or several mechanisms acting together.

Modern dynamical vocabulary therefore increases rather than decreases the evidential burden. Claims of criticality, for example, require more than observing dramatic

change. Critical transitions in dynamical systems are associated with specific structures such as changing stability, control parameters, and in some model classes characteristic early-warning behavior (Scheffer, Carpenter, et al. 2001; Scheffer, Bascompte, et al. 2009; Scheffer 2009). Whether analogous signatures can be identified in historical or political data is an empirical question, not something established by conceptual resemblance.

Principle 33.21 (Mechanism-identification obligation). Whenever GR attributes an observed historical pattern to a specific generative mechanism, the analysis should identify evidence that discriminates that mechanism from plausible alternatives.

For an attractor claim, this may involve evidence about restoring dynamics, basin structure, or repeated convergence. For hysteresis, the analyst needs evidence that reversing an input fails to reverse the state along the same path. For phase-transition language, one needs a defensible order parameter or equivalent macro-description. For symmetry-breaking language, one needs a specified pre-transition equivalence and a mechanism by which differentiated states become realized.

Historical data create additional problems. The number of genuinely comparable transitions may be small; records are uneven; causal variables are endogenous; categories change across periods; and the act of measurement often relies on retrospective classifications. Cliodynamic and complexity-oriented historical research demonstrates that explicit modeling can nevertheless be productive, but also illustrates the importance of model specification and empirical confrontation (Turchin 2003; Lansing 2003).

Definition 33.22 (Generative identifiability). A proposed generative mechanism is *identifiable* relative to an evidential set when the available observations, interventions, comparisons, or historical traces allow it to be distinguished from relevant alternative mechanisms to the degree required by the research claim.

Identifiability is claim-relative. A philosophical paper may legitimately propose a model class without claiming that one mechanism has been empirically established. An empirical GR study, by contrast, must state what observations would favor, weaken, or fail to distinguish the mechanism.

Warning 33.23 (Retrospective dynamical storytelling). A historical sequence should not be labeled an attractor transition, bifurcation, phase transition, or critical event solely because the terminology makes the retrospective narrative coherent.

One way forward is triangulation: formal modeling, archival reconstruction, comparative cases, process tracing, network evidence, and qualitative accounts can constrain different parts of a generative explanation. Another is to separate levels of confidence explicitly.

Criterion 33.24 (Three-level mechanism claim). GR analyses should distinguish among (i) heuristic mechanism proposals, (ii) formally specified but empirically underdetermined models, and (iii) empirically supported mechanism identifications.

This classification permits ambitious theorizing while keeping mathematical availability distinct from empirical confirmation.

33.7 Reflexivity and Historical Revision of GR

Sections 31 and 32 made reflexivity central to the framework. The theorist, evaluator, method, and conceptual vocabulary are themselves situated inside historical relations. This commitment generates a distinctive hazard: if GR is used to describe a political

world, the description may enter that world and contribute to changing the relations it analyzes.

Classification research provides a clear analogue. Hacking's account of interactive or "looping" classifications and Bowker and Star's analysis of classificatory infrastructures show how categories can reorganize the practices and persons they classify Hacking 1999; Bowker and Star 1999. A GR vocabulary of "generative closure," "attractors," "relational justice," or "possibility-space power" could similarly alter political attention, institutional design, or self-understanding if adopted by actors.

Definition 33.25 (Reflexive uptake). *Reflexive uptake* occurs when a GR description, classification, model, or normative concept becomes an input into the relational system it was introduced to analyze, thereby changing later states or generative mechanisms of that system.

Reflexive uptake is not a defect. Political theories routinely influence political practice. The problem is methodological: evidence produced after a theory has entered the field cannot always be treated as independent confirmation of the theory's original description.

Warning 33.26 (Self-confirming framework risk). A theory can appear increasingly accurate because actors reorganize practices in response to its categories. GR must distinguish predictive or explanatory success from realities partly generated by reflexive uptake of GR itself.

