Relational Power in Volunteer Aid: A Preliminary Political Economy

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Abstract

This preliminary study examines how resources, paid and unpaid work, institutional rules, classification, and heterogeneous valuations condition the practical possibility of volunteer aid. It distinguishes resource possession from access and conversion, service delivery from the reproduction of supporting capacity, and reported performance from the historically situated relations that produce it. Its generative relational (GR) approach retains ontological suspension and models historically constituted relations through partial, evidence-indexed representations of their manifestations. Sections 1–21 examine resource dependence, labour and care, eligibility, infrastructure, information, contractual governance, credit, reciprocity, value circulation, institutional power, and historical feedback. Their individual records and assessments are integrated through a finite diagnostic configuration: a question-specific selection of typed observations, qualified cross-record links, and explicit unresolved information. Constructed cases illustrate how similar service totals can be compatible with different histories of access, burdens, control, and capacity renewal. A subsequent methodological analysis specifies requirements for construct validation, rival-mechanism testing, causal identification, and independent normative or legal judgment. The contribution is a revisable framework for identifying and comparing political-economic mechanisms in bounded aid settings, including conditions under which institutional arrangements enable support or constrain affected participants. The paper proposes neither a universal measure of value or power nor an empirically validated theory of exploitation. Its remaining obligations concern conceptual economy, source-level review, empirical discrimination among competing explanations, and responsible interdisciplinary translation.

Keywords: volunteer aid; relational power; political economy; resource dependence; unpaid labour

Research and Publication Notices

Status and scope. Independent preliminary theoretical working manuscript. All 25 sections of the provisional first draft have been written; integrated revision, mathematical reproducibility review and claim-level scholarly assessment remain in progress. An expanded suite of finite constructed counterexample tests and a claim-level inference-readiness matrix are available in the source archive; these establish neither representative population estimates, empirical validity, legal or ethical approval, nor mathematical completeness of the framework. Every constructed configuration is an analytical illustration, not an observation about a real person, institution, or volunteer programme. This manuscript reports no original human-participant fieldwork or institutional investigation, and the framework has not undergone independent empirical validation or peer review.

Authority. Descriptions of economic power do not establish moral justification, legal authorization, or organizational policy. References to hospital services, humanitarian organizations, public provision or AI governance are analytical and do not report approval, participation or endorsement by any institution. Papers VI and VII supply distinct justice and ethics questions; applicability of legal obligations requires a specified jurisdiction, date, duty bearer and authoritative source.

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1 Political-Economic Problem and Analytical Scope of Volunteer Aid

The political economy of volunteer aid concerns the historically organized conditions under which subjects and institutions obtain, allocate, contribute, convert, withhold, and recognize capacities for assistance. This opening section establishes that analytical object and the scope of the present inquiry. It distinguishes the resources involved in a support relation from powers over their availability and conversion; describes the participation of volunteers, recipients, funders, intermediaries, and public institutions; specifies the three generative relational (GR) reality levels; and proposes a limited diagnostic record that makes resource control, work, alternatives, and evidential provenance jointly inspectable. Three constructed cases test what such a record can and cannot establish. The method is conceptual and comparative, with a deliberately partial formalization. The paper seeks a vocabulary for investigating historically situated mechanisms and refrains from deriving distributive justice, ethical permission, or legal authority from economic descriptions alone.

1.1 The Political-Economic Object of a Volunteer Relation

Consider an individual who accompanies a person to an appointment. The immediately visible activity may consist of time spent travelling, interpreting a form, finding a room, or remaining available for reassurance. Yet the activity depends on the availability and organization of many other conditions: transportation, safe access to premises, communication channels, schedules, an institution's willingness to recognize the accompanying person, and the capacity of the recipient to refuse or redirect assistance. A volunteer may act without wages while relying on privately financed travel, unpaid preparation, access to information, and an institution's coordination. The recipient may receive assistance without paying its full cost while bearing waiting time, disclosure burdens, dependency risks, or an obligation to conform to an institution's preferred narrative of need. The institution may receive labour, credibility, information, continuity, or reduced pressure on salaried staff. Each position can affect the opportunities available to the others.

Political-economic inquiry begins with this distributed configuration. Its primary object is the arrangement of material, temporal, informational, organizational, and symbolic conditions through which an aid activity becomes feasible and repeatable. The relevant relations may be dyadic in a local encounter, triadic when a mediator or organization enters, and more extensive when public budgets, donors, platforms, suppliers, professional obligations, and wider labour markets condition the aid process. The number of positions included should follow the research question and available evidence. The volunteer and recipient remain subjects of inquiry, yet neither possesses a complete or necessarily accurate account of the larger resource structure.

An exclusively monetary representation would omit forms of contribution whose costs are externalized or expressed through time, attention, competence, opportunity, physical effort, exposure, or reputational vulnerability. Conversely, describing assistance entirely in terms of generosity would obscure who bears those costs, who acquires decision authority, and who can interrupt the activity. The present study therefore treats both financial and nonfinancial resources as candidate political-economic objects. Their comparison requires locally appropriate units and preserves dimensions for which no defensible

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common measure is available. The absence of a wage establishes a feature of remuneration; it does not by itself determine whether the relation is exploitative, freely chosen, beneficial, or ethically acceptable.

The scope remains narrower than a general theory of labour, care, humanitarian policy, or national political economy. A hospital volunteer programme, neighbourhood mutual aid, online translation assistance, and a publicly funded intermediary may require different institutional and legal descriptions. The provisional concepts developed here are intended to make such differences investigable. Their adequacy will depend on subsequent comparison with primary institutional documents, participant testimony, historical records, and appropriately designed empirical inquiry.

1.2 Resource Possession, Conversion, and Relational Power

A subject may hold a resource yet possess limited practical capacity to use it for the intended aid activity. A volunteer might have free time but lack access to a secure communication channel; an organization may have funding but be bound by a restricted grant; a recipient may possess formal service eligibility but lack transportation, literacy in the relevant administrative language, or discretion over the appointment time. These configurations distinguish resource possession, conditional accessibility, permitted conversion, and actual exercise of capacity. Political-economic analysis must identify the interfaces at which one becomes another.

Resource-dependence theory provides an important, separately authored point of departure. Pfeffer and Salancik analyse how an organization's reliance on resources controlled by others creates environmental constraints and opportunities for interorganizational responses [67]. The present paper asks which aspects of that organizational problem can illuminate volunteer-aid arrangements. The translation remains conditional. Individual volunteers can lack organizational continuity or bargaining positions, recipients may have highly unequal opportunities for exit, and the object of aid can carry duties and restrictions absent from a generic organizational resource transaction.

Here, *relational power* names a provisional family of situated capacities to shape another subject's available actions, the terms of resource conversion, the classification of legitimate need, or the public recognition of contributions. This definition includes enabling as well as restrictive effects. Sections 4, 19, and 20 distinguish enacted influence, jointly enabled action, practical bargaining, and authorized institutional roles. These are related explanatory dimensions with different evidential requirements. Power can be latent when one actor controls a necessary interface even without issuing an explicit instruction. An exercise of influence requires additional event-level evidence, such as a changed rule, a withheld approval, an enacted schedule, or a deliberately altered funding condition. A harmed subject does not thereby prove that an identified actor exercised discretionary power: shortages, institutional inertia, misunderstanding, historical inequality, and unforeseen interactions may generate similar manifestations.

A useful inquiry therefore asks who specifies the resource, who can supply or substitute it, who controls conversion, who observes the constraint, whose options are transformed, and which historical arrangements sustain that control. No unique resource-to-power coefficient is presumed. One scarce input can be decisive at a bottleneck while a large budget can carry little power over a particular encounter. The analytic importance of a resource depends on the relevant tasks, substitutions, institutional rules, and temporal horizon.

1.3 Unpaid Work, Cost Allocation, and Reproduction of Capacity

Volunteer labour is situated within an organization of work extending beyond the performance of assistance itself. Preparation, travel, interpretation, scheduling, emotional attention, training, administration, correction of errors, and recuperation may all condition the availability of the final encounter. Some of these inputs can be voluntarily contributed, some indirectly paid for by households or employers, and others absorbed by the volunteer's health, relationships, future opportunities, or free time. The boundaries between work, care, personal meaning, and civic participation are historically and culturally variable; their interpretation requires evidence about the participant's circumstances and understanding.

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The appearance of a service as costless to its recipient or commissioning organization can therefore arise from a particular allocation of costs rather than the elimination of costs. A political-economic description should follow who finances equipment and transport; who supplies unpaid time; who undertakes supervision and training; who assumes liability within applicable rules; and who pays for a substitute if a volunteer is unavailable. It should also ask how the burden changes when an activity becomes predictable enough that an institution builds routine service provision around voluntary participation. Continuity can generate value and mutual trust while also making later withdrawal more disruptive, as the historical-commitment analysis of Paper VII suggests. That ethical discussion supplies questions about reliance and notice; it does not convert the economic dependence itself into a general personal duty of indefinite service.

The reproduction of volunteer capacity is a further economic object. Skills can be cultivated through experience and institutional training. Capacity may diminish through time scarcity, physical exhaustion, conflicting obligations, or the loss of resources supporting participation. A service can appear productive over a short reporting interval while contributing to the depletion of the very conditions that permit its continuation. Some activities simultaneously sustain the volunteer's learning, belonging, or relationships. A careful account retains both kinds of feedback and avoids assuming either that unpaid participation is intrinsically emancipatory or that it is necessarily a disguised extraction of labour.

The practical boundaries of contribution also interact with the recipient's labour. Form completion, translation of personal histories, repeated explanation of needs, transportation arrangements, and compliance with eligibility requirements can impose substantial work on recipients. A record that attributes the entire service output to the volunteer or organization would obscure such coproduction. Ostrom's analysis of coproduction across organizational boundaries shows the importance of institutional arrangements for the contributions of differently positioned actors [64]. Her study supplies a conceptual and comparative interlocutor, with its own empirical settings; the present volunteer cases require their own investigation.

1.4 Three Reality Levels and the Accessibility of Economic Relations

The programme retains the three-level distinction developed in the preceding GR papers. At the *ontological* level, the ultimate constitution of economic value, persons, social power, and institutional existence is suspended. Resources, agents, and institutions can be represented as research objects without claiming that the representation identifies their final metaphysical substance. No ontology of exchange, class, subjective preference, or intrinsic generativity is presumed to settle the nature of aid.

At the *relational* level, the analysis studies historically formed, sufficiently stable and efficacious patterns: a funding relationship that conditions scheduling, a tacit dependency produced by repeated volunteer availability, an eligibility system that directs applicants toward particular services, or a recognition practice through which an institution becomes publicly trusted. These patterns can be represented as relations among subjects and interfaces, provided their boundaries and relevant histories are explicitly specified. Their persistence, causal efficacy, and change remain empirically contestable. A long-standing arrangement can be coercive, enabling, efficient, wasteful, or normatively mixed; persistence alone determines none of these judgments.

At the *manifestation* level, economic relations become accessible through particular forms: accounting entries, rosters, website instructions, waiting lists, queues, eligibility codes, physical spaces, interpersonal exchanges, donor reports, testimonial accounts, and organizational decisions. Manifestation is partial and situated. A budget line can show expenditure while concealing unpaid work. A volunteer roster can show attendance while omitting support that was requested and refused. A satisfaction score can register favourable responses while excluding people who could not enter the programme. Different manifestations may be mutually illuminating or contradictory.

Knowledge about these three levels should be distinguished from the levels themselves. An investigator's uncertainty does not constitute a fourth ontological category. Epistemic access, credibility judgments, model selection, and research error concern the procedures through which manifestations support

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provisional inferences about relational structures. Those procedures are especially important when the same organization controls the services, the records, and the public narrative through which its activity is evaluated.

1.5 Subjects, Institutional Positions, and Economic Interfaces

At minimum, a political-economic account must decide who is counted. Potential positions include the volunteer, direct recipient, accompanying family member, salaried coordinator, funder, institution, state agency, infrastructure provider, platform operator, and people excluded from a service before formal registration. A position is a question-relative analytical role rather than an exhaustive description of a person. The same individual can be a beneficiary in one relation, an unpaid contributor in another, and a gatekeeper in a third. Institutions may contain multiple decision centres with conflicting interests and information.

A typical triadic configuration places an organization between volunteer and recipient. It can enable reliable matching, training, protection and escalation. It can also define eligibility, select which complaints reach decision-makers, route credit, and control who may speak on behalf of the programme. Additional actors may introduce funding restrictions, procurement standards, staffing incentives, audit requirements, or public reputational rewards. Each intervention can alter both the feasible actions and the attribution of responsibility. This account inherits the relational distinctions of Papers I and II while reserving formal mechanisms for later sections.

The study also examines subjects without an effective channel for presenting their preferences. An aid programme may count only successful appointments; a beneficiary may lack the time, language support, mobility, or confidence to submit a complaint. Such omissions are economic and epistemic questions because they can affect allocation, bargaining and the construction of performance data. Their normative appraisal requires separate principles about fairness, recognition and standing. The measurement of agency demands contextual care. Kabeer's analysis of resources, agency and achievements in women's empowerment demonstrates how the conditions and consequences of choice matter to the meaning of indicators [51]. The present paper treats that insight as a methodological caution, without assuming that an empowerment measure designed for one domain automatically applies to every volunteer-aid relationship.

It follows that the relevant unit of analysis can be an event, a recurrent relationship, an interface, an institution, or a network of dependencies. Each level exposes different mechanisms. An individual request may fail at a procedural gate even when the overall programme has ample resources. A programme may supply many successful requests while shifting predictable costs to volunteers. A donor can appear distant from delivery yet influence the classifications that determine which activities receive support. Causal responsibility, legal attribution, and moral responsibility therefore require separate, properly grounded inquiries.

1.6 A Preliminary Evidence-Indexed Power Configuration

The diversity of economic objects calls for a representation that can preserve heterogeneity and missing information. The following record is offered as a descriptive research instrument. Let h denote a bounded aid history, t a decision or observation time, and κ a stated evidential standpoint that specifies available sources and their provenance. Equation 1 defines a seven-component configuration.

$$\mathfrak{P}_t^{\kappa}(h) := \left(\mathcal{A}_t^{\kappa}, \mathcal{R}_t^{\kappa}, \mathcal{I}_t^{\kappa}, \mathcal{W}_t^{\kappa}, \mathcal{O}_t^{\kappa}, \mathcal{T}_t^{\kappa}, \mathcal{H}_t^{\kappa}\right). \tag{1}$$

The subject-and-position register $\mathcal{A}$ identifies whose opportunities and burdens are being considered, including unresolved candidates and known exclusions. The resource register $\mathcal{R}$ distinguishes possession, conditional access, restrictions and substitutability. The interface register $\mathcal{I}$ records rules and actors controlling authorization, allocation, conversion, admission and recognition. The work register $\mathcal{W}$ describes paid and unpaid contributions, costs and replenishment conditions. The option register $\mathcal{O}$ describes candidate actions, refusal possibilities, outside opportunities and feasible substitutions for each

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Table 1: Initial political-economic objects and recurrent inference risks in volunteer aid.

Object	Candidate evidence	Inference needing further grounds
Resources	Funding terms, supplies, available transport	Budget size as effective recipient access
Unpaid work	Rosters, preparation, travel, substitution	No wage as proof of free or fair terms
Interfaces	Eligibility rules, approvals, routing records	Formal eligibility as feasible receipt
Options	Language access, refusals, alternative providers	Signed choice as practical bargaining power
Recognition	Credits, donor communications, public narratives	Public visibility as proportional contribution
Capacity renewal	Training, fatigue, turnover, supervision	Current output as sustainable delivery
Historical dependence	Repeated service, changes in alternatives	Continued reliance as an unlimited duty

relevant position. The trace register $\mathcal{T}$ records manifested observations, uncertainty and their sources. Finally, $\mathcal{H}$ describes the bounded history of changes in relations and constraints that the research question requires.

The tuple is typed in the methodological sense that each component asks for evidence of a different kind. It is not a vector whose coordinates share units, and no addition or ranking is implied by the notation. Incomplete components remain marked as incomplete rather than silently supplied by general expectations about how charities or recipients behave. The history h is an explicitly delimited observational history, not a claim to access all causally relevant past events. The index κ makes a contested interpretation visible: an institution's roster, a volunteer's account and a recipient's testimony may warrant distinct partial configurations even when they concern the same episode.

A proposed power mechanism can then be stated conditionally in ordinary language: given a specified task, set of resources, interface rules and feasible alternatives, actor C is positioned to change the practical options of subject B. Establishing that C did change those options requires a process account or other adequate causal evidence. Establishing domination, injustice, exploitation, a duty to fund services or legitimate public authority requires additional normative, legal and political premises. The configuration neither proves those conclusions nor prevents investigators from defending them separately.

Table 1 shows why the record's components should be kept distinct during data collection.

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1.7 Power, Contribution, and the Direction of Inference

A central research risk is the conversion of a descriptive fact into a strong normative conclusion through an apparently intuitive intermediate term. An aid organization's control over referral may give it the capacity to exclude, prioritize or protect individuals. That capacity can be used to implement a defensible safety requirement, to consolidate discretionary dominance, or in a configuration with both effects. A grant restriction may impair continuity while also preserving an agreed public purpose. A volunteer's extensive labour may express freely embraced solidarity or a dependence that leaves little practical room to refuse. The political-economic object is the pattern and mechanism of control; its moral appraisal calls for explicit commitments beyond the pattern itself.

It is equally important to distinguish effects from intentions. A volunteer may accumulate authority because recipients turn to the same knowledgeable person across repeated encounters, even without seeking control. A coordinator may constrain choices through standard procedures, even without personal hostility. A donor may reshape the allocation of assistance through reporting incentives rather than direct instructions. These mechanisms require evidence about institutional design and the differential capacities of subjects. Attribution to a single person is especially weak where rules, funding cycles, infrastructure, and historical habits jointly produce an outcome.

Political economy also tracks who can reinterpret the meaning of contribution. A sponsor may present an intervention as its own achievement while the coordination costs are carried by unpaid par-

ticipants and recipients. Another organization may visibly credit volunteers while displacing the labour of professional supervisors. Public credit can support future funding and volunteer recruitment, generating a feedback relation between symbolic recognition and material capacity. It can also make particular needs more legible to funders than others. The relevant investigation covers the creation of visibility, its conversion into authority or resources, and its distribution among actors, without treating recognition as identical to monetary value or to justice.

Marketization arguments should be used with analogous care. Eikenberry and Kluver survey how nonprofit organizations' pursuit of commercial revenues, competitive contracts, donor influence and social entrepreneurship may have implications for their contribution to civil society [22]. Their article establishes a scholarly terrain of concerns and arguments; it does not establish that a particular volunteer programme has suffered democratic decline. The present research can ask whether a funding model affects beneficiary voice or volunteer workloads, while requiring appropriate evidence before asserting that it has done so.

1.8 Coupled Historical Relations and the Production of Scarcity

Resource constraints evolve. A service may begin with surplus capacity and become oversubscribed after a referral network identifies new needs. Institutional recognition can increase donor support while raising expectations and compliance costs. A successful volunteer programme can encourage a public body to reduce its own provision; the resulting reliance can make volunteer withdrawal increasingly consequential. Conversely, investment in multilingual interfaces or recipient-controlled scheduling can reduce demand for individualized assistance by transforming the conditions that produced the initial bottleneck. Such possibilities require investigation as coupled processes with multiple participants and time scales.

Scarcity is therefore a question for explanation. Some constraints arise from finite material supplies, competing uses, technical capacity or emergencies. Others depend on schedules, institutional boundaries, distribution, procurement, access restrictions, expectations, or the absence of substitutes. Still others are generated by the successful expansion of a programme's reach. Treating each observed queue as the direct expression of an immutable scarcity would obscure which restrictions could be altered, by whom and at what cost. The reverse error would assume every shortage is politically manufactured or cheaply reversible. A careful account distinguishes resource limits, rule-induced constraints, and the empirical cost of available alternatives.

Historical feedback may also change subjects' capacities. A volunteer develops expertise that increases usefulness but may lead the organization to concentrate specialized requests on that individual. A recipient learns to navigate the service and becomes more independent; another experiences a reduction in alternative contacts as previous supports withdraw. An organization can become more capable through learning while also relying more heavily on a narrow funding channel. These are instances of jointly changing positions and possibilities, with effects that need not move in the same direction for each subject.

Paper IX is reserved for the extended explanation of historical system formation, stabilization and transformation. The present paper studies historical dependence insofar as it is needed to explain the production, distribution, circulation and potential concentration of resources and power. The boundary is methodological: a political-economic mechanism can have a history without turning the analysis into a complete philosophy of historical dynamics.

1.9 Three Constructed Diagnostic Configurations

Case A: A funded language-access programme. A hypothetical community programme recruits multilingual volunteers to accompany residents to public appointments. A funder covers coordination software and publicity but excludes translation preparation and travel from eligible expenditure. The coordinator reports a high number of completed appointments. The resource register records both grant restrictions and privately supplied volunteer time; the interface register records the matching process

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and institutional entry conditions. A recipient who cannot access the booking application may remain absent from the published count. If the programme later reports an efficiency gain, the observation alone cannot distinguish reduced total cost from cost displacement, expansion of unmet need, or a different case mix. A credible study would need disaggregated input records, excluded-subject inquiry, comparison periods and clear definitions of output and burden. The case is constructed and gives no empirical finding about a real programme.

Case B: An established unpaid coordination role. In a second hypothetical service, one volunteer gradually becomes responsible for matching other volunteers with recipients. The volunteer acquires procedural expertise and repeated reliance from colleagues; managers announce that the service is "volunteer-led". The available documentary record shows increasing appointments and fewer staff coordination hours. Competing reconstructions remain possible. Perhaps volunteers have developed valued self-governance supported by adequate supervision. Perhaps an institutional role has been shifted onto one individual without viable relief or succession. Perhaps the system combines genuine agency with mounting dependency. Inquiry would compare practical refusal options, authorization, workload, role expectations, substitute staff capacity, and historical decisions about funding. The descriptive result would still leave open the ethical status of the arrangement and any legally defined employment or occupational obligations.

Case C: Donor-defined need and symbolic credit. A hypothetical aid network can fund either ongoing low-visibility home visits or a highly publicized one-day event. A donor's reporting template counts attendance at the event but has no field for continuous relational support. Organizers shift resources toward the event, and donor publicity attributes success to the sponsoring institution. The shift could be justified by urgent demand, scale or a genuine change in recipient preference; it could also reflect the funder's capacity to define what counts as recognizable value. Evidence would need to document the formation of options, recipients' views, the displacement or continuation of other services, resource-control conditions, and the path by which visibility affects subsequent funding. The paper makes no general assumption that publicity is harmful or sustained contact is always preferable.

Together the cases separate programmatic output from actual access, volunteered work from unrestricted practical choice, and publicly visible value from its distributed production. They also expose different opportunities for refutation. If unpaid travel is reimbursed elsewhere, the cost allocation in Case A changes. If reliable substitutes and protected refusal exist, the dependence claim in Case B weakens. If recipients independently prefer the event and continuous support remains available, the institutional-capture interpretation in Case C requires revision. Each case shows the usefulness of treating rival reconstructions as live possibilities.

1.10 Boundaries of Political-Economic Explanation and the Research Programme

The analytical programme will develop separate accounts of resource flows, unpaid work, attention and time, institutional financial dependence, manufactured or altered scarcity, eligibility, information, contracts, symbolic capital, recognition and appropriation. Its central question concerns the conversion of access and contributions into power and the changing distributions of costs, options and decision authority. Some mechanisms can be represented through typed relations or partial operators; others may be better understood through ethnography, archival analysis, qualitative process tracing or institution-specific quantitative studies. Formal representation is an aid to disciplined comparison only where the object and evidential requirements warrant it.

Economic diagnosis creates necessary interfaces with other disciplines while preserving their independent claims. Paper VI asks whether distributions, recognition and procedural participation are just. Paper VII asks what a volunteer or institution has reason or duty to do in particular circumstances. Legal research asks what obligations and powers apply in a specific jurisdiction and organizational setting.

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Aesthetic analysis can investigate how material arrangements are manifested and experienced, while psychoanalytic analysis may clarify investments in status, rescue roles or recognition. None of these questions is solved by a budget reconstruction or a descriptive power profile. Conversely, moral intentions or aesthetic fittingness alone do not establish financial sustainability, the absence of labour displacement, or equitable access.

The proposed account also keeps conceptual room for power that enables collective capacity. Joint control, accountable delegation, shared resources and institutional support can expand the feasible possibilities of subjects who would otherwise be isolated. The presence of asymmetry need not entail domination, and a nominally equal distribution of resources may coexist with severe inequalities in conversion capacity. Any normative claim about desirable arrangements must specify whose interests or rights are at stake, what alternatives exist, how affected subjects participate in judgment, and how institutional histories condition their current opportunities.

Future work should distinguish at least four kinds of verification. Conceptual verification tests whether the categories separate objects that materially differ. Evidential verification checks source provenance, excluded subjects, missing labour and alternative accounts. Causal inquiry compares plausible mechanisms under explicit assumptions and admits that some historical configurations lack identifiable counterfactuals. Normative and legal analysis examines the independent premises through which one might justify criticism or reform. The first section establishes a vocabulary and bounded descriptive record for those inquiries. Whether the framework makes a distinctive explanatory contribution remains a question for the remainder of Paper VIII and for subsequent independent research.

2 Resource, Labour, Value, and Power Vocabularies for Aid Relations

This section defines the principal political-economic terms used to describe volunteer-aid relations. Its role is to make the later analyses of resource dependence, unpaid work, conversion, scarcity, and institutional control conceptually comparable while preserving their differences. The method combines bounded readings of established statistical and theoretical vocabularies with provisional generative relational (GR) distinctions. The discussion proceeds through resources and their availability, work and the renewal of labour capacity, plural value attributions, relational power, and the interfaces through which available means become feasible actions. It then specifies observational limits, competing interpretations, and a minimal coding vocabulary. Definitions introduced here are research conventions for the present domain; their empirical adequacy and normative import require separate investigation.

2.1 Analytical Units and the Conditions of Comparison

An aid activity can be described at several different units of analysis. An *episode* is a bounded occasion of attempted or actual assistance, such as accompanying a person to a public office. A *role* comprises expectations, authorizations, and responsibilities that may recur across episodes. A *relationship* encompasses patterns of action and expectation among subjects; it may persist through interruptions or changes in formal role. An *interface* is a socially or technically organized point at which resources, permissions, information, persons, or recognition become connected to a possible activity. An *institutional arrangement* includes comparatively durable rules, positions, resources, and procedures that may govern several interfaces. A *history* traces selected transformations among these objects across a specified interval.

These units answer different questions. A roster can demonstrate that an individual appeared in an assigned role at a particular time; by itself it supplies limited evidence about the conditions under which the role was accepted. A reimbursement record may show who paid a particular expense; it may leave unrecorded the time spent obtaining reimbursement. A service-count series may describe completed encounters while giving little access to unsuccessful requests, substituted household labour, or the creation of new dependencies. The analyst should state the unit, the relevant participants, and the observation horizon before comparing apparently similar contributions or effects.

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Comparability depends on a further choice of perspective. The resource saved by an institution, the time contributed by a volunteer, the practical benefit experienced by a recipient, and the public reputation gained by a donor can coexist in one episode. Their descriptions may use currency, hours, physical quantities, narrative assessment, or categorical evidence. A comparison can be exact within a specified unit, approximate under stated valuation conventions, qualitative across distinct dimensions, or currently unavailable. This distinction prevents an apparent common word, such as *value*, from concealing several objects of appraisal.

2.2 Resources, Access Rights, and Conditional Availability

For this inquiry, a *resource* is a candidate means or condition that can support, restrict, or redirect a specified aid activity within a historically situated arrangement. Candidate resources include funds, premises, materials, transport, time, trained competence, information, organizational relationships, and reliable opportunities for communication. This broad research convention is task-dependent. An unused room may support a confidential meeting when physically accessible, properly equipped, and permitted for the task; the same room may be irrelevant to a remote translation request. Describing a resource therefore requires identifying its holder, possible uses, relevant task, and the institutional or material conditions of activation.

Four distinctions organize a resource description. *Possession or custody* concerns who holds, owns, or maintains the candidate means. *Access* concerns who can actually approach or draw upon it under specified conditions. *Disposition or allocation authority* concerns who can assign its uses, modify restrictions, or withhold it. *Conversion capacity* concerns whether the resource, together with complementary conditions, can be made effective for a concrete action. A funder can possess money while a volunteer organization controls scheduling; a public authority can own facilities while a contracted operator determines admissions; and a recipient can be eligible for a service while being unable to reach the location where the service is delivered.

The scope of a resource must also include its *availability over time*. A short-term grant can finance a new programme but provide weak assurance of its continued operation. A volunteer may reliably offer two hours per week during one season but require rest or paid employment during another. A specialized interpretation service can be formally available while possessing very limited capacity during urgent intervals. Stocks, flows, commitments, restrictions, and expected replenishment should accordingly be recorded separately when the evidence permits. A nominal quantity alone may conceal a binding deadline, a safety restriction, or a dependence on another resource.

Pfeffer and Salancik's organizational resource-dependence approach provides a relevant precedent for examining dependence on externally controlled means [67]. The present framework extends the question provisionally to volunteers, recipients, intermediaries, and public bodies. Its unit of inquiry is the practical configuration of a support activity, and it does not assume that an individual recipient has the negotiating powers or institutional continuity of an organization. A critical question is whether the resource can be replaced, at what cost, in what time, and without transferring an unreasonable burden to a less visible participant.

2.3 Work, Volunteer Labour, and Statistical Classification

Work designates human activity that contributes to the production of goods or provision of services under an identified research or statistical convention. *Labour* emphasizes activity performed over time together with its organization, competence requirements, bodily and affective demands, and conditions of continuation. These terms overlap; their distinction in this manuscript is analytical rather than a claim that two separate substances exist. The relevant work may be undertaken by volunteers, salaried employees, independent professionals, recipients, family members, or public officials, with different roles, protections, obligations, and degrees of discretion.

International statistical guidance supplies a useful, independently authored baseline. The International Labour Organization (ILO) describes volunteer work for statistical purposes as unpaid and non-

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compulsory activity undertaken to produce goods or services for others outside the volunteer's household or family. It distinguishes organization-based and direct volunteer work, and recognizes that reimbursement or limited expense support can accompany volunteering [49]. Its *Manual on the Measurement of Volunteer Work* sets out a definition, survey approaches for identifying volunteers, and methodologies for estimating the volume and economic value of volunteer work [48]. These tools address statistical recognition and comparability. A specific organization's designation of a role as "voluntary," an individual participant's own understanding of that role, and its legal treatment may require additional evidence. The statistical boundary is particularly relevant when an activity resembles household care, compelled participation, internship training, or formal employment.

Volunteer aid contains many possible work components beyond the visible service encounter: preparation, travel, translation, safety checks, coordination, supervision, documentation, communications, error correction, and transition between cases. An output count based only on completed encounters can omit much of this activity. An accurate time-use account may likewise need to distinguish active service, on-call availability, compulsory training, and discretionary social participation. In some cases a participant understands a preparatory activity as meaningful civic or communal life rather than a burden. The research must record such self-understandings while still examining their material and temporal conditions.

Care and social reproduction scholarship complicates any sharp separation between economic work and the maintenance of lives and communities. Bergeron's survey of feminist work on formal, informal, and care economies addresses the visibility of unpaid household labour, affective aspects of care, commodification, and gendered distributions of work [6]. Volunteer aid may intersect with such processes, especially when public services, families, paid care providers, and voluntary groups substitute for or supplement one another. The categories remain historically and institutionally specific: civic participation and intimate family care can overlap in their effects without sharing identical obligations, relationships, or empirical units. The present paper takes this literature as a source of questions about unrecorded work and distribution, while leaving detailed theories of social reproduction for a focused later examination.

2.4 Cost Allocation, Alternative Uses, and Renewal of Capacity

A *cost* is a burden or use of means attributable to a specified activity under a stated accounting or interpretive convention. Direct payments, unpaid time, foregone earnings, equipment wear, travel, and training can sometimes be estimated separately. Other burdens, such as sustained attention, exposure to distress, uncertainty, social strain, or loss of flexibility, may require qualitative or mixed-method inquiry. Calling them costs identifies possible constraints on action; their recognition need not imply that care, voluntary commitment, or solidarity is reducible to monetary sacrifice.

An *opportunity cost* is the value assigned, under an explicit counterfactual, to a feasible alternative use that an activity displaces. Its interpretation depends on whether the alternative was genuinely available to the relevant subject. Valuing every volunteered hour at a professional wage can furnish a standard statistical proxy under a declared method, yet the proxy need not describe a participant's actual foregone earnings or subjective assessment. A retired volunteer, a precariously employed volunteer, and a worker released from paid duties by an employer can contribute similar hours under materially different constraints. Distinguishing imputed valuation, recorded expenditure, and lived opportunity is therefore essential.

Cost allocation specifies who ultimately bears an expense or burden, and through which transfer or institutional arrangement. The commissioning institution may report no wage expense for volunteer coordination while volunteers pay transport costs and a public agency supplies training. The recipient may spend time complying with referrals, or may benefit from saved travel and reduced administrative difficulty. Attributing every input to a single organization's ledger would reproduce the organization's accounting boundary rather than the distribution of work across the relation. An observed reduction in one participant's expense might be a genuine efficiency gain, the substitution of a cheaper input, or the transfer of a cost to another position; the hypotheses require different evidence.

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The *renewal of capacity* concerns how subjects and institutions remain able to contribute or receive assistance across repeated episodes. Relevant conditions include rest, remuneration elsewhere, supervision, skill development, predictable scheduling, succession planning, material replenishment, and the ability to decline a request. Continuity may be strengthened by accumulated expertise and weakened by concentrated reliance on one person. A temporary output increase can thus coexist with either improved or deteriorating future capacity. Assessing sustainability requires an explicit horizon and attention to the distribution of the conditions that support renewal.

2.5 Value Registers and Situated Attributions

Value is used here as a family of context-dependent attributions and evaluative relations. For analytical clarity, the investigator should state the bearer or activity evaluated, the relevant evaluator or collective procedure, the temporal horizon, the proposed dimension, and the evidence supporting the attribution. The same activity may be described as useful to a recipient, costly to a volunteer, contractually reimbursable to an organization, publicly recognizable to a sponsor, and valuable for future collective capacity. Such descriptions can be jointly informative even where a common scale is unavailable.

The present paper distinguishes five *candidate value registers*, subject to revision in each empirical domain. *Use or service value* concerns a contribution's practical relevance to an articulated need or activity. *Exchange or monetary valuation* concerns prices, payments, budget imputations, or other monetary conventions; the presence of a price does not settle the other dimensions. *Relational value* concerns a historically formed relationship's significance for its participants, including trust, recognition, and the conditions of cooperation. *Institutional or symbolic recognition* concerns what rules, measures, public narratives, and credentials make visible or creditworthy. *Generative value*, used here provisionally, concerns the extent to which an arrangement sustains or transforms conditions for further worthwhile activity and relational capacities. The last expression names a question for inquiry, including who is empowered to judge future possibilities; it does not presume that all increased activity is desirable.

The antecedents of the generative vocabulary require explicit attribution. Eglash's account of generative justice examines bottom-up circulation of relatively unalienated labour, ecological, and expressive values [21]. That programme is a substantive intellectual predecessor, particularly for attention to value circulation and the location of value-generating capacities. The present GR inquiry develops a distinct, preliminary set of questions about heterogeneous participants, institutional conversion interfaces, competing value registers, capture, dissipation, and the conditions of renewed capacities in aid relations. These questions can illuminate points of contact with generative justice without establishing theoretical identity or claiming priority over the earlier account.

