

Social Contract as a Generative Relational Process

Agency, Rule Formation, and Effective Freedom

Wanhong HUANG
huangwanhong@serendip.ngo

Working draft, September 1, 2026

Abstract

Social-contract arguments often assign capacities, interpretations, options, and reasons to parties at a selected justificatory or bargaining stage. This analytical practice can be appropriate for its declared purpose. It can also omit two dependencies that matter for explanation and, under further premises, for normative assessment. Prior relations of care, education, language, recognition, material support, and institutional access can help form contract-capable agency. A selected rule can then reshape the legibility, cost, viability, and transition structure of later action. The parties and the rule environment consequently participate in a recursive process.

This position paper proposes a bounded generative reconstruction. Its target is the class of contract representations that hold target-relevant agent capacities, interpretations, or effective action spaces invariant at the stage under analysis. The reconstruction distinguishes historical genesis, causal dependence, justificatory validity, authority, legitimacy, obligation, and justice. It also recognizes generative resources already present in the tradition. Rousseau connects association with a new collective body and moral liberty; Kant treats original contract as an idea of reason; Rawls uses an idealized justificatory representation within a wider theory of moral powers, social bases, and institutional formation. Relational-autonomy, dependency, capability, relational-sociology, and exclusion literatures supply further antecedents and constraints.

The formal model represents participant development, a rule-environment transformation, and horizon-indexed viable trajectories. Effective freedom is reported through reachable trajectories, security, control, revision, and exit. Finite countermodels establish three separations within the proposed model class: a smaller nominal action set can accompany broader effective reach; perfect transition predictability can accompany unequal participant capability; and identical observed agreement can accompany different generative histories and later revision capacities. A higher-order interaction model separates constitutive contribution from legislative influence. Finally, a target-relative factorization criterion states when a static contract representation remains an adequate quotient of the generative model.

The paper's contribution is methodological and conditional. A generative description can reveal omitted dependencies, while legitimacy and obligation continue to require independent normative premises. Empirical validation, approximate-adequacy metrics, and institutional applications remain open parts of the research programme.

Keywords: social contract; relational agency; effective freedom; capability; rule environment; higher-order interaction; public justification; generative relational ethics

Discussion Paper Note

This paper is a preliminary discussion paper intended to share an evolving idea and invite further dialogue, criticism, revision, and independent development.

The author claims responsibility for the definitions, formal constructions, taxonomy, arguments, selection of material, and conclusions presented here. Similar or related ideas may have appeared in other intellectual, cultural, or disciplinary traditions. Any legal rights retained in this work are intended to support attribution, responsible use, and protection against exploitative or harmful appropriation, while preserving legitimate inquiry, criticism, revision, and further development.

The arguments should be understood as provisional and historically situated. Readers are encouraged to question, revise, extend, reinterpret, or independently develop the ideas presented here. Acknowledgment of this paper as one point of encounter is appreciated where appropriate, while epistemic ownership over independently developed ideas remains with their contributors.

Responsible Use and Rights Reservation

The author encourages good-faith discussion, criticism, independent development, and responsible use of the knowledge presented in this work. Responsibility for lawful and ethically appropriate use remains with each user.

The author expressly reserves all rights and remedies available under applicable law with respect to unlawful conduct, harmful or abusive exploitation, improper commercial appropriation, infringement of applicable intellectual-property or other legal rights, and conduct contrary to applicable national, regional, or international law.

This reservation preserves the ability to respond to misuse and harmful appropriation. Legitimate academic inquiry, criticism, independent reasoning, and further development remain encouraged.

Notices

Status. This is a working draft circulated for discussion. Its definitions, propositions, examples, and section numbering remain open to revision.

Licence. This work is made available under a Creative Commons Attribution–NonCommercial 4.0 International Licence (CC BY-NC 4.0), subject to the rights reservation stated on the preceding page.

Statement on the use of language models. Drafting, literature search, structural review, formal reconstruction, and argumentative criticism were conducted in dialogue with ChatGPT (OpenAI). The author bears responsibility for the claims, definitions, formal constructions, selection of material, argument, and position taken. References included in the bibliography were checked against publisher, journal, university, authoritative digital-edition, or DOI records during preparation.

Companion papers. This paper begins a proposed sequence on social contract and generative relational ethics. It establishes the foundational reconstruction of contract-capable agency and effective freedom. Successor papers address structural limits of contract procedures, recursive normative revision, heterogeneous subjects, and heterogeneous generative environments. Each successor project retains its own conceptual, evidential, and normative burdens.

Suggested citation. Huang, W. *Social Contract as a Generative Relational Process: Agency, Rule Formation, and Effective Freedom*. Working draft.

Contents

1	Introduction	6
2	Contract Traditions and Analytical Target	7
2.1	Historical Association and Justificatory Representation	7
2.2	Generative Resources within Contract Thought	8
2.3	Fixed-Primitives Target Class	8
3	Relational Genesis of Contract-Capable Agency	9
3.1	Processual Units and Relational Agency	9
3.2	Care, Dependency, and Developmental Support	10
3.3	Capability and Effective Opportunity	10
3.4	Exclusion and Constituted Political Subjects	10
3.5	Explanatory and Normative Registers	11
4	Rule Environments and Effective Freedom	11
4.1	Rule-Environment Transformation	11
4.2	Viable Reachable Trajectories	12
4.3	Nominal Constraint and Effective Reach	13
4.4	Predictability and Distributed Capability	13
5	Higher-Order Constitution and Participation	14
5.1	Interaction Expansion	14
5.2	Exclusion Consequence	14
5.3	Constitutive and Legislative Positions	15
6	Generative Lift and Static Adequacy	15
6.1	Recursive Process	15
6.2	Agreement and Generative History	16
6.3	Target-Relative Static Quotient	17
7	Philosophical Consequences	17
7.1	Agency and Independent Genesis	18
7.2	Freedom and Institutional Conversion	18
7.3	Contract as Procedure and Developmental Institution	18

7.4	Genesis, Authority, and Legitimacy	19
8	Objections and Model Boundaries	19
8.1	Tradition Heterogeneity	20
8.2	Genealogy and Justification	20
8.3	Relational Formation and Paternalism	20
8.4	Endogeneity and Model Closure	20
8.5	Formal Semantics and Measurement	21
9	Research Programme	21
9.1	Historical and Comparative Reconstruction	21
9.2	Formal Identification and Approximation	21
9.3	Empirical and Institutional Designs	22
9.4	Normative Successors	22
10	Conclusion	22

1 Introduction

This section states the paper’s motivating discrepancy, bounded research question, central position, contributions, method, and sequence. The discussion moves from the assigned parties of a contract model to the relational conditions of their agency and then to the action environment produced by a rule.