Reflexivity also applies internally. The present framework emerged from particular intellectual relations: historical materialism, process philosophy, pragmatism, critical theory, modern physics, algebra, and the research problems that motivated their conjunction. Future developments may expose blind spots produced by this genealogy.

Neurath's anti-foundational metaphor and Dewey's reconstructive conception of inquiry are useful here because revision occurs from within an already operative conceptual system rather than from an external Archimedean point Neurath 1983; Dewey 1938. GR should therefore preserve its own versions, failed models, conceptual revisions, and abandoned distinctions as part of its intellectual record.

Principle 33.27 (Versioned reflexivity). A reflexive GR programme should record major changes to its primitives, definitions, model classes, and normative assumptions. Later inquiry should be able to distinguish changes in the framework from changes in the phenomena it studies.

This principle has epistemic and ethical value. It makes the framework's history reconstructible and reduces the temptation to present later formulations as if they had been implicit from the beginning.

Open Problem 33.28 (Theory-world co-evolution). GR lacks a systematic method for modeling cases in which the uptake of a theory changes the social world sufficiently to alter the theory's own future domain of validity.

The problem is especially acute in governance, education, AI-mediated institutions, and other domains where conceptual frameworks can be directly encoded into practices or technologies.

33.8 Scope Conditions of the Meta-Framework

The final limitation concerns when GR should be used at all. A candidate meta-language can become burdensome if every local problem is expanded into an inquiry about background independence, cross-scale emergence, evaluator history, and transformation of

possibility spaces. Many political questions are adequately answered by theories that deliberately hold most of these structures fixed.

This paper has already treated several neighboring lineages as restricted but legitimate model classes within a broader generative architecture. The same logic should be applied to GR itself: the full framework is warranted only when the additional dimensions materially alter the analysis.

Criterion 33.29 (GR scope criterion). A full generative-relational analysis is especially warranted when one or more of the following are substantively at issue: changing political subjecthood; transformation of relation types; recursive generation of entities or institutions; path-dependent or nonlinear regime change; alteration of observables or classificatory systems; transformation of evaluative capacities; cross-scale feedback; or change in the effective possibility space itself.

Conversely, if actors, relations, observables, evaluative standards, and the relevant possibility space can be held stable without materially distorting the problem, a narrower theory may be preferable.

Principle 33.30 (Principle of theoretical economy). GR should not be invoked at full ontological and meta-theoretical scope when a more restricted model answers the research question with equal or greater clarity and without suppressing relevant generative change.

This principle protects the framework from becoming a universal replacement language. Liberal analysis may be sufficient for a narrowly defined problem of justified interference. Republican analysis may be superior for a focused question of arbitrary power. Feminist care theory may provide richer normative and phenomenological resources for a dependency relation. Genealogical analysis may be more illuminating for the historical formation of a category. A domain-specific model may outperform GR precisely because it carries distinctions that the meta-language abstracts away.

A compact statement of scope can be written as

$$\text{Use full GR when } \Delta B_t, \Delta \mathcal{G}_t, \Delta \mathcal{O}_t, \Delta \mathcal{V}_t, \text{ or } \Delta M_t \text{ is explanatorily material,} \quad (247)$$

where B_t denotes the relevant background structure. Otherwise, freezing those dimensions may be a justified abstraction rather than a theoretical failure.

Limitation 33.31 (No universal replacement claim). GR is proposed as a coordinating and generative framework, not as a universal substitute for domain-specific political philosophy, social theory, empirical methodology, or mathematics.

The scope question also constrains the meta-language claim of Section 32. A common grammar is useful only if it preserves more explanatory structure than it erases. If translation into GR makes a problem less precise, less empirically tractable, or less normatively articulate, the translation has failed regardless of the framework's formal generality.

Synthesis 33.32 (Limits as conditions of maturation). GR's principal open problems are not peripheral defects but the tasks required for the framework to mature: formal concepts must acquire domain semantics; abstract categories must become operational without becoming ontologically frozen; generative description must remain distinct from normative justification; invariance must be non-trivial and revisable; cross-scale mappings must support disciplined causal claims; dynamical mechanisms must be empirically identifiable at the level claimed; reflexive uptake must be tracked; and the framework must state where narrower theories are preferable. Meeting these conditions would convert GR from a broad philosophical grammar into a progressively

testable family of theories and models. Failing them would leave it primarily as an evocative vocabulary.