Attributions can conflict without any participant necessarily making a simple factual error. A recipient might value the continuity of a familiar volunteer, a coordinator might prioritize verifiable coverage, and a funder might emphasize an intervention's scale. Their differences may concern genuine plural goods, different information, incommensurable time horizons, or unequal authority to define what counts. The political-economic issue includes whose valuation enters funding, scheduling, and reporting decisions, and whether subjects affected by those decisions have practicable opportunities to contest them. A descriptive map of value attributions supplies material for analysis; it does not itself determine a correct moral ordering.

2.6 Relational Power, Influence, and Authorized Control

Relational power refers, within this paper, to historically situated capacities to alter the feasible actions, dependencies, conversion rules, or recognized standing of one or more subjects. Its specification requires identifying the relevant subjects or positions, an object over which capacity is exercised, available alternatives, the institutional setting, and a time horizon. Dahl's relational treatment of power offers a classic antecedent for making power claims explicit in terms of relations rather than undifferentiated attributes of persons [19]. The present typology is a local GR proposal informed by several traditions; it is not attributed to Dahl as his own multi-component classification.

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For purposes of investigation, *capacity to act* concerns a subject's feasible contribution or choice. *Control of an interface* concerns the ability to set or alter the conditions under which another actor obtains access, authorization, recognition, or conversion. *Exercised influence* concerns an identifiable intervention or process that changes another position's action or options. *Collective power* concerns capacities constituted jointly, for example through coordinated action, shared information, or delegated authority. *Institutional authority* concerns a recognized or claimed position to make decisions under rules; whether such recognition is legally valid or ethically legitimate remains a separate inquiry.

These distinctions locate mechanisms that an undifferentiated assertion that "the institution has power" would leave ambiguous. A hospital may provide a safe route for volunteers to assist patients and thereby expand the capacity of several positions. A scheduling administrator may possess authority to restrict entry while exercising it only in a subset of cases. A donor may affect future programmes through renewal conditions despite taking no part in service delivery. A volunteer who controls indispensable procedural knowledge may shape coordination without a formal title. Power may therefore be exercised directly, anticipated by other actors, embedded in routine procedures, or constituted through cooperation. The form and direction of the effect need evidence rather than inference from status alone.

Resource dependence and power are related propositions with different truth conditions. Dependence identifies a subject's practical reliance on a resource or actor under stated alternatives. Interface control identifies who can alter the terms of that reliance. An exercised influence claim requires evidence that a decision, action, procedure, or credible anticipation contributed to a particular change. A claim of domination or illegitimate control additionally requires an account of relevant rights, justificatory standards, and the possibilities of contestation or refusal. Resource scarcity can heighten the consequences of control, while robust substitutes can weaken them; scarcity or asymmetry alone establishes neither actual coercion nor the moral character of an arrangement.

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2.7 Conversion Interfaces and Evidence-Sensitive Feasibility

Resource possession becomes political-economically consequential through *conversion interfaces*: organizational and material conditions connecting a resource bundle to a potential aid action. Examples include eligibility checks, language access, training requirements, shift approval, financial restrictions, appointment systems, information-sharing protocols, and safety permissions. The interface may be maintained by one institution, negotiated among several actors, or embedded in physical infrastructure. Its analysis should specify who can change it, whose actions depend on it, and what alternative channels exist.

A limited formal notation makes explicit why practical feasibility is a distinct object. Fix a subject a, time t, bounded history h, and evidential standpoint κ. Let $\mathsf{B}^{\kappa}_{a,t}(h)$ denote evidenced candidate resource bundles, $\mathsf{J}^{\kappa}_{t}(h)$ the evidenced states of relevant conversion interfaces, and $\mathsf{X}_{a,t}(h)$ the candidate aid actions at the stated level of description. Equation 2 represents a *partial evidence-indexed coding map*.

$$\Gamma^{\kappa}_{a,t,h}: \quad \mathsf{B}^{\kappa}_{a,t}(h) \times \mathsf{J}^{\kappa}_{t}(h) \rightharpoonup \mathcal{P}(\mathsf{X}_{a,t}(h)) \,. \tag{2}$$

The map assigns a set of *evidentially supported feasible actions* only where the material, procedural, and temporal conditions can be assessed to the level required by the specified study. The power-set notation allows several actions to remain feasible. The partial arrow signals that the available evidence can be insufficient for a warranted assignment. An explicitly empty output is reserved for a supported finding that no action in the defined candidate set is feasible under the registered conditions; an undefined output records insufficient grounds for that conclusion. The distinction avoids treating the absence of a case in an organizational database as proof of impossibility.

Equation 2 is a proposed bookkeeping construction, without estimated parameters or any assumption that the coded action set exhausts practical life. It abstracts from uncertainty about actors' perceptions, contingencies outside the recorded history, and possible legal or ethical limitations unless these are explicitly represented as interface conditions. It also distinguishes feasibility from realized action: inclusion

in an evidenced feasible set leaves open whether the subject chooses, is willing, is permitted by applicable law, or is ultimately able to complete the activity. The content of Γ must be revised when recipient testimony, operational evidence, or changes in institutional rules alter the warranted account.

For example, a multilingual volunteer may possess relevant competence and available hours, yet the organization may lack a permissible information-sharing route for a particular confidential appointment. A conversion map can register that the task is blocked under the documented interface and may become feasible under a newly authorized channel. Whether granting such permission would be lawful, appropriate, or safe requires the independent standards governing that appointment. The role of the map is to localize the dependency and the possible change in options; its form provides no automatic permission to act.

2.8 Choice, Recognition, and the Limits of Formal Categories

Choice is relevant both as an action and as a position within an arrangement of feasible alternatives. A volunteer's signed agreement can establish a manifestation of assent while leaving empirical questions about viable refusal, reputational pressure, household obligations, or prospects of alternative activity. A recipient's formal service choice can coexist with a lack of transportation, inaccessible communication, limited information, or fear that declining the offered help will jeopardize further access. The contrast between nominal resources and situated agency is illuminated by Kabeer's work on the relation among resources, agency, achievements, and the conditions of choice [51]. Its original argument addresses women's empowerment; application to volunteer-aid relations here remains an explicitly limited theoretical translation.

Recognition is similarly plural. A resource can be administratively recognized as an eligible expenditure, a volunteer can be publicly credited, a recipient can have need formally acknowledged, and an institution can acquire legitimacy in the eyes of a particular audience. These forms of recognition may interact, but their sources and consequences differ. Recognition in a donor report can direct future funding without establishing that the credited actor supplied the greatest effort. Recognition of a beneficiary category can widen institutional access while also imposing a potentially burdensome identity classification. Symbolic visibility, legal status, organizational authorization, and interpersonal respect accordingly require distinct entries in a careful study.

The political-economic vocabularies remain open to the recipient's and volunteer's own interpretations while permitting critical scrutiny of institutional accounts. An apparent conflict between a programme's service count and a participant's testimony might reflect differing denominators, different time horizons, incomplete recording, divergent conceptions of benefit, or an actual contradiction. The first methodological obligation is to identify the discrepancy and relevant evidence. Stronger causal or normative claims should follow only where additional grounds support them.

2.9 Diagnostic Misclassifications and Rival Reconstructions

A common misclassification occurs when money, work, benefits, and control are assigned to one actor because that actor appears as the programme's formal sponsor. Imagine a hypothetical funder paying for a scheduling platform, a volunteer bearing travel costs, a recipient contributing extensive time to resolve documentation problems, and a public agency providing premises. A report might attribute the number of appointments to the funded platform. A broader resource account could reveal several inputs that jointly condition the result. Establishing a contribution distribution would require a theory of attribution and suitable evidence; summing expenditures alone would supply neither a complete contribution record nor a justified allocation of credit.

A second error arises when formal voluntariness is treated as a complete diagnosis of practical choice. Consider a constructed coordinator who agrees to continue an unpaid role because only that coordinator knows the service's complex routing procedures. One reconstruction interprets the arrangement as valued self-governance; another as institutional dependence sustained by weak succession planning; a third sees both processes. The interpretations differ in their predictions about what happens when training, paid

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Table 2: Working political-economic vocabulary for the study of volunteer-aid arrangements.

Term	Core research question and candidate evidence	Inference requiring further grounds
Resource	Which means and conditions are available; budgets, facilities, time, skills	Nominal stock as practical service capacity
Access/control	Who can reach, allocate, or restrict a means; rules, approvals, refusals	Formal entitlement as realized use
Work/labour	Who performs, prepares, coordinates, and sustains tasks; time-use and role records	Recorded hours as total cost or free consent
Cost/renewal	Who bears burdens and reproduces capacities; expenses, rest, supervision	Current outputs as sustainable provision
Value	Who attributes which kind of worth; accounts, testimony, recognition procedures	One valuation as a common or final standard
Power	Who can alter options and under what conditions; changes in rules and alternatives	Control capacity as exercised, legitimate influence
Conversion	Which interfaces enable a task; permissions, routing, technical conditions	Possible action as accomplished or authorized action
Recognition	Whose contribution or need becomes legible; reports, credits, eligibility	Visibility as proportional contribution or justice

backup, protected refusal, or alternative scheduling tools become available. Interview evidence, role histories, and observed institutional changes could discriminate among them. The presence of a written volunteer agreement would answer a narrower question concerning recorded assent.

A third risk arises in valuation. A programme can generate measurable financial savings while reducing continuity of care or transferring coordination burdens to families. It can also produce financial savings and better accessibility simultaneously. The proper comparison depends on a declared horizon, actual feasible alternatives, and plural evidence of effects for each affected position. Treating one output measure as the entire social value conceals the possibility of both positive and adverse changes, while inventing a universal composite index without justified units can make that concealment less visible rather than less consequential.

These examples are diagnostic constructions, not empirical cases. They show how explicit vocabularies direct inquiry toward rival explanations and additional observations. They also identify circumstances under which the proposed GR distinctions would need modification: if field evidence shows that a category adds no discriminating power, that a supposedly independent dimension is always captured by another locally, or that an important practice repeatedly escapes the coding scheme, the classification should be revised.

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2.10 Minimal Register for Subsequent Political-Economic Mechanisms

The distinctions developed in this section can be condensed into a working register for subsequent mechanisms. Table 2 gives the question, candidate evidence, and an important inferential boundary for each term. The register is an audit aid: its entries identify the information an analyst would seek in a specific context, with their relevance determined by that context.

The vocabulary carries three standing limits. At the ontological level, the account suspends an ultimate claim about the substance of resources, value, labour, or power. At the relational level, historically constituted subjects and organized conditions are the objects of causal and interpretive inquiry. At the manifestation level, documents, statements, records, and observed encounters provide partial and corrigible access to those objects. The seven-component descriptive configuration in Equation 1 can accommodate the distinctions, while the partial conversion map in Equation 2 isolates one possible relation between recorded means and evidenced feasible actions. Neither construction supplies a substitute for field inquiry or moral and legal argument.

The next stage will examine these categories against the three-level GR account and the inherited

dyadic, triadic, and subject-formation formalisms. Later political-economic sections will test whether the vocabulary clarifies material resource flows, cost displacement, labour reproduction, scarcity formation, eligibility rules, institutional substitution, and the capture or return of value. Its usefulness ultimately depends on whether it helps identify conditions, explain differences among cases, and support accountable contestation of the resulting descriptions.

3 Three-Level Reality, Historical Subjects, and Inherited Relational Formalism

The political-economic vocabulary of volunteer aid requires a disciplined account of which relational conditions are being studied, how they become accessible through records and encounters, and how the relevant subjects and institutions persist or change. This section supplies that account through a bounded reconstruction of the three-level generative relational (GR) architecture and the formal contributions of Papers I–III. It first distinguishes ontological suspension, historically constituted relational reality, and manifestation reality; then examines subject identification, institutional classification, evidence-compatible histories, and dyadic, triadic, and subject-formation inheritance. The concluding analysis specifies a concept-by-concept audit and diagnostic obligations for subsequent political-economic sections. The method is interpretive and formal, using one deliberately limited reconstruction device. The proposed devices organize research claims about volunteer aid without supplying an ontological proof, a complete causal model, or an ethical verdict.

3.1 The Analytical Role of the Three Reality Levels

The three-level architecture answers distinct kinds of questions. *Ontological reality* concerns what resources, power, work, persons, and institutions ultimately are. The present project suspends a final answer. *Relational reality* identifies historically constituted structures that may be sufficiently stable, identifiable, and causally or generatively efficacious to support a specified inquiry. *Manifestation reality* concerns the situated forms in which such structures appear, are expressed, recorded, classified, interpreted, and sometimes modified. The levels provide a methodological discipline for inquiry; they are neither competing physical domains nor three successive stages of one established causal process.

For political economy, ontological suspension applies even to apparently straightforward material resources. The presence of food, transport, paid work, or a financial account ordinarily admits strong practical and empirical claims at the relevant scale. Such claims require no thesis that matter, value, or economic relations possess a unique ultimate ontological substrate. Conversely, ontological restraint does not oblige the analyst to regard a funding prohibition, insecure transport route, or durable staff hierarchy as merely subjective. These can have demonstrable relational consequences for what actors are able to initiate, sustain, or refuse.

At the relational level, the objects of inquiry are selected by declared criteria of identification, persistence, and efficacy. A volunteer role can acquire continuity through repeated coordination even when the named participant changes. A grant restriction can constrain later activity after its original decision-maker departs. A recipient's need can be shaped by bodily conditions, living circumstances, institutional eligibility procedures, and interpretations of appropriate assistance. Each object has a relevant history, and its description may depend on the chosen temporal and institutional boundary. The account leaves room for alteration of those boundaries when the evidence warrants it.

At the manifestation level, the investigator may observe payment records, shift assignments, reimbursement claims, grant conditions, request forms, public narratives, refusals, interface failures, or testimony about unrecorded work. Such manifestations have practical force in their own right. A published eligibility rule can shape conduct before it is enforced; a complaint form can create a new route for contestation; a publicly reported volunteer-hour count can affect subsequent funding. The analyst therefore studies manifestations both as incomplete access to a larger arrangement and as historically consequential elements of that arrangement.

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Paper I specifies the correspondence between relational structures and manifestations as potentially many-to-many. One persistent dependence relation can manifest through several events, and one visible event can remain compatible with different underlying structures. Paper VIII preserves this restriction when interpreting a reported service outcome: the appearance of a completed appointment identifies an observed event under a reporting convention, while the relational history supplying access, labour, costs, cooperation, and exclusions remains a further research object.

3.2 Historical Subjects, Boundaries, and Institutional Positions

The unit of political-economic analysis need not be an isolated person with fixed preferences and an independently specified resource endowment. In the inherited GR approach, a subject is tracked through a history-bearing relational configuration, with its boundaries, continuities, and operative capacities retained at the resolution of the inquiry. A person volunteering at a clinic may also be a caregiver, employee, service user, or member of a household that subsidizes travel and free time. An institution may consist of intersecting professional, administrative, financial, and public-accountability positions with distinct permissions. The paper therefore distinguishes a *tracked subject* from a *role occupancy*, an *organizational account*, and an *institutional interface*.

Tracking a subject across time requires justified continuity criteria. Matching a name or database identifier is useful but can be insufficient when responsibilities have been delegated, roles have changed, or records have been merged. Conversely, a change of employer, title, or volunteering status does not by itself establish that the person's capacities, commitments, or practical horizon have been transformed in a constitutive sense. The criteria depend on the intended claim. A cost study may require continuity of the household bearing expenses; a decision-authority study may require continuity of the office controlling admissions; a co-formation study requires a substantially stronger account of what persists through subject-constitutive change.

Several kinds of boundaries can therefore coexist. A legal or administrative boundary identifies a formally accountable entity. A resource boundary identifies who can dispose of an asset or authorize a transfer. A work boundary identifies which participants perform, prepare, and sustain the relevant tasks. An evidential boundary identifies whose experiences appear in an accessible data collection. A generative boundary identifies which histories and interfaces materially affect later opportunities. These distinctions are proposed analytical selections, not a claim that an institution possesses five invariant or objectively separable borders.

Historical subject tracking also helps prevent premature interpretations of dependency. A volunteer may rely on an institution for placement while the institution relies on the volunteer's linguistic knowledge. A recipient may rely on both actors for a particular service while developing the capacity to bypass the original service channel. Dependence can be reciprocal in some dimensions and asymmetric in others. Its political-economic significance must be established with reference to specific resources, conversion conditions, alternatives, and intervals. The dependence registers of Sections 1 and 2 provide the local vocabulary; the historical subject account determines to which continuing or changing positions those registers apply.

3.3 Manifestation, Classification, and Institutional Legibility

Economic evidence is frequently organized through categories that institutions have created for operational purposes. A database may record volunteer hours, completed visits, funded activities, eligible recipients, missed appointments, and reimbursable expenses. These records can be highly informative while remaining selective. A time sheet may exclude preparation performed at home; a service metric may count successful contacts without distinguishing brief orientation from extended accompaniment; a budget may omit expenditure absorbed by households; an eligibility form may render a particular need recognizable only when it fits a designated administrative category.

Classification itself can become a political-economic interface. Bowker and Star's analysis of classification systems and standards describes how information infrastructures organize social interactions and

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render some features salient while others recede from view [12]. The present paper applies that insight as a limited methodological interlocutor. It asks who specifies categories in a volunteer-aid programme, whose descriptions can alter them, and how categories condition eligibility, resource requests, administrative burdens, and public recognition. This is a question about possible mechanisms in the present domain, rather than a claim that every recorded category systematically advantages one group.

The distinction between manifestation and relational structure is critical here. A recipient recorded as "served" may have received useful assistance, accepted an inadequate option because alternatives were unavailable, or been counted after an activity that failed to address the relevant need. A volunteer recorded as "inactive" may have withdrawn freely, encountered an inaccessible scheduling interface, been excluded by an institutional rule, or continued contributing through unrecorded work. These rival explanations can generate similar administrative manifestations. Distinguishing them may require participant accounts, event sequences, interface logs, observation, and comparison with the rules in effect at the time.

Manifestations can also generate new relations. A public performance indicator may influence later funding; a publicly acknowledged language-access need may induce recruitment; a complaint classification may become an institutional precedent. A written volunteer-role description can stabilize expectations and redistribute discretionary authority. The research problem accordingly includes changes in both the underlying relationships and the classifications through which they become actionable. The temporal development of one does not necessarily track the temporal development of the other.

3.4 Evidence-Compatible Relational Histories

The first two sections introduced the bounded power-configuration record $\mathfrak{P}_t^{\kappa}(h)$ and a partial, evidence-sensitive conversion map $\Gamma_{a,t,h}^{\kappa}$. Both objects must remain distinguishable from the entire relational history they seek to describe. An investigator observes selected traces under a particular evidential standpoint; the resulting political-economic record represents a warranted reconstruction, with missing components kept open. A useful methodological device therefore records the plurality of histories still compatible with a stated observation.

Fix a bounded inquiry h, an observation stage t, a declared standpoint κ, and a retained body of manifested traces d. Let $\mathsf{Hist}_t^R(h)$ denote a *specified candidate class* of relational histories relevant to the inquiry, with actor-tracking, temporal, institutional, and granularity rules declared by the analyst. Let $\mathsf{Compat}_{t,h}^{\kappa}(r, d)$ be an explicit, revisable predicate that asserts compatibility of candidate history r with traces d under the available recording conventions and admissible interpretation rules. The compatible-history register is defined by Equation 3.

$$\mathsf{CH}_{t,h}^{\kappa}(d) := \left\{ r \in \mathsf{Hist}_t^R(h) \;\middle|\; \mathsf{Compat}_{t,h}^{\kappa}(r, d) \right\}. \tag{3}$$

Equation 3 is an evidence-relative set-valued diagnostic, rather than an estimator or a law of social evolution. The input d comprises manifested traces; the candidate r represents a proposed relational history. Compatibility is assessed through specified trace provenance, recording accuracy, relevant timing, and the historical rules of manifestation. The construction presupposes that the analyst has supplied candidate histories and a meaningful compatibility predicate. It does not imply that the true history must already be represented in the candidate class. When multiple candidates remain, an observed outcome underdetermines the relevant mechanism. When the compatible set is empty, the analyst should examine the coding assumptions, observational reliability, and candidate space before inferring anything about the absence of the underlying activity.

The register differs from the partial conversion map in Equation 2. The latter asks which candidate actions are supported as feasible given recorded means and interfaces. The former asks which histories of subjects, actions, and institutions remain compatible with an observed set of manifestations. An unknown feasible-action output is an epistemic status regarding practical options; multiple compatible histories reflect uncertainty regarding past relations and mechanisms. Neither warrants a claim that an undocumented action was impossible or that a particular actor exercised power.

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For illustration, suppose a programme's monthly report records eighty successful appointments after introducing an online booking interface. One compatible history attributes improved access to reduced coordination delays. A second attributes the same count to increased volunteer overtime while some intended recipients were unable to use the interface. A third contains both effects. The report by itself may be compatible with all three. Disaggregated requests, failures, volunteer preparation hours, accessibility observations, and changes in alternative channels could narrow the reconstruction. The example is hypothetical, and the compatible-history device offers no automatic method for assigning the rival histories probabilities.

3.5 Dyadic Inheritance: Aid Action, Attribution, and Economic Consequence

Paper I develops action as a historically individuated relational process, distinguishing the occurrence of an event, its manifestation, the attribution of agency, the provenance of its generation, and its subsequent consequences. This distinction is indispensable when volunteer activity is described as a contribution of one person to another. An accompanied appointment can be individuated as a single support episode or as a series of requests, confirmations, movements, disclosures, and practical adjustments. The choice depends on whether the study concerns total work time, control over consent, interpretation of needs, or responsibility for an outcome. Counts computed under different individuation rules can be mutually inconsistent while each remains valid for a narrower research purpose.

The political-economic reconstruction adds the material and organizational conditions of an action. A volunteer's transport assistance may depend on a vehicle, a permitted location, insurance rules, time availability, staff coordination, and the recipient's route preferences. These contributions can be held by several subjects, and none automatically owns the entire resulting service. Attribution of an action to the volunteer under one convention does not entail that the volunteer financed every input, decided every operational condition, or produced every consequence. Conversely, allocating the programme's reported output to an institution does not settle the significance of the recipient's choices or the volunteer's unpaid preparation.

The separation also matters for joint agency. A recipient may originate an assistance request, define the intended destination, interrupt an unsuitable intervention, and thereby shape the service substantially. An institutional coordinator may provide a reliable path for carrying the request out. The event can be coproduced through differently distributed practical capacities. Ostrom's analysis of coproduction supplies an established, separately authored institutional point of comparison [64]. The present reconstruction distinguishes joint contribution, administrative attribution, economic cost bearing, and the authority to revise the activity; these need not coincide.

A dyadic economic account should therefore retain a minimum of four historical distinctions: which relational process is individuated as the aid action; which subject positions are assigned which contributions under the stated attribution rule; which material, informational, temporal, and institutional inputs make it feasible; and which later effects can be associated with it under an adequate evidential standard. This is a research requirement rather than an assertion that these components exhaust the meanings of assistance. Normative responsibility for a failed or harmful intervention remains an additional question.

3.6 Triadic Inheritance: Mediation, Gatekeeping, and Nonrecoverable Structure

Volunteer aid commonly involves at least three positions: a volunteer, an intended recipient, and an organization, intermediary, public official, funder, or coordinator. Paper II demonstrates why some triadic relations require structures that cannot be recovered from separately described pairs under a given resolution. In political economy, an organization may simultaneously authorize the volunteer, classify the recipient, allocate a shared scarce resource, and set the terms of accountability. A collection of independent volunteer–recipient, volunteer–organization, and organization–recipient records can omit the governing relation among these permissions.

Consider a constructed interpreter-matching service. The volunteer and recipient are willing to meet, and the organization individually approves each participant. Yet the service may require a simultaneous

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three-party authorization, a confidentiality interface, and an institutional judgment about which tasks can be delegated. Two datasets containing the same pairwise approvals could describe different triadic operational arrangements if only one permits the combined activity. This is a *possible representation gap*, conditional on the pairwise records and full configuration chosen. It should be tested against the specific service rather than assumed for every instance of mediation.

Third positions can also reshape resource dependence and public visibility. A donor may provide funds to an intermediary on condition that certain outcomes be reported. The intermediary may translate the condition into eligibility thresholds or work schedules. A volunteer may then experience the rule as a local scheduling constraint without ever interacting with the donor. The intermediary's role consists partly in transforming distant conditions into local feasible options, and partly in relaying information and accountability in the other direction. Which actor exercises which kind of power depends on decision records, actual alternatives, and evidence of the intermediary's discretion.

Triadic inheritance is particularly useful for studying the difference between a broker's *capacity* to condition access and evidence that the broker *exercised* that capacity. The presence of a central office in a service arrangement establishes neither monopoly control nor misuse of authority. Inquiry should establish the available routes, whether applicants can contest rejection, the substitutability of the broker, the origin of the rule, and the history of actual decisions. Formal organizational authorization, political-economic influence, causal responsibility, and justified authority remain distinct research objects.

3.7 Subject Co-Formation and Changing Economic Horizons

Paper III investigates whether a historically tracked subject undergoes constitutive relational reorganization through a support relation. It differentiates the observation of change, the identification of a constitutively relevant dimension, and evidence that the focal relation contributed to that reorganization. Paper VIII inherits this stronger standard when an economic analysis proposes that sustained volunteer work alters a participant's capacities, options, role commitments, or dependency structure. A difference in recorded income, an institutional title, or a volunteer-hour total is insufficient by itself to establish subject co-formation.

The political-economic significance of co-formation can be substantial. Volunteering may cultivate occupational skill, institutional fluency, confidence, relationships, or a capacity to organize collective assistance. It may also reorganize schedules, household obligations, reliance, available exit routes, and expectations about future unpaid work. A recipient may acquire practical knowledge and independent access pathways, or may become increasingly dependent on a particular helper and institutional interface. Some changes may coexist within one history, and subjects may interpret them differently. The analytical question concerns which changes persist, under what diagnostic they are constitutively significant, and what contribution the aid arrangement made.

Co-formation also affects the economic meaning of a resource. A volunteer's competence is neither necessarily fixed before participation nor owned entirely by the institution that provides opportunities to practice. Institutional familiarity can be jointly generated through the volunteer's effort, the recipient's collaboration, supervisory work, and organizational procedures. Once established, such competence can make the participant more independent of a particular programme or more indispensable to it. Dependence and capacity can thus develop together, without supplying a single scale on which their changes can be added.

The longer interval required for co-formation claims introduces a causal discipline. Where a volunteer reports burnout after intensive unpaid coordination, the report warrants attention but does not isolate the service as the sole contributor. Paid employment, care responsibilities, illness, work design, and unobserved circumstances may participate. Conversely, the absence of a declared identity change does not exclude a change in practical horizons. Longitudinal observation, subject-relative reconstructions, institutional histories, and alternative causal accounts are necessary to support stronger claims. Paper VIII uses co-formation as an explanatory possibility; it does not preassign a beneficial or adverse moral character to the change.

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3.8 Cross-Level Histories and the Endogeneity of Evidence

An economic relation and its manifestations may evolve at different rates. Funding conditions can change before a programme revises its published rules. A volunteer can become functionally indispensable before a formal role is assigned. An organization can publicly adopt a new inclusion category while practical access remains constrained by transport, language, or staffing. Equally, repeated use of a category or indicator can contribute to later changes in staff behaviour, eligibility procedures, and resource allocation. These are hypotheses about identifiable historical mechanisms, each requiring local evidence of sequence and contribution.

The relation connecting a retained relational structure to its manifestations is therefore itself historically situated. Reporting standards, digital systems, evaluation priorities, participant expectations, institutional memory, and public vocabularies may alter what can be expressed or counted. A time series of "volunteer hours" may cross several revisions of work definitions. A rise in recorded demand may reflect changing need, improved awareness, increased reporting access, or revised classification thresholds. The time series remains informative once its provenance and comparability conditions are investigated.

There is a further recursive possibility: measurement can change the resource relation that is measured. A donor-funded service may begin counting one kind of activity, redirect effort toward activities eligible for recognition, then acquire new funding because those counts rise. Alternatively, a revised measurement practice can reveal previously ignored needs and support a legitimate reallocation. The same broad feedback description admits different normative and causal interpretations. Classification infrastructures should be treated as historical participants in the formation of resource arrangements, while the degree of their influence remains an empirical matter.

Historically organized categorical distinctions can also stabilize unequal positions. Tilly's process account of durable inequality supplies an influential independent analysis of relational mechanisms and organizationally maintained categories [88]. Paper VIII uses this as an interlocutor when investigating persistent volunteer/recipient, qualified/unqualified, or fundable/unfundable classifications. It does not infer that these particular distinctions are necessarily unjust or that Tilly's account has been empirically established for the volunteer-aid arrangements considered here. The task is to examine whether a local classification sustains a consequential inequality, how it was generated, how participants depend on it, and what changes would alter its effects.

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3.9 Concept-by-Concept Three-Level Audit

The three-level discipline can be applied directly to the major political-economic objects. Table 3 records an initial audit, including the status of ontological claims and a minimum historical question for each object. The columns refer to analytically distinct roles rather than independently measured variables. All entries remain revisable under local evidence and domain-specific criteria.

The audit makes several distinctions explicit. The ontological status of a phenomenon is suspended even when a local factual finding about it is well supported. A manifested account may be accurate in its defined recording domain while incomplete as a representation of the larger relational process. Historical change can concern a resource relation, a manifestation convention, a tracked subject, or the correspondence between them. When a normative classification such as "appropriate", "unfair", or "exploitative" is introduced, the investigator must also identify the evaluative argument supporting it, in addition to the three-level descriptive account.

A concept-level audit should further specify its temporal horizon, the relevant subjects or institutions, the evidence sources, and a rival interpretation when the intended claim is consequential. For example, a study of power over eligibility should identify the decision stage and rules at issue, the subjects whose options are affected, the evidence of rule formation and application, and plausible alternative explanations for unequal access. A study of value circulation should track who defines and recognizes the relevant value, whether resources or benefits can move through the proposed routes, and which observations could demonstrate interruption or return. The audit is useful only insofar as it makes the subsequent research more discriminating and transparent.

Table 3: Three-level and historical audit of selected political-economic concepts in volunteer aid.

Object	Ontological status	Relational object	Manifestation and historical question
Subject/role	Suspended	Tracked histories, capacities, commitments, and institutional positions	Titles, accounts, acts; whose role and boundary persist or change?
Resource/access	Suspended	Situated means, dependencies, permissible conversion, substitutes	Budgets, grants, inventories, refusals; when do means become usable?
Work/cost	Suspended	Contributions, work organization, burdens, reproduction of capacity	Hours, expenses, testimony; whose work remains unrecorded as conventions change?
Need/eligibility	Suspended	Situated condition, aid relevance, assessment and access relations	Requests, criteria, denials; whose need becomes legible and under which rules?
Value/recognition	Suspended	Situated evaluative orders, circulating benefits and attributions	Reports, credits, judgments; which valuations shape later allocation?
Power/authority	Suspended	Options, control interfaces, influence and authorized roles	Decisions, rules, complaints; when are capacity and exercise evidenced?
Institution	Suspended	Continuing coordination, responsibilities, resource and authority relations	Contracts, rosters, platforms; how do boundaries and mandates evolve?

3.10 Empirical Discrimination, Formal Limits, and Subsequent Mechanisms

The inherited GR architecture clarifies the questions an economic investigation should ask, while leaving substantial explanatory work to be done. Consider two constructed programmes reporting similar numbers of successfully completed visits. In the first, volunteers can change shifts, recipients can use accessible alternatives, preparation work is recognized, and the institution provides paid backup for absences. In the second, informal pressure makes withdrawal costly, recipients have limited alternative access, substantial unpaid coordination is omitted from the records, and the institution depends on one volunteer's procedural knowledge. Equal service counts may coexist with different resource dependencies and available options. The comparison establishes the utility of seeking richer evidence; it does not by itself validate a particular causal reconstruction.

An empirical inquiry could discriminate among such configurations through a bounded mixed-method design. Institutional records and successive policy versions may document eligibility and interface changes. Volunteer and recipient interviews may disclose divergent experiences and previously unrecorded burdens. Time-use observations and cost diaries may support more complete accounts of unpaid work. Process tracing of concrete authorization, rejection, and rescheduling events may distinguish latent interface control from exercised influence. Comparison before and after an independently documented rule revision may help identify mechanisms, subject to the usual limitations of confounding and selection. Studies require appropriate consent, privacy protections, and institutional authorization where applicable; the present manuscript itself proposes no field intervention.

The formal commitments also have limits. The compatible-history device in Equation 3 depends on researcher-specified candidates and evidence rules. The diagnostic record in Equation 1 selects dimensions without asserting they form a complete state space. The partial conversion map in Equation 2 encodes warranted feasibility without conferring legal permission or moral justification. Labelled 2-complexes, partial transformations, and local algebraic structures developed in earlier papers may later represent selected relational histories when their added structure is justified. This section does not require those stronger constructions for the comparatively modest tasks of classification, history tracking, and evidential discrimination.

A methodological comparison should also ask whether GR contributes a distinction that established resource-dependence, coproduction, institutional, feminist, or relational political-economic accounts do not already supply under the study's conditions. Its present candidate contributions are the explicit separation of a historical relation from its manifestations, the preservation of multiple evidence-compatible histories, the distinction between action individuation and contribution attribution, the possible nonre-

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coverability of triadic interfaces, and a stringent standard for claims of subject co-formation. These are hypotheses about explanatory usefulness. They require comparative research, and their role should be reduced or revised where an established account explains the data with equal or greater clarity.

Section 3 thereby gives the remaining political-economic analysis a limited common foundation: subject tracking, partial observation, conditional conversion, distinct attribution and provenance, multi-position institutional mediation, and historically changing practical horizons. Section 4 will examine subjects, institutions, third positions, and economic interfaces in greater operational detail. Subsequent sections will investigate resource control, labour, scarcity, value circulation, and power as separately articulated mechanisms. The three-level distinction will remain active for each major concept, while empirical inference, normative evaluation, and legal analysis retain their own standards of justification.

4 Subjects, Institutions, Third Positions, and Economic Interfaces

The political economy of volunteer aid is shaped by the positions through which persons, organizations, and public authorities make resources available, interpret requests, authorize participation, and allocate the consequences of assistance. This section specifies the subjects and institutional positions relevant to these processes and develops a limited account of *economic interfaces*: situated arrangements through which a proposed aid activity encounters access conditions, practical decisions, and accountable or unaccountable forms of mediation. The analysis first distinguishes subjects, positions, and organizations; then classifies third-position functions and interface operations. A typed, evidence-indexed register supports controlled comparisons of formally similar aid episodes whose mediating structures differ. The final parts examine discretion, accountability, three-level reality, rival explanations, and empirical limits. The method combines conceptual reconstruction, conditional formal representation, and carefully bounded comparison with established work on brokerage, network governance, front-line discretion, and nongovernmental accountability.

4.1 Historical Subjects, Role Occupancies, and Institutional Attribution

An aid episode can bring together a person requesting support, a volunteer, a coordinator, an employer of paid staff, a public authority, and a donor. Such designations mix different kinds of analytical objects. A *subject* is tracked, under the present generative relational (GR) conventions, through a bounded and revisable history of relations, capacities, commitments, and manifestations. A *position* identifies a place within a particular arrangement of functions, access rights, expectations, and constraints. An *occupancy* associates a historically identified subject with a position for a specified interval and purpose. Several subjects can occupy the same position sequentially; one subject can occupy several positions simultaneously. The categories require empirical criteria of identification, and their boundaries may be contested.

A volunteer who also serves as a trustee, for example, may offer unpaid assistance in one encounter and participate in a funding decision in another. The distinction between these positions has consequences for conflicts of interest, access to confidential information, and the attribution of organizational decisions. A recipient who assists with translation or scheduling may be simultaneously receiving support and contributing indispensable labour. The inquiry should describe these overlapping positions without treating a person's contribution as evidence that institutional obligations have been discharged. Role occupancy therefore needs to record the capacity in which an action was performed and which authorization or expectation was understood to apply.