Contract theories organize political and moral justification through several forms of agreement. Historical consent, authorization, mutual-advantage bargaining, hypothetical choice, reasonable rejectability, and public justification perform different tasks. A contemporary taxonomy can therefore represent a contract model through its role, parties, agreement mechanism, object, and intended justificatory conclusion [15]. The diversity of these parameters cautions against treating social contract theory as a single argument.

Across several forms, however, a recurring analytical operation assigns a set of capacities, interests, interpretations, options, and reasons to parties at a selected stage. The operation can illuminate a specific justificatory question. Its explanatory adequacy becomes uncertain when the assigned inputs depend on relations that precede and continue through that stage. Capacities for interpretation, deliberation, expression, refusal, revision, and exit can develop through care, education, language, recognition, material conversion, and institutional access. The selected rule can subsequently alter the conditions under which those capacities are exercised.

The paper studies the following bounded question:

Under which declared conditions does a contract representation that fixes agent capacities, interpretations, and effective options omit target-relevant generative dependencies, and under which conditions can that representation remain an adequate static quotient?

The preliminary answer has two parts. First, a generative lift is warranted when prior relational histories vary target-relevant agency or when the rule environment varies later legibility, cost, viability, transition, security, control, revision, or exit. Second, a static representation can remain adequate for a declared target and domain when all histories identified by its projection agree on every target-relevant state, effective-freedom profile, and higher-order summary. Adequacy is therefore relative to a target, domain, and horizon.

The position preserves a strict distinction between explanation and justification. A capacity can be socially generated while supporting valid reasoning. A practice can have a history while retaining authority. A rule can expand one dimension of capability while remaining unjust, dominating, or unequally administered. Conversely, a justificatory device can identify strong reasons while abstracting from causal history. The generative reconstruction asks which dependencies matter for the declared inquiry; it supplies no automatic promotion from genesis to legitimacy.

The paper makes five contributions. It defines the exact fixed-primitives target class. It connects contract theory with relational autonomy, dependency, capability, relational sociology, social ontology, and exclusion critique. It constructs a recursive formal process from relational development through rule formation to later action conditions. It proves several separation results by finite countermodel. It also offers a positive adequacy criterion for static contract models.

The method combines charitable conceptual reconstruction, typed formalization, and adversarial model testing. Historical sources establish diversity and antecedents. The formal model clarifies dependencies and implications. Finite witnesses test proposed equivalences. Normative conclusions

Table 1: Contract forms, analytical roles, and generative points of contact

Contract form	Principal operation	Typical theoretical object	Generative point of contact
historical covenant	consent, authorization, institution	political association and obligation	capacities and relations enabling binding action
mutual-advantage bargain	rational agreement under strategic dependence	cooperative constraint and benefit	formation of preferences, bargaining capacity, and fallback position
hypothetical choice	fair or impartial representation	principles for basic institutions	development of moral powers and social bases outside the device
contractualist test	reasonable rejectability to each person	principles regulating conduct	interpretation, expression, and access to reasons and objections
public justification	reasons shareable among governed persons	legitimacy or justifiability of social rules	institutions forming and distributing justificatory competence
generative reconstruction	recursive agency and rule-environment formation	explanatory adequacy and later normative inputs	relational histories, effective trajectories, revision, and exit

enter only after their bridge premises are stated. Sections 2 and 3 establish the philosophical target and developmental premises. Sections 4–6 develop the formal model. Sections 7–9 assess its philosophical significance, objections, and research obligations.

2 Contract Traditions and Analytical Target

This section locates the paper within several contract traditions and defines the exact analytical target. It proceeds through a functional taxonomy, historical and justificatory distinctions, internal generative resources, and the fixed-primitives representation.

Table 1 distinguishes functions whose conflation would distort both criticism and reconstruction. A historical covenant can aim at authorization. A hypothetical device can represent fairness. A bargaining model can identify terms acceptable under strategic interdependence. A contractualist test can assess principles through reasons for rejection. Public justification can connect rules to reasons citizens can share. Each form assigns different work to agreement.

2.1 Historical Association and Justificatory Representation

This subsection separates historical association from counterfactual and reason-revealing models. Its objective is to preserve the distinct role of agreement before introducing the generative critique.

In *Leviathan*, Hobbes develops covenant, authorization, representation, and the generation of a commonwealth through mutually authorizing acts [4]. The resulting structure already contains an institutional transformation: a multitude becomes represented through an artificial person and sovereign power. A generative reconstruction can study the capacities and dependencies surrounding covenant while retaining the specific Hobbesian problem of security, authorization, and obligation.

Rousseau offers a stronger internal challenge to a simple fixed-agent image. The act of association

creates a moral and collective body, while moral liberty is connected with obedience to law one prescribes for oneself [11]. Association therefore changes the form of agency and freedom being described. The present paper treats Rousseau as an antecedent and interlocutor. Its novelty claim concerns a typed recursive model, separation results, and an adequacy test. The general insight that political association transforms persons already has clear ancestry.

Kant relocates original contract into a rational standard for public right, which separates a justificatory idea from a recovered historical event [5]. Rawls continues the counterfactual strategy. The original position models a fair point of view for selecting principles, while the wider theory attends to moral powers, primary goods, social bases, and the basic structure’s pervasive effects [10]. A critique that equates idealized representation with a complete fixed-agent ontology would therefore miss the distinction between the device and the theory that contains it.

Gauthier’s mutual-advantage account and Scanlon’s contractualism further separate forms of agreement. Gauthier develops constrained cooperation through rational bargain [3]. Scanlon assesses principles through reasons individuals could have for reasonable rejection, within a moral relation of justification to others [12, 1]. The paper’s reconstruction can apply to either form only when target-relevant capacities or effective options are fixed at the stage under examination.

2.2 Generative Resources within Contract Thought

This subsection identifies resources that already connect contract reasoning with formation, institution, and transformation. The purpose is a charitable reconstruction that treats the proposed model as a synthesis and extension of partial resources.

Three resources are especially important. First, the contract can institute a new collective or political relation, as the Hobbesian and Rousseauian cases show. Second, the contract can serve as a model of justification whose inputs are selected for a normative purpose, as Kant and Rawls emphasize. Third, the object of agreement can be the basic structure that shapes later prospects, positions, and social cooperation. These resources already exceed a literal picture of isolated natural persons signing a single agreement.