The limitations therefore sharpen rather than retract the paper's constructive thesis. Background independence, invariance-first reasoning, recursive generativity, and cross-domain coupling remain promising precisely because they expose questions that fixed-background theories can miss. But their value depends on disciplined restriction. A background-independent theory must specify what it provisionally holds fixed; an invariance-first theory must identify non-trivial transformation classes; a generative theory must distinguish mechanisms; a meta-language must preserve domain-specific meaning; and a reflexive theory must remain capable of recognizing when its own concepts should be revised or abandoned.

These constraints prepare the conclusion. GR's contribution to political philosophy is not the elimination of existing lineages or the announcement of a final ontology. It is the proposal of a systematic way to ask how political subjects, relations, realities, observables, evaluative capacities, and possibility spaces are generated together and how that generation itself can become an object of political judgment. The framework's future depends on whether those questions can be made sufficiently precise to support comparison, criticism, empirical inquiry, and genuine theoretical failure.

34 Conclusion: A Background-Independent Generative Relational Political Philosophy

This paper has proposed Generative Relational (GR) political philosophy as a way of changing the level at which familiar political questions are first posed. Much political philosophy asks what freedom requires, which constraints are justified, what justice demands, when power is legitimate, or which institutions count as good governance. GR retains those questions, but places before them a generative question: how do the subjects, relations, observables, evaluative capacities, and possibility spaces required for those questions become available in the first place? Political philosophy is thereby extended from the evaluation of an already specified political world to the analysis and evaluation of the processes through which political worlds are generated.

The framework developed here does not rest on the claim that earlier political traditions ignored history, relations, emergence, or social constitution. Historical materialism, republicanism, communitarianism, genealogy, Critical Theory, feminist political philosophy, postcolonial and decolonial thought, process philosophy, and pragmatism each already contain substantial resources for challenging atomistic or ahistorical political ontology. GR's proposed distinctiveness lies instead in the conjunction of several commitments that are usually distributed across different traditions: background independence, a provisional invariance-first ontology, a generalized relational domain, recursive generativity, multiscale co-generation, emergent observability and evaluation, and a common formal language drawn selectively from modern physics and algebra.

Synthesis 34.1 (The political-philosophical contribution of GR). GR changes the framing of political philosophy by treating political subjects, relations, effective realities, observables, evaluative capacities, and possibility spaces as potentially generated and historically revisable. Political judgment therefore concerns not only distributions and outcomes within a political order, but also the generative conditions through which the order, its subjects, and its evaluative coordinates become possible.

The first foundational commitment is *background independence*. In the political sense developed in this paper, background independence does not mean that inquiry proceeds

without assumptions. It means that familiar components of the political background are not granted permanent ontological exemption from analysis. The subject set may change. Relation types may change. The space of feasible action may change. The available observables and classifications may change. Evaluative vocabularies may change. A political transformation can therefore be deeper than movement from one state to another within a fixed space: it can alter the effective space in which later political states, actions, and judgments become possible.

The second commitment is the *provisional invariance-first ontology*. GR does not claim to have established that ultimate reality is symmetry. It assumes, for purposes of the framework, that some form of invariance is required to make transformation, comparison, and continuity intelligible when familiar substances and categories are allowed to change. This permits a distinction between identity and persistence of material or conceptual components. A political subject, institution, practice, or historical formation may remain identifiable through transformation because some relevant structure is preserved under an appropriate class of transformations. Yet the transformation class and the candidate invariant remain themselves revisable. The ontological postulate is therefore methodological and provisional rather than metaphysically final.