An *institution* in this analysis is a comparatively enduring configuration of roles, rules, routines, resources, records, and possibilities for reproducing or revising them. It may be embodied in a legally recognized organization, but institutional arrangements can also cross legal boundaries or persist through informal coordination. A legally registered nonprofit, a public department, and a volunteer network may therefore participate in a shared service arrangement without merging into a single accountable entity.

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Conversely, an organization's legal identity does not establish that every activity attributed to it was authorized, funded, supervised, or even known by its responsible officers.

Attribution should accordingly distinguish *organizational designation*, *authorized action*, *practical control*, and *experienced consequence*. A public website may designate a service as being delivered by an association; a partner institution may control admissions; a volunteer may determine actual timing; and the recipient may experience a combination of their decisions. These layers can coincide or separate. Their relation should be reconstructed from an identified episode and history rather than assumed from the most visible logo or the formal ownership of a resource.

4.2 Institutional Boundaries and the Multiplicity of Third Positions

The term *third position* designates a position whose activity conditions a relation between other positions or subjects. Its meaning is functional and episode-relative. A coordinator who arranges an introduction, a translator who makes a request intelligible, a supervisor who approves a risky activity, a funder who imposes conditions on expenditure, and an auditor who reviews a completed encounter may each appear as a third position. Their interventions differ in authority, timing, information, resource dependence, and practical reversibility. Several third positions may operate in sequence or concurrently, and an apparently dyadic encounter can involve an institutionally significant third position that remains invisible to one participant.

At least six operations are worth separating for subsequent investigation. *Transmission* carries a request, message, material, or payment across a boundary. *Translation* renders a description or need intelligible under another language, classification, or professional convention. *Matching* associates potential contributors, recipients, times, or resources. *Authorization* enables or blocks a proposed action under a recognized procedure. *Allocation* determines the quantity, priority, or timing of a scarce means. *Review* assesses a record or outcome and may trigger correction, sanction, learning, or public explanation. These are analytical operations; one actor may perform several, while some occur without a distinct human intermediary through an established organizational routine or technical system.

Gould and Fernandez's transaction-network formalism distinguishes five brokerage roles by the subgroup memberships of the two transacting actors and the intermediary: coordinator, itinerant broker, gatekeeper, representative, and liaison [38]. These five structural positions and the six functional operations proposed in this section answer different classification questions. Their original model presupposes identifiable exchange relations and a meaningful partition into nonoverlapping subgroups; assigning one of its roles to an aid intermediary therefore requires that those empirical conditions be established. The present vocabulary has a different intended extension: it also includes authoritative decisions, privacy-preserving approvals, routinized eligibility tests, and retrospective accountability, some of which do not constitute brokerage under a network-exchange definition. Where a volunteer coordinator genuinely brokers resources between groups, the established brokerage model supplies a candidate comparison; where the coordinator makes an institutionally authorized safety decision, legal and administrative criteria also become central.

A third position can facilitate an aid relation and simultaneously become a site of dependence. A skilled interpreter may expand meaningful choice for a recipient; dependence arises if alternative interpreters are unavailable, schedules are controlled unilaterally, or the recipient cannot correct an inaccurate interpretation. A safety supervisor may protect participants through well-defined authorization procedures; the same procedural location can become a discretionary bottleneck if reasons are opaque and review routes are absent. Economic power is therefore investigated through the effect of a position on feasible action, resources, and alternatives under documented conditions. The mere existence of a third position does not by itself establish domination, efficiency, legitimacy, or exploitation.

4.3 Economic Interfaces as Operative Arrangements

An *economic interface* is a historically situated arrangement that connects a proposed aid-related activity to resources, institutional positions, permissions, or evidential classifications, thereby conditioning what

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participants can practically do. An interface may have a physical location, such as a staffed reception desk; a documentary form, such as an eligibility application; a social form, such as a referral agreement; or a digital form, such as a volunteer-shift system. The label concerns the operative relation, not a presumed technical device. The interface can be stable over many episodes while its rules, personnel, or experienced consequences change.

For a particular request, four questions help identify its operations. First, which candidate action is being considered, and what forms of resource conversion does it require? Second, which conditions have to be satisfied for the activity to become feasible, including location, language, timing, safety, funds, and authorization? Third, which positions can impose, interpret, modify, verify, or waive those conditions? Fourth, what records or opportunities for challenge exist when the interface rejects, delays, reroutes, or terminates an attempted activity? The questions are sequential for inquiry, although their corresponding events may overlap in practice.

An interface can create productive coordination by rendering dispersed resources usable together. Consider a language-support service in which one party supplies trained volunteers, another hosts the activity, and a third provides scheduling and consent procedures. A functioning interface may reduce costly duplication, allocate expertise to suitable requests, and clarify duties. The same arrangement can create a single point of failure if authorization or scheduling is centralized without backup. Consequently, the political-economic analysis needs both *coordination gains* and *dependency costs*. Apparent organizational fragmentation and centralization can each be compatible with several outcomes, depending on task complexity, trust, workload, replacement possibilities, and the distribution of review authority.

The resource-conversion map introduced in Equation 2 remains the relevant criterion for warranted claims of feasible action. The interface concept adds an explanatory layer concerning the positions and operations through which feasibility is conditioned. An approved application, for example, may record that a gate was passed; the corresponding conversion analysis still requires evidence about transport, service capacity, communication, and continued labour. A rejected application can establish an institutional decision without establishing that alternative support was practically impossible outside the institution. Separating interface operation from total feasibility protects the model against overinterpreting isolated records.

4.4 A Typed Register for Mediated Aid Operations

For bounded descriptive research, consider a set P_h of identified positions in a specified history h, a set A_h of described candidate aid activities, an operation vocabulary O_h, a set C_h of recorded conditions, and an evidence-reference set E_h^{κ} under protocol κ. The following register $\mathsf{Med}_{h,t}^{\kappa}$ encodes mediated operations at time t without requiring that each event be reducible to a single directed transfer. The tokens $\varnothing$ and u are reserved markers outside the position set P_h. Its typed structure is given in Equation 4.

$$\mathsf{Med}_{h,t}^{\kappa} \subseteq P_h \times P_h \times \big(P_h \cup \{\varnothing, \mathsf{u}\}\big) \times A_h \times O_h \times C_h \times E_h^{\kappa}. \tag{4}$$

A record (s, r, m, a, o, c, e) denotes the *identified initiating position* s, the *addressed position* r, a possible *third position* m, a proposed or undertaken aid activity a, a mediated operation o, its recorded conditions c, and supporting evidence pointer e. The tuple is a research coding object. It may describe a recorded authorization, a documented referral, an attempted allocation, or a disputed translation. It makes no assertion that all recorded operations succeeded. The distinguished value u denotes an *unknown or underdetermined* third-position status, while $\varnothing$ denotes an *assessed absence of a distinct third position under the stated protocol*. The latter depends on positive coverage criteria; silence in a form is ordinarily coded as u until the relevant boundary has been examined. Both tokens concern the investigator's record, not a proof concerning the ultimate ontology of mediation.

The typing of P_h is positional. When a person or organization occupies more than one relevant role, the coding protocol maintains separate occupancy records linked to that subject's history. The initiating and addressed positions identify the studied relation, not necessarily the beneficiary or eventual bearer of cost. A funder authorizing a coordinator's expense may be recorded as an initiating position for that

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operation, even though a recipient experiences the delayed service. The evidence pointer can refer to several linked documents or accounts through an external provenance scheme; an evidential conflict should be represented explicitly in that scheme rather than resolved by silently choosing one account.

Equation 4 is intentionally a register of observed or supportably inferred instances, with declared scope and inclusion rules. It is neither a graph-theoretic theorem about social systems nor a deterministic function from requests to outcomes. Incomplete records, missing agents, conflicting testimony, and evolving position identities can produce partial or multiply coded entries. Neither the existence nor the cardinality of $\mathcal{J}^{\kappa}_{h,t}$ measures economic power automatically. Such a measure would require independent choices of observation window, weighting, meaningful alternatives, and comparison conditions. The register's immediate benefit is to make differences of position, operation, and evidence explicit before an interpretation of control is advanced.

4.5 Nonrecoverable Mediation and Controlled Comparisons

Earlier triadic formalism in Paper II motivates an important caution: a full configuration of mediation can carry information absent from separate descriptions of two relations. In the present domain, a list of volunteer-to-recipient encounters, combined with a list of institution-to-volunteer instructions, may leave undetermined how particular instructions were applied to particular recipients, which requests were rerouted, or how the three positions jointly conditioned an outcome. The proposed register records the conjunction of positions and operations at the episode level. Its added value depends on whether such conjunctions can actually be documented and whether they change the explanation of the research question.

A simple controlled comparison illustrates the possibility. In configuration A, a coordinator forwards requests to available volunteers and keeps recipient preferences accessible to those volunteers. In configuration B, the coordinator receives the same number of requests, assigns the same number of shifts, and reports the same number of completed visits, while privately restricting which volunteers may accept certain recipients. Dyadic summary counts between volunteers and recipients, and between institution and volunteers, may be identical. The difference resides in a recipient-specific condition governing the joint allocation event. A record of assignment rules, declined alternatives, and relevant preferences would help distinguish the two. The example is hypothetical; its purpose is to state what additional information a multi-position description may need.

The comparison does not prove that pairwise mathematical structures are inherently inadequate. Pairwise data enriched with event identifiers, conditional attributes, timestamps, and cross-references may recover precisely the information at issue. Nonrecoverability therefore has to be tested relative to a *specified representation and equivalence criterion*. The GR triadic perspective is useful when it directs attention to relational conjunctions or causal dependencies lost under a particular simplification. It is redundant where an established relational database, event-history model, or network method already retains those conditions transparently. This criterion is also a methodological safeguard against using a richer formal language merely for its apparent sophistication.

Power claims require a further controlled comparison. If one coordinator allocates work unequally, the apparent asymmetry could result from different skills, recipient preferences, safety restrictions, transport routes, policy requirements, or discretionary favoritism. The observed difference acquires a more specific political-economic interpretation only through evidence of the decision rule, feasible alternatives, and countervailing constraints. A policy violation, an unequal distribution, and a wrongful exercise of authority remain distinct analytical conclusions, each subject to its own proof requirements.

4.6 Discretion, Network Governance, and Institutional Design

Institutional mediation is partly organized through formalized rules and partly through case-specific interpretation. The latter raises a question of *discretion*: the practically available and institutionally recognized scope for selecting among responses. Lipsky's work on street-level bureaucracy examines how public-service workers can make consequential decisions under resource limitations, uncertain goals,

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heavy demand, and requirements of individualized judgment [54]. The present project treats this as an independently developed account of public-service implementation, not a blanket classification of volunteers as public officials. A volunteer coordinator may face analogous constraints while possessing quite different legal duties, professional protections, organizational authority, and possibilities for sanction.

Three conditions shape the interpretation of apparent discretion. *Formal authorization* concerns whether an applicable rule delegates a decision. *Practical discretion* concerns which choices the actor can meaningfully make under actual constraints. *Exercised discretion* concerns the historically identifiable choice or pattern of choices. A coordinator may have authority to reschedule appointments yet be unable to obtain an alternative interpreter. Another coordinator may possess little formal authority but control who sees the waiting list and thereby exert substantial practical influence. These differences matter when examining whether the relevant power lies in rules, information, available resources, or contingent individual conduct.

Institutional arrangements may distribute coordination across several organizations. Provan and Kenis distinguish models of organizational network governance, their structural characteristics, contingencies of effectiveness, and management tensions [71]. Such work supports a comparison of shared governance, designated leading organizations, and separately administered coordination structures. A volunteer-aid arrangement can borrow elements of several forms without constituting a complete instance of one model. Research should ask whether a coordinating centre is able to make decisions, merely supplies administrative services, or depends on other participants for authorization and implementation. Describing an arrangement as a *network* does not settle where binding decisions occur.

Several design choices may affect the character of mediation: the existence of alternative channels, the possibility of appeal, separation of allocation and review, clarity of responsibility, protection of sensitive information, continuity when a mediator leaves, and opportunities for recipients to influence rules. Each can generate trade-offs. A second approval step may introduce delay while protecting against unsafe intervention; direct contact may shorten a process while exposing sensitive information. These mechanisms should be investigated through specific histories. The present framework identifies candidate trade-offs and research questions rather than recommending a universal institutional form.

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4.7 Accountability, Authorization, and the Direction of Answerability

The presence of a coordinating organization raises questions about the parties to whom it explains decisions and from whom it can receive justified demands for revision. *Answerability* concerns the obligation or expectation to provide reasons, records, and responses to an appropriate audience. *Authorization* concerns recognized permission or competence to act within a specific arrangement. *Enforceability* concerns whether a rule or commitment can be implemented through recognized procedures. *Correctability* concerns whether an erroneous decision can actually be reconsidered or repaired. These are analytically separable even when a particular legal order or organization couples them.

Ebrahim's study of NGO accountability distinguishes upward and downward, internal and external, and functional and strategic orientations; it also compares mechanisms including reports, evaluation, participation, self-regulation, and social audits [20]. This vocabulary allows the present study to inquire into competing channels of answerability without treating accountability as a single observable variable. A volunteer organization may prepare detailed financial reports for a funder while maintaining limited opportunities for recipients to challenge exclusion. Another programme may possess extensive recipient consultation but weak financial oversight. The institutional and moral consequences cannot be inferred from the presence of one instrument alone.

An accountability relation has a temporal structure. A funding report often follows expenditure; a safety authorization may precede action; consent may require continuing renewal; a complaint process may become available only after harm or dissatisfaction. Records should therefore distinguish prospective rule-setting, contemporaneous supervision, and retrospective review. The actor who can request an explanation need not be the actor who can compel correction. A recipient may have an acknowledged right to complain while lacking practical access to the necessary language, transport, or independent

Table 4: Operational and evidential questions for institutional positions and interfaces in volunteer aid.

Analytical object	Relational inquiry	Possible manifestations and limits
Role occupancy	Who can act or decide in which capacity, and for how long?	Appointment letters, rosters, testimony; titles may conceal multiple roles.
Authorization interface	Which proposals can be approved, blocked, or modified, by whom?	Rules, approvals, refusals; records may omit informal vetoes.
Allocation interface	Which requests receive time, materials, attention, or priority?	Waiting lists, shifts, allocations; unmet or unsubmitted requests may be absent.
Translation and matching	How do descriptions and participants become connected?	Referrals, interpreted forms, matching logs; meaning loss may remain unrecorded.
Review and correction	Who can request reasons and obtain practical revision?	Complaints, audit trails, resolutions; nominal access may differ from usable access.
Institutional continuity	How are functions sustained across changes in personnel or funding?	Policy versions, budgets, transition records; informal support may remain hidden.

advocate. A donor may have contractual enforcement powers without firsthand knowledge of the consequences for individual recipients. Each gap can affect the distribution of political-economic influence.

The present paper describes these relations without determining the legal validity of consent, contract, fiduciary obligation, or administrative review. Those conclusions depend on jurisdiction, organizational status, the specific service, and the rules governing personal information and safety. The justice and ethical studies in Papers VI–VII likewise retain their independent evaluative tasks. A potentially effective institution can exercise power unfairly; a justified limitation on access can nonetheless generate material hardship. Descriptive registers should make both possibilities investigable while withholding premature judgments.

4.8 The Three Reality Levels of Institutional Mediation

The third-position and interface vocabulary must be placed within the three-level distinction established in Section 3. At the *ontological* level, the project leaves open the ultimate status of institutions, relations, persons, resources, and power. At the *relational* level, it asks whether authorization structures, resource dependencies, organizational routines, and mediating positions persist and have traceable effects on the available courses of action. At the *manifestation* level, it examines applications, interviews, correspondence, permissions, refusals, budgets, software states, allocation events, service experiences, and public reports. An interface may itself produce manifestations, and those manifestations can subsequently change the relational arrangement.

Table 4 records the main subjects of such analysis. It specifies each category's operative question and examples of accessible traces, while retaining separate uncertainty about the underlying relation. The table is a coding aid, not a taxonomy claiming complete coverage of institutional life.

The history of an interface can alter the manifestation process itself. Once a programme introduces a standardized eligibility form, categories that were previously expressed in conversation may become fields with fixed permissible answers. A recipient learns what counts as a recognized need, while a volunteer may learn to formulate requests in the expected language. The resulting records can show improved standardization and comparability even while the population of visible requests changes. Bowker and Star's independently developed account of classification infrastructure supplies a pertinent caution about how categories organize institutional visibility [12]. The point for GR is a conditional feedback hypothesis: a classification may participate in forming the conditions that later observations seem simply to describe.

Historical persistence also matters for attribution. An interface introduced by one management team

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may shape decisions after its designers depart; a recipient's earlier rejection may affect subsequent willingness to apply; a volunteer whose informal labour stabilizes a service may later be treated as indispensable without corresponding authority. Such trajectories may involve subject co-formation in the sense developed in Paper III, but claims of transformed subjectivity require evidence of durable changes in capacities, relational identity, commitments, or practical horizons. A changed shift assignment by itself supports only a narrower claim. The political-economic coding should register that distinction explicitly.

4.9 Constructed Diagnostics of Coordination, Gatekeeping, and Review

Three constructed cases illustrate the practical use and limits of the proposed distinctions. They are alternative research scenarios and make no claim about an actual organization.

Case A: a volunteer translation desk. A community programme recruits bilingual volunteers to accompany applicants to service appointments. In one arrangement, the coordinator helps participants identify schedules and contacts, while applicants retain several ways to request help and can flag misinterpretations. In another, the same coordinator determines which needs are eligible, controls the only referral channel, and alone receives complaints. Both may report equivalent completed appointments and volunteer hours. The second arrangement concentrates several distinct interface operations within one position. A responsible assessment would examine delegated authority, availability of alternatives, information protection, error correction, and actual outcomes before concluding whether concentration is harmful or administratively necessary.

Case B: a jointly funded transport service. A local group supplies drivers, a municipal facility supplies vehicles, and a donor finances fuel subject to eligibility conditions. A transport request may be feasible only when schedules, permission to use the vehicle, reimbursement, and passenger safety arrangements align. If a ride is cancelled, the observable outcome may be common to several mechanisms: fuel restrictions, a vehicle fault, volunteer illness, an unexplained allocation decision, or a recipient's change of plans. Coding the cancellation as a uniform failure of "volunteer supply" would prematurely collapse those explanations. The interface register can identify whose action or constraint is evidenced, while the compatible-history register in Equation 3 preserves rival reconstructions until additional evidence becomes available.

Case C: an NGO reporting agreement. A donor requests numerical evidence of completed assistance; recipients seek meaningful opportunities to correct accounts of service; volunteers seek a way to report unsafe or unsustainable assignments. A programme may develop separate reporting channels with distinct audiences, response obligations, and powers to revise decisions. The donor's ability to withhold funding, the recipient's capacity to question a classification, and the volunteer's ability to decline an assignment are all political-economically relevant. They are neither identical forms of power nor interchangeable forms of accountability. A study should trace what each channel changes in feasible action, rather than award the organization a single undifferentiated accountability score.

These cases also test a limitation of the third-position vocabulary. The coordinator, public facility, or donor may be directly involved as a party to a separate relation in the same episode. Their description as "third" depends on the analyst's selected initiating and addressed positions. A person who is a third position for a recipient–volunteer encounter can be an initiating position in a funding or employment encounter. Maintaining that episode-specific standpoint prevents the notation from reifying a permanent class of mediators distinct from other subjects.

4.10 Identification Strategy, Explanatory Limits, and Research Sequence

The proposed distinctions can be investigated through a bounded empirical strategy without presuming access to privileged internal information. First, define the service, relevant period, participating positions,

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and candidate actions. Second, trace the formal authorization and allocation rules, including revisions, exemptions, and available remedies. Third, collect appropriate records of requests, approvals, declines, waiting times, cancellations, and complaints where access is lawful and ethically justified. Fourth, supplement institutional manifestations with carefully consented accounts from volunteers, recipients, coordinators, and other relevant actors. Finally, compare alternative explanations while tracking missing cases, institutional incentives to record particular outcomes, and changes in service conditions over time.

Distinguishing a binding rule from discretionary conduct may require following an actual decision sequence with adequate privacy safeguards. A descriptive comparison across interfaces must take account of task difficulty, personnel, demand, urgency, resource mix, and the persons who never reached the recorded interface. An apparent improvement after digitization may result from more efficient matching, revised eligibility, reduced demand, unrecorded exclusion, or several interacting processes. The selection of evidence should reflect those alternatives. Quantitative comparisons can complement historical process tracing and participatory inquiry; no single method warrants a general verdict absent appropriate identification assumptions.

The present formalism remains deliberately limited. Equation 4 records selected mediated operations, while Equation 1 describes a broader political-economic configuration, Equation 2 concerns evidence-supported feasibility, and Equation 3 organizes histories compatible with retained traces. Each answers a different question; their joint use is a proposed research protocol, not a theorem connecting one register to another. A causal account would require explicit assumptions and appropriate study designs. A legal account would need jurisdiction-specific authority. A normative account would require independent reasons concerning rights, obligations, vulnerability, and justified allocation. Failure to satisfy those additional requirements should remain visible in reporting.

The analytical contribution of Section 4 is therefore a way to distinguish subjects from institutional positions; direct aid relations from the many operations of mediation; formal authorization from practical discretion; and recorded accountability from effective correction. The GR reconstruction offers an explicit three-level and historical perspective on those distinctions. Its value must ultimately be assessed in comparison with established theories of brokerage, organization, administration, and NGO accountability, including circumstances where those theories already provide a sufficient explanation. Section 5 turns to material resource flows, control, and dependence, for which the interface distinctions provide a more precise identification of the positions through which resources become available, restricted, or redirected.

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5 Material Resource Flows, Control, and Dependency

Material resources enable volunteer aid through movements, commitments, transformations, and controlled opportunities for use. The availability of funds, supplies, transport, rooms, communications equipment, or other tangible means does not determine an aid relation independently of the conditions under which subjects and institutions can obtain, maintain, direct, or relinquish them. This section develops a political-economic account of resource trajectories and their associated dependencies. It first distinguishes stocks, movements, and commitments, then examines resource claims, operative chains, control positions, substitutes, mutual dependence, and temporal exposure. A limited event representation and a conditional dependence comparison make explicit what a researcher would need to observe. Constructed cases and a three-level audit identify competing explanations and evidential limits. The argument draws selectively on resource dependence, power-dependence relations, and work on differentiated resource rights; its generative relational (GR) contribution is a proposed linkage among resource histories, operative interfaces, evidence, and changing feasible options.

5.1 Material Means and the Boundaries of a Resource Account

A material resource becomes relevant to a specified aid episode by virtue of a practical relation: it may be required to carry out an action, sustain an enabling infrastructure, reduce a participant's burden, or

preserve an alternative route of assistance. Examples include medicines held by an authorized service, printed accessible materials, vehicles used for approved visits, devices required for translation, office space, and funds earmarked for particular activities. These are heterogeneous objects. A medication, an unrestricted monetary balance, and a room allocated for a specific hour cannot be treated as interchangeable units merely because an organization lists them as assets. Their properties, permissible uses, substitutability, and temporal availability need independent specification.

The resource boundary depends on the question being investigated. A study of travel assistance may regard vehicles and ticket funds as focal resources, while retaining the availability of drivers, accessible information, and institutional permission as conditions of conversion. A study of volunteer coordination may instead treat the physical workspace, digital equipment, and available funds as jointly necessary inputs. The classification is analytic and revisable. Matters such as accumulated skills, relationships of trust, or organizational reputations may affect resource usability, but their different forms of constitution and manifestation warrant separate analysis rather than immediate reduction to a single measure of capital. Subsequent sections address time, skill, recognition, and values more fully.

For material means, three distinctions are especially useful: a *stock* is a quantity or configuration available at an identified point or interval; a *flow* records an event or rate of acquisition, transfer, use, replenishment, loss, or return; and a *commitment* specifies a claim or expectation about a future resource-related event. Each category is indexed to a subject or position and to a time horizon. An earmarked grant can be recorded as a commitment before receipt, a bank balance after receipt, and an eligible expenditure only after the relevant authorization conditions are met. These descriptions concern different states of a process even when the same monetary amount appears in several records.

A resource account must also identify its organizational and jurisdictional perimeter. An inventory at an aid centre can omit supplies stored by volunteers at home, while an institutional balance sheet may include resources that cannot be spent on the programme under examination. The researcher should state whether the object is a particular transaction, the programme's operative resources, a network of supporting institutions, or a larger historical distribution system. Widening the boundary can reveal costs and dependencies outside the administrative account, but any purportedly complete boundary is itself a claim requiring justification. The present framework therefore adopts a bounded, episode-relative and history-sensitive account.

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5.2 Stocks, Movements, Commitments, and Resource Renewal

Volunteer aid takes place within several interacting temporal arrangements. A stock of food or mobility aids may decrease with use and require replenishment. Some equipment remains physically available but depreciates or becomes obsolete. A transport subsidy may arrive monthly, while recipients require assistance on particular days. Donated funds may be available in an account yet committed to approved categories of expenditure. A promise of supplies may support planning before delivery but cannot be presumed to support a time-sensitive intervention when delivery remains uncertain. The analytic task is to trace which resource became operative, for whom, through which sequence of events, and under what conditions.

In a narrow account involving a single physically measurable good, ordinary stock–flow reconciliation can be meaningful if quantities, units, boundaries, and the treatment of losses are specified. The broader volunteer-aid system, however, combines material goods, money, obligations, permissions, and services. It therefore admits no generally valid conservation law joining its heterogeneous components in a single scalar total. Counting an incoming donated item and the expenditure of a grant that paid for that item as two independent additions to practical capacity could, for example, double-count the same means. Record linkage and attention to provenance are needed before aggregation.

Renewal refers to the restoration or alteration of conditions that make a means usable over successive episodes. Renewal may involve replacing consumed materials, servicing equipment, renewing a lease, securing a further grant, maintaining an emergency reserve, or arranging for authorized storage and distribution. These processes are not interchangeable. Replacing a worn device can restore a prior capacity,

whereas negotiating an additional accessible collection point may reorganize the relations through which supplies can be used. Resource renewal can therefore change both the quantity of available means and the institutional distribution of control over those means.

The separation between a resource stock and its path of replenishment is particularly important for apparent continuity. A centre may possess enough supplies for the current month while relying on a single donor whose future decision is unknown. Another may have a smaller current inventory but several documented channels of replenishment and locally authorized discretionary funds. Neither arrangement can be ranked unconditionally by an inventory figure. The assessment depends on usage rates, time-critical needs, substitution, delivery reliability, restrictions, and the consequences of interruption. These dependencies invite a temporal analysis without assuming that financial stability, organizational resilience, and ethical adequacy are equivalent.

5.3 Custody, Entitlement, Permission, and Disposition

The location of a resource and the power to determine its use can be held by different positions. A public agency may own a facility, a nonprofit may administer the volunteer programme operating in it, a coordinator may allocate appointments, and a participant may have a legally or procedurally recognized claim to access an authorized service. Custody describes physical or accounting possession; entitlement concerns a recognized claim; permission concerns whether an identified use is allowed under applicable rules; and disposition concerns practical influence over allocation, transfer, exclusion, modification, or release. Each needs identification of the relevant rule system and evidential basis.

Schlager and Ostrom's analysis of property-rights regimes distinguishes bundles of rights and decision powers that cannot be recovered from a simple owner/nonowner category [76]. Their original object is natural-resource governance. The present paper uses the underlying methodological lesson, namely that access, use, management, exclusion, and transfer may be differentiated, while declining to import those specific natural-resource rights as legal categories for volunteer aid. The nature of a recipient's entitlement, a donor restriction, or an institution's power to authorize a visit must be established under the relevant legal, contractual, organizational, or customary arrangements.

It is useful to distinguish *formal rule-making capacity* from *operative discretion*. An organization may hold authority to approve purchases; a volunteer may nonetheless determine which eligible item is selected or whether a need reaches the approver at all. A donor may formally restrict a grant's uses while having little influence on case-level allocation within the approved categories. Conversely, an actor lacking formal title may control a crucial key, transport route, or item of procedural knowledge. Evidence of an actor's position should therefore be drawn from rules and practices together, with uncertainties recorded rather than resolved by presumed institutional hierarchy.

Restrictions can also enable productive coordination. A documented authorization requirement may protect confidential information or secure storage; a designated steward may reduce the risk of loss and improve equitable access. The consequences depend on the procedural design, available alternatives, transparency, and capacity to revise a mistaken decision. Restriction, by itself, is a property of an operative arrangement; claims about whether it is necessary, proportionate, lawful, or unjust require additional argument. A political-economic account can clarify who makes a decision and whose options it conditions, while remaining open to divergent evaluations of the decision.

5.4 A Typed Register of Material Resource Events

A proposed event register can preserve distinctions that aggregate resource totals often conceal. Let an episode-relative and historically indexed *resource event* carry an identifier, a time interval, a resource kind and stated unit, an origin position, an addressed position, an operation, a conditioning interface, a control-position record, and an evidential descriptor. The register is specified in Equation 5.

$$\mathfrak{e}^{\kappa}_{r,t}(h) = \left(\iota, \tau, \rho, \mathsf{o}, \mathsf{d}, \omega, \mathsf{j}, \mathsf{c}, \varepsilon^{\kappa}\right)_{r,t,h}. \tag{5}$$

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Here r identifies the resource type and h the bounded history. The event identifier ι permits several observations to refer to the same transfer; τ records timing; ρ records quantity, unit, and quality where meaningful; o and d identify origin and addressed positions; ω classifies the operation, such as promise, receipt, allocation, consumption, loss, return, or renewal; j records the operative interface and its conditions; c records positions documented as able to authorize, block, redirect, or verify the operation; and ε^{κ} identifies the source, confidence limitations, and evidential standpoint. The components are typed placeholders, not necessarily scalar variables or complete data fields. An event can involve multiple origin or recipient positions, and an unobserved controller should be marked unknown rather than assigned a fictitious individual.

The register is deliberately separate from the full political-economic configuration in Equation 1 and the mediated-operation register in Equation 4. The former specifies the broader objects of an aid setting, while the latter distinguishes mediation and third-position functions. Equation 5 restricts attention to changes or attempted changes in material resource relations. One mediated operation can include several resource events; several operations can be necessary for a single resource transfer to become usable. Identification rules are required to prevent duplicate counting across the records.

For instance, an organization may receive a monetary donation conditional on purchasing particular supplies. Recording the donor's pledge, receipt of funds, purchasing decision, delivery of supplies, and final use as distinct events can reveal delayed delivery or blocked authorization. It would be misleading to add their nominal quantities as if they represented independently available resources. Matching event identifiers, conditions, and units may expose whether a reported resource influx produced additional service capacity, maintained existing capacity, or remained unusable within the relevant window. The same record may also support multiple interpretations if actual service choices and unmet needs are poorly observed.

The event register is a proposal for research documentation. It is neither a general accounting standard nor a lawful authorization system. Its operation categories, source reliability, granularity, and identification rules must be tailored to a setting. It may assist with process tracing and comparison once suitably validated, while preserving the possibility that the relevant causal mechanism lies outside the observed events, including in inaccessible agreements, tacit coordination, or unrecorded constraints.

5.5 Resource Conversion Chains and Operative Bottlenecks

Aid capacity often depends on a sequence of conditions connecting resources to an action. A donated wheelchair may require storage, an accessibility assessment, repair, a suitable operator, the recipient's consent, and a permitted route of delivery. A monetary grant may need approval, procurement, and coordination with the place where assistance occurs. Each link can enable conversion, introduce delay, or limit what can be done. The chain is an analytical reconstruction of necessary or regularly used operations under particular conditions; it is not presumed to describe a universal sequence across programmes.

A *bottleneck* is an identified component whose limited capacity or restrictive condition substantially constrains the feasible completion of the specified conversion chain during the relevant period. The same physical resource may encounter different bottlenecks across recipients or occasions. A room may be accessible during daytime but unavailable to a worker who can participate only in the evening. A grant may cover travel tickets but exclude an accompanying person's costs. A volunteer programme may have enough vehicles but lack authorized drivers for a late appointment. In each case, the analyst should investigate whether the constraint is material, institutional, temporal, informational, or jointly constituted, and which positions can alter it.

The concept of a bottleneck can become too broad if every imperfect condition is coded as one. A useful identification protocol requires a specified candidate action, a time horizon, a documented limiting condition, and a supported comparison showing that relaxing that condition would expand a relevant possibility while other conditions are held adequately specified. Such comparisons may rest on recorded changes, operational simulations with explicit assumptions, or reasoned qualitative evidence. Where the system contains mutually conditioning constraints, the analysis may identify a set of jointly binding

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conditions rather than a unique controlling node. The formal feasibility map in Equation 2 remains partial when evidence does not permit a definite conclusion.

The capacity to relieve a bottleneck may itself be distributed. A coordinator can rearrange appointments but cannot waive confidentiality requirements; a supervisor can authorize a safe procedure but cannot provide additional equipment; a donor can support replacement equipment but cannot guarantee its local acceptance. Consequently, an observed failure should not be attributed automatically to the most visible decision maker. Responsibility, control, and causal contribution call for separate records, as do differences between a preventable failure, a legitimate restriction, and a shortage that no relevant actor could have relieved under existing conditions.

5.6 Dependence, Substitution, and Feasible Alternatives

A dependence claim identifies a situated relation between a subject or position, a valued practical possibility, and another resource-holding or interface-controlling position. Emerson's power-dependence account makes dependence conditional on the importance of goals mediated by another actor and on the availability of alternative routes to those goals; it also distinguishes reciprocal dependence and balancing operations [23]. These are jointly relevant dimensions of the original social-exchange theory, rather than a single quantity automatically measurable from an aid record. Paper VIII adopts neither a universal metric of value nor a direct transfer of the original theory's social-exchange assumptions to humanitarian support. Its narrower purpose is to make explicit which particular opportunities may be lost or altered if one enabling channel becomes unavailable.

The comparison is necessarily conditional. Fix a subject a, an interface- or resource-controlling position b, a bounded period t, a common candidate action domain $\mathsf{X}_{a,t}(h)$, and explicitly matched background conditions Z. Let $\mathsf{F}^{\kappa}_{a,t}(b \mid \mathsf{Z})$ contain actions positively supported as feasible when b contributes. Let $\mathsf{N}^{\kappa,-}_{a,t}(\neg b \mid \mathsf{Z})$ contain actions *positively assessed as infeasible* in a specified alternative without that contribution, under the same action descriptions, coverage window, and material assumptions. Both are evidence-indexed subsets of $\mathsf{X}_{a,t}(h)$; actions with unresolved counterfactual status belong to neither the positively excluded set nor, merely by that omission, an inferred loss. Equation 6 defines an explicitly conditional *supported loss-of-options set*.

$$\mathsf{D}^{\kappa}_{a|b,t}(h;\mathsf{Z}) := \mathsf{F}^{\kappa}_{a,t}(b \mid \mathsf{Z}) \cap \mathsf{N}^{\kappa,-}_{a,t}(\neg b \mid \mathsf{Z}). \tag{6}$$

The intersection requires independent positive support for feasibility with b and exclusion in the specified alternative. This corrects an important evidential asymmetry: removing an action from a list of *supported* alternatives would not establish that the action was infeasible. If the records contain a feasible transport arrangement through b but say nothing about transport without b, the latter action remains undetermined, and Equation 6 does not classify it as a demonstrated lost option. A case with a documented inaccessible substitute can support a loss classification, subject to the stated assumptions and observation limits. An empty supported-loss set means that no loss meeting these two evidential tests was established; it supports a substantive finding of substitutability only where the counterfactual action domain has sufficiently complete, independently justified assessment. The set measures neither the intensity of distress nor the moral importance of opportunities. Even a fully assessed empty set leaves open differences in cost, burden, quality, risk, timing, or dignity. Where removal of b would reorganize other resources, the alternative scenario and Z require explicit reconstruction rather than automatic subtraction.