The proposed model adds a continuous recursion. The capacities represented at time t arise partly from histories before t . The rule selected at t changes the environment through which capacities and relations develop at $t + 1$. A later agreement therefore inherits both the earlier developmental field and the consequences of earlier rules. This temporal closure is the paper’s main reconstructive move.

2.3 Fixed-Primitives Target Class

This subsection states the restricted object of criticism. The definition targets an invariance assumption within a model and leaves the complete theory and historical author open to separate interpretation.

Definition 2.1 (Fixed-primitives contract representation). *For participant set I , assigned participant states z_i^0 , nominal action or proposal space $\mathcal{A}^0$, reasoning procedure $\mathcal{J}^0$, and background b , define*

$$R^* = \text{Con}((z_i^0)_{i \in I}, \mathcal{A}^0, \mathcal{J}^0; b). \quad (\text{F-GRE-028})$$

The representation belongs to the target class relative to comparison domain $\mathfrak{D}$ when the displayed target-relevant inputs remain invariant at the contract-selection stage across $\mathfrak{D}$.

The definition is local and stage-relative. A theory can use a fixed representation for one justificatory purpose and a developmental model for another. A model can also fix deliberative capacity while allowing preferences or fallback positions to vary. The audit must identify the exact coordinates, counterfactuals, and target before diagnosing omission.

Claim 2.2 (Bounded reconstruction). *When target-relevant participant states or effective options vary across admitted generative histories, Definition 2.1 loses explanatory information for every target sensitive to that variation. The conclusion concerns explanatory preservation and leaves justificatory validity open.*

Claim 2.2 is initially conditional. Sections 4 and 6 provide exact witnesses and a factorization criterion that specify its content.

3 Relational Genesis of Contract-Capable Agency

This section develops the philosophical basis for treating contract-capable agency as a generated state. It connects processual explanation, relational autonomy, dependency, capability, and exclusion critique, then separates causal genesis from normative standing and validity.

3.1 Processual Units and Relational Agency

This subsection establishes the explanatory unit. It uses relations and transactions as constituents of development while preserving persons as bearers of reasons, interests, claims, and vulnerabilities.

Relational sociology challenges explanations that begin with fully formed substances and add relations afterward. Emirbayer proposes a processual and transactional orientation in which entities acquire meaning and form within relations [2]. The present paper adopts a limited version of that orientation. Participant states remain explicitly indexed to persons, while their modeled development can depend on relational histories and institutional conditions.

Relational autonomy scholarship supplies a closer normative antecedent. Mackenzie and Stoljar organize feminist approaches in which social relations can foster or impair autonomy, including self-trust, self-conception, imagination, and practical competence [7]. Nedelsky argues that relations help constitute capacities and that law shapes those relations [9]. These views support a distinction between individual agency and independent genesis. A person can exercise agency as a person even when the conditions of that exercise have relational sources.

Definition 3.1 (Contract-capable agency). *Contract-capable agency at time t is a target-relative profile*

$$z_{i,t} = (\kappa_{i,t}, \iota_{i,t}, e_{i,t}, r_{i,t}, q_{i,t}),$$

where the coordinates represent deliberative and interpretive capacity, interpretation, expressive access, material resources, and revision or contestation capacity. The profile describes capacities relevant to the declared contract operation. A broader account of personhood remains a separate inquiry.

3.2 Care, Dependency, and Developmental Support

This subsection identifies formative conditions concealed by an image of independent associates. The analysis treats dependency and care as general features of human development and institutional life, with distributions that can be unequal and politically organized.

Kittay’s dependency critique places care and dependency work inside the analysis of equality, challenging frameworks organized around mutually independent associates [6]. Contract competence itself depends on extended periods of care, language acquisition, education, social recognition, and material support. Adult agency can retain ongoing dependence on communication systems, legal accessibility, health, transportation, professional interpretation, and social trust.

Dependency admits several normative forms. Support can enable agency. It can also create vulnerability to withdrawal, discipline, surveillance, or agenda control. A generative account therefore tracks both capacity formation and the distribution of control over its conditions. Relational support can participate in domination, justice, or mixed arrangements depending on its control, distribution, effects, and revisability.

Assumption 3.2 (Conditional relational development). *For the target and population under study, at least one coordinate of contract-capable agency responds to a declared relational, material, or institutional input over the relevant horizon.*

Under Assumption 3.2, define the state update

$$z_{i,t+1} = G_i(z_{i,t}, \Phi_t, C_t, \Gamma_t, \mathcal{H}_{i,t}; \xi_{i,t}), \quad (\text{F-GRE-029})$$

where Φ_t denotes structured relational flow, C_t formative conditions, Γ_t a current rule environment, $\mathcal{H}_{i,t}$ a retained history, and $\xi_{i,t}$ unresolved variation. Equation (F-GRE-029) is a model schema. Every application must identify its coordinates, time scale, comparison, and evidence.

3.3 Capability and Effective Opportunity

This subsection connects relational development with effective freedom. Its objective is to distinguish resources, formal permissions, achieved outcomes, and real opportunities before the trajectory model is introduced.

Sen’s capability approach evaluates what persons are effectively able to be and do, with attention to human diversity and the conversion of resources into real opportunities [14]. The connection to the present paper is direct but bounded. Contract rules distribute rights, resources, and formal options. Participant-specific conditions convert those items into effective possibilities. Equal legal form can therefore coexist with unequal effective freedom.

The trajectory construction developed below is a specialization proposed by this paper. It adds horizon, viability, reliability, cost, and revision to the evaluation. Sen supplies the evaluative ancestry, especially the distinction between means, achievements, and capabilities. The specific mathematical set and recursion remain paper-specific constructions.

3.4 Exclusion and Constituted Political Subjects

This subsection introduces critical contract scholarship as a constraint on idealized representation. It focuses on the historical and institutional constitution of eligible parties, recognized persons, and

authoritative standpoints.

Mills reconstructs racial domination through the idea of a racial contract, bringing racialized exclusion and epistemic ordering into confrontation with idealized contract narratives [8]. Dependency and relational-autonomy critiques similarly show that the identity of an apparently independent contractor can rest on excluded or devalued formative work. These traditions carry substantive historical and normative arguments. The formal higher-order model in Section 5 preserves one narrow structural insight: excluding a participant can remove interaction terms that help constitute the available social outcome.