The third commitment is *generativity*. The “G” in GR was developed throughout the paper as more than temporal evolution and more than relational description. Generative relations can alter later relations, produce effective entities, create or destroy observables, transform the rules by which subsequent relations are formed, and reorganize the effective possibility space. Generated structures can then re-enter the system as conditions of later generation. The resulting architecture is recursive rather than merely sequential:

$$\mathcal{R}_t \longrightarrow \mathcal{E}_t \longrightarrow \mathcal{G}_{t+1} \longrightarrow M_{t+1} \longrightarrow \mathcal{R}_{t+1}, \quad (248)$$

where relations, emergent structures, generative mechanisms, and possibility spaces participate in one another’s later formation. The equation is schematic rather than universal; its role is to display the kind of dependency that distinguishes recursive generativity from ordinary state change.

The fourth commitment is the *generalization of the relational domain*. GR inherits from historical materialism a profound attention to historically constituted social relations, but it does not restrict the relational domain to relations of production or even to relations among human social actors. Human–AI, human–institution, human–currency, human–religious object, organism–environment, neuron–neuron, and cross-scale relations may all become relevant when they possess generative consequences for the domain under study. This generalization is not an assertion that all relata are ontologically equivalent. A common relational grammar must preserve differences in agency, consciousness, responsibility, moral status, scale, and domain-specific semantics.

The fifth commitment is methodological. Modern physics and algebra were used here not as authorities that legislate social reality, and not as a collection of decorative metaphors, but as a differentiated research language. Dynamical systems distinguish trajectories, attractors, basins, bifurcations, and hysteresis. Statistical physics provides languages for collective organization and phase transition. Field-theoretic reasoning directs attention toward distributed relational conditions. Symmetry and representation theory supply ways to formulate invariance, manifestation, and equivalence. Geometry and topology make possibility spaces analyzable. Algebra permits the composition of transformations and, at a higher level, transformation of the mechanisms that generate later transformations. The methodological gain is precision in asking *which kind of transformation is occurring*, rather than treating every qualitative historical change as one undifferentiated dialectical event.

These commitments jointly alter the treatment of the central concepts of political

philosophy. Political subjecthood becomes a relationally stabilized achievement rather than an unquestioned primitive. Freedom and constraint become co-generated features of a structured possibility space rather than simple opposites. Power includes the capacity to shape relation formation, observability, classification, and future possibility. Reality and normality become objects of generative analysis without being reduced to belief. Normativity can be historically generated without making validity identical to historical acceptance. Justice can evaluate the formation, transformation, and removal of relations as well as distributions within them. Legitimacy and good governance can themselves possess histories. Aesthetic judgment can participate in political salience and imagination without serving as an independent source of normative validity.

Distinction 34.2 (Generation and justification). The central normative safeguard of the framework remains:

historical or relational generation $\neq$ normative justification.

To explain how a category, institution, norm, or evaluative capacity became possible is not to vindicate it. Likewise, persistence, stability, symmetry, generativity, or broad possibility do not independently establish justice, legitimacy, or goodness.

This distinction is what permits GR to historicize normativity without collapsing into the thesis that whatever history generates is valid. An oppressive institution may be generatively powerful. A discriminatory classification may be stable. A relation of domination may reproduce itself effectively. A normality may become attractor-like. None of these facts supplies its own justification. GR therefore separates the genealogy and dynamics of evaluative structures from the second-order problem of how those structures and their consequences should be judged.

The comparison with existing political-philosophical lineages is crucial to this positioning. GR does not claim to replace liberalism, republicanism, historical materialism, genealogy, feminism, postcolonial thought, Critical Theory, process philosophy, pragmatism, or other traditions. Their narrower vocabularies can be superior for particular questions. Liberal analysis may clarify justified interference; republicanism may illuminate arbitrary power; feminist care theory may better articulate embodied dependency; genealogical analysis may reconstruct the historical production of a category; historical materialism may offer indispensable accounts of class, production, and material conflict. The purpose of the GR meta-language is coordination across changing layers, not theoretical sovereignty over them.