This formalization makes several interpretive boundaries explicit. First, dependence is relative to a subject's purposes and the defined options, so two recipients may depend differently on the same service. Second, a nominal substitute is insufficient when costs, accessibility, permissions, language, or time make it unusable. Third, a subject may depend on a distributed combination of contributors, so isolating one b can misrepresent a jointly necessary resource arrangement. Fourth, evidential uncertainty remains substantive: self-reports, rules, and observed behavior can support different appraisals of viable alternatives. A suitably designed study may supplement the action-set comparison with separate qualitative accounts of experienced loss and with locally justified burden measurements.

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Countermodel for dependence and coercion. A dependence diagnosis based on Equation 6 establishes a conditional constraint on specified opportunities. It supplies no automatic test of threats, manipulation, procedural legitimacy, or the participant's ability to withhold consent. In a constructed case, an emergency-service provider may be the only feasible supplier of a specialised device during a particular hour, while preserving transparent access rules, a safe refusal procedure, and independent review. A supported option loss can coexist with those safeguards. Conversely, a programme with diversified suppliers can impose coercive conditions if every usable route applies the same exclusionary rule. To evaluate coercion or domination, a study needs distinct evidence concerning exercised discretion, alternatives at the relevant time, conditional threats or sanctions, and the governing ethical or legal standard. These cases defeat an unconditional implication from resource dependence or funding concentration to wrongful treatment.

5.7 Mutual Dependence, Power Imbalance, and Collective Leverage

Dependence can run in more than one direction. A local association may depend on a public institution for space and authorization, while that institution depends on the association for volunteers who deliver supplementary activities. A recipient may depend on an organization for access and the organization may depend on recipients' participation to fulfill a programme's practical purpose or funding criteria. Such relations need to be tracked without assuming that each form of dependence has equivalent weight, replaceability, ethical standing, or duration. An actor's dependence may be materially consequential while another actor's dependence concerns reputation, reporting, or relational continuity.

Resource-dependence scholarship already offers a necessary caution against collapsing these relations. Casciaro and Piskorski distinguish *power imbalance* from *mutual dependence* and report different implications for constraint-absorbing mergers in their original interindustry corporate study [15]. Their empirical result does not warrant a claim about merger-like dynamics in volunteer aid. The conceptual distinction, however, motivates separate questions: how reliant are two positions on their relationship, and how asymmetric are their respective alternatives and control capacities? A relationship can involve substantial mutual reliance even if one side commands a wider range of substitutes or more extensive rule-making power.

Collective arrangements complicate bilateral comparisons. Several volunteers may form a replacement pool, reducing an organization's dependence on one individual; they may also negotiate shared scheduling rights or create a common support infrastructure. Recipients may coordinate feedback and thereby gain an effective way to correct a provider's mistaken classification. A funder consortium may diversify an organization's revenue sources while collectively imposing uniform reporting conditions. In these examples, the formation of alternatives and the distribution of authority change together. The relevant configuration may require triadic and higher-order analysis rather than repeated isolated dyads, particularly where collective decisions depend on simultaneous commitments.

A stronger dependency position need not be exercised as coercion. It may support mutually accepted reliability, permit rapid mobilization, or enable equitable prioritization under documented procedures. It may also enable unilateral changes that others cannot reasonably contest. Evidence of actual direction, the practical credibility of exit, opportunities for voice, and the basis of institutional authority is required before inferring a particular mode of power. Normative evaluations of coercion, exploitation, and legitimate allocation remain questions for explicit justificatory analysis, including the interfaces to Papers VI and VII.

5.8 Temporal Exposure, Commitments, and Reversibility

Resource dependence varies across time horizons. A volunteer programme may be able to replace a cancelled room over several months yet face a critical interruption when a room becomes unavailable shortly before a scheduled activity. A recipient may possess several nominal providers but only one capable of meeting a time-sensitive need. Similarly, an organization with diverse annual funding can be exposed to a short-term payment delay. The assessment therefore needs to identify the horizon at which

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an alternative is practical, whether substitutes are already arranged or would require negotiation, and who bears the interim risks of interruption.

Commitments can stabilize resource expectations without guaranteeing their fulfilment. A pledge, written cooperation agreement, or recurrent volunteer timetable may help participants plan, but its practical reliability depends on conditions, the ability to perform, and available responses to breach or cancellation. The researcher should distinguish a formally documented promise, an established pattern of fulfilment, the actual availability of a resource, and the recipient's reasonable understanding of the arrangement. A relationship can carry high apparent stability in reports while remaining fragile if indispensable knowledge or authority is concentrated in a role without succession arrangements.

Reversibility is also a political-economic property. A cancelled funding allocation may be restored, while an expired medical appointment, missed transport connection, or spoiled supply cannot be recovered by later reimbursement alone. Withdrawal from an arrangement may be easy for a donor and expensive for a recipient who has organized daily life around the promised support. The asymmetry concerns the timing, replacement costs, institutional notice, and downstream dependencies created by reliance. Its precise consequences are case-specific and should be reconstructed from the relevant history rather than inferred from the names of the participating roles.

Repeated dependence can affect subject positions. Volunteers may acquire responsibilities and obligations through recurrent provision; coordinators may accumulate discretionary knowledge; recipients may modify expectations or become less willing to request alternatives after repeated refusals. These are candidate processes of subject and institution co-formation, requiring evidence of change and continuity rather than identification from repeated transactions alone. Paper III's stronger claims concerning subject formation remain independent: the political-economic register identifies possible mechanisms to be examined, not a proof that an actor's constitution has changed.

5.9 Resource Stocks and Dependency: Evidential Levels and Cases

For material-resource inquiry, GR's ontological suspension leaves the ultimate status of possession and economic value open. The relational object is the history of stocks, commitments, restrictions, conversion conditions, and available substitutes. Inventory entries, transfer records, grant terms, schedules, and participants' accounts are manifestations of that history, each with different observational reach. A resource recorded as held by an institution may be committed elsewhere, unusable at the required time, or accessible only after authorization. Accordingly, the three-level distinction disciplines a specific inference: a documented stock supports claims about recorded holdings, while usable capacity and dependence require an account of the operative conversion pathway. Table 5 states discriminations for these competing reconstructions; its categories remain proposed inquiries rather than universally validated measures.

Consider first a *restricted-supply programme* in which a donation finances accessible reading devices for a local service. The centre reports a full inventory, but the recipient requests compatible batteries and training materials that fall outside the agreement's permitted expenditures. The visible mismatch could result from inflexible donor conditions, a procurement omission, a safety rule governing equipment, or a failure to consult service users. A documented process of grant revision and expenditure approval would help discriminate these mechanisms. An analyst should avoid attributing exclusion to donor domination solely from the existence of restricted funds.

A second constructed case concerns *concentrated transport access*. Several vehicles are available and a schedule appears well staffed, but a single person retains the keys and alone knows the permission procedure for late evening departures. When that person becomes unavailable, the recorded resource stock remains unchanged while the feasible transport actions narrow. Competing explanations include an unauthorized practice, an appropriate security requirement with missing backup procedures, and a previously overlooked training gap. The event register could document the interruption; the dependence comparison could specify candidate lost routes, subject to reliable evidence of authorized alternatives.

A third case concerns a *shared emergency stock*. Two associations establish a documented mutual-

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Table 5: Evidence-sensitive audit of resource-flow and dependency mechanisms in bounded volunteer-aid episodes.

Mechanism	Relational inquiry	Manifestations and rival explanations
Resource availability	Which identified good can become usable for which action and interval?	Inventory, receipt, permitted-use terms; goods may exist but be damaged, reserved, or unavailable in time.
Flow and renewal	Which transfers and replenishments sustain operative capacity?	Dated transfer logs and maintenance records; apparent growth may reflect relabelling or duplicate counting.
Control of disposition	Which position can authorize, withhold, redirect, or revise use?	Rule versions, approval decisions, practice traces; visible signatories may lack actual discretion.
Dependence and substitutes	Which possibilities would change under a documented alternative?	Alternative-provider records, travel/time costs, eligible routes; a nominal substitute may be practically inaccessible.
Temporal fragility	At what horizon can interrupted support be replaced?	Delivery delays, contingency protocols, time-sensitive appointments; continuity records may conceal reliance on a single channel.

support arrangement permitting temporary transfer of supplies when one experiences a shortage. The arrangement may broaden practical substitutes and reduce short-term exposure. It could also create an unrecognized concentration of authority if only one association approves every cross-site release, or a future shortage if both draw on the reserve simultaneously. The observation of successful reciprocal transfers would support a finding of coordination under those conditions. General resilience, equitable allocation, and legitimacy of the approval rule would remain questions requiring further evidence and argument.

These cases illustrate the need to record both the event and the relation that gives it practical meaning. The nominal quantity of a good, a labelled ownership status, or the presence of a formal cooperative agreement alone identifies only part of a resource configuration. A more discriminating analysis combines dated transactions, access conditions, counterparty expectations, permitted alternatives, and observations of action or interruption. Where the evidence is insufficient, the result should be a bounded uncertainty statement and a plan for further inquiry rather than a determinate resource-power ranking.

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5.10 Empirical Discrimination, Political-Economic Limits, and Next Mechanisms

A prospective empirical study could select a small number of bounded service episodes and reconstruct their material pathways from initial commitment to eventual use, postponement, or loss. Dated inventories and transfer records would support tracing physical movements. Agreements and successive rule versions would clarify documented use restrictions. Interviews with volunteers, recipients, administrators, and partners could reveal costs and alternatives absent from the formal records, while protecting participants' privacy and avoiding any presumption that one standpoint offers a complete account. Where appropriate, observations of approved procedures could help distinguish a rule as written from its operative implementation. A structured audit trail should preserve discrepancies among sources.

Inference about dependency requires particular care. The feasible-action comparison in Equation 6 contains a counterfactual component whose assumptions can be contentious. Analysts should report the alternative arrangement, temporal horizon, action domain, evidence limits, and relevant changes in other conditions. Even when a policy revision precedes improved access, the effect may also reflect changes in demand, staffing, funding, communication, or seasonal conditions. Strong causal claims require designs that address such rival explanations. Comparative cases may make mechanisms plausible without establishing their prevalence or generality.

The event register in Equation 5 and the audit in Table 5 are intentionally restrained. Their usefulness depends on whether they improve identification, transparency, and comparison relative to ordinary organizational accounting, resource dependence theory, and other established analytical approaches. Some

programmes may already maintain sufficient traceability through standard financial and logistics records; in those cases an additional GR-coded representation should be justified by a concrete explanatory gain. No universal economic units, scalar dependence indices, or untested laws of resource circulation are proposed. The present paper neither defines a universal rights regime for aid resources nor treats a legal arrangement as valid merely because it is operationally effective.

Within its limits, the section advances a linked account of resource movement, control, and changing alternatives. Material means are traced through their histories of possession, commitment, conversion, use, and replenishment. Dependence is treated as a situated relationship among practical possibilities and alternatives, with mutual reliance distinguished from power imbalance. This provides an operative basis for Section 6's examination of volunteer labour, unpaid coordination, and social reproduction. That examination will extend beyond material stocks to the continuing work and time through which resource pathways become usable, while preserving the analytical distinction between labour costs, material flows, value attributions, and independent judgments of justice or ethics.

6 Volunteer Labour, Social Reproduction, and Opportunity Costs

This section examines the labour relations through which volunteer aid is performed and maintained. Its objective is to distinguish the work recorded as an aid contribution from the wider activities and conditions that make repeated participation possible, including unpaid coordination, household arrangements, capacity renewal, and opportunities forgone. It first clarifies the domain of work and the distribution of tasks, then examines social reproduction, burdens and alternative uses of time, introduces a bounded evidence-sensitive work-event register, and considers three hypothetical configurations. The argument combines established statistical and care-economy literatures with a provisional generative relational (GR) reconstruction. It concerns political-economic mechanisms in volunteer aid; classification, causal evaluation, legal status, and normative appraisal retain different evidential requirements.

6.1 Volunteer Work, Labour Relations, and Units of Observation

Volunteer work is a statistical, institutional, and practical category whose boundaries depend on the purpose of classification. The International Labour Organization (ILO) provides operational methods for identifying, describing, and valuing volunteer work, including work performed through organizations and directly for others [48, 49]. An activity can fall within a statistical definition while participants understand its meaning through solidarity, reciprocity, friendship, religious or civic commitments, or professional formation. Conversely, the designation "volunteer" in a programme's publicity provides limited evidence of the work's voluntariness, labour-law status, or material conditions. Those questions require separate inquiry into actual choices, legal rules, and role histories.

For political-economic analysis, a *work episode* is an activity or sequence of related activities carried out by an identified participant in a bounded time interval and institutional context. A *work relation* includes how that activity is requested, coordinated, authorized, monitored, supported, credited, and possibly discontinued. Its practical terms may be negotiated explicitly or inherited through custom, organizational culture, or recurring expectations. An episode of interpretation during a hospital visit, for example, may involve the interpreter, the recipient, an institutional requester, the coordinating group, and one or more persons providing travel or childcare. The activity of interpretation has a discernible task; the work relation contains a larger set of dependencies and conditions.

Analytical boundaries should remain explicit. Direct voluntary support to another household, ongoing help within one's own household, the performance of a formal employment contract, and a public authority's compulsory assignment can have similar visible tasks but different relevant classifications. Care provided by a recipient to another person during an aid encounter may remain important even if it falls outside the statistical volunteer-work definition. The present inquiry therefore records classification and actual contribution as related but separate fields. Its unit may be a task, person-period, role, organizational work process, or historically extended relation. Moving between units calls for documented

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aggregation rules so that one hour spent coordinating several tasks is not counted several times merely because it served several recipients.

6.2 Visible Delivery, Preparatory Labour, and Organizational Work

An organization often represents its activity through completed service encounters, deliveries, or beneficiary counts. Such records may be well suited to particular reporting obligations while offering a narrow view of the labour sustaining the service. The practical sequence can include recruitment, assessment, training, preparation, accessibility adaptation, interpretation, safeguarding, supervision, travel, roster negotiation, communication with partner institutions, record correction, and follow-up. Work performed before and after the visible encounter may determine whether the encounter could occur safely and at the promised time. The analyst's task is to distinguish the sequence's components and responsible positions without assuming that each component produces a separable unit of value.

An important distinction concerns *frontline delivery* and *organizational maintenance*. Frontline work addresses an immediate request, subject, or activity. Organizational maintenance supports the conditions under which repeated requests can be received, matched, and undertaken: records must remain intelligible, staff and volunteers need usable procedures, and replacements must be available when circumstances change. Work may be physically light yet cognitively, emotionally, or temporally demanding. A coordinator who answers brief messages throughout a day may have few logged "service hours" while facing a fragmented schedule and an obligation to remain reachable. These possible burdens require evidence about interruptions, discretion, and exposure, rather than an assumption that all contact outside an assigned shift counts as work.

A contribution can also be distributed across several roles. A recipient may prepare documents, explain needs, arrange travel, train an inexperienced helper in accessibility requirements, or monitor errors; a family member may provide communication or supervision; a salaried professional may make otherwise voluntary activity practicable. The relevant question is what work the arrangement requires from whom, and how that requirement changes when an institutional interface is redesigned. A reduction in paid administrative hours could reflect improved coordination, transfer of tasks to volunteers, transfer of tasks to recipients, or reduced service quality. Equal reported outputs do not discriminate among these possibilities.

The distinction also has consequences for records. A service log should preserve the task for which an activity was necessary and the standpoint from which it was classified. An individual's time diary, a coordinator's scheduling account, a reimbursement request, and an organization's public annual report may each illuminate part of the work process. Divergence can arise from different definitions of participation or from strategic reporting incentives, as well as from incomplete observation. A GR analysis treats these accounts as situated manifestations of a history to be reconstructed rather than as mutually interchangeable measures.

6.3 Social Reproduction and the Conditions of Continued Participation

Social reproduction has been theorized within several distinct traditions, including feminist economics, care research, and critical political economy. It commonly directs attention to the activities and arrangements through which persons, capacities, households, and social relations are sustained over time. The breadth and normative interpretations of this object vary among authors. Bergeron's treatment of formal, informal, and care economies, Razavi's analysis of unpaid care, social reproduction, and changing responsibilities among households, markets, public bodies, and voluntary providers, and the ILO's assessment of paid and unpaid care work provide distinct points of departure [6, 72, 1]. Razavi studies the organization and politics of care; the overlap of that domain with specific volunteer-aid activities must be determined for each case. Fraser's analysis additionally locates tensions between economic organization and social reproduction within a historically specific account of capitalism [30]. The present paper draws an analytical question from these literatures: how is the continuing capacity to provide aid sustained, and

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upon whose activities does it depend? It does not treat the competing theories as equivalent or presume their conclusions to follow from GR.

The recurring capacity to volunteer may depend on nutrition, health, rest, housing, income, commuting conditions, accessible information, household cooperation, emotional support, training, and social recognition. Some are directly purchased, some are furnished by public institutions, some are produced within households, and some arise within reciprocal networks. The participants who secure them may differ from those whose names appear in programme records. A person able to undertake a weekly shift because another household member changes paid working hours provides one example of a possible transfer of temporal demands. Whether that shift produces a measurable economic burden or constitutes a mutually chosen arrangement is an empirical and interpretive question.

These observations do not justify assimilating all domestic and relational activity into volunteer labour. Caring for a child, maintaining one's own health, sustaining a friendship, and volunteering in a community centre may be organized by distinct relations with different meanings, obligations, and protections. They may nevertheless be coupled through schedules and household resources. A political-economic description should therefore trace their conditioning relations while preserving conceptual boundaries. An activity that is personally meaningful need not be classified as an organizational input in order to have consequences for a participant's available time or ability to continue volunteering.

A historically attentive account also investigates how responsibility is distributed across gender, age, income, disability, migration circumstances, and institutional access without assuming that a particular pattern holds in the case under study. The ILO documents gender inequalities in the distribution of paid and unpaid care at broad scales [1]; this is a reason to ask distributional questions, not evidence that a specific local volunteer group replicates a given aggregate pattern. The central mechanism concerns the possible coupling between public recognition of a contribution and the privately organized labour that sustains it. The amount of socially necessary maintenance work, its allocation, and its conditions of performance remain open empirical objects.

6.4 Opportunity Costs, Foregone Alternatives, and Valuation Conventions

Opportunity cost requires specifying a feasible alternative that is displaced by undertaking an activity. A person's hour devoted to a scheduled aid task has a duration, yet it has no uniquely determined monetary opportunity cost in the absence of assumptions about feasible alternative uses of that hour. A person could have used the interval for paid employment, paid training, household care, rest, another volunteer activity, or an activity valued for its own sake. Some alternatives were genuinely available; others were constrained by work schedules, care obligations, legal requirements, transport, or personal capacities. The relevant comparison depends on the time horizon, the participant, and the counterfactual arrangement.

The ILO's volunteer-work measurement manual discusses opportunity-cost and replacement-cost approaches to imputing the economic value of unpaid volunteer inputs, and it recommends replacement cost for its stated statistical valuation objective [48]. These are *valuation conventions*. A replacement wage concerns the hypothetical cost of purchasing comparable work under specified assumptions. An opportunity-cost wage concerns a hypothesized alternative earning use of the participant's time. An out-of-pocket expense is an expenditure actually incurred. None automatically measures the participant's experience, the recipient's benefit, the organization's surplus, or the social value of an aid relation. Their differences matter even where a single monetary amount is convenient for statistical reporting.

For instance, a retired volunteer might face a realistic alternative of rest or community participation, while a freelance worker might decline a paid assignment to fulfil an aid commitment. Assigning the same imputed hourly wage to both persons can serve a chosen input-accounting convention, but it would conceal the differences in available alternatives and opportunity burdens. Similarly, an hour spent waiting for a service contact may restrict other appointments even if the recorded active task lasted only ten minutes. The restriction depends on notice, location, accessibility, and the ability to use the interval for other purposes.

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The OECD Time Use Database distinguishes unpaid work, paid work or study, personal care, leisure, and other activities while warning that survey design and coding differences affect comparison [63]. Such categories are useful observational aids; they do not by themselves supply the feasible counterfactual for a particular volunteer or household. A local opportunity-cost analysis should identify the alternative, explain why it was feasible, document what was relinquished, and distinguish material losses from non-monetary consequences. Where those conditions cannot be established, reporting hours together with uncertainty about foregone activities is more defensible than presenting a precise personal cost.

6.5 Labour Demands, Time Fragmentation, and Capacity Renewal

The continuing availability of volunteer labour depends on more than the sum of hours already supplied. Temporal distribution, task predictability, recovery periods, accessibility of training, compensation of necessary expenditures, and opportunities to decline assignments can condition future participation. A programme requiring several short visits across a city might have the same aggregate service hours as one offering a predictable local shift while imposing very different travel and coordination demands. A record of completed hours will register the delivered activity; its capacity to explain retention or discontinuation depends on additional observations.

A useful analytical distinction separates *activity demand*, *participation burden*, and *capacity renewal*. Activity demand concerns what an assigned task requires: time, attention, technical skill, emotional regulation, or physical effort. Participation burden concerns its consequences within a specific life arrangement, including travel, costs, scheduling conflicts, or exposure to risk. Capacity renewal concerns conditions that allow the participant to undertake later activities with adequate rest, security, training, equipment, and appropriate institutional support. Demand and burden may vary differently: a skilled volunteer can perform a demanding technical task competently but still face a heavy schedule; a novice may require additional preparation that is currently invisible to the roster.

Renewal also has institutional dimensions. Knowledge must be shared, procedures revised, contingencies rehearsed, and work redistributed when a participant leaves. Reliance on a single experienced volunteer may sustain high short-run output and simultaneously leave the organization exposed to interruption. Conversely, additional paid coordination, a reserve staffing arrangement, or recipient-led redesign may initially increase recorded inputs while strengthening continuity. These are possible mechanisms, not a general rule that spending more necessarily improves a programme. A causal study must observe the changing task process, alternative sources of labour, and institutional constraints over an adequate time horizon.

Work can be valuable to its performer. Learning, solidarity, relationship formation, practical competence, and a sense of contribution can renew willingness to participate. Such meanings should be elicited directly where possible and should not be inferred from low attrition or the absence of complaints. The coexistence of meaningful participation and burdensome working conditions presents an analytical requirement to record both. Descriptive tracking of capacity renewal supports subsequent ethical and justice inquiries, but it does not itself identify an acceptable level of burden.

6.6 Work Distribution, Substitution, and Institutional Power

The allocation of labour is mediated by institutional decisions, resource controls, and alternatives. A public body may finance a voluntary association's coordinator, a charity may rely on unpaid scheduling, and a recipient organization may require extensive documentation before it can receive help. The resulting distribution of tasks matters politically because participants possess unequal capacities to refuse, reorganize, or transfer their assignments. Formal authority to allocate tasks, practical ability to veto a timetable, and actual success in obtaining a change should be examined separately. In some arrangements the least visible participant absorbs the disruption caused by a coordination decision taken elsewhere.

Substitution must be specified at the level of the concrete task and its conditions. An unpaid volunteer may supplement a paid professional, perform a task previously carried out by a professional, enable a professional to undertake specialized work, or provide an activity for which a comparable paid service

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was never accessible. The mere co-presence of paid and unpaid workers establishes none of these relations. Investigating substitution requires a baseline, an institutional history, task comparability, safety or legal constraints, and evidence concerning possible alternative arrangements. It also requires distinguishing substitution of work activities from transfers of responsibility: having a volunteer perform an activity does not by itself determine who retains authority or accountability for its consequences.

Coordination is therefore an important site of power. A programme may call participation flexible while maintaining one roster, one authorization route, or an informal expectation to accept urgent assignments. The capacity to refuse may be practically constrained when alternatives are unavailable or when withdrawing will foreseeably harm recipients with whom the volunteer has formed durable relations. This requires careful interpretation. A participant's genuine concern for others can coexist with an institutional practice that relies heavily on that concern. An account of dependence should document the conditions and effects of decision-making before attributing manipulation, coercion, or exploitation.

The distribution of burdens also involves recipients and households. An organization can lower its recorded cost by requiring recipients to travel long distances, complete complex applications, repeatedly explain their histories, or secure family support. Such tasks may be reasonable parts of a safe service procedure, burdensome avoidable requirements, or a mixture. The analytical aim is to trace the labour and resources required by the full path to assistance. The political-economic question concerns how the organization of interfaces changes the participants' feasible activities, responsibilities, and practical influence.

6.7 Voluntariness, Exit, Recognition, and Accumulated Expectations

Voluntariness has a specific place in international work classification, while a richer inquiry considers degrees of discretion within continuing relationships [49]. A participant may voluntarily enter a programme and later confront changed expectations, moral commitments, organizational dependency, or practical barriers to leaving. One-off consent, recurrent assignment, permission to refuse particular tasks, and the possibility of terminating a role are different facts. The relationship between them is historical: later demands can be conditioned by previous reliability and the absence of a substitute worker.

Recognition can affect these relations in different directions. Public thanks may express genuine appreciation, sustain a person's sense of membership, or attract additional contributors. Under some circumstances, public identification as an indispensable helper may make it harder to withdraw without embarrassment. A coordinator's statement that an individual is "the only person who can do it" could be an accurate description of scarce expertise, a call to redistribute training, or an attempt to secure compliance. The available evidence must distinguish these possibilities. The existence of praise alone neither proves coercion nor settles questions about fairness.

The conceptual distinction between *voluntary participation* and *institutional reliance* is especially important. An organization can responsibly rely on committed volunteers if it sustains adequate alternatives and respects their chosen limits. It can also build operational commitments that are difficult to meet without shifting costs into unpaid time, household work, or personal finances. The same recurring relation can include mutual trust, genuine value, and asymmetrical control. Paper VII's ethics of volunteer intervention evaluates permissions, obligations, and limits under independent normative criteria; the present political-economic analysis identifies the material arrangements to which such evaluation may be applied.

A provisional historical inquiry would record when assignments became regular, when participants requested adjustments, how coordinators responded, and whether alternatives were offered. It would consider institutional notice, changes in household circumstances, and the consequences of withdrawal for the recipient. A refusal may be materially feasible yet emotionally difficult; it may also be impossible under specific contractual or legal arrangements, in which case the classification of work itself may require reconsideration. Treating these cases as distinct provides a better basis for later analyses of bargaining power and institutional responsibility.

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6.8 Evidence-Indexed Work Events and the Limits of Formal Reconstruction

A limited formal device can help preserve the distinctions developed in this section. Let e denote a bounded work event within history h, t its time index, and κ an evidential standpoint. The proposed *work-reproduction event register* is given in Equation 7.

$$\mathfrak{W}^{\kappa}_{e,t}(h) = \big(s, \rho, \tau, a, d, b, u, o, \varepsilon\big)^{\kappa}_{e,t,h}. \tag{7}$$

Here s denotes the participant or an ethically appropriate pseudonymous identifier; ρ the role and its assignment conditions; τ the bounded time interval and scheduling constraints; a the task or activity; d its typed demands, which may be only partly observable; b the distribution of direct and indirect burdens among relevant positions; u known or hypothesized conditions for maintaining future participation capacity; o evidenced feasible alternatives and uncertain foregone options; and ε the provenance, access limits, and contested status of supporting evidence. The indices identify the event, observation horizon, and standpoint. The register is an annotated analytical record rather than a numerical product or a mathematical law.

The components should be recorded as typed descriptions with explicit unknown values. Hours and reimbursement amounts can be represented quantitatively when adequately documented. Schedule predictability, decision latitude, physical fatigue, and perceived obligations may initially require interviews or qualitative codes. An alternative earning opportunity should be entered in o as established, conditionally supported, contested, or unobserved rather than assumed from a participant's occupation. Likewise, u describes possible conditions for renewal, not an independently validated measure of psychological or bodily capacity. The register does not imply that sensitive personal circumstances must be collected; a study may use aggregated or pseudonymized categories and omit data whose risks outweigh their explanatory contribution.

Equation 7 is intentionally narrower than the overall political-economic configuration in Section 1 and the resource-event record in Section 5. Its purpose is to connect a specific task to a situated labour history and the conditions of continuation. The event can be associated with a documented material flow or institutional authorization where evidence permits, without collapsing the distinct types of event. It does not furnish an estimate of social surplus, an exploitation score, or a causal identification of dependence. A productive use of the register would demonstrate explanatory differences between cases that ordinary service-hour totals treat as equivalent.

6.9 Labour Burdens and Capacity Renewal: Evidential Levels and Cases

In the three-level GR account of labour, ultimate claims about agency and value remain suspended. The relational object is the organization of assistance through assignments, actual work, household supports, institutional dependence, and the reproduction of participation capacity. Timesheets, travel claims, diaries, rosters, and interviews manifest different parts of that organization. A shift record can establish a recorded service interval while omitting preparation, constrained availability, and displaced household labour; a participant's recollection can reveal such burdens while leaving their duration uncertain. Table 6 therefore distinguishes the empirical status of activities, distributed costs, and renewal conditions. The audit preserves disagreement between administrative and participant accounts as a research question rather than silently treating either record as complete.

Consider a *language-access programme* that reports sixty hours of volunteer interpretation and records no salary payments. One reconstruction attributes its continuity to predictable shifts, effective paid coordination, and reimbursed transport. A second identifies extensive unpaid preparation, fragmented messages, and recurring financial costs borne by interpreters. A third finds that recipients undertake substantial work correcting materials and scheduling access. The same headline service hours are compatible with each history. Dated task records and independently elicited accounts could discriminate some mechanisms; the programme's value to participants and its appropriate organization would still require further inquiry.

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Table 6: Analytical distinctions and evidential limits in the reconstruction of volunteer labour and social reproduction.

Analytical object	Relational question	Accessible traces and inference risks
Task and hidden work	Which preparation, coordination, delivery and follow-up activities constitute the work process?	Schedules, diaries, call logs; short tasks and interruptions may be omitted or counted more than once.
Household conditions	Which other activities or persons make participation possible?	Voluntary household accounts and schedules; intimate information may be inaccessible or inappropriate to collect.
Opportunity alternatives	Which relevant activities could realistically have occurred in the same interval?	Employment offers, schedule constraints, participant accounts; an imputed wage is not an observed forgone opportunity.
Burden and renewal	What costs, limits and supports shape continuing capacity to participate?	Reimbursements, rest, training and attrition records; departure or silence has several possible causes.
Assignment and exit	Who can revise a task, decline an assignment or secure a substitute?	Rule versions, refusal records and interviews; formal permission may differ from practical freedom.

A *weekend escort service* provides a second example. A participant consistently covers Saturday appointments while another household member changes paid working hours to provide childcare. The escort may experience the service as valuable civic participation; the household may regard the arrangement as reciprocally beneficial. A narrow estimate of the escort's travel and task hours misses the interdependent scheduling arrangement. A broader analysis should ask whether the displaced paid time was genuinely available, whether childcare alternatives existed, who agreed to the changes, and whether the arrangement remained sustainable. It would be inappropriate to derive exploitation or consent merely from one participant's income changes.

A third configuration concerns *emergency coordination*. A group has a successful record of responding quickly to service interruptions because an experienced volunteer remains reachable at short notice. This may represent highly effective self-organization, a temporary contingency arrangement, or an institutional dependence concentrated on one person's availability. Observing cancelled plans or fatigue might support a concern about renewal; observing shared rotation or genuine discretion could support an alternative account. As in the other cases, the relevant question is which relations and alternatives generated the reported outcome, with explanations assessed against evidence rather than inferred from the formal representation.

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6.10 Research Designs, Source Limitations, and Political-Economic Continuation

A feasible study could follow a small, carefully selected number of volunteer-aid work processes over a defined interval. The design should record service requests and outcomes alongside the activities required for preparation, coordination, participation, and follow-up. A time-use instrument could distinguish reported active tasks, travel, on-call constraints, household work, and discretionary participation, while permitting participants to contest the categories. Documentary records could establish formal assignments and reimbursements; interviews might describe practical alternatives, care arrangements, and the experience of repeated requests. The OECD's cautions about time-diary categorization and comparability are relevant when comparing such records [63]. Data collection must be proportionate to the inquiry and respect consent, confidentiality, and the vulnerability of recipients and helpers.

Several rival explanations require deliberate testing. An apparent rise in unpaid hours may reflect increased demand, improved recording, new access for recipients, the substitution of volunteer labour for paid tasks, or shifts in household participation. A reduction in volunteer numbers may result from burnout, successful transition to paid employment, improved boundaries around volunteering, changing population needs, or a policy change. Cross-sectional correlations among hours, satisfaction, and retention do not identify their causal ordering. Longitudinal records, process tracing, credible comparisons,

and critical qualitative evidence can support more specific accounts when their assumptions are stated.

The *work-reproduction event register* offers a practical advantage only if it makes relevant differences intelligible that an existing labour survey, case-management system, or organizational account would miss. It should be evaluated against those alternatives and simplified where its additional distinctions yield no explanatory gain. Particular caution is needed when intimate household relationships, health limitations, or financial decisions would be required to complete its fields. Missing information may be an ethically appropriate research boundary, and the correct analytical conclusion can be explicitly underdetermined. Statistical valuation, formal coding, and interpretive inquiry should remain complementary rather than substitutes for one another.

Within these limits, volunteer aid emerges as a historically organized labour relation supported by diverse activities and renewal conditions. The public encounter, work behind the encounter, and the wider reproduction of participant capacity may be coupled in ways that redistribute practical burden and decision-making authority. Recognizing those couplings prepares Section 7's study of attention, time, skill, and the allocation of support capacity. The political-economic description remains separable from the ethical evaluation of demands upon volunteers and recipients, the justice of institutional arrangements, and the legal status of the work undertaken.

7 Attention, Time, Skill, and the Allocation of Support Capacity

Volunteer aid depends on more than the numerical presence of willing participants or a nominal stock of service hours. Whether a request can be addressed also depends on the time at which support is required, the type and continuity of attention involved, the competence appropriate to the activity, the conditions of authorization and supervision, and the practical ability of a participant to accept, alter, or decline an assignment. This section develops a preliminary political-economic account of *support capacity* as a historically organized and heterogeneous relation. Its objective is to describe how particular opportunities to provide and receive aid emerge through the allocation of attention, time, and skill. The analysis distinguishes the resources available to an organization from usable capacities in a particular encounter; develops a limited, evidence-sensitive matching construction; examines queues, temporal interdependence, and allocative authority; and concludes with constructed comparisons and research limits. The argument is descriptive and formal-interpretive, with normative and legal implications identified as separate questions.

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7.1 Support Capacity as a Situated Relational Object

The expression *support capacity* can refer to several different objects: a potential helper's available hours, an organization-wide service target, the ability to perform a specified task, a recipient's practical opportunity to obtain assistance, or a sustained system of coordinated response. Treating these uses as interchangeable conceals important economic relations. A person may offer four hours on a given day while a programme lacks an authorized task within that interval. A service may list ten available helpers yet lack the language skills, accessible premises, or supervisory arrangements required for a particular request. Conversely, a carefully coordinated team may meet a request through several short contributions that cannot be interpreted as a single fungible labour input.

For the present investigation, support capacity denotes a *situated practical possibility* that an identified set of participants and institutions can bring a specified aid activity within an appropriate time interval, under stated material, relational, and institutional conditions. This formulation incorporates the distinction between resource custody and conversion developed in Section 5, while retaining Section 6's account of activities that maintain future participation. It is an analytical definition, open to correction in particular domains. Capacity is indexed to a request or task description; it may be unavailable, provisional, or contested when crucial conditions are uncertain.

The components of such a possibility are partly substitutable and partly complementary. Some transport arrangements can be changed without transforming the service; a language-specific interpretation

request may require competence that cannot be supplied by an arbitrary replacement. Additional volunteers do not automatically compensate for a lack of access permission or for one person's exclusive role in supervision. A programme-wide volunteer count therefore describes one manifestation of possible resources, while the relation between task requirements and practicable provision has to be investigated separately.