3.5 Explanatory and Normative Registers

This subsection closes the developmental discussion by separating registers that the later formalization could otherwise conflate. The distinction governs every proposition in the paper.

The relevant sequence is

$$\begin{aligned} \text{genesis} &\longrightarrow \text{capacity and dependence} \longrightarrow \text{effective action conditions} \\ &\longrightarrow \text{normative assessment under added premises.} \end{aligned}$$

The first three positions can contain empirical and explanatory claims. The last position requires a principle of legitimacy, right, justice, standing, care, harm, reciprocity, public justification, or another declared basis. Social construction can explain a capacity while leaving its proper exercise and authority unsettled. Social ontology can describe institutional facts, including constitutive-rule structures, while the ethical evaluation of those facts requires further reasons [13].

4 Rule Environments and Effective Freedom

This section develops the central formal model of rule-mediated action. It declares the symbols, defines a rule environment and effective trajectories, constructs a plural freedom profile, and proves two finite separation results.

Table 2 records both meaning and obligation. The notation is typed to prevent a rule text, nominal option, effective trajectory, achieved outcome, and normative conclusion from occupying the same variable.

4.1 Rule-Environment Transformation

This subsection defines the action environment produced by a rule. The tuple isolates channels through which formally identical rules can yield different participant-relative possibilities.

Definition 4.1 (Rule environment). *For a rule or principle R , define*

$$\Gamma(R) = (\ell_R, c_R, K_R, V_R), \tag{F-GRE-030}$$

where $\ell_R(i, z, a)$ represents participant-relative legibility or recognized admissibility of action a , $c_R(i, z, a)$ its effective cost, $K_R(\cdot \mid z, a)$ the transition kernel, and V_R the declared viable region.

Table 2: Principal symbols and inferential roles

Symbol	Meaning	Status and application requirement
I, i	participant set and participant index	bearer and population must be declared
$z_{i,t}$	contract-capacity state	inquiry-relative profile with empirical semantics
$\Phi_t, C_t, \mathcal{H}_{i,t}$	relational flow, formative conditions, retained history	causal roles require independent identification
$R, \Gamma(R)$	rule and induced rule environment	separates statement from implementation effects
ℓ_R, c_R	legibility and effective cost	participant-, state-, and action-relative functions
K_R, V_R	transition kernel and viable region	probability model and value-sensitive viability declaration
H, B_i, α_i	horizon, budget, reliability threshold	sensitivity analysis required
$\mathcal{P}_i^H$	effective reachable trajectories	capability construction under the declared signature
$\mathbf{E}_i^H$	plural effective-freedom profile	partial order unless an aggregation rule is defended

Legibility includes more than public announcement. It can involve language, classification, documentation, accessible interface, recognized status, and knowledge of consequence. Effective cost can include money, time, risk, coordination burden, stigma, retaliation, and the cost of obtaining required interpretation. The transition kernel represents implementation, institutional response, and uncertainty. Viability marks conditions under which a trajectory counts as practically survivable or sustainable for the target inquiry.

The tuple can be extended with enforcement error, rights, sanctions, roles, information, and appeal. Its purpose is disciplined decomposition. It makes no claim that every institutional effect has a common metric.

4.2 Viable Reachable Trajectories

This subsection defines effective reach over time. The construction replaces option counting with a set of trajectories that satisfy declared access, budget, transition, and viability conditions.

Definition 4.2 (Effective reachable trajectory set). *For horizon H , initial state z , participant budget B_i , reliability threshold α_i , and legibility threshold $\underline{\ell}_i$, define*

$$\begin{aligned}
\mathcal{P}_i^H(\Gamma, z; B_i, \alpha_i) = \{ & (z_0, a_0, \dots, z_H) : z_0 = z, \\
& a_t \in \mathcal{A}_t, \quad \ell_R(i, z_t, a_t) \geq \underline{\ell}_i, \\
& \sum_{t=0}^{H-1} c_R(i, z_t, a_t) \leq B_i, \\
& \Pr_{K_R}[z_{t+1} \in V_R \mid \forall t] \geq \alpha_i \}.
\end{aligned} \tag{F-GRE-031}$$

The horizon prevents immediate access from standing in for durable freedom. The budget exposes resource conversion. The reliability threshold separates a remote possibility from a secure option. The viability condition protects the analysis from counting destructive or unsustainable routes as equivalent to livable ones. Each element remains contestable and requires sensitivity analysis.

Definition 4.3 (Plural effective-freedom profile). *Define*

$$\mathbf{E}_i^H = (\mathcal{P}_i^H, \text{Sec}_i^H, \text{Ctrl}_i^H, \text{Rev}_i^H, \text{Exit}_i^H), \quad (\text{F-GRE-032})$$

where the additional coordinates represent security, participant control, revisability, and effective exit. Under matched signatures, trajectory-set inclusion supplies one partial comparison. A total ordering requires a separately defended evaluative rule.

Definition 4.3 prevents a broad trajectory set from settling the complete freedom judgment. A person can have many reachable routes controlled by another. Exit can exist formally while carrying prohibitive transition costs. A stable rule can secure access while limiting revision. These dimensions can conflict.

4.3 Nominal Constraint and Effective Reach

This subsection constructs an exact witness separating nominal option count from effective freedom. The result is logical and model-internal; institutional evaluation retains its value and distribution premises.

Proposition 4.4 (Constraint–reach separation). *There exists a finite rule-environment pair (Γ_0, Γ_1) such that*

$$|\mathcal{A}(\Gamma_1)| < |\mathcal{A}(\Gamma_0)| \quad \text{and} \quad \mathcal{P}^1(\Gamma_0) \subsetneq \mathcal{P}^1(\Gamma_1).$$

Proof. Let $B = 1$, let g be a target state, and let the nominal action set under Γ_0 be $\{L, R, W\}$. Safe passage through L or R requires coordination information of cost (2), so the budget-feasible trajectory set is $\{W\}$. Under Γ_1 , a public rule closes L , designates R , and supplies common recognition at cost 0. Hence

$$|\mathcal{A}(\Gamma_1)| = 2 < 3 = |\mathcal{A}(\Gamma_0)|, \quad \mathcal{P}^1(\Gamma_0) = \{W\} \subsetneq \{W, R\} = \mathcal{P}^1(\Gamma_1). \quad (\text{F-GRE-034})$$

□

The proposition formalizes one role of law and convention: coordination can make a route effective by establishing common legibility and lowering information costs. It also blocks a simple equation between freedom and the cardinality of nominal actions. The example leaves the value of the target, distribution of benefits, authorship of the rule, sanctions, and revision arrangements open.