Historical materialism occupies a special place in this genealogy because GR was developed from within its historicizing and relational impulse. The transition proposed by this paper is therefore better expressed as extension than rejection. GR preserves the Marxian insistence that social forms are historically produced and that apparently natural arrangements may encode contingent relations. It extends that move by allowing the domain of relations, the generators of relations, the relevant observables, and the effective political background itself to become historical variables. The result is not “Marxism plus physics.” It is an attempt to carry the historicizing impulse into the architecture within which historical explanation is itself formulated.

The broader philosophical consequence follows from the same move. Once political subjects are emergent, political philosophy cannot be insulated from ontology. Once political reality depends on what can be recognized, preserved, and reconstructed, it cannot be insulated from epistemology. Once salience, harmony, rupture, and intolerance shape political perception, aesthetics enters the analysis. Once evaluative distinctions are historically generated but remain subject to validity claims, ethics becomes

inseparable from the problem of emergent normativity. Once action alters future relations and possibility spaces, decision theory becomes generative rather than merely outcome-selective. Once each of these structures develops through trajectories, philosophy of history becomes part of political judgment.

This is the basis for describing GR as a *candidate philosophical meta-language*. The claim is intentionally limited. A meta-language is useful only if translation into it preserves relevant distinctions and exposes relations that were otherwise difficult to articulate. It fails when it erases historical specificity, weakens domain semantics, or substitutes formal generality for substantive understanding. GR must therefore remain capable of saying that a problem is better treated within a more specialized theoretical language.

A compact representation of the resulting architecture is

$$\Theta_t = (\mathcal{S}_t, \mathcal{R}_t, \mathcal{E}_t, \mathcal{O}_t, \mathcal{V}_t, \mathcal{D}_t, \mathcal{M}_t), \quad \Theta_t \longrightarrow \Theta_{t+1}, \quad (249)$$

where the symbols denote, schematically, provisional invariance structure, relations, effective reality, observables, evaluative capacities, decisions or interventions, and possibility space. The significance of the representation is not that every philosophical problem should be written in this notation. It is that GR refuses in principle to assume that only the first-order political state changes while the structures through which states are constituted, observed, evaluated, and transformed remain fixed.

Synthesis 34.3 (GR as a research programme). GR is best understood at this stage as a research programme for studying the co-generation of political reality and political judgment. Its strongest claim is methodological and architectural: political philosophy can ask not only what should be done within a political world, but how the subjects, relations, observables, evaluative capacities, and spaces of possible action that compose that world are generated, stabilized, contested, and transformed. Its ontological commitments remain provisional; its formal concepts require domain-specific semantics; and its normative arguments cannot be supplied by generative description alone.

The limitations developed in the preceding section are therefore constitutive of the conclusion rather than qualifications appended after the theory has been stated. GR must distinguish formal analogy from empirical model, identify non-trivial transformation classes, operationalize its concepts without freezing them, discipline cross-scale causal claims, state genuine conditions of empirical and theoretical failure, track reflexive uptake, and preserve the histories of its own revisions. A background-independent theory must still declare what it holds fixed for a given analysis. An invariance-first theory must remain capable of revising its candidate invariants. A generative theory must distinguish mechanisms rather than name every change “generative.” A meta-language must know when not to translate.

The resulting political philosophy is consequently neither a doctrine of maximal generativity nor a final theory of justice. It is a proposal about where political inquiry can begin and what it must remain capable of revising. Rather than treating freedom, truth, justice, legitimacy, normality, subjecthood, or good governance as permanently given coordinates, GR asks how these coordinates become available, how they change, what relations they enable or suppress, and how their own generation should enter political judgment.

The broader research programme follows from that shift. If political reality is generated relationally, political philosophy must study the generation of relations. If the conditions of observation and evaluation are themselves historical, political philosophy must become reflexive about its epistemic and normative instruments. If political action can alter later possibility spaces, judgment must extend from present outcomes to the

generative trajectories through which futures are opened or closed. And if the framework itself belongs to the historical world it studies, GR must remain revisable under the same principle it applies elsewhere: no effective background, including its own, is exempt in principle from further generative analysis.

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