Capacity also has a temporal character. Training may expand later options, a difficult period of work may reduce immediate availability, an altered institutional rule may change permissible tasks, and a reliable recipient-facing relationship may make some activities practicable that would otherwise require extensive preparation. Such changes can involve subject co-formation and organizational history without presuming that the participants' practical positions can be summarized by a single scalar productivity parameter. The object is a structured possibility for support, with its evidential grounds and conditional boundaries made explicit.

7.2 Scarce Attention and the Costs of Coordination

Attention is relevant to volunteer aid because assistance often requires selecting, interpreting, monitoring, or responding to particular persons and circumstances. In his analysis of organizations in an information-rich world, Herbert Simon treats recipients' attention as a scarce resource, proposes time as a practical measure of attention cost, and analyzes how information-processing arrangements can redistribute demands on attention [80]. The 1971 discussion makes this a question of organizational design; it does not supply a context-free measure of the experiential or ethical quality of support. The present argument adopts this as a bounded organizational insight. It does not claim that human attention has one stable unit across people and activities, or that a period of co-presence proves that a particular quality of attention was delivered.

A reception volunteer may simultaneously monitor an arrival area, interpret wayfinding requests, record messages, and notice a distressed visitor. A coordinator may spend only a few minutes sending a message but remain responsible for interruptions across a much longer interval. An interpretation task can require sustained attention to speaker turns and context, whereas a routine delivery task may permit planned breaks and interruptions. These differences affect the organization of service. Recorded minutes, cognitive demands, and responsibility for vigilance belong to different observational categories even when they concern the same interval.

The political-economic distribution of attention extends beyond volunteers. Recipients may expend time and effort finding the correct contact, explaining a need repeatedly, correcting erroneous records, or waiting for an authorized response. Staff may expend substantial attention to supervise a volunteer activity, and family members may provide the background coordination that makes a short volunteer shift possible. An organization that reports reduced staff time after introducing a self-service portal may have shifted information-processing work toward recipients. Whether that shift improves access or creates a barrier depends on who can use the interface and on which kinds of requests it accommodates. The relevant accounting question concerns the distribution of activity and burden across positions rather than the hours saved by one institution alone.

Attention should also be distinguished from responsiveness and recognition. Prompt acknowledgment of a request, effective resolution, respectful conduct, and careful listening may be correlated in some circumstances, yet they are different qualities. The volume of emails answered per hour is a plausible operational measure of one aspect of throughput; it cannot establish that a recipient was understood or appropriately assisted. These distinctions will be especially relevant to Section 11's inquiry into information, measurement, and epistemic control. The present section treats attention as a heterogeneous practical condition for aid allocation, with the quality and meaning of a particular encounter left open to further evidence and interpretation.

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7.3 Availability Windows, Deadlines, and Temporal Coupling

Time available for volunteering may be recorded as a number of hours, a recurring shift, an on-call interval, or a set of dates. Its conversion into practical support depends on the relation between these intervals and the temporal requirements of requests. Two volunteers each offering three hours may have quite different capacities when one is available during a clinic's visiting period and another only after the relevant activity closes. A recipient's appointment time, an institution's authorization window, and a volunteer's household schedule can jointly determine whether a proposed service is feasible.

Useful distinctions include *duration*, *placement*, *notice*, *continuity*, and *temporal flexibility*. Duration identifies how long an activity occupies participants; placement records when it occurs; notice identifies the interval between a request and a needed response; continuity captures requirements for sustained engagement or repeated encounters; and flexibility concerns whether the activity can be moved, interrupted, or delegated. These attributes can vary independently. A five-minute action with a near-immediate deadline may impose more severe scheduling demands than a longer task that can be completed at any time during a week. Repeated short interruptions may also reduce the practical use of otherwise unoccupied hours.

Temporal coupling describes a case where several activities must be ordered or overlap for support to occur. A volunteer may need orientation before meeting a recipient; an interpreter may need a clinician and a recipient to be present together; a transport arrangement may depend on a pickup, an appointment, and a safe return. The coupling has a relational economic effect when one participant's delay constrains the usable time of others. The resulting burden can appear outside the designated volunteer shift, particularly where persons travel, wait, remain reachable, or rearrange paid and household obligations.

Scheduling research has examined trade-offs between volunteer self-selection, service coverage, and paid staff assignments. Escallon-Barrios, Noham, and Smilowitz investigate a dual-mode arrangement in which volunteer self-scheduling can produce uneven coverage requiring staff responses [24]. Their model is a particular operational research contribution and does not establish the desirability of any one scheduling policy across institutional settings. For the present paper, the pertinent methodological lesson is that the rule by which availability becomes an assignment is part of the research object. A shift calendar, its revision history, and reports of refusals can reveal which temporal possibilities were genuinely offered and which were only nominally represented.

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7.4 Skill, Competence, Credentials, and Task Boundaries

Skill is frequently recorded as a stable property of a person, for example proficiency in a language, familiarity with a software system, experience in a community organization, or ability to perform a routine logistical task. For matching purposes, this information needs a relation to the task, the relevant context, and the evidential standard for appropriate performance. A person's prior experience with conversational interpretation does not, by itself, establish capacity to conduct a clinically consequential exchange. Likewise, a credential can establish a specified recognized qualification while leaving current competence, availability, supervision, and authorization as separate questions.

The World Health Organization's competency and outcomes framework for universal health coverage demonstrates the specificity with which health-worker competencies can be articulated across people-centredness, decision-making, communication, collaboration, evidence-informed practice, and professional conduct [94]. That framework addresses the education and preparation of health workers in its defined scope. Its relevance here is methodological: the demands of tasks and the standards by which a role is judged need careful domain specification. It furnishes neither a credential for volunteer participants nor permission to perform regulated professional activities.

Voluntary participation can involve different kinds of expertise. A local resident may possess situated knowledge of transport and accessibility; a patient advocate may have extensive experiential understanding of service barriers; a trained professional may have specialized technical skills; a coordinator may understand a particular institution's workflow. These capacities may complement one another, yet they should not be collapsed into a hierarchy of general intelligence or a single proficiency score. Their ap-

propriateness is relational: it concerns the actual task, the beneficiary's circumstances, boundaries of permission, support arrangements, and the possibility of seeking competent assistance when a problem exceeds the volunteer's remit.

Skill classifications themselves can reorganize opportunity. A registration form offering only broad labels such as "beginner" and "expert" may prevent a person with a narrow but valuable competency from being considered. Conversely, an overly general category may encourage unsafe overassignment. Screening, matching, written tasks, training, and supervision appear among the volunteer-management practices surveyed by Hager and Brudney in the United States [41]. Their report establishes the practices as objects of organizational study, without demonstrating that their adoption necessarily causes retention or quality in a specific programme. A political-economic analysis should investigate who determines the categories, who can contest a classification, and which opportunities become accessible through them.

7.5 Requests, Recipient Participation, and Demand Formation

A service request is not necessarily a transparent measurement of an independently fixed need. Requests may be articulated through available language, institutional categories, prior experiences, deadlines, and anticipated eligibility judgments. A recipient who has been redirected repeatedly may narrow a request to what the organization seems likely to provide. Another may ask a volunteer for help with a problem that belongs within a specialized professional role. Demand formation therefore involves the history of interactions between recipients, helpers, intermediaries, and the institution's service vocabulary.

A study of support allocation should distinguish expressed requests, interpreted task requirements, agreed forms of support, and completed actions. A person's preference may change after an explanation of options; a task may require clarification of consent, privacy, or safety conditions; and information concerning accessibility or language may be imperfect. A recipient's participation can improve the definition of appropriate support without making the recipient responsible for all the classification and coordination work. The distribution of clarification effort is itself relevant to attention and resource analysis.

The classification of an activity as within a volunteer role can also be institutionally consequential. A request for accompaniment, emotional support, physical assistance, advice, or interpretation can occupy different procedural and regulatory positions even when the recipient experiences them as adjacent needs. For this reason, the allocation framework developed below operates on task descriptions with recorded boundaries rather than assuming a uniform unit of "help." It preserves room for a refusal, a referral, a request for supervision, and a collaboratively revised task specification as meaningful outcomes.

This distinction prepares the later analysis of scarcity formation and eligibility. Low recorded demand may mean few relevant needs, successful resolution elsewhere, weak awareness of a programme, restrictive intake, or high costs of making requests. Similarly, an unfilled task may reflect the absence of a willing helper, failure to match existing capacities, institutional refusal, safety concerns, or insufficient information. The reasons should be kept distinct before conclusions are drawn about supply, shortage, exclusion, or programme effectiveness.

7.6 Evidence-Sensitive Matching of Participants and Tasks

Allocating support requires some determination of whether a prospective provider can take up an activity under its actual conditions. The determination can be made informally through conversation, formally through a schedule, or provisionally through a proposed assignment. To make the evidential status of such determinations visible, consider a finite set V_t of available or potentially available provider positions, a finite set Q_t of described requests, and a bounded context C_t specifying relevant time windows, task requirements, permissions, supervisory provisions, and participation conditions. The finite scope is an analytical choice suitable for comparing a delimited service process; it does not imply that the whole population of possible subjects or requests has been observed.

The proposed matching assessment is given in Equation 8.

$$\mathcal{M}^{\kappa}_{t,C_t} : V_t \times Q_t \longrightarrow \{\mathsf{supported}, \mathsf{excluded}, \mathsf{undetermined}\}. \tag{8}$$

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The standpoint κ denotes the provenance and limits of the records used to assess a provider–request pair. A *supported* assessment means that stated prerequisites appear satisfied on the available evidence for the specified task and horizon. An *excluded* assessment records a documented incompatibility, such as an unavailable time window, an express refusal, or an unmet authorization requirement. An *undetermined* assessment marks a material evidential gap or contestation. All three statuses concern a proposed relation under stated assumptions; the mapping does not itself create consent, authorize practice, guarantee safe performance, or measure the value of the aid.

The most important discipline is to declare the assessment conditions before interpreting its output. One task may require continuous presence, a particular language, formal training, and an available supervisor. Another may require a brief administrative handoff under a standard procedure. An individual can be supported for one task and excluded for the other without an inconsistency. If an assessment relies on a participant's self-description, records should reflect the resulting evidential limitation. Similarly, the fact that a person once performed a task may support an experience claim while leaving their present availability and willingness unknown. Consent and refusal are event- and context-dependent relations, rather than attributes that should be inferred from the mere existence of a volunteer registration.

This construction is deliberately simpler than an optimization model. It distinguishes *candidate feasibility assessments* from *assignment decisions*; it does not select between supported candidates, rank recipients, maximize throughput, or assign numerical welfare weights. Dynamic volunteer scheduling research already models task variability, skills, and preferences with more elaborate operations-research techniques, for example in the disaster-response setting studied by Meng, Feng, and Yu [57]. Such work provides a methodological comparison, while its task distribution, empirical setting, objectives, and performance criteria differ from the conceptual problem addressed here. An optimization study would still need independently justified restrictions, evidence about feasible alternatives, and an explicit account of who is entitled to define its objective.

A register derived from Equation 8 could be linked to the resource-flow record in Section 5, the work-event register in Section 6, and the mediated-operation register in Section 4 where compatible evidence exists. Those records answer different questions: whether means were available, which work was performed and maintained, and who mediated the operations. The matching assessment adds the bounded question of whether a proposed support relation had sufficiently evidenced conditions for action. It should remain separate from a later record of what actually happened.

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7.7 Coverage, Queues, and Interdependent Service Processes

Once multiple requests and potential providers are present, the organization of support introduces coverage and sequence problems. An organization may have enough aggregate labour time to perform a set of tasks over a week, yet face a shortage at a particular hour, a lack of an appropriate skill, or an authorization bottleneck. Conversely, an apparently uncovered shift may be resolved through changed task timing, coordination with another agency, or a legitimate revision of the service offered. The relevant unit is the historically situated service process, including its timing and permitted transformations.

A waiting list is one visible manifestation of a queue, yet queue formation can precede formal registration or persist after a case is marked closed. Recipients may wait to learn whether they qualify, for an interpreter to become available, for a supervisor to review a proposed activity, or for a service interval to open. The consequences of delay may differ sharply across tasks. Postponing an optional orientation session and postponing support linked to a fixed appointment have different practical meanings. A count of unserved requests becomes interpretable only alongside deadlines, possible substitutes, reasons for delay, and the experiences of those who did not enter the formal queue.

Operational accounts often distinguish arrival, service duration, capacity, scheduling, and waiting discipline. In volunteer aid these objects can themselves be shaped by institutional categories: the arrival process may be affected by publicity and eligibility; service duration may include recipient explanation and documentation; a task's nominal completion may generate follow-up work; and a rule privileging first registration can distribute scarce access differently from a rule organized around urgency or continu-

ity. These are questions for observation and explicit institutional justification. The present section does not infer a preferred queue discipline from an assumed universal ordering of needs.

The work of Gittell on care-provider groups analyzes how coordination mechanisms, communication, and relational coordination can condition organizational performance under uncertainty [37]. Her empirical study concerns a specific field of care provision. Its relevance here is to motivate inspection of interdependencies among service actors rather than an inference that volunteer teams display the same effects. A shift can be fully staffed on paper while communication breakdowns or incompatible role expectations impede the task. Similarly, a shared routine may reduce preventable inquiries while requiring training, review, and coordination labour. Apparent efficiency should be examined across the entire chain rather than attributed solely to its most visible stage.

Capacity expansion can itself create new demand, new coordination requirements, or new administrative thresholds. An additional volunteer may improve coverage but require paid staff time for screening, safety orientation, and supervision. A digital intake system may improve response speed for some requests while moving work to people with less accessible technology. Whether these changes increase effective support, shift burdens, or transform who can request assistance will depend on the local relational configuration. Their longer-run feedback is a question for subsequent sections; the immediate point concerns the coupling of coverage, time, and institutional work.

7.8 Allocation Authority, Practical Refusal, and Relational Power

Assignments also distribute the power to shape the encounter. The allocator may determine whose request is visible, which volunteer is contacted, the urgency assigned to a task, and what counts as successful completion. A volunteer may possess valuable expertise yet have limited authority to alter a schedule or refer a task outside their competence. A recipient may be assigned a helper without being offered a meaningful opportunity to express preferences or refuse a particular arrangement. These capacities and restrictions can be consequential even when the institution's rules are formally uniform.

Allocative authority should be decomposed into proposing, approving, scheduling, revising, interrupting, referring, and reviewing a task. Different actors may possess these powers, and their practical effectiveness may differ from the organizational chart. An automated scheduling system can execute a previously authorized rule while leaving the power to define eligibility or override a decision elsewhere. An experienced volunteer may exercise informal influence because others depend on their presence, while remaining formally subordinate. The distinction between authority and effective control continues the institutional-interface analysis of Section 4.

Practical refusal is significant for the allocation of labour and responsibility. A written permission to decline a shift may offer limited protection when repeated requests occur at short notice, when a person is the only trained participant, or when declining would leave a recipient unsupported. Equally, a refusal may be freely exercised under a credible substitution plan and clear organizational boundaries. The political-economic inquiry should reconstruct the alternatives available to each participant and the institutional responses to refusal. It should avoid reading a volunteer's continued participation as proof of unqualified consent or reading an unequal distribution of shifts as proof of coercion.

Recipients also possess situated interests in continuity, choice, privacy, and avoiding repetitive explanation. A frequent rotation can distribute volunteer workloads while imposing additional work on a recipient who must repeatedly establish trust and communicate access needs. A stable relationship can improve responsiveness, while also concentrating dependence and making reassignment difficult. The question is which burdens, capacities, and control possibilities accompany each configuration. Distinct legal and ethical analyses would determine which permissions and protections are appropriate, in conversation with Papers VI and VII of the research programme.

An allocation record therefore has potential political-economic value only when it is accompanied by evidence about who formed the task categories, whose preferences were solicited, who could revise decisions, and how objections were handled. An efficient schedule can coexist with concentrated gatekeeping; a flexible schedule can coexist with inaccessible service intervals. Conversely, a rule that appears

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Table 7: Analytical objects, possible manifestations, and limits in an allocation audit of volunteer support capacity.

Object	Relational inquiry	Possible record and inference limit
Attention and coordination	Whose cognitive, communicative and interruption burdens maintain the encounter?	Messages, diaries, observation; recorded time may obscure vigilance, discontinuity or recipient work.
Temporal fit	Do availabilities coincide with request windows, deadlines and necessary handoffs?	Rosters, timestamps, appointment records; nominal hours do not establish usable overlap.
Competence and role boundary	Which skills and authorizations are relevant to this specific task?	Training, supervision and task protocols; labels and credentials have limited contextual scope.
Request articulation	Who defines the requested service and who can contest the description?	Intake versions, interviews, referral records; observed demand can reflect access barriers.
Matching and revision	Who proposes, approves, refuses, changes and reviews the assignment?	Assignment histories, refusals and exceptions; algorithmic outputs alone do not show practical control.
Continuity and renewal	What burdens and supports affect future participation and recipient-facing continuity?	Repeated shifts, support plans, participant accounts; attrition and service delay can have multiple causes.

administratively restrictive may be necessary for legitimate safeguarding or professional boundaries. The descriptive assessment should leave room for these competing explanations rather than embedding a normative verdict in an assignment criterion.

7.9 Support Capacity and Task Matching: Evidential Levels and Cases

The three GR levels constrain how support capacity is inferred. Ontological claims about skill, attention, and agency remain suspended; relational analysis concerns the historically acquired competencies, permissions, temporal windows, requests, and mutual adjustments that make particular assistance feasible. Shift sheets, credentials, waiting lists, skill assessments, refusals, and observed encounters are situated manifestations of those conditions. In particular, a recorded match between a volunteer and a request does not establish their joint temporal compatibility, task authorization, or willingness. Conversely, an empty roster need not mean that the relevant expertise is absent from the wider network. Table 7 makes these uncertainties explicit before reported coverage is interpreted as effective capacity.

Consider a *multilingual reception programme* with two people available during the same three-hour period. One has broad familiarity with wayfinding and another has experience supporting a particular language community. A request arrives concerning a specialist medical discussion. The language label on the second volunteer's profile might suggest a match, but the needed professional role, authorization, and task-specific competence remain unestablished. A responsible matching assessment would preserve an undetermined or excluded status as appropriate, seek a qualified service, and record the resulting delay without depicting a volunteer's willingness as adequate authorization. The hypothetical situation distinguishes helpful language capacity from a task with independently governed requirements.

A *community transport service* records adequate weekly volunteer hours yet leaves several morning appointments uncovered. A purely aggregate account concludes that volunteers are plentiful; a temporal account finds that available hours cluster in the afternoon. The organization could pursue changed recruitment, negotiated time windows, or permitted coordination with another provider. Each option changes whose time becomes constrained and which requests can be met. A coordinator with authority to revise pickup times may possess greater practical influence than the participant who owns the vehicle. The appropriate intervention depends on evidence of recipients' actual timing constraints, the safety of available transport, and the costs of proposed alternatives.

Finally, a *self-scheduled visitor-support programme* achieves high sign-up numbers but relies on one paid employee to fill repeatedly uncovered intervals. One interpretation sees a reasonable division between voluntary flexibility and employment responsibility. Another sees an institutional planning

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arrangement that concentrates interruption burdens on the employee. A third finds that the remaining coverage gaps occur at times when recipients with limited mobility or digital access most need assistance. Time-stamped roster changes, staff overtime records, structured feedback, and the history of scheduling rules could help discriminate these interpretations. The example does not establish the superiority of centralized scheduling over volunteer self-selection; both arrangements require scrutiny of feasible alternatives and affected positions.

7.10 Empirical Designs, Formal Limits, and Subsequent Scarcity Analysis

The proposed matching assessment can be evaluated through a bounded process study of service requests, prospective helpers, and allocation decisions. A suitable design would specify a defined service period, collect task descriptions and necessary prerequisites, record when an actor was approached and whether they accepted or declined, and trace cases that were revised, referred, delayed, or left unresolved. Comparisons should preserve uncertainty about reasons for nonparticipation and distinguish tasks that changed materially while being processed. Paired qualitative interviews or observations can make visible work that a scheduler records poorly, such as recipient explanation, coordinator interruptions, safety checks, and the negotiation of practical refusal.

A secondary operational model might examine feasible assignment sets under declared constraints and compare policies for coverage, delay, workload distribution, and substitution. Such a model would require careful identification of task duration, uncertainty, competences, protected boundaries, and allowed changes. Its numerical outputs would depend on those assumptions. Service throughput, participant continuity, service quality, satisfaction, and fairness can diverge; reducing them to one objective requires a justified evaluative choice. Models optimized for a specific disaster setting or nonprofit roster may illuminate a mechanism without validating their transfer to different populations or legally regulated services [57, 24].

Ethical data minimization is essential. Skill records, health conditions, disability-related accommodations, employment alternatives, reasons for declining, and descriptions of assistance requests can reveal sensitive personal information. The analytic construction is designed to permit pseudonymized positions, access-limited records, and explicit unknown values. A practical investigation may appropriately leave a proposed match undetermined when collecting further information would be intrusive or disproportionate. Evidence-sensitive analysis should report such limits as part of its findings, with no presumption that filling every formal field is justified.

Attribution and causation also remain constrained. A shorter waiting list after a scheduling reform could reflect changed demand, improved recording, narrowed eligibility, new paid staff support, or a genuine increase in timely assistance. A high rate of volunteer retention could coexist with uneven burdens; rapid task assignment could conceal unrecorded preparation work. Robust research would test competing mechanisms through triangulated histories, transparent coding decisions, and, where ethically and operationally feasible, comparisons with credible alternative arrangements. The mathematical object in Equation 8 makes one interpretive boundary explicit; it does not supply a causal estimator or solve the allocation problem.

The analysis suggests that attention, time, and skill acquire political-economic relevance through their coupling with organizational interfaces, histories of participation, and the practical power to define and revise a request. Effective capacity can be scarce even where the aggregate supply of people or material appears sufficient. The next inquiry therefore concerns the formation of scarcity itself, the volatility of resource conditions, and the financial and organizational arrangements that support continuity. Section 8 will examine those mechanisms while distinguishing physical limits, rule-generated restrictions, coordination failures, and changes in demand.

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8 Scarcity Formation, Resource Volatility, and Financial Sustainability

Scarcity in volunteer aid is a relation between a historically constituted claim or activity and the material, institutional, temporal, and social conditions under which it can be addressed. Its description requires attention to available means, the rules and positions governing their use, the timing of requests and funding, and the alternatives accessible to those affected. This section develops a political-economic analysis of scarcity formation and the financial conditions supporting continuity. The argument distinguishes resource insufficiency from restricted access and coordination failure; examines financial timing, earmarking, funding shocks, reserves, and organizational adaptation; introduces a conditional continuity assessment; and evaluates constructed configurations that expose rival causal explanations. The method is conceptual and formal-interpretive, informed by organizational resource-dependence and nonprofit-finance scholarship. Its proposed representations remain evidence-relative diagnostics rather than forecasts, accounting standards, or criteria of justice.

8.1 Scarcity as a Situated Relation between Claims and Usable Means

The term *scarcity* may refer to a physical shortage, an insufficient budget, a shortage of qualified time, or a practical inability to obtain a service that is available elsewhere. These situations can produce similar manifestations: an unfilled request, a growing queue, an unspent donation, or a discontinued programme. They nevertheless call for different explanations. A missing stock of accessible transport vehicles differs from a restriction preventing an available vehicle from serving a particular category of request. A programme with adequate annual income may be unable to pay a supplier before an invoice deadline. Sufficient financial assets may coexist with insufficient trained staff to implement their designated use. Scarcity attribution consequently requires specifying *what is demanded, by whom, for which activity, during which interval, and under which conversion conditions*.

The first analytical object is a bounded set of claims or proposed activities, whose boundaries can be contested and may change through dialogue with recipients. A request for language access can initially appear as a request for one volunteer-hour; adequate support may require preparation, professional referral, institutional approval, and a suitable time window. The second object consists of means with potentially heterogeneous forms and conditions of use. Monetary funds, spatial capacity, staff supervision, specialized knowledge, and trust cannot be assumed to substitute for one another. The third object is the operative configuration of rules, contracts, priorities, and practices that enables or restricts conversion of means into assistance. Section 5 distinguishes resource stocks from usable channels, while Section 7 demonstrates why a nominal labour supply may be insufficient for a specified task.

An approach emphasizing socially constituted access has a relevant, distinct intellectual antecedent in Sen's entitlement analysis of famine and deprivation, where availability and a person's command over goods are analytically separated [78]. The original theory addresses food entitlements and their social relations; the present application to volunteer-aid interfaces is an analogy requiring fresh institutional evidence. The resemblance motivates questions about access and agency without asserting a structural equivalence between food entitlements and volunteer services. In the current framework, the explanatory task concerns which historical relations produce the practical absence of a requested support opportunity.

8.2 Material Limits, Conversion Restrictions, and Coordination Frictions

Three analytically distinguishable sources of constraint recur in aid settings. A *material limit* arises where the usable quantity or relevant quality of means is insufficient under declared conditions. A *conversion restriction* concerns rules or competencies determining whether available means may be directed toward a particular action. A *coordination friction* concerns the time, information, or organizational work needed to combine feasible inputs. Many concrete shortages involve interactions among these sources. The classifications are hypotheses concerning mechanisms, to be revised when observation shows that a purported material shortage is primarily an access problem or that an apparent rule barrier protects an indispensable safety function.

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Consider two organizations with identical balances of donated mobility equipment. One possesses a well-defined request process, appropriate storage, reliable maintenance, and consent procedures; the other lacks maintenance arrangements and cannot ensure safe circulation. Inventory alone describes a material manifestation. Operational feasibility depends on the entire conversion chain. The second organization's shortage of deliverable service can therefore persist alongside nominal stock adequacy. Conversely, the same request may remain unfilled because the equipment is actively reserved for higher-priority cases under a transparent allocation rule. The priority may be justified, contested, or in need of revision. Descriptive diagnosis must record its existence and consequences before a separate inquiry assesses legitimacy.

Scarcity categories are temporally sensitive. A staff member's absence may briefly block authorization while leaving resources intact. A digital eligibility system can reduce clerical work for many users yet create a new access hurdle for others. A programme might appear undersupplied after previously unrecognized demand becomes visible. These cases illustrate why the number of fulfilled requests is an incomplete proxy for demand, capacity, or institutional effectiveness. Where feasible, inquiry should compare material inventories, use restrictions, coordination histories, and recipient accounts, retaining distinctions between documented unfilled requests, inferred unmet need, and demands whose existence remains uncertain.

8.3 Scarcity Formation through Priority, Recognition, and Institutional Choice

The identification of a shortage depends partly on how requests enter the organizational field. Funding applications, referral templates, donor classifications, programme charters, and scheduling systems establish categories through which some needs become recognizable and actionable. A service may be officially described as lacking applicants when its registration process excludes people without a required device or language. Another service may report insufficient volunteers because it has broadened its eligibility or begun recording previously informal appeals. Changes in reported scarcity can therefore accompany changes in visibility as well as changes in the practical distribution of resources. These processes overlap with classification and epistemic power, which will be examined more fully in Sections 9 and 11.

Institutional priorities can be economically consequential even when no explicit fee is charged. Choosing to reserve interpreter funds for a narrowly defined activity changes the feasible paths of service for other language needs. Setting a high minimum donation size may reduce processing costs while changing the range of contributors. A grant's requirement that work be visible within a quarterly reporting period can privilege quickly countable activities over long-term relationship maintenance. Each arrangement may have reasons relating to accountability, risk control, or administrative capacity; the political-economic question identifies the distribution of resulting opportunities and burdens. Judgments of fairness, legal compliance, and appropriate professional boundaries remain distinct inquiries.

An informative analysis of scarcity formation reconstructs the sequence linking demand articulation, classification, resource authorization, conversion, delivery, and later revision. If an organization attributes unmet demand to a donor shortfall, investigators should consider whether waiting time, eligibility conditions, skill requirements, or an absent coordination interface played a greater role. The inquiry also requires care about the observer's standpoint: a funder's successful programme milestone, a volunteer's exhausting shift, and a recipient's unsuccessful request may coexist without contradiction. The labels *shortage* and *adequacy* gain meaning only relative to a stated object and evidential perspective.

8.4 Financial Stocks, Commitments, and Timing Mismatches

Financial capacity is frequently represented through annual revenue, total assets, a cash balance, or the difference between planned income and expenditure. These quantities answer different questions. A financial statement may show receivables that remain unpaid at the date when wages or equipment invoices fall due; unrestricted funds may be invested in assets that cannot be quickly converted into cash without cost; designated grants may finance a particular activity while general operating obligations

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remain uncovered. The political economy of volunteer aid therefore benefits from distinguishing *recognized income, collectible claims, liquid means, enforceable commitments, conditional allocations, and expenditures required for continued operation*.

A typical volunteer-aid organization may incur the costs of insurance, supervision, equipment maintenance, recordkeeping, accessible communication, and service coordination before receiving a promised reimbursement. Reported annual income can exceed total expenses while a cash-flow interruption nonetheless threatens a service. In another case, an emergency contribution may resolve an immediate liquidity problem yet create costs of storing supplies, maintaining a newly acquired system, or reporting to multiple donors. Financial flows have different arrival times and control conditions; yearly totals conceal some of the mechanisms through which a service remains practicable or becomes interrupted.

Nonprofit financial research separates short-run exposure to a shock from longer-run capacity to maintain services and replace depleted assets. Tuckman and Chang's operationalization of financial vulnerability concerns the likelihood that a charitable nonprofit will immediately curtail services following a financial shock; the four criteria were applied to a 1983 sample of tax returns from 4,730 US charitable nonprofits [89]. Bowman distinguishes short-term resilience from the financial capacity to maintain assets and services over a longer horizon [13]. These contributions support the analytical distinction between immediate liquidity, the survival of current services, and the future renewal of an organization. Their measures do not by themselves establish the appropriate financial threshold for a small volunteer collective, a public agency's volunteer programme, or a transnational humanitarian partnership.

8.5 Restricted Funds, Funding Conditions, and Allocative Control

Financial means enter aid relationships through grants, gifts, contracts, public allocations, membership payments, earned income, or in-kind contributions. Each source may attach enforceable restrictions, organizational promises, reputational expectations, and practical reporting burdens. *Earmarking* can help donors and recipients understand intended uses, establish accountability, and protect reserved services. It can also produce a configuration in which some activities attract ample designated resources while accompanying coordination, maintenance, or access functions remain financially unsupported. These possibilities must be assessed within the applicable legal, accounting, and organizational regimes rather than inferred from a generic category of restricted funding.

A funder may control the eligibility of reimbursable expenses, the timing of payments, audit evidence, programme objectives, and renewal conditions. Formal contractual authority can coexist with operational discretion by coordinators, who decide which tasks to assign within an approved envelope. Volunteers and recipients may have different levels of influence over what counts as successful expenditure. Funding therefore creates interfaces among external resource holders, internal allocators, frontline participants, and the persons receiving assistance. Resource dependence theory provides a well-established vocabulary for how external constraints and interorganizational relations can shape organizational action [67]. The present GR application adds the finer-grained question of which situated possibilities for particular subjects are transformed by an allocation rule, while leaving the legitimacy of that rule open to independent evaluation.

It is useful to distinguish the *availability of money* from the *authority to redirect it*. An institution holding a restricted donation may have physical custody without permitted discretion to fund another activity. A donor may formally permit reallocation yet make such a decision impracticable through delayed approval. A coordinator may appear to exercise broad discretion while facing strong informal pressure to meet a sponsor's favored targets. Conversely, contractual restrictions may safeguard the interests of recipients and prevent opportunistic diversion. Treating these arrangements as differentiated powers allows analysis to investigate actual control without assuming that fewer conditions are necessarily better.

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8.6 Revenue Volatility, Forecast Uncertainty, and Service Exposure

A resource flow is *volatile* when its amount, arrival time, use conditions, or reliability changes in ways relevant to the studied activity. These dimensions may move independently. A fixed annual award can be predictable in nominal amount but uncertain in disbursement time. A recurring donor may contribute irregular amounts while permitting flexible use. In-kind supplies can arrive abundantly but in unsuitable quantities or at times that generate storage and disposal costs. A useful volatility diagnosis consequently identifies the variable being observed and the operational threshold or activity it could affect, without assigning a common numerical index in advance.

Forecast uncertainty has an epistemic dimension. Past revenue observations may provide evidence about a funding pattern, but they do not establish the probability of a future policy change, exceptional grant, institutional restructuring, or local emergency. A project with few years of reliable data may find qualitative information about grant terms or relationships with funding authorities more informative than a falsely precise stochastic forecast. It may be reasonable to explore adverse scenarios, yet each scenario should specify its assumptions and avoid presenting constructed shocks as predictions. A programme's plans may also change the exposure they are intended to measure: opening a new service increases the commitments that become vulnerable to interruption, whereas reducing commitments can improve apparent financial stability at the cost of unmet requests.

Volatility is relational because its burdens may be absorbed by different participants. Staff may postpone paid work, volunteers may donate additional hours, recipients may make repeated trips, or another department may supply emergency funds. A financial account showing uninterrupted delivery may therefore conceal a transfer of risk toward people whose time, health, and resources are already constrained. Whether such transfers are authorized, voluntary, durable, or ethically acceptable requires evidence beyond a balance sheet. Analytically, the response to a financial shock should be reconstructed as a trajectory of changing tasks, costs, access and dependence, incorporating the reproduction of labour described in Section 6.

8.7 Reserves, Renewal, and the Temporal Meaning of Sustainability

A reserve can absorb temporary interruptions, fund equipment replacement, provide a margin for delayed payments, or permit organizational adaptation. Its practical use depends on liquidity, restrictions, decision rights, and commitments already incurred. A large nominal reserve may provide limited protection where the funds are legally designated, held in illiquid assets, or subject to competing contractual obligations. Conversely, an organization with modest reserves might have reliable contingency arrangements, shared infrastructure, or rapid access to authorized support. The interpretation of a reserve should therefore refer to a specified risk and time horizon.

Financial sustainability can designate at least three different claims: an organization can meet its obligations in the near term, maintain a specified set of services across a chosen horizon, or preserve the capacity to renew the resources and relationships that make future services possible. These claims sometimes reinforce one another and can also conflict. Continuous operation can be achieved by drawing down replacement funds or relying on uncompensated crisis labour. High reserve accumulation can preserve future options while reducing current service activity. The research question therefore concerns which activities and future capacities are being sustained, for whom, over which interval, and by which allocation of costs. Bowman's short- and long-run framework helps clarify the temporal difference without producing a universally applicable measure of acceptable reserves [13].

Sustainability also includes the renewal of social and institutional conditions. Responsible supervision requires funding and time; volunteer retention can depend on predictable scheduling, meaningful participation, and access to support. Recipient trust may require repeated, competent engagement even when annual monetary expenditure is modest. An organization that substitutes new volunteers into high-demand roles without mentorship may temporarily preserve reported service hours while degrading its future capacity. The present use of *renewal* is descriptive, with no presumption that every existing programme should continue. A service may properly conclude, merge, or change its objects as needs and

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resources evolve.

8.8 Funding Concentration, Diversification, and Institutional Bargaining

Concentrating financial support in one or a few channels can simplify administration and support stable relationships, yet it may also amplify exposure to the decisions or failures of those channels. Diversification can distribute some risks while increasing fundraising work, compliance costs, mission tensions, and the number of actors whose conditions must be negotiated. Froelich's analysis of nonprofit revenue strategies identifies differing volatility, goal-displacement, and organizational consequences associated with private giving, government finance, and commercial activity [32]. Such distinctions support comparative inquiry rather than an unconditional preference for one funding structure.