4.4 Predictability and Distributed Capability

This subsection separates predictable rule operation from equal effective freedom. The witness identifies participant-relative accessibility as the differentiating condition.

Proposition 4.5 (Predictability–capability separation). *Perfect transition predictability can coexist with unequal participant effective-reach sets under a common rule text.*

Proof. Let a permit rule produce a deterministic transition to target g after successful registration. Participant a receives accessible registration at cost 0. Participant b faces an unreadable interface and cost 2 with budget $B_b = 1$. The transition is deterministic, while

$$\text{Pred}(\Gamma) = 1, \quad g \in \text{term } \mathcal{P}_a^1(\Gamma), \quad g \notin \text{term } \mathcal{P}_b^1(\Gamma). \quad (\text{F-GRE-035})$$

□

Predictability can support planning and security. Proposition 4.5 shows that its distributional significance depends on accessibility, recognized status, conversion conditions, and cost. The result gives formal expression to the capability distinction between a common resource or rule and heterogeneous real opportunity.

5 Higher-Order Constitution and Participation

This section represents social outcomes with interaction terms involving multiple participants. It derives the structural consequence of exclusion and then separates constitutive contribution, legislative influence, and normative entitlement.

5.1 Interaction Expansion

This subsection introduces a finite higher-order representation. The expansion functions as a formal grammar for irreducible interaction terms and retains an additive rival as an empirical alternative.

Let E be a finite participant set and $\mathcal{I}_n(E)$ an admitted family of n -participant interactions. Represent the outcome-relevant action as

$$S_E = \sum_{i \in E} S_i + \sum_{\alpha \in \mathcal{I}_2(E)} S_\alpha + \sum_{\beta \in \mathcal{I}_3(E)} S_\beta + \cdots. \quad (\text{F-GRE-004})$$

The terms can represent coordination, interpretation, trust, conflict, division of labor, or another declared mechanism. They gain empirical meaning through measurement and discrimination from additive or pairwise rivals.

5.2 Exclusion Consequence

This subsection derives the formal effect of deleting a participant. The result identifies every incident interaction term and preserves its limited mathematical status.

Proposition 5.1 (Incident-interaction deletion). *Let $\mathcal{I}_i$ be the set of all retained interaction indices containing participant i . Removing i yields*

$$S_{E \setminus \{i\}} = S_E - \sum_{\alpha \in \mathcal{I}_i} S_\alpha. \quad (\text{F-GRE-005})$$

Whenever an incident higher-order term has a target-relevant effect, exclusion changes more than the isolated individual term.

Proof. Partition the retained terms in S_E into indices containing i and indices contained in $E \setminus \{i\}$. The second class is exactly the expansion for $S_{E \setminus \{i\}}$. Subtracting the first class gives the displayed equality. Target relevance follows when the selected outcome functional changes with at least one removed term. □

The proposition can represent a meeting whose interpretation depends on a translator, a caregiving arrangement whose feasibility depends on unrecognized work, or a political association whose available practices depend on excluded groups. The mapping from an interaction term to a social mechanism requires evidence. Mills’s historical critique and Kittay’s dependency analysis contain substantive arguments that greatly exceed this algebraic consequence [8, 6].

5.3 Constitutive and Legislative Positions

This subsection separates participation in social production from recognized power over rules. The distinction prevents a contribution result from becoming an entitlement theorem through notation alone.

Definition 5.2 (Participation-position profile). *For participant i , define*

$$\mathbf{Q}_i = (G_i^{\text{const}}, G_i^{\text{leg}}, G_i^{\text{int}}, G_i^{\text{rev}}, G_i^{\text{ben}}),$$

where the coordinates record constitutive contribution, legislative influence, interpretive authority, revision capacity, and benefit access.

The configuration

$$G_i^{\text{const}} > 0, \quad G_i^{\text{leg}} \approx 0$$

represents constitutive inclusion together with weak rule-making influence. It can motivate a normative inquiry into standing, reciprocity, recognition, or distribution. The positive case requires an independent bridge. Harmful contribution, coerced contribution, and conflict also satisfy $G_i^{\text{const}} > 0$ in suitable models.

Open Problem 5.3 (Constitution-sensitive standing). *Specify conditions under which constitutive contribution creates claims to voice, benefit, recognition, revision, or exit. The solution must address harmful contribution, involuntary participation, asymmetric dependence, public goods, and the claims of affected persons whose constitutive contribution is small.*

6 Generative Lift and Static Adequacy

This section composes development, contract, implementation, and renewed development into one recursive process. It then proves agreement underidentification and states a target-relative condition under which the static contract representation remains adequate.

Table 3 summarizes the distinctions established by the formal model. Each row invalidates a universal identification within a model class containing its witness. It preserves the normative question shown in the last column.

6.1 Recursive Process

This subsection states the full generative lift. The five-stage composition places contract selection inside a longer process and makes feedback available for analysis.

Table 3: Formal separations and retained normative questions

Observed or controlled feature	Differentiated object	Formal witness	Retained assessment
nominal option count	effective trajectory set	coordinated passage, Proposition 4.4	value, distribution, authorization
transition predictability	participant capability	inaccessible permit, Proposition 4.5	accommodation, equality, remedy
recorded agreement	generative history and revision	support withdrawal, Claim 6.2	information, force, dependence, validity
constitutive participation	legislative influence	profile in Definition 5.2	standing, entitlement, reciprocity
selected rule	downstream generative target	quotient in Proposition 6.4	target choice and approximation tolerance

Definition 6.1 (Recursive generative contract process). *Let $\mathcal{H}_t$ collect relational histories. Define*

$$\begin{aligned}
z_t &= G(\mathcal{H}_t, C_t, \Gamma_{t-1}), \\
\Phi_t &= \text{Flow}(z_t, \mathcal{H}_t, C_t), \\
R_t &= \text{Con}(z_t, \mathcal{A}_t, \mathcal{J}_t; \Phi_t, C_t), \\
\Gamma_t &= \Gamma(R_t), \\
(y_t, z_{t+1}, \mathcal{H}_{t+1}) &\sim \text{Impl}(z_t, \Phi_t, \Gamma_t, C_t).
\end{aligned} \tag{F-GRE-033}$$

The composition exposes several feedback routes. A rule can alter education, recognition, property, family organization, communication access, or contestation. These changes can alter future participant states and the next contract procedure. Rawls’s attention to the basic structure makes this recursive concern especially relevant. The present equation is a new formal proposal; Rawls is cited here for the institutional significance of the basic structure [10].