The empirical literature gives additional grounds for caution. Chikoto and Neely's analysis of historical US nonprofit financial data reports a positive relationship between revenue concentration and subsequent total-revenue growth, an indicator examined within their analysis of financial capacity [16]. The finding challenges an unconditional preference for diversification while remaining specific to the sample, historical period, and measured revenue outcome. An aid programme facing abrupt grant withdrawal, a mutual-aid collective relying on many small contributions, and a large nonprofit operating several fee-supported services may experience concentration differently. Researchers should therefore specify whether they are assessing revenue growth, cash-flow resilience, mission autonomy, organizational longevity, or recipients' continuity of support.

The political-economic significance of a funding mix extends beyond volatility. Multiple funding sources need not confer bargaining autonomy where several funders impose similar eligibility categories or reporting requirements. A single long-term public contract might impose stronger procedural safeguards than a collection of volatile discretionary gifts. The cost of switching funders, the existence of alternative revenue channels, and the capacity to refuse demands condition the influence available to both sides. Distinguishing formal conditions, credible withdrawal power, and observed organizational concessions is essential. Theoretical resource dependence can identify possible mechanisms; their actual operation must be investigated in specific historical settings.

8.9 An Evidence-Indexed Assessment of Conditional Service Continuity

A bounded formal representation can help make the temporal and evidential requirements of a continuity claim explicit. Let π denote a specified aid programme, $H = [t_0, t_1]$ a declared period, s a constructed or empirically supported funding-and-demand scenario, and Q a declared set of service commitments. At each relevant time $\tau \in H$, let $\Omega^{\kappa}_{\tau}(\pi, s)$ designate the set of activities supported as feasible by evidence available to standpoint κ, with material stock, cash timing, fund restrictions, labour reproduction, authorization, and permissible adaptations specified. Let Q_τ identify the commitments that are genuinely due at that time. The bounded *conditional coverage set* is proposed in Equation 9.

$$\mathscr{C}^{\kappa}_{H}(\pi, s; Q) := \{\tau \in H : \; Q_\tau \neq \varnothing, \; \exists\, o \in \Omega^{\kappa}_{\tau}(\pi, s) \text{ such that } o \text{ meets } Q_\tau\}\,. \tag{9}$$

The set $\Omega^{\kappa}_{\tau}(\pi, s)$ contains only candidate arrangements whose feasibility has been positively supported under the declared scenario and coverage protocol. It is a set of supported witnesses, rather than a catalogue of every arrangement that may exist. Its emptiness therefore cannot by itself establish the impossibility of providing a service. The interpretation of Equation 9 is deliberately narrow. Its coverage set records periods in which an admissible service configuration is evidenced as feasible under a specified scenario, commitment set, and background conditions. A time point omitted from the set can reflect documented infeasibility or inadequate evidence; these cases must be reported separately. A more informative implementation would assign each time interval an evidence status of *supported*, *excluded*, or *undetermined*, inheriting the epistemic discipline of Section 7 without claiming that the earlier matching assessment and the current continuity object represent the same event. The requirement $Q_\tau \neq \varnothing$ excludes periods without a declared service obligation; those periods should be recorded separately rather

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than counted as evidence of successful delivery. Continuous time is a notational convenience; a discretized, event-based implementation may better match institutional records.

Pointwise supported coverage establishes a narrower result than *longitudinal service feasibility*. Individually admissible arrangements can draw on the same nonrenewable stock, volunteer capacity, or restricted funds. To test this distinction, select a finite schedule $T_H \subseteq H$ and let $T_H^Q = \{\tau \in T_H : Q_\tau \neq \varnothing\}$ be its nonempty set of due intervals. For a candidate sequence $\boldsymbol{o} = (o_\tau)_{\tau \in T_H^Q}$, define $\mathsf{IntertempCompat}_H^\kappa(\boldsymbol{o}; s)$ as a separately evidenced, three-valued assessment of joint resource use and renewal, including commitments, inventory carryover, restrictions, participant availability, and authorizations between due intervals. Equation 10 defines the *supported longitudinal witness family*.

$$\mathscr{L}_H^\kappa(\pi, s; Q) := \Big\{\boldsymbol{o} \in \prod_{\tau \in T_H^Q} \Omega_\tau^\kappa(\pi, s) : o_\tau \text{ meets } Q_\tau \text{ for each } \tau \in T_H^Q,\ \ \mathsf{IntertempCompat}_H^\kappa(\boldsymbol{o}; s) = \mathsf{supported}\Big\}. \tag{10}$$

The separate compatibility predicate must be evaluated against a declared joint scenario, including what happens between the service intervals. Thus $T_H^Q \subseteq \mathscr{C}_H^\kappa(\pi, s; Q)$ is a necessary pointwise condition for a supported longitudinal witness, while pointwise coverage alone is insufficient. For example, two future service slots may each have a feasible arrangement when assessed separately using the same single-use grant. Their joint sequence remains excluded if the grant is consumed at the first slot and cannot be replenished before the second. If intertemporal evidence is missing, $\mathscr{L}_H^\kappa$ contains no *positively supported* witness on that basis; its emptiness does not establish that longitudinal service is impossible. Equation 10 is a finite audit device for a proposed schedule, rather than a stochastic forecast, a conservation law valid for every aid institution, or proof that a service will actually be delivered.

The construction presupposes that the relevant commitments and feasible configurations can be described to the degree required for the inquiry. It provides no automatic estimate of future revenue, quality of service, entitlement, legal compliance, or moral adequacy. Different scenarios can yield different conditional coverage sets, and the credible set of scenarios is itself subject to uncertainty. Evidence may justify retaining an interval as undetermined when restrictions, payment dates, staffing, or recipient requirements are unclear. A schedule that appears financially feasible may remain practically unavailable because an appropriate authorization or competence is missing. Under these explicit limits, the construction supports a disciplined question: which historical conditions sustain each particular service opportunity, and which failures of continuity can be traced to which constraints?

Table 8 identifies audit objects that should accompany a continuity assessment. The categories bridge economic records and experience of aid without converting every relevant value into money.

8.10 Constructed Funding Configurations and Research Obligations

Restricted-donation configuration. A hypothetical community organization receives enough earmarked funding to acquire accessibility equipment. Its operating budget cannot cover installation, maintenance, transport, or supervision, and the donor's rules prohibit charging those expenses to the designated grant. An inventory report might show apparent abundance while recipients experience a functional service shortage. Competing explanations include underfunding of conversion work, failure to coordinate with other providers, and a legitimate restriction protecting an intended use. Relevant evidence would include grant language, estimated maintenance obligations, available authorizations, referral options, and the history of unsuccessful service requests. An account of restriction alone would be insufficient to judge the donor's or organization's conduct.

Delayed-reimbursement configuration. A hypothetical local aid programme has a signed annual reimbursement commitment and enough trained participants to conduct scheduled work. Payment is delayed beyond the date when transport and insurance invoices must be settled. Operations can be maintained temporarily through a reserve, staff overtime, a bridge loan, cancelled activities, or contributions from households. The same aggregate annual budget may accompany quite different trajectories of service

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Table 8: Auditable objects in scarcity formation and conditional continuity

Object	Possible manifestation or evidence	Distinct limitation or alternative interpretation
Recognized claims	Service requests, referrals, waiting records	Unrecorded demand; changed eligibility; duplicates
Material capacity	Inventories, maintenance and site records	Stocks may lack safe or authorized conversion
Usable finance	Cash records, grant conditions, payment schedules	Receivables and restricted assets differ from liquidity
Timing exposure	Due dates, delivery windows, fund receipts	Annual totals may conceal temporary interruptions
Burden transfers	Volunteer diaries, household work, staff overtime	Continued outputs may conceal shifted costs
Control and revision	Approvals, contract changes, appeals, alternatives	Formal permission differs from practical influence
Future renewal	Reserve policies, training, replacement plans	Current survival can draw down later capability

access and burden distribution. A financial sustainability inquiry would reconstruct cash arrival dates, enforceable claims, costs of contingency measures, and the future obligations created by each response. The constructed case shows why financial solvency, immediate liquidity, and relationally sustainable service require distinct interpretations.

Concentrated-funding configuration. A hypothetical assistance network relies on one stable donor with a broad mission mandate. A second network uses many smaller grants whose reporting categories create substantial coordination work. During an ordinary year, the first may offer more predictable services and the second a wider set of organizational partnerships. After a sudden donor policy change, the first might have greater vulnerability; under a sector-wide funding contraction, the second might face simultaneous renewals and contradictory conditions. The contrast provides no general ranking. Inquiry would require details about credible exit options, donor bargaining positions, reserves, restrictions, administrative work, and the services recipients can actually use under each arrangement.

The three configurations distinguish physical resource availability, institutional conversion, financial timing, and governance exposure, yet remain hypothetical. Empirical research would need multi-period financial records together with request histories, staff and volunteer accounts, contract and eligibility documents, and ethically appropriate recipient testimony. Selection effects require particular attention: financially stressed programmes may reduce admissions, alter reported outputs, or close before they enter available datasets; organizations with strong reporting capacity may appear more effective for reasons partly related to observability. Counterfactual comparisons should specify which rule, funding channel, or coordination arrangement is altered and which conditions are held fixed. Prospective scenario exercises should disclose uncertainty and avoid disguising planning judgments as observed effects.

Scarcity in volunteer aid is thus a historically constituted relation among claims, resources, authorization, financial timing, and the practical capacities of participants. Its formation can be examined without presuming that resource expansion alone will solve access problems or that every restriction is an instance of unjust power. The next section examines the definition of needs and eligibility as a specific political-economic mechanism. That inquiry will deepen the present discussion of classifications, recognition, and the institutional conditions under which a request becomes legible as one that an organization can address.

9 Need Definition, Eligibility, and the Political Economy of Classification

Need definition and eligibility assessment mediate the passage from a person's circumstances to a publicly or organizationally recognizable claim for assistance. Their political-economic significance lies in

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the distribution of practical access, administrative effort, interpretive authority, and the power to revise institutional categories. This section distinguishes need, expressed request, recognized claim, eligibility judgment, authorized allocation, and realized support; examines the historical and institutional production of classificatory arrangements; and introduces an evidence-indexed record of classification events. It then analyzes procedural burdens, resource incentives, digital systems, and bounded hypothetical comparisons. The method combines conceptual reconstruction with a modest formal diagnostic, informed by policy-design and classification scholarship. Its proposals remain conditional on local rules and evidence, and they do not supply clinical criteria, legal determinations, or an independent theory of distributive justice.

9.1 Need, Request, Recognition, and Eligibility as Distinct Analytical Objects

A *need attribution* is an interpretive judgment that certain conditions of life, participation, or activity call for a response. Its grounds may include a person's own account, professional evaluation, an institutional mandate, a social commitment, or combinations of these. The object and urgency of an attributed need can be disputed. A *request* is an act through which assistance is sought, proposed, or communicated; a person may have pressing needs without being able or willing to submit a request. A *recognized claim* is a request or circumstance made legible to a relevant organization under its categories and procedures. Recognition can enable examination while remaining distinct from a decision to provide a service.

Eligibility refers here to satisfaction of a specified set of conditions for consideration within a particular programme or pathway. The conditions may concern geography, task remit, available skills, age, institutional responsibility, documentation, urgency, or safety. Eligibility depends on the version of the rule and the case description used in its application. It therefore differs from the substantive adequacy of assistance, from professional authorization to perform an activity, from voluntary agreement to participate, and from actual delivery. A favorable eligibility assessment can coexist with an unfilled queue, insufficient language access, or a competent decision to refer a person elsewhere. Conversely, the absence of a formal eligibility record may reflect a missing request channel rather than an assessment that assistance is unnecessary.

These distinctions extend the account of scarcity in Section 8. In an aid programme with a stated capacity of twenty appointments, recorded demand could consist of ten eligible cases, five rejected cases, and numerous unregistered requests. A count of eligible applicants is informative about a particular selection process while leaving the extent of unrecognized need unresolved. Demand data consequently depend on the system through which claims are articulated, entered, categorized, and retained. In keeping with Section 7, an eligible request can also lack a sufficiently evidenced provider–task match. The analytical task is to reconstruct how the sequence of judgments changes practical opportunities and the distribution of costs.

9.2 Historical Formation of Categories and Target Populations

Classification systems arise through accumulated decisions about which differences matter for a designated institutional activity. A programme initially organized to provide accompaniment for one kind of appointment may develop distinct categories for mobility support, interpretation, orientation, and professional referral. Its categories may reflect repeated practical problems, funding restrictions, legal responsibilities, or historical relations with a particular community. Once established, a category can become embedded in referral forms, staff training, budgets, software fields, donor reports, and shared expectations. Subsequent encounters are then described through a vocabulary whose origin may no longer be visible to those administering it.

Bowker and Star's analysis of classification and standards provides an important antecedent: categories are elements of information infrastructures with consequential effects on recognition and interaction [12]. Schneider and Ingram's theory of the social construction of target populations addresses a related but distinct political process: socially constructed understandings of groups can affect policy

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agendas, instrument selection, justification, and patterns of advantage and participation [77]. The former contributes an infrastructural understanding of classificatory ordering; the latter concerns political designs and representations of policy subjects. Their research domains overlap without collapsing into a single account of volunteer aid.

Within the proposed GR reconstruction, a category is treated as a historically located element of a relational arrangement. Its significance depends partly on who designed it, who is able to invoke it, which resources or tasks become available through it, and how its meaning changes through experience. A category such as *non-urgent assistance* can identify a useful service pathway, an administrative priority, or an exclusion from scarce resources. Determining which of these operates requires reconstructing the actual decision history. The term alone establishes little about the person's circumstances or about whether the category was applied correctly.

The same history can also shape who appears as a legitimate author of knowledge about need. Staff may possess specialized procedural knowledge; recipients hold relevant experiential knowledge; advocates and carers may contribute further information; donors and managers may impose reporting categories. Their contributions have different epistemic and institutional roles. An adequate history records changes in the classificatory vocabulary alongside changes in the practical recognition and standing of these positions. It permits the possibility that a later category revision changes the institutional object of attention, the measured service population, and the reported scarcity even when some underlying living conditions remain similar.

9.3 Interpretive Authority, Institutional Mandates, and Revision Rights

The power to define and classify needs may be distributed across several positions. A recipient can describe a difficulty; a volunteer can record it; a professional can assess task-specific risk; a coordinator can interpret programme scope; a funder can restrict the uses of a grant; and a designated reviewer can reconsider a decision. The presence of multiple positions does not imply that each has the same authority. Some provide testimony or advice, whereas others control entry into a service, the assignment of a budget code, or the correction of a case record. Section 4 introduced distinct operations of third-position mediation, including translation, authorization, allocation, and review. Need classification gives those operations a particular object: the permissible interpretation of a case within a designated institutional scheme.

Institutional role differentiation can protect participants. An untrained volunteer may properly refer a disputed medical question to a competent professional; privacy safeguards may restrict circulation of sensitive records; explicit review authority may prevent arbitrary unilateral decisions. These arrangements can also affect the practical options of a person seeking help. A classification can be technically correct within a narrow mandate while leaving an important need unaddressed by the organization. The organization may have a defensible reason to maintain that boundary, yet the resulting gap remains relevant for political-economic analysis of access and coordination.

Descriptive *classification control* should accordingly be distinguished from several adjacent ideas. It concerns the capacity to define, apply, or alter the categories used in a particular procedure. *Decision authority* concerns who may issue an operative eligibility assessment. *Resource control* concerns access to the means needed for assistance. *Revision authority* concerns who can reopen a case or change a rule. *Accountability* concerns requirements to provide reasons and permit appropriate challenge. These positions can overlap, but overlapping labels should not substitute for an institutional inquiry. Rights to request reconsideration, to correct inaccurate records, or to refuse a proposed intervention cannot be inferred simply from a volunteer-aid programme's declared ethos.

A practical audit asks where the rules are written, how their applicable versions are identified, how exceptions are decided, which participants receive an explanation, and what remedies or referrals are actually feasible. It should also examine the labour of obtaining an explanation or exercising review rights. The presence of a formal appeal route may coexist with costs so high that a claimant cannot practically use it. In this case, effective correction depends on more than the legal or organizational

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existence of a procedure.

9.4 An Evidence-Indexed Classification-Event Register

To make the preceding distinctions inspectable without converting them into a universal eligibility algorithm, consider a bounded event e in an aid history h at time t. Let q denote a request, proposed claim, or documented circumstance; ρ the applicable rule or policy version; ℓ the evidence and testimony presented for assessment; α the position responsible for interpreting or applying the rule; ζ the recorded category assignment; δ the provisional eligibility assessment; υ the recorded challenge, referral, or revision pathway; and ϵ the provenance and limits of the resulting trace. The evidential standpoint κ indexes the available perspective and record quality. Equation 11 defines a proposed typed event record.

$$\mathfrak{K}^{\kappa}_{e,t}(h) = (q, \rho, \ell, \alpha, \zeta, \delta, \upsilon, \epsilon)^{\kappa}_{e,t,h}. \tag{11}$$

The components have distinct types. A rule version may be a dated eligibility document, an established procedure, or a partly reconstructed practice. Evidence can include a recipient's testimony, relevant documentary material, professional observations, and recorded uncertainties. The category ζ may be a single code or a structured set of codes, including an explicitly unknown assignment. The assessment δ takes values in $\{\mathsf{eligible}, \mathsf{ineligible}, \mathsf{undetermined}\}$ only relative to the identified procedure and available evidence. A disputed result can retain its original assessment while the disagreement and subsequent review are registered in υ. The register therefore represents disagreement without confusing it with missing evidence or an eligibility category. An unrecorded request is not silently coded as ineligible.

The record is *partial*: some components can remain unknown, and some events may never enter the organization's official archive. A case record based only on the institution's files can therefore differ from an account incorporating recipient interviews or independent observation. Under the GR three-level discipline, a completed register is a manifestation-level reconstruction of a selected historical relation, rather than an exhaustive image of the person's needs. Its analytical validity depends on the declared case boundary, the reasons for the categories, and the preservation of incompatible testimonies when appropriate.

Equation 11 complements the resource-event register in Section 5, the work-reproduction register in Section 6, and the matching assessment in Section 7. A sequence might show that a request was registered, found eligible, referred to an authorized service, and left without a feasible provider match. Another might show that the same nominal need was coded under a category for which a restricted grant was unusable. These differences can be reconstructed by joining event records on correctly justified identifiers and times. Such a join remains vulnerable to incomplete archives, changing case identifiers, confidentiality restrictions, and mismatched units of analysis. The register is an audit instrument, with neither predictive calibration nor claims to autonomous decision authority.

9.5 Administrative Burdens and the Costs of Claim Recognition

Claim recognition consumes time and effort. A person may need to discover that a service exists, determine the appropriate entry point, provide documents, repeat a personal history, travel to an assessment, seek an interpreter, or respond to a rejected form. Staff and volunteers also perform intake, explanation, verification, safeguarding, and correction work. These efforts may be indispensable for accuracy and accountability, yet their distribution shapes access. An administrative procedure can have modest institutional cost while imposing substantial effort on people with limited time, language support, transport, digital access, or confidence in official encounters.

Moynihan, Herd, and Harvey conceptualize administrative burden in citizen–state interactions through learning, psychological, and compliance costs [61]. Herd and Moynihan further examine how such burdens can be affected by deliberate policy design [43]. These contributions concern public administration and its political choices. Their application here is explicitly analogical: volunteer-aid

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organizations vary in legal status, obligations, resources, and relationships to public entitlements. A voluntary programme may administer delegated public functions, provide a supplementary service, or coordinate informal assistance, and those situations demand different legal and institutional analyses.

A political-economic account should trace where the effort required for classification is carried. Consider a referral system in which a small intake team achieves a low documented processing cost by requiring applicants to assemble numerous records before their request can be accepted. The institution's reported expenditure may fall even as recipients, family members, or volunteers undertake additional unpaid administrative work. The resulting redistribution resembles the burden transfers analyzed for labour reproduction in Section 6. Its consequences should be examined empirically through application abandonment, delays, repeated contacts, accessibility reports, and the time required to complete or contest a decision.

Procedural burdens also interact with the distribution of dignity and voice. An apparently routine request to repeat distressing circumstances can carry different psychological consequences across participants. Some verification rules protect scarce resources and confidential information. Others may have weak evidential relevance to their stated purpose. Descriptive inquiry can compare justifications, less burdensome alternatives, and the observed consequences of a requirement. The separate normative question concerns whether the burdens are proportionate and appropriately allocated, accounting for legal duties, professional standards, fairness, and the positions of people most affected.

9.6 Eligibility Pathways, Queues, and the Distribution of Access

Eligibility forms one stage in a potentially extended access pathway. After recognition, a request may require triage, scheduling, matching, a safety check, administrative approval, referral, or an actual opportunity for the person to accept assistance. These stages interact with the temporal and skill constraints analyzed in Section 7. A high eligible-case percentage may accompany long delays, while a restrictive definition of admissible demand may make fulfillment rates appear favorable. The denominator of a performance indicator therefore requires scrutiny: registered requests, initially expressed requests, formally eligible claims, supported offers, and completed encounters describe different populations and processes.

Queue position may depend on documented urgency, arrival time, compatibility with resources, geography, priority rules, or staff discretion. A programme can implement a transparent ordering principle and nevertheless distribute waiting burdens unevenly because some participants have less capacity to reschedule or maintain contact. A referral to an external agency also requires distinguishing *referral issued*, *referral accepted*, and *assistance realized*. Each event can be meaningful, but accounting for referrals as delivered aid would obscure the practical transfer of responsibility and the possibility of an unsuccessful handoff.

A classification-based exclusion likewise has several possible interpretations. A service may be outside the organization's authorized mandate; adequate professional competence may be unavailable; a case may have been assessed using incomplete records; or a rule may encode a contested priority. Investigators should preserve the documented reason, the evidence available at the time, the authority of the decision-maker, and the alternatives then feasible. Classificatory consistency is not enough to demonstrate an absence of unmet need. Conversely, observing a person who remains unsupported is insufficient to identify discrimination or administrative error without examining the relevant conditions and comparators.

The economic effects of an access pathway include the allocation of service capacity and the less visible costs of remaining eligible: monitoring messages, maintaining documents, making oneself available, and sustaining expectations. Those costs may generate a dependence on institutional intermediaries or knowledgeable volunteers. When one organization has unusual authority to authenticate a category or transmit a case, its position can become a gatekeeping point even when it does not itself provide the final service. This is a bounded application of the third-position mechanisms developed in Section 4.

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9.7 Funding Mandates, Reportable Needs, and Classification Incentives

Resource commitments frequently attach to named programmes, target populations, activities, or outcome categories. A grant restricted to language-access support can make a particular need administratively fundable while leaving related coordination work outside the designated expenditure line. Institutional responsibility may require such boundaries, and clearly differentiated accounts can support legitimate oversight. At the same time, the categories determine which requests can be translated into authorized spending, which staff work is counted, and which service outcomes enter a donor report. Need classification thus participates in resource conversion as well as case interpretation.

The political-economic mechanism is especially visible where future support depends on reported activity. An organization can have incentives to prioritize easily evidenced encounters, referrals fitting a grant code, or categories likely to demonstrate progress within a funding interval. Such responses cannot be assumed for an institution merely because it receives restricted funding. They are hypotheses requiring documentation of contracts, administrative instructions, actual choices, and feasible alternatives. Historical continuity also matters: categories may outlive the grant or mandate that originally justified them, retaining effects through software, training, and habits of case discussion.

The relevant analytical comparison concerns classifications with reasonably comparable evidential and safeguarding requirements. If a broad category imposes excessive ambiguity, greater precision can improve allocation and coordination. If narrower categories add little protective or operational value, they may generate unnecessary transaction costs or poorly recognized claims. Neither breadth nor granularity has a general optimum independent of the programme's objectives and institutional context. A proposed change in categories should be evaluated for the claims it makes visible, its information and labour demands, and the positions gaining or losing practical discretion.

The earlier resource-dependence analysis in Section 5 is therefore complemented by *classificatory dependence*: the degree to which an actor's practical options are conditional on another position's ability to recognize or recode a claim. This is an analytical proposal about a particular form of dependence, not a new scalar index. Evidence that the same resources are available under an alternative authorized categorization would help distinguish a classification constraint from a material shortage. The counterfactual needs a credible alternative rule, responsible authority, and time horizon, together with explicit attention to those who would bear the cost of changed categorization.

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9.8 Digital Eligibility, Measurement, and Evidential Asymmetry

Digital forms, databases, matching services, and automated scoring tools can standardize record-keeping and accelerate some coordination tasks. They can also fix categories at the point of entry, require documentation that some people cannot readily supply, and conceal discretionary assumptions within routine interfaces. A field labelled *other* may capture diverse circumstances while providing little subsequent capacity to distinguish them. A requirement for one unique service type may erase cases involving overlapping needs. Automatic routing can reduce workload in some situations while moving error-correction costs to recipients or front-line workers in others.

Eubanks's investigation of data-based welfare governance in the United States documents risks associated with data mining, predictive classifications, and automated administration [27]. Its reported institutional histories are specific to the cases examined and do not constitute evidence about the performance of volunteer-aid systems in general. The present paper draws a limited research question from that work: who controls the definitions and data pathways through which an attributed need becomes a machine-readable and institutionally operative claim? An algorithmic classification can inherit organizational priorities and evidential exclusions from its training records or rules. Such an inheritance must be examined in the actual system rather than presumed from the presence of software.

Measurement can also change the conduct being measured. When a programme counts *cases successfully closed*, coordinators may have several legitimate meanings for closure: assistance delivered, referral completed, withdrawal recorded, or a service found unavailable. A single aggregate can conceal these pathways and thereby redistribute epistemic authority over what counts as a successful response.

Table 9: Need classification and eligibility: selected audit objects and evidential boundaries

Audit object	Candidate traces and relations	Inference requiring further grounds
Need attribution	Accounts of circumstances, disagreements, relevant professional inputs	Ultimate need or obligation established by a code alone
Request and entry	Contact histories, language access, referral and non-entry testimony	Registered cases exhaust potentially relevant claims
Category and rule	Versioned definitions, mandates, exclusions, responsible positions	Consistency entails substantively appropriate categorization
Eligibility assessment	Reasons, decision status, supporting evidence, review record	Eligibility guarantees a timely and authorized service
Administrative cost	Applicant time, staff work, repeated steps, distress reports	Low institutional expenditure implies low total burden
Access and allocation	Queue histories, feasible matches, referrals, delivery traces	Referral issued is equivalent to aid realized
Revision and oversight	Challenge routes, corrected data, decisions reopened, actual remedies	Formal appeal existence proves practical accessibility

Section 11 will investigate measurement and epistemic control in greater depth; the present section confines attention to their effects on need recognition and eligibility. A meaningful record should preserve the decision vocabulary, its version, the basis of the determination, and the opportunity to document disagreement or correction.

In sensitive aid settings, the aspiration to improve classification transparency can conflict with privacy, confidentiality, and safety duties. Detailed reasons cannot automatically be published, and an identifiable history may be inappropriate for research circulation. Audits can use proportionate access arrangements, anonymized or aggregated records where suitable, and safeguards against re-identification. The formal register proposed above specifies evidential roles, not a demand to centralize or disclose personal case data. Any operational use would require lawful governance, data minimization, competence, and institution-specific authorization.

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9.9 Need Classification: Evidential Levels and Decision Audit

In GR's three-level analysis, the ultimate nature of need and subjecthood remains an open ontological question. The relational object here is the historically operative sequence through which a claim encounters categories, documentary requirements, decision authority, and possible revision. Intake forms, eligibility notices, case notes, interviews, and observed access decisions manifest different stages of that sequence. The specific inferential risk is the collapse of a person's need into an administrative category, or of an eligibility decision into actual receipt of support. Disagreement among records may reflect changes in category rules, unequal access to documentation, interpretive conflict, or erroneous entry. Table 9 identifies observations that can discriminate among these possibilities while keeping professional and legal decisions separate from the descriptive reconstruction.

The table's rows should be interpreted jointly with the material-resource, work, and institutional-mediation registers introduced earlier. Consider a classification change followed by an increase in eligible cases. The result might reflect newly visible need, improved application access, weaker evidential requirements, or a genuine shift in the relevant social conditions. Distinguishing these explanations may require dated rule versions, reasons for policy change, comparative case histories, and independent accounts. Stable aggregate outcome rates are compatible with substantial changes in the subjects who receive assistance and in the burdens allocated to participants. Such observational equivalence was already identified for economic histories in Section 3 and remains a limit on causal attribution here.

9.10 Constructed Cases, Rival Explanations, and Research Boundaries

A first constructed case concerns a volunteer reception programme that registers language-access requests through a digital form available in one language. The organization reports few requests for interpretation and devotes its small language-support budget elsewhere. One explanation is genuinely low demand among the population reached by the programme. A rival explanation is that its registration process prevents some people from expressing their need in a recognizable format. A third explanation is that other institutions already supply adequate interpretation. Differentiation would require responsible collection of information about attempted access, available alternative services, community language patterns where legitimately knowable, and decisions about the form's design. The observed request count alone cannot discriminate among the explanations.

A second constructed case involves a community transport programme whose funder defines an eligible journey as transport to a named type of appointment. A volunteer learns that a participant needs an additional stop to obtain essential documents for that appointment. Under one configuration, the stop falls within a documented exception approved by an authorized coordinator; under another, it is excluded by the grant and requires a distinct referral. The allocation consequences depend on contract terms, available alternatives, route safety, participant consent, and the cost of a revised plan. The case illustrates why a seemingly narrow category can be protective, restrictive, or both under different institutional conditions. A researcher should document who can authorize exceptions and how affected participants learn the reasons for the decision.

A third constructed case concerns a programme replacing discretionary human intake with an automated eligibility screen. Aggregate processing time falls, while appeals increase among applicants whose circumstances do not fit the system's available categories. At least three interpretations are possible: the screen corrects earlier inconsistent decisions; it introduces previously avoidable misclassification; or it changes the population who submits a completed application. Assessing these interpretations requires a case-level error protocol, denominators covering incomplete applications, comparison of review outcomes, and attention to unequal costs of challenge. Neither improved throughput nor a larger number of appeals by itself settles service quality, fairness, or the causal role of automation.

These cases define the local scope of the present contribution. The section proposes a way to trace how historically variable categories connect attributed needs, requests, resource permissions, work requirements, and realized options. It does not derive a ranking of needs, a legal entitlement, or a universal criterion for eligibility. Such judgments require independent normative, legal, professional, or democratic premises and may be contested among legitimate participants. The GR reconstruction should be tested against less elaborate explanations, including ordinary programme rules, staffing constraints, and administrative errors. Its distinctive analytical value would consist in revealing empirically traceable interactions across classification, resource control, labour distribution, and subject positions that a narrower description would leave unresolved.

Section 10 examines infrastructure, gatekeeping, and service access as broader organizational relations through which classificatory decisions acquire practical effects. Section 11 considers measurement and epistemic control as a separate problem. The present section supplies a bounded register and a set of evidential distinctions for those inquiries while preserving a substantive boundary: to classify a claim, to have the authority to respond, and to sustain a generative aid relation are connected but independently assessable activities.

10 Infrastructure, Gatekeeping, and Service Access

Volunteer aid is commonly described through the encounter between a person seeking assistance and a person prepared to provide it. Yet access to that encounter may depend on spaces, transport, communication standards, institutional permissions, records, equipment, referral conventions, and continuing maintenance. This section examines the political-economic properties of those enabling arrangements. Its task is to identify how infrastructures mediate the conversion of a recognized claim into a practica-

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ble support relation, how positions of gatekeeping arise within such mediation, and how access may become fragile or unequally distributed. The argument first specifies infrastructural objects and access stages, then investigates gatekeeping, bottlenecks, maintenance, and institutional interfaces. A bounded pathway assessment and comparative cases provide a method for distinguishing documented barriers, plausible alternatives, and unresolved evidence. The method combines conceptual reconstruction, selective engagement with infrastructure studies, and explicitly provisional formal representation.

10.1 Infrastructure as a Historically Sustained Relation of Service Possibility

For the present analysis, an *aid infrastructure* consists of relatively durable arrangements of material facilities, technological means, organizational roles, procedural expectations, and maintenance practices through which some support activities become practically repeatable. Durability is relative to a task, a population, and a historical interval. A volunteer language-support service may depend on a reception desk, a booking calendar, linguistic capacities, a functioning telephone or interpretation device, an authorization protocol, and an understood means of contacting the recipient. The infrastructure includes the connections and responsibilities among these elements as well as their distinguishable physical or informational components. Its existence in an asset inventory supplies only partial evidence of its practical operation.

Infrastructure research provides an established vocabulary for this proposition. Star and Ruhleder's study of a scientific information system documents difficulties in access and organizational communication even where users reported satisfaction with a system interface [83]. Their inquiry concerns collaborative scientific work. The transfer proposed here is methodological: an attractive front end or nominally available facility can coexist with barriers elsewhere in the infrastructural ecology. Star's subsequent account emphasizes infrastructure as relational and ecological, including mundane forms, standards, and often overlooked work [82]. The present GR reconstruction adds questions about how the distribution of these infrastructural conditions changes the feasible options and historical positions of participants in volunteer aid. It does not treat the term *relational infrastructure* as an original invention of GR.

An infrastructure can facilitate one practice while constraining another. For instance, a tightly controlled entrance may protect patient confidentiality and physical safety while requiring visitors to negotiate a particular authorization channel. A standardized request category may reduce coordination costs while making an exceptional need harder to register. Whether such arrangements are justified calls for institution-specific legal, professional, safety, and ethical inquiry. The economic question considered here is more limited: which subjects bear the costs of maintaining the arrangement, which positions can modify its use, and which participants have workable routes to an authorized service?

10.2 Material, Digital, Procedural, and Organizational Layers

The infrastructural arrangement is usefully decomposed into four interacting layers for diagnostic purposes. The *material layer* includes sites, rooms, vehicles, utilities, protective equipment, and other tangible means of support. The *digital and informational layer* includes communication channels, records, identifiers, scheduling software, and standards for exchanging information. The *procedural layer* includes intake routines, eligibility protocols, safeguarding requirements, documentation, and referral or exception procedures. The *organizational layer* concerns mandates, staffing, delegated powers, budgets, maintenance responsibilities, and relations among institutions. These categories overlap in practice: a keycard combines physical access, digital credentials, and an organizational decision about permission.

The relevance of a layer depends on the action under investigation. A transport service may have available vehicles but lack appropriately licensed drivers during the requested period. A volunteer visit may be allocated in a digital calendar while the building's entrance procedure excludes the particular visitor. A referral may satisfy a documented rule but reach an organization unable to accept new cases. Each case illustrates a different conversion failure. The arrangements described in Section 5, Section 7, and Section 9 supply corresponding resource, capacity, and classification perspectives; infrastructure analysis asks how those relations are jointly made operative.

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Layering should not suggest a universal sequence in which technology merely implements previously settled institutional purposes. Choices over data fields, locations, opening hours, and communication media can reshape what activities become feasible and what needs become visible. Conversely, a changed professional requirement can alter software configuration or the use of a room. Historical reconstruction should therefore examine reciprocal modification across layers and the uneven ability of participants to propose or enact changes. In a particular programme, the decisive infrastructure may be a shared informal practice maintained by experienced staff; elsewhere, it may be a formal inter-organizational agreement or a continuously functioning technical service.

10.3 Access Stages and the Difference Between Formal Admission and Realized Support

An access pathway can involve awareness of a service, initial contact, intelligible communication, claim registration, eligibility assessment, authorization, matching with a competent provider, safe physical or remote connection, performance, and feedback or revision. Some programmes compress these stages, and emergency assistance may require a different sequence. The list functions as an inquiry vocabulary rather than a claim that every case follows a common workflow. For example, a participant may be informed of a programme and classified as eligible but lack the language support necessary to arrange an appointment. Another participant may reach the correct site and still encounter an unrecognized requirement for advance authorization.

The distinction among *formal service availability*, *documented eligibility*, *practicable access*, and *service realization* is essential. Formal availability concerns the programme's declared remit or operating status. Eligibility is a rule-indexed determination treated in Section 9. Practicable access concerns the existence of an authorized, sufficiently supported pathway under relevant time, capacity, communication, and safety constraints. Realization concerns an activity that occurred and can be examined through action provenance and its effects. A recipient may choose not to use an available service, so non-realization alone cannot establish obstruction or institutional failure. Conversely, recorded throughput may omit unsuccessful attempts to enter the pathway.

Exclusion can arise at several points. Some persons may never learn that a service exists. Others may abandon intake because the burden exceeds their resources or because available hours conflict with work and care responsibilities. Still others may receive a referral whose receiving institution lacks the capacity or mandate to act. These are candidate mechanisms, not conclusions about particular institutions. The empirical denominator matters: applications completed, attempted contacts, registered requests, people who might have benefited, and individuals who actually received support describe different populations. Interviews, timestamped records, accessible feedback routes, and observation may illuminate different portions of this sequence. Their use requires confidentiality protections and methodological attention to whose experiences are missing from the records.

10.4 Gatekeeping Positions, Operations, and Degrees of Discretion

A *gatekeeping position* is a situated capacity to condition the passage of a claim, person, resource, authorization, or record through an access interface. The position may be occupied by a coordinator, professional, funder, platform operator, security officer, receiving institution, or another actor acting under a specific mandate. The gatekeeping operation may classify, prioritize, translate, verify, authorize, withhold, redirect, sequence, or reopen a proposed service. These operations should be distinguished by their applicable rules and available alternatives. A coordinator who communicates an already determined eligibility decision has a different kind of control from an official empowered to revise the decision; either may influence practical access through the timing and intelligibility of communication.

Barzilai-Nahon's network-gatekeeping theory distinguishes gatekeepers, gated actors, mechanisms, and relational conditions of salience, including relative power and alternatives [4]. Its original focus is the control of information in networks. Here the term is extended cautiously to the coupled passage of information, authorization, and support resources. A resource intermediary may act as a conduit, a discretionary allocator, and a reviewer in different episodes. The third-position analysis in Section 4

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supplies the appropriate distinction between presence, function, and decision right. The organization that formally holds a permission can differ from the worker who interprets the operative rule and from the technical system that enforces a particular configuration.

Some gates are protective. Professional licensing requirements, safeguarding protocols, medical confidentiality, and restricted access to vulnerable persons may condition support for defensible reasons. The issue is to distinguish their authorized purpose, actual operation, practical effect, and revisability. Public documentation of a right to appeal offers incomplete evidence about whether the appeal is accessible within the time available to a person requesting support. Equally, an apparently cumbersome procedure may mitigate a significant safety hazard that is invisible to an external observer. A careful political-economic assessment records the benefit claimed for a gate, the distribution of costs, the feasible alternative arrangements, and the evidence required to judge each. Descriptive identification of discretion supplies neither a presumption of abuse nor a presumption of legitimacy.

10.5 Bottlenecks, Substitution, and Conditional Infrastructural Dependence

A service pathway may depend on a small number of operations or positions for which few practical substitutes exist. A single authorized interpreter, a unique building entrance, a sole referral interface, or a central credentialing system may become a *bottleneck* for a specified set of requests during a specified period. Bottleneck status is task- and context-dependent. An unavailable lift can prevent a wheelchair user from reaching a service while leaving other participants' access unchanged. A temporarily nonfunctioning database may interrupt a programme that depends on centralized identity checks while having little effect on an independently authorized outreach team.

Infrastructural dependence should therefore be evaluated in relation to feasible alternatives, the costs and delays of switching, and the authority to activate substitutes. A theoretical alternative may be physically distant, unaffordable, incompatible with the participant's needs, or outside the programme's legal remit. Conversely, a single named gatekeeper may participate in a robust arrangement when several authorized staff can perform the same function. The conditional loss-set method in Section 5 provides one comparative approach to dependence on a withdrawn contribution. Infrastructure analysis makes the relevant contribution more specific by identifying the stage or connection at which options are lost.

A concentration of apparent traffic through one desk or digital form provides a clue to an access bottleneck, although volume is insufficient to establish dependency. Research should ask whether requests could lawfully and safely travel through another route, whether those alternatives were known and accessible at the relevant time, and whether the purportedly independent routes draw on the same scarce staff or data service. Paths that look redundant in a diagram may share a hidden common dependency. A putative alternate route can also transfer costs to recipients, unpaid volunteers, or external agencies. The political-economic significance of substitution thus includes the distribution of newly required effort as well as the continuity of recorded service output.

10.6 An Evidence-Indexed Assessment of Service Pathways

A modest formal device can discipline the preceding distinctions without turning incomplete institutional records into a universal optimization model. Fix a bounded programme history h, time t, standpoint κ, service request q, and declared conditions C_t that specify relevant safety, authorization, capacity, and resource constraints. Let $G^{\kappa}_{t,C_t}(h)$ be a finite, typed candidate access graph reconstructed for the inquiry. Its vertices represent service stages or institutional positions, and its directed edges represent potentially usable passage operations such as transfer of a request, authorization, physical entry, or task assignment. Graph edges represent *proposed or reconstructed* possibilities; their presence alone is not evidence that they are feasible. A path γ is a candidate sequence relevant to q, with a documented composition condition for jointly carrying out its operations.

Each edge and each path-level composition condition receives an evidence-sensitive status in the three-valued set $\mathbb{S} = \{\mathsf{supported}, \mathsf{excluded}, \mathsf{undetermined}\}$. Here *supported* means that the declared conditions and available evidence support a specific assessment of operational feasibility; *excluded* means

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that an applicable constraint is documented as ruling it out; and *undetermined* means that the evidence does not establish either assessment. With q and h fixed in the declared context, the following conjunction specifies the status of a candidate pathway in Equation 12.

$$\mathsf{Path}^{\kappa}_{t,C_t}(\gamma) = \begin{cases} \mathsf{excluded}, & \text{if a required condition or joint compatibility is excluded,} \\ \mathsf{supported}, & \text{if all required conditions and joint compatibility are supported,} \\ \mathsf{undetermined}, & \text{otherwise.} \end{cases} \tag{12}$$

The *joint-compatibility condition* is a separately assessed necessary condition within Equation 12. It tests the simultaneous consistency of actor identity, time intervals, resource use, permissions, and other dependencies under C_t; an individually supported edge does not confer this joint status. Separately recorded permissions and volunteer availability may be individually supported while referring to incompatible times, mutually exclusive assignments, or distinct persons whose records were incorrectly linked. When joint compatibility remains unknown and no required condition has been shown impossible, the proposed path receives an undetermined assessment even if its individual edges appear supported. A documented incompatibility excludes the proposed path under the stated conditions, even when another required condition has not yet been assessed. The assessment concerns the declared time, evidence, and conditions; it is revisable when rules, data, resources, or actors change. It is not a measure of moral worth, a legal authorization, a probability of success, or evidence that assistance actually occurred. A supported path may remain unused through a recipient's choice or a subsequent event outside the bounded conditions.

The graph construction has an additional epistemic limit. Finding no supported path in a reconstructed candidate graph does not prove the absence of usable routes in the world. The investigator may have omitted an informal but authorized practice, lacked access to confidential records, or failed to examine an independent provider. For a *declared and sufficiently enumerated candidate set*, supported alternatives permit a conditional claim about access within that set; documented exclusions permit more restrictive conclusions only under explicit coverage assumptions. A proposed bottleneck or cut set similarly requires evidence that the relevant alternatives have been adequately represented. This procedure improves auditability by making coverage assumptions and uncertainty visible. Its empirical adequacy remains to be assessed case by case.

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10.7 Maintenance, Repair, and the Distribution of Continuity Costs

Infrastructure consumes ongoing labour and resources after its initial installation. Booking databases require updates and access management; vehicles need maintenance and insurance; physical facilities require cleaning and inspection; volunteer coordinators preserve local knowledge and contact relationships; translated materials need revision when programme rules change. The visible moment of assistance may rest on these temporally distributed activities. Jackson's account of repair in technology and media studies places maintenance, breakdown, and acts of care within the analysis of sociotechnical systems [50]. His argument concerns a broader technological field, and the present application to volunteer aid proposes a specific political-economic question: who sustains the infrastructure enabling support, and whose time and resources absorb disruptions?

Infrastructure maintenance can be concentrated or distributed. A programme may rely on a single technically skilled volunteer to operate its scheduling system, or on paid staff to preserve records during turnover. A seemingly inexpensive service may therefore involve a large unrecorded maintenance contribution. Section 6 distinguishes volunteer work and the conditions of its renewal; the infrastructural perspective identifies which recurrent tasks are prerequisites for continued access by other participants. Withdrawal of a maintenance contributor may affect many service relationships even when the contributor never interacts directly with recipients. A disruption can also expose latent dependencies that ordinary operations had concealed.

Repair may reproduce a prior arrangement or enable revision of a fragile one. Restoring an exclusive intake channel has different implications from adding an authorized accessible alternative. The analysis

should record whether the repaired arrangement preserves the same exclusions, creates new work for another group, or changes the balance of institutional decision rights. Neither technical recovery time nor expenditure alone captures these transformations. In some settings, continuity depends on redundant staff training, accessible paper procedures, emergency authorizations, or agreements across agencies. Their merits require evaluation of resource cost, safety, privacy, competencies, and practical burden under realistic interruption scenarios.

10.8 Interoperability, Boundary Negotiation, and Information Governance

Aid pathways frequently traverse organizational boundaries. A community organization may identify a need, a public institution may determine eligibility, a professional service may establish competence requirements, and volunteers may provide a bounded activity. The capacity to transfer a case across these positions depends on shared meanings and agreements as well as technical compatibility. Two systems can export the same file format while recording different definitions of a completed referral. Similarly, an address, availability status, or category name can be technically transmitted yet be interpreted differently by the receiving institution. Infrastructure analysis therefore includes the semantic, procedural, and organizational conditions of interoperability.

A possible improvement in one boundary relation can create friction elsewhere. Centralized data sharing may reduce repetitive intake while introducing confidentiality risks, new authorization dependencies, or burdens of consent management. Decentralized records may protect local discretion but impede safe coordination when a relevant professional restriction is unavailable to the receiving party. Existing classification research [12] provides a basis for examining how standards and categories organize information work; the added GR question is how the governance of these standards changes resources, feasible options, and subjects' capacities to contest a mistaken description. The use of records must remain proportionate to the actual duty and lawful purpose: research curiosity does not authorize data access or indiscriminate consolidation of sensitive information.

Interoperability is therefore assessed through bounded operational questions. Can the initiating position state a request in terms intelligible to the receiving position? Is there a lawful and workable means of communicating the required information? Is a responsible actor identified for acceptance, correction, or refusal? Is transfer completion distinguishable from successful delivery? Are participants informed about the relevant pathway in an accessible way? Answerability at an interface may be distributed, with a referring organization accountable for accurate transmission and a receiving organization responsible for its own service decision. The appropriate allocation of these responsibilities depends on the applicable mandates and cannot be inferred from a general graph representation.

10.9 Service Pathways: Evidential Levels and Access Audit

The GR levels specify what can be learned from an infrastructural trace. The inquiry suspends claims about the ultimate constitution of social and technical arrangements; it models historically sustained pathways of permissions, material access, coordination, and repair as relationally efficacious. Building maps, digital interfaces, rule versions, maintenance logs, attempted visits, and accounts of abandoned requests are partial manifestations of those pathways. An official route diagram may accurately describe an approved sequence while omitting temporal incompatibilities, informal workarounds, or barriers encountered before intake. Table 10 separates the existence of a route from its evidenced usability under particular conditions. This audit complements the eligibility analysis in Section 9: admission is one step within a potentially longer service pathway.

Infrastructure is often more visible during breakdown, but breakdown-based evidence has its own sampling limits. A conspicuous outage may be documented while repeated low-level frictions remain unrecorded. An audit can combine process tracing of ordinary and disrupted episodes, interviews with differently positioned participants, ethically accessed event traces, and comparison of alternative routes. Rival explanations include temporary shortages, error in a particular rule, reasonable safety restrictions, individual choices, and structural concentration of decision authority. A framework that cannot separate

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Table 10: Infrastructure, gatekeeping, and service access: diagnostic objects and evidential boundaries

Object	Candidate evidence	Inference requiring separate support
Layered arrangements	Site access, interfaces, systems, roles, maintenance protocols	Assets present imply an accessible service
Access stages	Attempt records, referral times, entry routes, reasons for withdrawal	Registered requests exhaust relevant demand
Gatekeeping positions	Delegations, case histories, versioned rules, override and review permissions	Discretion demonstrates arbitrary exclusion
Pathway constraints	Joint schedules, authorization status, competence and safety conditions	Individually feasible links compose into a feasible path
Bottlenecks and alternatives	Interruption histories, fallback routes, switching costs and shared dependencies	Central traffic demonstrates unique indispensability
Repair and continuity	Maintenance work, failures, substitute staff, burden transfers	Restored throughput restores prior participant conditions
Boundary governance	Referral agreements, data terms, exception and correction processes	Technical transmission proves accountable service handoff
Participant experience	Situated accounts of access, refusal, cost, safety and disagreement	One narrative fully identifies causal mechanism

those mechanisms adds little to existing organizational analysis. GR gains explanatory purchase only where its jointly historical, relational, and three-level distinctions sharpen such discrimination.

10.10 Constructed Access Configurations and Limits of Generalization

A first constructed case concerns a volunteer orientation service at a large facility. The programme advertises reception support, has trained volunteers, and reports adequate staffing. A wheelchair user cannot reach the volunteer desk through the publicly indicated entrance while an accessible route exists on another side of the building. Under one interpretation, the communication infrastructure has failed to make an otherwise authorized and safe route intelligible; a revised map and staff training may improve practical access. Under another interpretation, the alternative entrance requires security clearance that has not yet been granted for that activity. Establishing the relevant mechanism requires investigation of building accessibility, authorization, operational hours, and participants' reports. A claim of available volunteer capacity does not resolve the pathway question.

A second constructed case involves multilingual community support mediated by a centralized referral platform. The platform classifies requests correctly and transmits them rapidly, but a receiving organization assigns interpreters only through a weekly batch procedure. A request completed in the database may consequently wait beyond the period in which assistance would be useful. One explanation is inadequate interpreter capacity; another is a timing mismatch between independently sufficient capacities; a third is a legally required professional review that takes time. Possible remedies and their legitimacy vary among these accounts. The relevant evidence includes request timestamps, batch rules, downstream schedules, and the safety conditions of the tasks. The formal pathway assessment in Equation 12 can record timing and authorization constraints once substantiated, while preserving unknown status where joint feasibility is unclear.

A third constructed case concerns an emergency volunteer network relying on one experienced coordinator who maintains contact lists, allocates transport, and knows informal inter-agency practices. The coordinator becomes unavailable during a surge. Some assistance continues through independent groups, while other activities stop because delegation and referral knowledge were never documented. The resulting disruption might reflect an avoidable concentration of operational knowledge, a resource shortage shared by several groups, or a deliberate protective restriction on sensitive information. Comparing the alternatives requires evidence about authority to delegate, privacy obligations, substitute competencies, and actual interruption histories. Building redundancy could increase continuity while imposing costs and new risks. Neither centralized coordination nor decentralized provision is presumptively optimal.

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The cases mark the limits of the local contribution. This section offers a descriptive and evidence-sensitive vocabulary for relating infrastructure, gatekeeping, maintenance, and access. It does not establish the causal prevalence of infrastructural exclusion, supply legal advice, or rank institutional designs across heterogeneous settings. Questions of justice and ethics require the independent arguments developed in Papers VI and VII, alongside applicable rules and contextual evidence. Nor does the existence of an identifiable bottleneck demonstrate malicious intent or a failure of care; some constraints serve legitimate purposes while their burden and design remain open to assessment. Section 11 investigates information, measurement, and epistemic control in their own right. Section 10 establishes the narrower political-economic proposition that infrastructures allocate practical possibilities through historically contingent, maintained, and governable interfaces, and that claims about their power should be tested against documented routes, feasible alternatives, and the conditions under which service is actually realized.

11 Information, Measurement, and Epistemic Control

Information in volunteer aid acquires political-economic importance through the conditions under which it is produced, interpreted, circulated, withheld, and authorized for use. Reports about numbers served, volunteer hours, unmet requests, service quality, and organizational performance may guide resource allocation and public recognition. Those reports arise from historically particular relationships among people seeking assistance, volunteers, coordinators, professional staff, donors, and governing institutions. This section examines those relationships as an epistemic dimension of political-economic power. Its objective is to distinguish informational possession from evidential authority and justified knowledge, then investigate the construction of indicators, selective visibility, contestation, and the consequences of evaluation. The analysis combines conceptual reconstruction, an evidence-bounded formal comparison of reported outcomes, and constructed cases. It draws selectively on established sociology of quantification and audit while retaining the three-level reality distinction and the domain limitations of the present GR programme.

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11.1 Information as a Situated Resource of Aid Coordination

Aid-related information takes multiple forms. A request may convey the person's expressed preference and circumstances; a shift record may establish that a volunteer was present; a professional note may delimit a permissible task; a donor's report may classify an expenditure as eligible; and an institutional dashboard may display aggregate throughput. These records differ in their subjects, purposes, custodians, precision, sensitivity, and permitted uses. Calling them information resources indicates that their availability can condition action, while leaving their epistemic standing open to examination. Information gains operational significance through its relationship with competent interpretation, access rights, timing, and the acts it can inform.

For example, a volunteer may know that a recipient prefers assistance at an earlier time, while the central schedule contains only a later assignment. The coordinator may have authority to change the schedule without knowing the reason for the request. A professional supervisor may possess relevant safety information that should be shared only to the extent necessary for the activity. The participants hold different informational positions. Their differences may support an appropriate division of responsibility or contribute to avoidable mismatches; the consequences depend on whether necessary knowledge can reach an authorized decision point in a timely and sufficiently contextualized manner.

Economic effects arise when these positions condition access to labour, transport, interpretation, financial reimbursement, organizational recognition, or opportunities to contest a decision. An information monopoly can give its holder leverage over a resource conversion interface, yet information control alone does not identify deliberate withholding or unjust conduct. A restricted record may protect confidentiality; a poorly maintained record may reflect insufficient staffing; a deliberately incomplete public report may reflect its legitimate narrow purpose. The analysis must identify record purpose, actual circulation,

applicable constraints, and feasible alternatives before characterizing an informational asymmetry as an exercise of political-economic power.

The relational account extends the gatekeeping analysis in Section 10. A physical or procedural gate determines which actions are available through a particular pathway. An epistemic interface conditions which claims, events, and classifications can become recognizable grounds for that gate's operation. Their coupling matters: a missing request field may make an otherwise available appointment impossible to allocate, while an erroneous classification may direct a person away from the relevant service. Evidence about informational design can therefore inform the study of practical access without providing a complete explanation by itself.

11.2 Three Levels of Reality in Economic Records and Testimony

The three GR reality levels impose a discipline on claims concerning aid-related knowledge. At the level of *ontological reality*, this programme suspends judgment on the ultimate substance of experiences, values, social structures, and relations. The suspension permits examination of evidence without treating a database, testimony, or mathematical description as an ontological revelation. At the level of *relational reality*, information practices may become causally and generatively efficacious: a case category can affect eligibility, a documented restriction can protect a participant, and a published number can change funding or recruitment. At the level of *manifestation reality*, interviews, forms, interaction traces, published reports, and lived accounts are context-dependent presentations through which such relations become partially accessible.

The levels can exhibit different temporal patterns. An organization may revise the wording of its service categories before its allocation practices change. Participants' practical options may change while the public reporting template remains fixed. A recipient's account may reveal a recurring barrier that appears nowhere in administrative summaries. Conversely, a change in reported complaints may reflect an improved reporting channel with little immediate change in underlying events. These possibilities are reasons to trace the production and interpretive use of manifestations rather than equate them with the entire relational process.

Historical subject formation further complicates inference. A volunteer can acquire expertise, gain institutional standing, and become entrusted with decisions over time. The same numerical label, such as *trained volunteer*, may refer to changing competencies and responsibilities. Similarly, the population counted as a *service user* can change when registration requirements, jurisdictional boundaries, or recognition practices change. A longitudinal comparison requires the relevant category versions, changes in eligibility, and observations about subjects' actual participation. The mere stability of a field name offers limited evidence of a stable social referent.

Records should therefore be interpreted through a situated provenance chain: who experienced or observed an event, who was empowered to document it, how it was translated into a category, who could inspect or revise the resulting entry, and which later action depended on it. These questions link Paper VIII to the earlier dyadic account of action provenance, the triadic account of institutional mediation, and Paper III's treatment of historical subjects. The connection is selective. A traceable administrative record remains one manifestation of a historically open relational system; it is neither an exhaustive account of that system nor proof of an observer's interpretation.

11.3 Informational Access, Interpretive Authority, and Contestability

Several epistemic positions should be distinguished. A person may possess relevant experience, hold a record, have access to read it, possess competence to interpret it, receive formal authority to use it in a decision, or possess the right to contest an interpretation. These positions can be separated across actors and institutions. Their conjunction determines which claims become actionable in a particular setting. The person providing a description of need can be excluded from subsequent classification; a volunteer who records assistance may have no authority to alter a reporting code; a donor who receives aggregate outputs may influence future budget priorities without seeing the cases behind them.

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The present framework calls *epistemic control* the historically situated capacity to shape materially consequential conditions of observation, documentation, classification, aggregation, dissemination, interpretation, or correction. This is a descriptive usage, not an assertion that all such capacities are problematic. A professional role may need authority to suppress unsafe disclosure; a coordinator may need to standardize operational records to prevent double counting. The relevant questions concern the purpose and scope of the control, the actors who can exercise it, the feasible alternatives for affected parties, and the uses to which the resulting representation is put.

An epistemic power claim requires evidence about both capacity and consequences. A privileged role with a database password has a technical access capacity. Exercised epistemic influence occurs when that role's actions alter which descriptions are seen, trusted, or acted upon. An allocative effect becomes plausible when the altered representation is used in a resource decision. The strength of an inference depends on the process evidence connecting these stages, and may be limited by competing explanations such as changes in demand or staff availability. The concepts parallel earlier distinctions between positional control, exercised influence, and legitimate authority, while specifying the informational operations through which influence may occur.

Contestability is likewise differentiated. A recipient may be able to ask for a correction, a volunteer may submit a discrepancy report, and an institution may offer formal review. Practical contestability depends on language accessibility, privacy, knowledge of procedures, available time, freedom from retaliation, and the ability of the reviewer to change an operative decision. A nominal appeal route may coexist with substantial costs of participation. The administrative-burden literature identifies learning, compliance, and psychological costs in public-sector procedures [61]. Its original field is citizen–state interaction; the present argument uses those distinctions as prompts for investigation, without assuming identical conditions in volunteer organizations.

11.4 Indicator Construction, Selection, and Denominator Histories

A performance indicator is generated through a sequence of choices. An institution identifies an object of interest, defines eligible observations, chooses a collection procedure and time window, treats ambiguous events according to a rule, and aggregates the resulting records. The published value carries the consequences of each choice. For a count of *people assisted*, one must determine whether repeated encounters with a single person count once or several times, whether remote assistance qualifies, how incomplete encounters are classified, and whether attempted but unavailable assistance is visible. A number of completed shifts poses different questions from a count of hours, task complexity, or continuity of the support relationship.

The denominator is particularly important where rates are compared. A reported proportion of successfully served requests depends on how requests enter the register, which requests are removed, and the conditions for classifying an outcome as completed. A restrictive intake process can produce a high recorded completion rate while leaving some attempted requests outside the measured population. Conversely, widening access to registration may initially reduce a success rate by making previously invisible unmet needs countable. Neither observation alone establishes a substantive improvement or decline in service. The denominator's historical constitution is a political-economic issue because it may influence subsequent judgments of efficiency, eligibility for funding, and recognition of institutional performance.

Different record systems may also encode different units. A financial ledger records expenditure according to accounting rules. A volunteer roster records scheduled participation. A service log records actions as defined by an operational protocol. Participant interviews may concern dignity, burden, confidence, or unmet needs that are only partly expressible in those systems. The units can sometimes be joined by a documented identifier and a lawful purpose; their meanings and uncertainties remain distinct. In particular, converting volunteer hours into a monetary estimate using a replacement-wage convention does not convert the resulting figure into a measure of recipient benefit or relational value. Section 2 establishes the distinct vocabularies required here.

An audit of indicator production should therefore collect rule versions, inclusion and exclusion cri-

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teria, units, reference intervals, missingness conventions, deduplication practices, revision logs, and the institutional decisions for which the indicator is used. Changes in category boundaries should be marked in longitudinal data, and a retrospective harmonization procedure should retain a record of its assumptions. Such procedures may improve comparability while creating additional interpretive costs. Their adequacy is relative to the question being investigated; an indicator suitable for budget reconciliation may be insufficient for an inquiry into whether the aid was experienced as appropriate or empowering.

11.5 Commensuration, Visibility, and Heterogeneous Value

The comparison of disparate activities through a common numerical scale is a social accomplishment with consequences. Espeland and Stevens analyze *commensuration* as a process through which different entities are compared by a common metric, including its implications for power and claims of incommensurability [26]. Their general sociological account supplies an established basis for treating the selection of a comparison dimension as a substantive act. Within volunteer aid, a common count of hours may make different programmes legible to the same reporting institution while obscuring variation in task difficulty, risk, relationship continuity, and participant preference. The existence of this limitation does not imply that hourly data lack use. It clarifies the restricted purposes for which they can support a judgment.

A service can have multiple evaluations whose relations are contingent. The volunteer may value skill development or solidarity; a recipient may value autonomy and dependable contact; a funder may assess accountable use of restricted resources; an institution may emphasize continuity, safety, and coverage. Some comparisons may be made through common operational dimensions, whereas others require narrative, professional judgment, or participatory interpretation. Attempts to combine all dimensions into one score require explicit choices about weights, representation, and acceptable substitutions. Those choices should be attributed to their actual decision-makers rather than presented as properties inherent in assistance itself.

Commensuration also alters visibility. An activity easily recorded in standardized categories may be easier to defend in grant applications. Relational labour that does not fit the reporting schema can remain important for the continuation of a programme while appearing as administrative overhead or remaining unrecorded. The resulting discrepancy can affect staffing, recognition, and the allocation of future support. Demonstrating the effect requires evidence about reporting rules and actual decisions: a missing category creates a plausible mechanism, whereas the magnitude and direction of its allocative consequences remain empirical questions.

The local GR proposal is to analyze the interdependence of measurement and value circulation without treating value as a homogeneous stock. Section 13 will examine heterogeneous valuation directly, and Section 17 will examine return pathways and possible extraction. The narrower task here is to identify how informational mediation selects which dimensions can enter recognized comparisons, how such comparisons are used, and what remains open to other forms of evidence and disagreement.

11.6 Reported-Outcome Equivalence and Limits of Identification

A specific formal problem arises when distinct aid histories generate the same reported indicator. Consider a finite set of candidate histories reconstructed for a stated programme, interval, and evidence standpoint. Each candidate history may include event traces, rule versions, positions of observers, and unresolved information. A declared reporting protocol can then be applied to the portion of its records for which that protocol is defined. The relevant diagnostic is the set of histories compatible with a particular published value. Equation 13 records this relationship.

$$\mathscr{H}^{\kappa}_{t,\rho}(y) = \big\{h \in \mathscr{H}^{\kappa}_{t} : D^{\kappa}_{t,\rho}(h) \in \mathrm{dom}(\mu^{\kappa}_{t,\rho}), \quad \mu^{\kappa}_{t,\rho}\big(D^{\kappa}_{t,\rho}(h)\big) = y\big\}. \tag{13}$$

Here $\mathscr{H}^{\kappa}_{t}$ is a bounded, explicitly constructed collection of evidence-compatible candidate histories; ρ identifies the reporting protocol and version; $D^{\kappa}_{t,\rho}(h)$ is the record view that the protocol would use under history h; and $\mu^{\kappa}_{t,\rho}$ is a partially defined measurement-and-aggregation map whose output domain

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includes the value y. The standpoint κ identifies what can be reconstructed from available evidence. Equality of outputs means only that the stated reporting procedure yields the same value for those candidates. The histories may differ in the distribution of costs, missing requests, participant preferences, and feasible alternatives.

The domain restriction in Equation 13 has an important interpretation. Candidate histories with missing or unusable inputs are outside this particular reported-equivalence class, but their omission does not establish incompatibility with the real-world report. It may indicate that the available evidence cannot determine what that reporting protocol would have produced. A stronger inquiry maintains an additional unresolved category for such candidates and reports the rules used to bound the candidate set. Likewise, a small equivalence class can reflect a narrowly specified reconstruction rather than a uniquely identified historical mechanism. The construction is a diagnostic device for nonidentification, not a probability distribution, causal estimator, or numerical measure of epistemic injustice.

For illustration, two programmes might both report fifty completed encounters. In one candidate history, fifty distinct people each received a short requested intervention. In another, a smaller number of people received repeated encounters that were counted under an encounter-based rule. If the declared metric is *completed encounters*, both candidates may appear in the same set. A distinct rule for *distinct recipients* could separate them, provided reliable participant linkage and lawful access exist. Neither metric automatically establishes quality, need satisfaction, or moral worth. Comparative reconstruction gains specificity when measurement histories are joined with appropriately accessed qualitative evidence and with the classification and service-pathway analyses of Sections 9 and 10.

11.7 Measurement Reactivity, Strategic Reporting, and Institutional Feedback

The social effects of measurement extend beyond what indicators reveal. Espeland and Sauder analyze how public rankings of law schools can change organizational conduct through mechanisms including commensuration and self-fulfilling expectations [25]. Their empirical object is legal education. The present application to volunteer aid is a bounded hypothesis: when particular measures determine recognition, staffing, or future funding, organizations and participants may adapt practices to the features that enter those measures. Adaptation can include improvements in documentation and coordination, alongside possible distortions in task selection or reporting. Whether those changes occur requires an empirical account of the operative incentives.

Target-based systems are a second relevant comparison. Bevan and Hood examine reported success, measurement problems, and gaming under performance targets in the English public health system [7]. Their historical context differs from volunteer aid in authority structures, employment relations, and service obligations. Nevertheless, the study motivates testable questions about consequences when the measurable component of an activity begins to stand in for a broader objective. A volunteer programme assessed mainly by completed shifts may prioritize filling roster slots even when particular recipient requests require continuity across several shifts. A programme rewarded for rapid case closure may change its definition of closure or its intake practices. These are hypotheses to be evaluated through changes in procedures, records, and the practical experience of recipients and volunteers.

Measurement can also generate desirable learning. A consistent record of response times may identify avoidable handoff delays. Better recognition of missed appointments can trigger accommodation, and a volunteer's correction to a case record can improve safety. A responsive evaluation system permits the indicators themselves to be questioned, revised, and complemented by participant accounts. Thus the central empirical issue concerns which feedback processes are enabled and whose costs and judgments are represented within them. Neither an indicator's quantitative form nor its use in management determines its consequences independently of the institutional relations in which it operates.

An especially significant political-economic pathway runs through funding conditions. A grant may require reporting on named outputs; staff may then revise data collection, service categories, or schedules; later records are interpreted as evidence of programme performance; and those records affect renewal or expansion decisions. Distinguishing each link helps avoid a circular argument in which a reporting

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change is treated as proof of behavioural improvement. Causal analysis requires temporal ordering, alternative explanations, and where possible comparison to activities less affected by the reporting rule. Section 18 will address performance incentives and marketization more directly. The present section examines the epistemic interface that makes such incentives administratively actionable.

11.8 Confidentiality, Selective Disclosure, and the Costs of Knowing

Informational access has costs and responsibilities. Aid programmes may hold accounts of illness, disability, family circumstances, immigration status, or financial difficulty, as well as records concerning volunteers' availability and competence. These data can be essential for a legitimate service purpose while exposing subjects to risks if distributed beyond the authorized context. The proper extent of collection and sharing depends on applicable law, organizational rules, professional obligations, informed participation, and the actual task. The GR analysis supplies an inventory of relational consequences; it neither grants permission to obtain sensitive data nor replaces privacy and professional judgment.

The familiar aspiration for transparency is therefore multidimensional. A recipient may reasonably need an intelligible explanation of an eligibility decision without being given another participant's confidential file. A volunteer may need task-specific precautions without access to unnecessary personal history. A donor may need substantiated aggregate reporting while being denied the identities of recipients. Each arrangement involves differentiated rights to know, disclose, challenge, retain, and erase information, and those rights can change with role and purpose. The political-economic task is to analyze how the differentiation alters practical agency and accountability under the relevant constraints.

Evidence collection itself consumes resources. Interviews demand time and attention, professional review may be costly, secure access systems need maintenance, and attempts to link datasets can create new identifiers and risks. Additional measurement may also shift burdens to recipients who must repeatedly recount difficult experiences or prove circumstances already documented elsewhere. The question of what ought to be measured accordingly depends partly on whether evidence will inform an authorized and consequential decision, whether less intrusive information would suffice, and whose labour sustains the proposed procedure. These considerations connect the informational analysis to the work-reproduction account in Section 6.

Audits of informational power should retain legitimate reasons for uncertainty and protected silence. A sealed record, absent public metric, or refused disclosure can be compatible with appropriate safeguarding and institutional accountability. Conversely, a confidentiality label can sometimes be invoked inappropriately; evaluating such a possibility requires evidence and the relevant legal and organizational framework. The method resists inferring either misconduct or proper conduct solely from the observable level of disclosure. Its operational emphasis is traceability of decision rights, reviewability of contested descriptions, data minimization, and explicit limits on the conclusions supported by available records.

11.9 Three-Level Epistemic Audit and Institutional Review

An epistemic audit should connect a reporting object with the histories and positions that make it usable. Under the GR three-level distinction, ontological suspension concerns what the reported entities ultimately are; relational inquiry concerns how observation and reporting practices participate in organizational action; manifestation inquiry concerns the concrete traces through which those practices are encountered. These levels guide inquiry without establishing a privileged method. Interviews, document analysis, administrative statistics, and process tracing each reveal different parts of the mechanism, and their compatibility requires contextual work.

Table 11 specifies seven audit objects. The final column identifies an inference that needs separate support. Some evidence may be unavailable for good reason, requiring an appropriately bounded conclusion rather than an attempt to circumvent access restrictions.

The audit can be conducted in stages. A preliminary document review reconstructs the declared measurement rule and the decisions it is intended to inform. A provenance inquiry then examines how cases enter the register, how errors are corrected, and which categories remain outside the reporting field.

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Table 11: Information and measurement in volunteer aid: diagnostic objects and inference limits

Object	Candidate evidence	Inference requiring separate support
Observed event and testimony	Accounts, interaction records, source positions, consent and context	A record exhausts the lived or relational episode
Collection and coding	Forms, variable definitions, role permissions, versioned schemas	Consistent coding establishes complete coverage
Denominators and exclusions	Intake rules, attempted requests, duplicates, missingness and exclusions	Reported rates describe everyone seeking support
Authority and contestation	Review permissions, correction histories, accessible appeal routes	A nominal correction channel affords practical redress
Metric translation	Aggregation scripts, weights, value conventions and audit trails	A common score captures heterogeneous worth
Reporting feedback	Funding rules, target revisions, procedural changes and outcome histories	Correlation with a target proves a causal effect
Protection and burden	Access logs, lawful purposes, retention rules, participant time costs	More disclosure or more data is categorically better

Where authorized, a comparison of different observation modes tests whether administrative traces and participant accounts support compatible interpretations. A final decision-process inquiry investigates whether differences in the resulting reports alter funding, staffing, or eligibility. At each stage, the investigator should record unresolved claims and rival hypotheses. The method gains explanatory value when it permits discrimination between, for example, improved service, changed documentation, changed demand, and category selection.