6.2 Agreement and Generative History

This subsection tests the information content of an agreement record. It constructs observational equivalence between different histories and future revision capacities.

Claim 6.2 (Agreement underidentification). *In any admitted model class containing two histories with equal agreement observations and different later effective-freedom profiles, observed agreement alone leaves generative history and later independence unidentified.*

Proof. Let **Obs** retain the selected agreement and suppose $\text{Obs}(h_1) = \text{Obs}(h_2) = o$. In h_1 , independent interpretive and revision support persists. In h_2 , the same agreement depends on a support channel withdrawn afterward. Assign $q = 1$ after withdrawal in h_1 and $q = 0$ in h_2 . Hence

$$\text{Obs}(h_1) = \text{Obs}(h_2) \quad \wedge \quad \mathcal{P}_i^H(h_1) \neq \mathcal{P}_i^H(h_2). \tag{F-GRE-036}$$

The common observation leaves the future profile unidentified. $\square$

The result concerns identification. Agreement may still carry justificatory or binding significance under a suitable theory. The result demands additional evidence when an inquiry concerns independence, durability, revocability, or future capability.

6.3 Target-Relative Static Quotient

This subsection provides the positive boundary of the reconstruction. It defines adequacy through factorization and gives sufficient conditions for a static representation to preserve a declared target.

Definition 6.3 (Static target adequacy). *Let $\mathcal{G}$ be the generative model, π a projection from generative histories to static primitives, Y a declared target, and $\mathfrak{D}$ the application domain. The static representation is Y -adequate on $\mathfrak{D}$ when a map $\bar{Y}$ exists such that*

$$Y_{\mathcal{G}}(h, d) = \bar{Y}(\pi(h), d) \quad \text{for every } (h, d) \in \mathfrak{D}. \quad (\text{F-GRE-037a})$$

The definition treats omission as harmless for Y when the omitted detail preserves every target value on the declared domain. A representation can therefore be adequate for selecting a rule and inadequate for evaluating downstream capability, development, or distribution.

Proposition 6.4 (Fibre-invariance sufficiency). *Suppose the following conditions hold on $\mathfrak{D}$:*

$$\begin{aligned} \pi(h) = \pi(h') &\Rightarrow z(h) = z(h') && \text{for target-relevant agent coordinates,} \\ \pi(h) = \pi(h') &\Rightarrow \mathbf{E}_i^H(h, d) = \mathbf{E}_i^H(h', d) && \text{for each target participant,} \\ \pi(h) = \pi(h') &\Rightarrow S_{\mathcal{G}}(h, d) = S_{\mathcal{G}}(h', d) && \text{for each retained interaction summary,} \\ Y_{\mathcal{G}} &= F(z, \mathbf{E}, S, d) && \text{on } \mathfrak{D}. \end{aligned} \quad (\text{F-GRE-037b})$$

Then the static representation is Y -adequate on $\mathfrak{D}$.

Proof. Take a fibre $\pi^{-1}(s)$. The first three conditions assign common values z_s , $\mathbf{E}_s$, and S_s to every history in the fibre. Define $\bar{Y}(s, d) = F(z_s, \mathbf{E}_s, S_s, d)$. Fibre invariance makes this map well defined. Substitution gives

$$Y_{\mathcal{G}}(h, d) = \bar{Y}(\pi(h), d)$$

for every $(h, d) \in \mathfrak{D}$, which satisfies Definition 6.3. □

The conditions are sufficient. Alternative sufficient statistics can preserve the target with weaker coordinate-level invariance. Exact factorization can also be stronger than an application requires.

Open Problem 6.5 (Approximate static adequacy). *Let δ_Y be a target-specific discrepancy and ε an application-specific tolerance. Develop evidence and robustness conditions for*

$$\sup_{(h, d) \in \mathfrak{D}} \delta_Y(Y_{\mathcal{G}}(h, d), \bar{Y}(\pi(h), d)) \leq \varepsilon.$$

The tolerance should reflect the consequences of error together with the application's practical and epistemic requirements.

7 Philosophical Consequences

This section interprets the formal results for agency, freedom, contract method, and normative authority. Its role is to identify changes in the questions contract analysis should ask while preserving the limits of the model.

7.1 Agency and Independent Genesis

This subsection distinguishes personal agency from a mythology of independent formation. The distinction supports relational explanation while preserving persons as sites of reasons and claims.

The state update in (F-GRE-029) allows agency to be genuinely exercised by a person and relationally formed. Relational sources can expand deliberation, expression, and revision. They can also create dependence on revocable infrastructure. The relevant inquiry concerns the quality, control, distribution, and revisability of formative relations.

This account avoids two reductions. Individualism can obscure the conditions of agency. Holism can obscure the person who bears harm, reasons, refusal, and rights. A relational contract theory needs both levels: persons remain normatively salient, and their practical capacities develop through structured relations.

7.2 Freedom and Institutional Conversion

This subsection interprets the trajectory model through the capability connection. Its objective is to replace one-dimensional freedom claims with an auditable set of conversion and temporal conditions.

Proposition 4.4 shows why an institutional constraint can expand effective reach through coordination. Proposition 4.5 shows why orderly administration can still distribute capability unequally. These results support a plural evaluation of institutional freedom. Formal permission, option count, predictability, achieved output, reachable trajectories, security, control, revision, and exit are distinct objects.

The connection to Sen is structural. Resources and formal rights acquire value through conversion into capabilities, and diverse persons can face different conversion conditions [14]. The paper extends this concern to recursive effects: today's rule environment can influence the capacities used to understand and revise tomorrow's rules.

7.3 Contract as Procedure and Developmental Institution

This subsection extends the object of contract analysis from a selection procedure to a procedure embedded in formative institutions. It preserves the reason-giving work of agreement while adding developmental diagnostics.

A contract procedure asks which rule agents choose, accept, or find justifiable. A generative analysis adds four inquiries: how the relevant agents acquired their capacities; how their options became legible and effective; how participation constituted the available outcome; and how the selected rule changes future agency. These inquiries can modify the inputs to the procedure without replacing its justificatory standard.

The agreement-underidentification result matters especially for durable and revisable governance. A record of assent can coexist with different levels of information, support dependence, future exit, and revision capacity. Where these features enter the normative theory, evidence beyond the agreement record becomes necessary.

Table 4: Objection, response, and residual research burden

Objection	Present response	Residual burden
tradition caricature	target is a stage-relative representation class; Rousseau and Rawls supply explicit countertraditions	source-specific historical interpretation
genealogy replaces justification	explanatory and normative registers remain separate	defended bridge for each normative conclusion
relational paternalism	profile includes control, revision, and exit	theory of authentic or acceptable formation
excessive endogeneity	exogenous conditions and unresolved variation remain available	causal identification and model selection
higher-order ornament	additive and pairwise rivals remain admissible	measurements that discriminate interaction order
capability inflation	matched signatures and partial orders limit comparison	public valuation, measurement, and uncertainty
static-model rejection	target-relative factorization gives a positive adequacy condition	approximate metric and use-specific tolerance
agreement devaluation	agreement retains its theory-specific normative role	evidence about information, force, support, and future revision

7.4 Genesis, Authority, and Legitimacy

This subsection marks the principal philosophical stopping point. It organizes the bridge from generative explanation to normative evaluation and identifies the additional premises required.

The inference

$$\text{socially generated} \implies \text{legitimate}$$

fails across the present model class. Domination, manipulation, exclusion, and care can all participate in social generation. The reverse inference also fails: a historical or causal abstraction can coexist with a valid justificatory argument for a declared purpose. The proper test is target-relative adequacy followed by an independent normative bridge.

Possible bridge premises include equal moral status, reasonable rejectability, fair representation, reciprocity, protection of basic capabilities, freedom from domination, care duties, standing, and public justification. These premises can conflict and require their own defense. The present paper supplies inputs to that discussion: generated capacity, conversion conditions, higher-order constitution, distribution, revision, and exit.

8 Objections and Model Boundaries

This section tests the reconstruction against major conceptual and formal objections. It answers each objection at the strongest level supported by the current model and records the residual burden.

Table 4 summarizes the argumentative safeguards and open burdens. The following subsections develop the objections that most directly affect the paper’s central position.

8.1 Tradition Heterogeneity

This subsection addresses the charge that the paper criticizes an invented uniform contract tradition. The response relies on the target-class definition and on counterresources within major sources.

The objection succeeds against any wholesale statement that contract theory presupposes fully formed, socially independent persons. Rousseau’s collective transformation and Rawls’s account of institutions and moral powers make the point especially clear [11, 10]. The paper therefore diagnoses a representation only after its target-relevant inputs, stage, domain, and purpose are declared. The proposed model can extend, compare, or audit contract theories while preserving their theory-specific purposes.

8.2 Genealogy and Justification

This subsection addresses the concern that tracing formation commits a genetic fallacy. It distinguishes causal sensitivity from the authority of reasons.

A reason can remain valid across several causal histories. A procedure can also become normatively sensitive to history when force, manipulation, epistemic exclusion, unfair bargaining position, or capability deprivation enters its own standard. The generative model identifies possible historical differences. The normative theory decides which differences matter and why. The factorization criterion strengthens this answer by allowing omitted history whenever the declared target is invariant over it.

8.3 Relational Formation and Paternalism

This subsection addresses the risk that every intervention can be defended as agency formation. The response relies on plural freedom coordinates and institutional contestability.

Formation is unavoidable at some level, while its forms remain evaluable. Support can expand interpretation and exit; discipline can narrow them. The profile $\mathbf{E}_i^H$ retains participant control, revision, and exit alongside trajectory reach and security. These coordinates resist a policy that calls externally preferred conduct an expansion of agency solely because it produces a desired output. A complete account still requires a theory of acceptable influence, education, adaptive preference, and public justification.

8.4 Endogeneity and Model Closure

This subsection addresses the concern that a recursive model explains every variable through every other variable. The response requires sparse declarations, rival models, and intervention-sensitive evidence.

Equation (F-GRE-033) is a typed architecture whose application restricts the active feedback edges. An application must declare which edges are active, which variables remain exogenous over the horizon, and which parameters are identified. Static, one-way, pairwise, and additive models remain rivals. A generative edge earns empirical status through evidence that distinguishes it from those rivals.

8.5 Formal Semantics and Measurement

This subsection addresses the gap between mathematical symbols and social objects. It identifies the semantic and evidential certificate needed for application.

Every application should report at least: bearer and population; contract function; state coordinates; time scale; action semantics; legibility measure; cost boundary; transition model; viable region; reliability threshold; comparison domain; uncertainty; rival models; target; normative bridge; and revision conditions. The formal model remains heuristic where those fields are missing. Higher-order terms require evidence of interaction beyond additive and pairwise explanations. A useful equation can organize inquiry before it earns empirical confirmation.

9 Research Programme

This section converts the paper’s unresolved issues into a staged programme. It organizes historical, formal, empirical, normative, and institutional work, then states the dependency into the next paper in the series.

9.1 Historical and Comparative Reconstruction

This subsection specifies the historical work needed to test the target-class restriction. The programme should compare stages and functions within authors, rather than assign one label to an entire tradition.

Priority studies include the relation among covenant, authorization, and personation in Hobbes; collective transformation and civic formation in Rousseau; rational public right in Kant; moral powers and basic structure in Rawls; bargaining capacity and fallback positions in Gauthier; and expression of reasons within Scanlonian rejectability. Feminist, racial, disability, and colonial critiques should enter as substantive theories with their own histories and arguments.

9.2 Formal Identification and Approximation

This subsection states the next mathematical tasks. The objective is to move from exact toy separations toward identified, approximate, and uncertainty-aware models.

Four tasks have priority. First, characterize minimal sufficient statistics for target-relative static adequacy. Second, define approximation error for set-valued trajectories and plural profiles. Third, develop causal criteria for the edges in (F-GRE-033), including history-sensitive and time-varying cases. Fourth, compare additive, pairwise, and higher-order interaction models under out-of-sample and intervention tests.

Open Problem 9.1 (History-sensitive contract identification). *Given observed procedures, decisions, outcomes, and limited longitudinal traces, characterize the conditions under which variation in G_i , Γ , or higher-order interaction can be separately identified. Construct impossibility results where observationally equivalent models yield different effective-freedom counterfactuals.*

9.3 Empirical and Institutional Designs

This subsection proposes bounded application families. Each design connects a formal distinction with observable institutional variation and an explicit ethics protocol.

Candidate settings include accessible administrative procedures, collective bargaining, school governance, workplace rule revision, community consent, platform terms, and public deliberation. A design can compare formal options with actual legibility and cost, trace the durability of participation capacity, and test whether rules alter future revision and exit. Longitudinal evidence is essential where slow formation or delayed dependence matters.

Ethical design requires consent appropriate to the study, privacy protection, attention to retaliation and dependency, participant access to interpretation, and a path for correction. Researchers and institutions bear the evidential burden for investigating conversion barriers without repeated harmful exposure.

9.4 Normative Successors

This subsection locates the paper within the wider series. The next stage examines the structural limits that arise when representation, translation, and identification fail inside contract procedures.

The current paper supplies a foundational dependency: contract subjects and their effective options can be generated and recursively altered. The next paper can then analyze three narrower limits: representation of heterogeneous participants, translation across incommensurate evaluative structures, and identification of capacities or reasons from observable response. Later papers address recursive normative openness, ethics across heterogeneous subjects, and ethics across heterogeneous generative environments.

10 Conclusion

This section restates the bounded position, principal results, and stopping point. It closes by specifying the reciprocal discipline imposed on static and generative models.

Social contract can be studied as a procedure of agreement and as a moment in a longer generative process. Prior relations can help form the capacities used in contract reasoning. A selected rule can shape the legibility, cost, viability, and transition structure of later action. Those effects can enter future rounds of interpretation, agreement, revision, and exit.

The paper has represented this process through a developmental state update, a rule-environment tuple, viable reachable trajectories, a plural effective-freedom profile, higher-order interactions, and a recursive contract lift. Exact finite cases separate nominal options from effective reach, predictability from distributed capability, and observed agreement from generative history. The factorization criterion supplies the corresponding positive result: a static representation remains adequate when it preserves the declared target across every history in each projected fibre.

The reconstruction therefore imposes two symmetrical obligations. A static model should state which dynamics it omits and why the target remains preserved. A generative model should identify its edges, semantics, evidence, and normative bridges. Complexity by itself is neutral concerning explanatory superiority and legitimacy. The appropriate model is the one whose declared abstractions preserve

the object of inquiry and whose unresolved consequences remain visible.

Acknowledgments

The paper acknowledges the social-contract, relational-autonomy, dependency, capability, relational-sociology, social-ontology, and critical-contract traditions discussed in the text as intellectual antecedents and interlocutors. Draft development benefited from sustained dialogue with ChatGPT (OpenAI). Responsibility for the formulation, formal construction, argument, selection of literature, and remaining errors rests with the author.

References

- [1] Elizabeth Ashford and Tim Mulgan. Contractualism. In Edward N. Zalta, editor, *The Stanford Encyclopedia of Philosophy*. Metaphysics Research Lab, Stanford University, spring 2022 edition, 2022. URL: <https://plato.stanford.edu/archives/spr2022/entries/contractualism/>.
- [2] Mustafa Emirbayer. Manifesto for a relational sociology. *American Journal of Sociology*, 103(2):281–317, 1997. URL: <https://www.journals.uchicago.edu/doi/10.1086/231209>, doi:10.1086/231209.
- [3] David Gauthier. *Morals by Agreement*. Clarendon Press, Oxford, 1986. URL: <https://academic.oup.com/book/9927>, doi:10.1093/0198249926.001.0001.
- [4] Thomas Hobbes. *Leviathan*. Clarendon Press, Oxford, 1909. Reprint of the 1651 edition; edited with an introduction by W. G. Pogson Smith. URL: <https://oll.libertyfund.org/titles/smith-leviathan-1909-ed>.
- [5] Immanuel Kant. On the common saying: That may be correct in theory, but it is of no use in practice. In Mary J. Gregor, editor, *Practical Philosophy*. Cambridge University Press, Cambridge, 1996. URL: <https://www.cambridge.org/core/books/practical-philosophy/87AD1D61629B226ABD5E925BC4CFC2A1>, doi:10.1017/CB09780511813306.
- [6] Eva Feder Kittay. *Love’s Labor: Essays on Women, Equality and Dependency*. Routledge, New York, second edition, 2020. URL: <https://www.routledge.com/Loves-Labor-Essays-on-Women-Equality-and-Dependency-2nd-Edition/Kittay/p/book/9781138089921>, doi:10.4324/9781315108926.
- [7] Catriona Mackenzie and Natalie Stoljar, editors. *Relational Autonomy: Feminist Perspectives on Autonomy, Agency, and the Social Self*. Oxford University Press, New York, 2000. URL: <https://academic.oup.com/book/49675>, doi:10.1093/oso/9780195123333.001.0001.
- [8] Charles W. Mills. *The Racial Contract*. Cornell University Press, Ithaca, NY, 1997. URL: <https://cornellpress.cornell.edu/book/9780801484636/the-racial-contract/>.
- [9] Jennifer Nedelsky. *Law’s Relations: A Relational Theory of Self, Autonomy, and Law*. Oxford University Press, New York, 2011. URL: <https://academic.oup.com/book/3668>, doi:10.1093/acprof:oso/9780195147964.001.0001.

- [10] John Rawls. *A Theory of Justice*. Belknap Press of Harvard University Press, Cambridge, MA, revised edition, 1999. URL: <https://www.hup.harvard.edu/books/9780674000780>.
- [11] Jean-Jacques Rousseau. *The Social Contract and Discourses*. J. M. Dent and Sons, London, 1913. URL: <https://oll.libertyfund.org/titles/cole-the-social-contract-and-discourses>.
- [12] T. M. Scanlon. *What We Owe to Each Other*. Belknap Press of Harvard University Press, Cambridge, MA, 1998. URL: <https://www.hup.harvard.edu/books/9780674004238>.
- [13] John R. Searle. *The Construction of Social Reality*. Free Press, New York, 1995. URL: <https://www.cambridge.org/core/journals/philosophy/article/abs/construction-of-social-reality-by-john-r-searle-allen-lane-the-penguin-press-1995-xiii-241-pp-2000/8D681932511659BA78C62886ED164355>.
- [14] Amartya Sen. *Inequality Reexamined*. Clarendon Press, Oxford, 1992. URL: <https://academic.oup.com/book/4918>, doi:10.1093/0198289286.001.0001.
- [15] John Thrasher and Kevin Vallier. Contemporary approaches to the social contract. In Edward N. Zalta, editor, *The Stanford Encyclopedia of Philosophy*. Metaphysics Research Lab, Stanford University, fall 2021 edition, 2021. URL: <https://plato.stanford.edu/entries/contractarianism-contemporary/>.