Audit itself can become an institutional practice with consequences. Power's analysis of expanding audit and verification regimes [70] provides an established context for asking how an organization's capacity to exhibit evidence can become a condition of recognition. The present concern is narrower: in volunteer aid, the work of producing evidence can redistribute attention away from other activities while also making certain decisions more accountable. Review procedures should therefore be evaluated through their own resource demands, the kinds of knowledge they privilege, and their accessibility to the subjects affected by the underlying decisions. A complete assessment requires legal, ethical, and empirical analysis beyond the present descriptive framework.

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11.10 Constructed Measurement Configurations and Research Boundaries

A first constructed case concerns a community-language programme whose quarterly report shows an increase in completed sessions. A revised registration form has begun counting several short contacts with the same person as separate encounters. One interpretation is that assistance has become more responsive because the programme can provide frequent, appropriately timed interventions. Another is that the change reflects a revised counting unit with approximately stable service provision. A third is that new administrative requirements have encouraged fragmentation of a continuous service into reportable units. Discriminating among these accounts calls for a versioned definition of *session*, appropriate records of distinct participants, an authorized review of the service pathway, and participant accounts of usefulness. The same numerical trend supports different relational and political-economic interpretations until its reporting history is reconstructed.

A second constructed case concerns a volunteer transport service facing a funding decision based on average response time. Coordinators notice that requests requiring complex coordination are often missing from the denominator because they are recorded as inquiries until a transport slot becomes available. Under one explanation, the intake convention is a reasonable operational distinction between inquiries and accepted assignments. Under another, it makes the service appear faster to funders while leaving difficult requests invisible. A third explanation concerns differing jurisdictions or safety duties that

place some inquiries outside the service mandate. The analyst needs the intake protocol, timestamps, programme boundaries, decision rights, and a lawful way to examine unserved requests. Changing the indicator may improve visibility but could also increase collection burdens and create misleading cross-programme comparisons if institutional responsibilities remain different.

A third constructed case concerns a hospital-adjacent volunteer coordination service where an external funder requests detailed descriptions of beneficiaries to validate a social-impact report. The coordinator possesses relevant records but has limited permission to disclose personal information. A proposed aggregate report can satisfy some accountability aims without permitting inference about individual recipients; in another contractual context, additional lawful verification may be necessary. The choices involve more than a conflict between openness and secrecy. They concern the purpose of evaluation, affected participants' control over disclosure, statutory and professional restrictions, auditability of aggregate transformations, and the costs of producing additional evidence. The analytical task is to map those differentiated positions and plausible alternatives. This constructed configuration supplies neither a determination of the relevant law nor evidence about the conduct of a particular hospital or funder.

Together, the cases indicate where the GR framework can be subjected to a substantive test. A useful reconstruction should explain how particular measurement rules and epistemic positions mediate resource decisions, and should specify what evidence might disconfirm its preferred mechanism. It should permit an investigator to conclude that an indicator was suitable for a limited purpose, that a target changed conduct, that a reported difference arose from measurement design, or that evidence remains insufficient. The formal reported-equivalence set in Equation 13 is helpful only insofar as candidate histories, reporting rules, and their uncertainty can actually be reconstructed. The seven-object table provides a preliminary audit, not a validated instrument or a comparative ranking.

This section establishes a bounded political-economic claim: institutionally consequential knowledge is generated and governed through historically situated informational relations, with implications for the visibility of assistance, the authority to allocate resources, and the capacity of participants to contest descriptions. It does not derive moral or legal legitimacy from epistemic power, and it makes no empirical assertion about named organizations. Subsequent sections consider donors, contractual governance, heterogeneous valuation, recognition, and bargaining. Their analyses will require the distinctions developed here between a reported measure and the relations it selectively represents, between the institutional power to make a claim count and the warrant for accepting that claim, and between a proposal for improved transparency and the actual protections and burdens of producing further information.

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12 Donors, Public Institutions, Brokers, and Contractual Governance

The political economy of volunteer aid is shaped by the relationships through which resources are promised, made available, administered, and rendered accountable. This section examines donors, public institutions, intermediaries, and service organizations as historically constituted positions whose agreements can alter the practical conditions of assistance. Its objective is to distinguish financing from authorization, contractual allocation from effective control, and formal accountability from the possibility of obtaining an explanation or remedy. The discussion proceeds through an institutional and relational interpretation of funding arrangements, a bounded formal record of governance events, and comparative configurations that reveal rival mechanisms. Legal validity and moral legitimacy require the applicable jurisdictional, institutional, and normative analysis; the present account concerns the arrangements through which political-economic capacities are constituted and exercised.

A volunteer programme may rely on public appropriations, individual donations, restricted grants, contracts for specified services, in-kind contributions, or combinations of these sources. The economic consequences of each depend on the conditions attached to particular resources and on what participating subjects can feasibly do. A generous commitment might leave service continuity fragile when disbursement is delayed; a contract that improves predictability might reduce discretion to address unanticipated needs; an intermediary that coordinates several programmes might widen access while concentrating control over referrals. These possibilities carry different causal and evaluative implications. The ana-

lytical task is to reconstruct their actual mechanisms, including countervailing benefits, the agency of recipients and volunteers, and the evidential limitations of organizational records.

12.1 Governance Instruments, Institutional Histories, and Economic Roles

An agreement acquires its practical meaning through a history of institutional positions, available alternatives, and enforceable or voluntarily accepted commitments. A donation may be unrestricted, designated for a purpose, or conditioned on later reporting. A grant can reimburse approved expenses, pay an advance, or require achievement of specified milestones. A service contract may specify quantities, eligibility, performance standards, invoicing procedures, and termination rights. An informal memorandum can coordinate organizations without establishing the same legal obligations as a procurement contract. These arrangements vary by jurisdiction and individual instrument. Their shared analytical characteristic is that they condition who may commit, allocate, use, document, suspend, and review resources.

The historical analysis of publicly financed nonprofit services by Smith and Lipsky [81] provides a significant point of reference. It examines the organizational and political consequences of delivering welfare-related services through nonprofit entities supported by government resources. Its original object is the particular development of contracted welfare services; volunteer aid encompasses additional arrangements, including activities in which volunteers support a service without performing the contracted obligation themselves. The present reconstruction therefore treats contracted delivery as one possible configuration among several. It leaves room for activities undertaken by public personnel, community associations, unpaid volunteers, private donors, and mixed partnerships.

Economic roles should be differentiated from personal and institutional identity. A person may be a donor in one episode, a recipient in another, and a volunteer within the same programme. A municipality may finance a service, operate part of its infrastructure, and serve as a reviewer. A nonprofit may act as both service provider and grant-making intermediary. Such role overlaps are not abnormalities of an otherwise fixed actor taxonomy. They form part of the historically changing relations to be studied. As established in Section 4, distinct positions matter because access rights, operational capabilities, and accountability obligations attach to roles under specified conditions.

A governance reconstruction should therefore record the instrument's type and version, the capacities in which its participants act, the duration of the commitment, the applicable conditions, and the alternatives available if one party cannot perform. Institutional language such as *partner*, *sponsor*, or *beneficiary* supplies an initial clue while leaving operative rights to be established independently. Two programmes using the same label can have materially different capacities to modify an activity, question a condition, or exit a financing relation.

12.2 Donor Commitments, Restrictions, and Allocative Discretion

Donors can contribute funds, equipment, facilities, expertise, reputational support, or access to additional networks. The ability to promise such resources differs from control over their use after transfer. A donor who allocates an unrestricted contribution ordinarily occupies a different practical position from a funder who conditions spending on specified categories, selects reportable outputs, or reserves approval over revisions. The relevant mechanism concerns the division of custody, permissible expenditure, decision rights, and the realistic possibility of substituting another resource. The descriptive fact that a donor expresses a preference is insufficient to infer either binding authority or an actual change in services.

Restrictions can serve several functions. They may safeguard entrusted resources, provide predictability, facilitate lawful stewardship, or enable a specific programme that would otherwise remain unfunded. They may also narrow the recipient organization's ability to reallocate resources when its understanding of local needs changes. A restricted grant for transport, for instance, can establish dependable vehicle capacity while leaving interpretation and coordination needs unfunded. A donor condition requiring a particular language-service count can improve visibility, although it may also affect which types of support receive attention. Distinguishing these effects requires the written instrument, its administration, the recipient's feasible alternatives, and accounts from those whose activities are affected.

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Donor influence may operate indirectly through renewal expectations. An organization facing uncertain future contributions can adapt priorities in anticipation of a funder's preferences even when no explicit instruction has been given. Such anticipatory adaptation remains a hypothesis until supported by planning documents, internal deliberations, longitudinal resource decisions, or other process evidence. Section 8 shows why the timing and substitutability of funds matter to continuity; the present section adds the allocative consequences of funding conditions and of expectations concerning their revision.

Financing should also be separated from the evaluative standpoint of the donor. The donor's preferred indicators might be appropriate for verifying expenditure but incomplete for assessing recipients' needs, volunteers' burdens, or service quality. As discussed in Section 11, reported outcomes are produced through classificatory and reporting choices. The existence of such choices does not establish donor domination. It identifies empirical questions about who chooses measurement units, who can contest interpretations, and whether a contractual consequence follows from the resulting report.

12.3 Public Institutions, Contractual Authority, and Continuing Responsibilities

A public institution may hold statutory duties, appropriated resources, procurement authority, licensing functions, facilities, and the competence to specify service standards. Contracting with a nonprofit or voluntary organization can change the means of service delivery while leaving some public responsibilities and accountability processes in place. The precise division is a question for the relevant law and governing instrument. Political-economic analysis can identify the distribution of budgets, approval rights, monitoring labour, and service risks without concluding that a duty has legally transferred or disappeared.

Brown and Potoski's study of municipal and county government contracting [14] emphasizes the varying managerial capacities with which public agencies oversee contractual service provision. Their empirical inquiry concerns a defined US local-government context; it supplies reasons to inspect monitoring competence, rather than evidence that any given volunteer organization has been adequately supervised. Contract-management capacity can include the ability to specify feasible tasks, assess provider capability, interpret performance records, respond to problems, and revise contractual arrangements. Such capacities consume resources. A government decision to outsource a task does not thereby eliminate the managerial activity needed to coordinate it.

The distinction between public financing and public authority becomes important when volunteer effort supplements state-supported provision. A hospital or public office might permit a volunteer association to assist with navigation or interpretation while reserving professional decisions to authorized personnel. A municipality might pay an intermediary to coordinate eligible transport requests while retaining authority over service boundaries. The roles may vary by legal framework, risk, location, and competence. The analyst should therefore reconstruct each authorization rather than infer it from the source of funding or the volunteer status of a participant.

The possibility of institutional substitution warrants a further distinction. A publicly supported programme can expand coverage by employing complementary volunteer activities. Under different conditions, unpaid participation may absorb work previously performed through paid positions or public budgets. Whether substitution has occurred requires a historical comparison of tasks, staffing, service levels, and fiscal decisions. Whether that substitution is permissible, fair, or desirable requires separate legal and normative grounds. Paper VIII will examine the distribution of public responsibilities in Section 16; the present section specifies the contractual interfaces through which such a change could become practicable.

12.4 Brokers, Intermediaries, and Layered Contracting Chains

Intermediary organizations can mobilize donors, aggregate small contributions, administer public grants, certify partners, coordinate volunteers, and route requests to service providers. Their participation may reduce search costs or permit organizations with limited administrative capacity to participate in a larger aid network. Intermediaries can also become consequential positions of selection, translation, agenda

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setting, and review. The distinction concerns the actual operation performed. A broker who simply forwards a contact, an organization that controls access to a funding call, and a contractor authorized to approve reimbursable work occupy different practical positions.

Consider a chain in which a public funder commissions a regional nonprofit, the nonprofit subcontracts coordination to a local association, and the association places volunteers with several community groups. The contractual documents might define only the adjacent pairwise commitments. A recipient's access can nevertheless depend on the compatibility of all relevant steps: referral rules, capacity, consent, location, budget availability, safeguarding permissions, and reporting procedures. A defect at one interface may interrupt assistance even if each organization formally complies with its own reporting obligation. This makes the multi-position framework of Section 4 useful for tracing conjunctions that a simplified pairwise description can omit.

Brokerage and procurement should be analyzed through the feasible alternatives available to participating organizations. An intermediary with an exclusive channel may have considerable potential influence when smaller associations lack other funding or referral routes. Yet observed dependence may arise from specialist competence or genuine safeguarding requirements rather than intentional exclusion. An empirical study must therefore distinguish scarce expertise, justified coordination, contingent institutional bottlenecks, and discretionary restriction. Historical records of application rejections, access rules, appeals, and substitute providers can help identify the mechanisms.

The terms *principal* and *agent* are informative only within a specified analytical and contractual context. Van Slyke's study of government–nonprofit contracting [92] compares agency and stewardship approaches and examines the role of trust, monitoring, reputation, and contextual limitations in a sample of New York State social-service relationships. Its findings counsel against classifying entire organizations as permanently opportunistic agents or intrinsically cooperative stewards. In the present programme, a role's incentives, discretion, and relational dependence are investigated at the level of particular tasks and histories. A contract party can act cooperatively in one interface and contest another without becoming a single immutable behavioral type.

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12.5 Payment Timing, Performance Conditions, and Risk Allocation

Contractual governance distributes economic burdens across time. A grant paid in advance can finance initial staffing, equipment, and transport. A reimbursement agreement may require an organization to pay first and document eligible costs before recovering funds. A milestone arrangement can make future disbursements conditional on specified evidence or outputs. Even when the nominal total is identical, differences in timing and conditions affect liquidity, borrowing needs, reserves, organizational discretion, and the practical continuity of assistance. The conditional service-coverage analysis in Section 8 provides an appropriate interface for examining such effects.

The distribution of risk also depends on what an agreement leaves unspecified. Demand may rise unexpectedly, volunteers may withdraw, facilities may close, and new accessibility needs may become apparent. Some instruments permit budget amendments, exceptions, or additional payment when conditions change; others require renegotiation or leave residual burdens with the provider. An organizational budget can conceal these differences when it records expenditures but omits unpaid coordination, household contributions, delayed reimbursements, or work performed during a funding interruption. Section 6 supplies categories for these unrecorded or differently recorded burdens.

A contract's numerical performance target can couple risk allocation with measurement choices. The same target might provide a reasonable ex ante service standard, create an incentive to improve responsiveness, or encourage the neglect of hard-to-record assistance. The direction and magnitude of these effects are contingent. Contract analysis should inspect the availability of legitimate exceptions, treatment of complex cases, procedures for correcting a recorded outcome, and the consequences of missing a target. Accounts of participants' actual work and unmet requests are needed alongside the official performance report.

Economic dependence does not by itself establish improper pressure. A provider may deliberately

accept reporting costs in return for predictable financing and a stable public-service relationship. Equally, a condition may become practically difficult to refuse when an organization has invested in specialized personnel, cannot recover those costs, or faces few alternative funders. The relevant comparison is between feasible negotiated options, with careful attention to who bears the consequences of delay, revision, termination, or renewal.

12.6 An Evidence-Indexed Register of Contractual Governance Events

A bounded descriptive representation can make the relevant positions and governance events traceable without reducing them to a single index of institutional power. Let e identify a governance event, t its time, h a bounded history, and κ a specified evidential standpoint. Define the typed contractual-governance record in Equation 14.

$$\mathfrak{G}^{\kappa}_{e,t}(h) = \big(\pi, \iota, \varphi, \omega, \delta, \chi, \nu, \epsilon\big)^{\kappa}_{e,t,h}. \tag{14}$$

Here π records the participating institutional and individual positions and their identified roles; ι the instrument, version, scope and operative time; φ the resource commitment, restriction and disbursement conditions; ω the service activities and authorization boundaries; δ the distribution of formal decision and review rights; χ the conditions of monitoring, amendment, exception, suspension and termination; ν the recorded practical options and burdens under the event; and ϵ the supporting evidence and unresolved provenance. The record is typed because these fields contain different sorts of objects: positions, documents, resource conditions, service descriptions, decision rules, feasible alternatives and evidence. They cannot be meaningfully summed without a separately justified measurement scheme.

The register is deliberately partial. A missing contract, redacted donor communication, or ambiguous agreement term is represented as unresolved, with the corresponding evidential limitation. Documented absence of a reserved decision right is distinguished from lack of access to the document that might establish it. A formally documented right is distinguished from an observed exercise of that right, and a recorded exercise from a demonstrated causal effect. The register also avoids treating legality, legitimacy and fairness as values automatically computable from these fields. Those assessments require the applicable legal rule, jurisdiction, affected parties' positions, and an independent normative or empirical argument.

For investigation, a governance event may be a grant award, public procurement decision, budget amendment, release of a payment tranche, intermediary referral rule change, formal performance review, or disputed termination. Several events can be linked through a common bounded history h, with versioned instruments preserved. Their consistency with the wider power configuration in Section 1, the mediated-operation register in Section 4, and the information-production analysis in Section 11 should be checked at shared roles, times, authorizations and evidence sources. The proposal supplies a traceable analytical syntax. It has not been validated as an ontology, legal information standard, or predictive model of contract performance.

12.7 Accountability Directions, Review Capacity, and Contract Revision

Organizational accountability has multiple addressees. A funder may require expenditure reports, an elected authority may demand public explanation, a regulator may require compliance, volunteers may seek reasonable working conditions, and recipients may need accessible channels for questioning allocation or conduct. These relations can overlap while differing in their evidence requirements, procedural protections and practical consequences. A completed audit for a funder does not by itself establish that recipients can challenge a service decision, just as participant satisfaction does not determine whether public funds were lawfully spent.

Ebrahim's analysis of NGO accountability mechanisms [20] distinguishes reports, evaluations, participation, self-regulation and social audits, and identifies tensions across upward and downward, internal and external, functional and strategic accountability. The present framework applies that insight as a series of questions about actual governance pathways. Which participants can demand a reason? Who

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can require disclosure within lawful and ethical limits? Which reviewer can alter a binding decision? How much work is required to seek a correction? Do reporting procedures create a documented route by which problems reach an authority empowered to respond? The institutional specificity of these questions matters more than assigning the organization an unqualified label of accountable or unaccountable.

Public contracts may also affect internal nonprofit governance. O'Regan and Oster [62] report associations between government funding levels and board practices among New York City nonprofit contractors, including greater attention to financial monitoring and advocacy alongside less emphasis on fundraising in their observed sample. This finding motivates inquiry into the relocation of board attention and authority. It is not sufficient to infer that government support always crowds out participation or mission-related activities. A board can acquire improved oversight capacities while facing additional administrative demands; determining the balance requires historically comparable records and a stated evaluative criterion.

Revision pathways should be studied as practical options. A funder may allow a budget transfer, a contractor may request a scope amendment, an intermediary may facilitate a negotiated accommodation, or a recipient may seek correction of an eligibility decision. Their effectiveness depends on timing, information, bargaining alternatives, and the decision-maker's actual powers. A nominal right to renegotiate may have little practical value when a service must continue tomorrow and the approval process requires several weeks. Conversely, limited unilateral discretion can protect recipients from arbitrary or unsafe changes. The analysis should therefore register both reasons for constraint and the distribution of the burdens that the constraint creates.

12.8 Renewal, Termination, and the Distribution of Bargaining Options

The effective distribution of contractual power depends partly on what participants can do when an agreement nears expiration or when performance becomes contested. A funder might have a formal right to withhold a future grant; a service organization might be free to decline new conditions; an intermediary might retain access to a unique referral system. Each formal possibility acquires practical weight through the historical costs of changing partners, the time required for approval, continuity requirements, and the feasibility of alternative services. A programme may be legally entitled to stop undertaking a task while remaining socially and operationally entangled with recipients who have few immediate alternatives. These considerations belong to the political-economic analysis even where the contractual legal duties are clear.

A renewal negotiation can affect current conduct through anticipation. When a programme must seek annual financing, decision-makers may adapt staffing, service definitions, or documentation to improve their expected chances of renewal. Such adaptation might reflect justified responsiveness to a funder's priorities or an inefficient diversion of scarce attention; the distinction requires process evidence. It would be premature to infer coercion from grant dependence alone, and equally premature to regard formal freedom to exit as conclusive evidence of effective bargaining equality. The comparison should investigate the feasible refusal options of each party at the time of decision and the people who would bear resulting transition costs.

The ability to replace a partner also differs from the ability to repair an existing relationship. An organization may be replaceable on paper while its specialized knowledge, trained volunteers, community trust, or multilingual interfaces take months to reproduce. A funder may possess several potential contractors yet face a lapse in coverage during transition. A nonprofit may have diversified sources of income yet find that each source restricts different expenses. Such forms of switching cost and complementarity should be reconstructed as situated conditions, rather than converted into a general scalar measure of dependence. Sections 5 and 7 provide complementary descriptions of dependent options and task-specific capacity.

Dispute procedures deserve the same practical scrutiny. Contractual arbitration, internal review, audit appeals, mediation and ordinary negotiation differ in authority, time, participation, cost and available remedies. A recipient may have no standing under a particular funding instrument while retaining other

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Table 12: Donor, public-institutional, and contractual governance: diagnostic objects and inference limits

Analytical object	Candidate evidence	Inference requiring separate support
Funding instrument and terms	Award letters, contracts, amendments, legal scope, version histories	A funding label establishes enforceable authority
Resource and payment conditions	Payment calendars, restricted ledgers, reimbursement decisions, reserves	A nominal commitment establishes timely usable capacity
Service and role authorization	Scope descriptions, staff delegations, safety procedures, referral permissions	Funding control authorizes professional or operational intervention
Intermediary and brokerage positions	Referral records, subcontract chains, exclusive arrangements, fallback channels	Brokerage necessarily enables or obstructs assistance
Monitoring and information rights	Reporting templates, audit requests, access controls, provenance records	Reported compliance establishes service quality or recipient benefit
Review, amendment and exit	Exception records, complaint procedures, contract change histories, notice periods	A formal review or termination right is practically exercisable
Burden and continuity distribution	Staff time, volunteer work logs, delayed payment, unserved requests	Recorded organizational expenditure exhausts actual economic cost

protections or complaint channels. A volunteer may be affected by revised reporting duties without becoming a contractual party. An empirical account should separate the official allocation of a right from the feasibility of using it and identify the legal context without inventing obligations. The ethical questions concern the burdens and vulnerabilities created by these arrangements; the descriptive question concerns which alternatives and correction pathways existed for whom, when, and with what effects.

12.9 Contractual Operations: Evidential Levels and Governance Audit

The three GR levels guide the reconstruction of contractual governance without reducing organizational conduct to the wording of an agreement. Ontological claims about institutional agency or the substance of obligations remain suspended. At relational reality, enforceable terms, customary cooperation, payment dependencies, authorized discretion, and renegotiation opportunities can shape what participants are able to do. Signed contracts, invoices, correspondence, interviews, and service records are differently informative manifestations of these relations. A signed grant may establish documented restrictions, whereas payment records and actual decisions are needed to understand their operation; an informal expectation of renewal may affect bargaining despite lacking contractual status. Table 12 locates the corresponding evidence gaps and overextensions.

A staged audit can begin with the declared institutional instrument and its historical amendments. A second stage compares its resource and service commitments with the actual implementation sequence, including payment timing and third-position coordination. A third stage reconstructs who could ask for clarification or revision, and the costs of exercising that possibility. A fourth, where lawful and practicable, examines the distribution of work and the experience of people receiving or providing assistance. Divergence among documentary, financial and experiential accounts should be retained as an analytical finding until it can be explained. Redactions, privacy limits, and the absence of records constrain conclusions; they are not independent proof of wrongdoing.

The audit should also identify counterexamples to a preferred interpretation. A high reporting burden might coincide with better participant protection or reliable use of public funds. An unrestricted gift may supply flexibility but lack continuity. A concentrated intermediary might be accountable and replaceable through an effective public procedure, while a dispersed network might obscure responsibility during an emergency. Such observations can test the proposed mechanisms, especially when compared with the alternative pathways and joint-compatibility requirements specified in Sections 5 and 10.

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12.10 Constructed Contractual Configurations and Research Boundaries

A first hypothetical configuration concerns a donor-financed community-language service. The donor funds a fixed number of scheduled interpretation sessions and requests a quarterly count. Volunteers identify a rising number of brief, unscheduled contacts needed to clarify forms and access procedures. One account interprets the reporting condition as a useful protection against ambiguous expenditure. Another holds that the funding category channels organizational effort toward scheduled interactions while leaving related support uncompensated. A third identifies the principal bottleneck in volunteer availability or professional authorization, independently of donor preferences. To discriminate among these accounts, an investigator would need the grant terms, documented scope changes, classification rules, requests, available volunteer capacity and the participants' own accounts. The case does not attribute conduct to an actual funder or suggest that a measured output exhausts the service's value.

A second configuration concerns a municipal service contract awarded to a regional nonprofit that coordinates volunteer transport through neighborhood associations. Public funds arrive after verified expenses, while volunteers and local partners provide cars, scheduling time and immediate costs. One account credits the contract with stabilizing services through public support and clear responsibilities. Another examines whether delayed reimbursement has transferred financing burdens toward smaller associations and individual households. A third concerns safety and accounting obligations that justify some verification but might be administered through alternative payment arrangements. Evidence would include the agreement's payment clauses, actual reimbursement lags, financing alternatives, task allocations, and any justified service interruptions. Separate analysis is needed to establish applicable public-law duties or whether any burden is unjust.

A third configuration concerns a foundation-funded emergency assistance network managed by an intermediary. The intermediary controls the application portal and consolidates reports from local volunteer groups. Following a disruption, one group alleges that the portal's categories prevent recording urgent requests that fall outside an approved list. The intermediary cites fraud prevention, safeguarding and audit requirements. Competing explanations include justified screening under resource scarcity, a locally inappropriate classification standard, a technical defect, and strategic gatekeeping. An adequate inquiry would reconstruct the operative rules, accessible exception procedures, decisions concerning contested requests, the legal protections that constrain disclosure, and the availability of other channels. The case demonstrates the interdependence of classification, infrastructure and contractual governance. It supports no conclusion about a real emergency provider.

The three cases make the explanatory demands of the proposed framework explicit. Contractual language, funder identity, and published outputs are partial manifestations of historically situated relationships. The register in Equation 14 becomes useful when the researcher can trace specific commitments and decision rights through the actual sequence of aid events, identify plausible alternative pathways, and distinguish uncertainty from supported absence. The audit in Table 12 helps locate missing evidence and resist premature conclusions. Institutional coordination can support generative assistance while simultaneously constituting dependencies, reporting burdens, and contested distributions of influence. Their ethical and legal standing remains an independent question. Subsequent sections develop heterogeneous valuation, symbolic recognition, reciprocity, and the circulation of value and power through these contractual and organizational interfaces.

13 Heterogeneous Values, Conversion, and Relational Valuation

This section examines how different forms of value are attributed, compared, translated, and acted upon within volunteer-aid relations. Its role in the political-economic argument is to connect resource allocation and contractual governance with the evaluative practices through which an activity acquires significance for volunteers, recipients, institutions, funders, and wider publics. The analysis distinguishes the object being evaluated, the participants authorized to evaluate it, the register of worth employed, the available evidence, and the consequences of a valuation for practical action. It combines bounded

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interpretation of economic sociology with a provisional generative relational (GR) event representation, an evidence audit, and constructed comparisons. The resulting framework is intended to support investigations into heterogeneous valuations; it supplies neither a universal welfare metric nor an empirical estimate of a programme's value.

13.1 Objects of Valuation and the Units of Aid Contribution

The expression *value of volunteer aid* can refer to several distinct objects. The monetary cost of a vehicle journey, the hours a volunteer contributed, the recipient's practical access to a service, the institution's reduction in administrative workload, the donor's reported philanthropic contribution, and a relationship's continuing capacity to generate assistance each describe a different aspect of an episode. They may be causally connected, yet differ in what is counted, whose judgment is involved, and which comparisons are warranted. A study that records one value for an entire programme should identify what that value measures, which dimensions it omits, and the inferential purpose for which it was constructed.

A minimally adequate valuation description identifies an *object*, a *standpoint*, a *criterion*, and a *horizon*. Objects can include an act, an outcome, a continuing capacity, a material input, a relationship, or a change in feasible alternatives. Standpoints include personal appraisals and institutional positions, with appropriate differentiation of expertise and decision rights. Criteria can concern monetary expense, continuity of access, perceived dignity, skill formation, organizational reliability, legal compliance, or a locally specified conception of relational generativity. Horizons distinguish immediate satisfaction, cumulative contribution, and effects that appear only after repeated interactions. These components should be recorded separately when direct comparison would otherwise suppress relevant distinctions.

The contrast between *valuation* and *allocation* is especially important. A committee might acknowledge that an accompaniment encounter has substantial relational significance yet be unable to allocate scarce accessible transport at a requested time. Another institution might allocate substantial resources to an activity valued positively by donors but questioned by recipients. Expenditure and expressed approval can be evidence for the making or enactment of judgments; each requires additional interpretation before serving as a measure of experienced benefit. The conditional action-space vocabulary of Section 2 and the access distinctions of Section 10 remain applicable.

13.2 Prior Accounts of Plural Worth and Economic Relations

Economic sociology provides established approaches to the social organization of value that precede the present GR programme. Boltanski and Thévenot examine how participants justify action by invoking different principles of worth and how disputes can arise across justificatory orders [8]. Their typology supplies a vocabulary for studying public justification. Its particular ordering of justificatory worlds remains their intellectual contribution. A GR analysis can investigate historically situated valuations without assuming that the domains or number of possible evaluative principles are fixed by one prior typology.

Zelizer's account of intimate economic relations examines how transactions and relational meanings are negotiated together rather than treating monetary transfers as detached from the character of the relationship [97]. The relevance for volunteer aid is methodological. Reimbursement, gifts, recognition, and employment-like payments can have different meanings under different relations, even when the amounts transferred are similar. Zelizer's empirical and interpretive treatment of intimate economic life should be credited on its own terms; volunteer-aid applications in the present paper are proposed extensions and require evidence from aid settings.

Stark's analysis of organizational worth explores the coexistence of multiple evaluative logics and the potential of organizational dissonance to generate inquiry [84]. Fourcade's sociological account of monetary valuation of nature separates why a common monetary scale becomes authoritative, how translation techniques are produced, and what subsequent changes in practice can follow [29]. These contributions suggest two distinct research questions for assistance programmes. First, how are valuations formed and

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justified among parties with unequal capacities to speak? Second, how does the adoption of one valuation protocol change the future actions, classifications, and investments of those parties? The present paper takes these as questions for relational reconstruction, with original cases and methods preserved as belonging to their respective authors.

The GR vocabulary of *generativity* also requires explicit provenance discipline. Eglash's account of generative justice considers forms of value circulation and the redistribution of generative capacities [21]. The GR programme's historically constituted relational capacity is a separate theoretical proposal. Shared attention to generative processes establishes a possible site for comparison; it does not demonstrate conceptual identity, common origins, or equivalent evaluative criteria. Subsequent discussion therefore states which sense is being invoked and avoids taking the apparent semantic overlap as evidence of a completed synthesis.

13.3 Valuation Registers, Translation Conventions, and Commensurability

A *valuation register* is the pair of an object-domain and an explicitly described evaluative convention, together with the standpoint from which the convention is applied. Monetary cost, time contributed, number of encounters, perceived usefulness, continuity of an accessible service, and development of a volunteer's competence may each support meaningful comparisons within a defined register. The units, categories, and evidence standards differ. A metric such as cost per completed visit combines expenditure and visit counting only after both have been operationally defined. The resulting ratio provides information about a selected administrative question; claims about participants' experiences require further observations.

Translation between registers can be *direct*, *conventional*, *partial*, or *unsupported*. Direct translations include established unit conversions within the same measured quantity. Conventional translations include using an agreed hourly replacement wage to estimate a financial equivalent of recorded volunteer time. Partial translations permit a comparison for some tasks under specified assumptions while leaving other tasks unevaluated. An unsupported translation arises when the evidence or accepted convention does not establish the proposed mapping. The analyst should distinguish an evidentially unsupported mapping from a reasoned refusal to convert certain claims for ethical, legal, or methodological purposes.

Monetization is consequently one possible institutional operation with a defined purpose. A replacement-cost calculation may help estimate the expense of providing a service with paid personnel. Its numerical result depends on the assumed occupational comparator, work content, qualifications, and price period. The figure cannot be silently reused as the amount of benefit delivered to recipients, the volunteer's personal valuation, or the compensation legally owed for that activity. The volunteer-work measurement methods discussed in Section 2 remain useful within their statistical purposes. A new evaluation must say whether it preserves those purposes or introduces different ones.

Comparability can also be contested because a convention changes the object being assessed. Converting an hour of attentive companionship into an hourly cost may support budget discussion while leaving open whether the recipient valued continuity with a trusted person, an opportunity to express a concern, or the prevention of a service interruption. Such phenomena may be investigated with reports, interviews, subsequent actions, and accessible institutional traces. Their interpretive uncertainty should be made explicit. Commensuration research indicates that the establishment of shared metrics is itself a social process with distributive consequences [26].

13.4 Relational Appraisal and Differences among Participant Positions

Aid episodes generate valuations from situated and potentially competing positions. A recipient may regard predictable timing and autonomy as central to the value of support. A volunteer may emphasize contribution, meaningful contact, learning, or an acceptable balance with other commitments. A service provider may emphasize safety and the continuity of core operations. A funder may emphasize auditable results, permitted expense categories, or equitable distribution among programmes. A public institution

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may examine legal obligations, procedural regularity, and compatibility with public expenditure rules. These are possible evaluative positions rather than immutable preferences assigned to social roles.

An individual's perspective can be internally plural and historically variable. A volunteer can value an encounter for its meaning while experiencing the scheduling arrangement as difficult to sustain. A recipient may appreciate a volunteer's kindness and request that future assistance take a different form. The institution may recognize these views yet operate within an externally funded contract. Disagreement can therefore concern facts, priorities, criteria, authority, or future expectations. Recording the reason and standpoint associated with each judgment supplies richer evidence than treating the disagreement as variance around a single underlying score.

The possibility of *relational valuation* should be specified without presupposing ethical agreement. In this section it denotes attribution of significance to a historically constituted relation or to changes in its practical capacities, as expressed or inferred under declared evidential conventions. It can concern strengthened trust, recurrent exclusion, role stabilization, diminished dependence, or a participant's capacity to contest an institutional decision. Such appraisals may be positive, negative, ambivalent, or unresolved. An apparently strengthened institutional relationship may also concentrate control in a way that some participants experience as harmful. The descriptive presence of a durable relation does not establish its desirability.

Participant statements merit serious evidential attention, subject to consent, contextual interpretation, confidentiality, and their particular conditions of production. A statement elicited immediately after a service under strong expectations of gratitude has a different evidential context from a confidential retrospective assessment. The inquiry may combine multiple sources while keeping their provenance visible. Where a participant cannot express a preference through the available interface, absence of a recorded valuation should be classified as an observational limitation. The classification and epistemic-control analyses in Sections 9 and 11 provide complementary diagnostic categories.

13.5 Conversion Processes and the Distribution of Evaluative Authority

A *value-conversion process* is a historically situated sequence in which an attributed significance becomes consequential within a different organizational or evaluative arrangement. Examples include the transformation of recorded volunteer hours into a grant report, of a recipient's stated difficulty into a funded service category, or of positive recognition into invitations and future organizational resources. The term concerns traceable changes in classification, authorization, resources, or opportunity. It makes no assumption that a single conserved substance moves through these arrangements.

Four aspects merit differentiation. *Proposal* concerns who may nominate a valuation or translation. *Validation* concerns what evidence and standards an institution requires. *Authorization* concerns who may make the translated value binding for allocation or reporting. *Revision* concerns the practical means by which affected participants can contest the resulting classification. A translation can be technically coherent yet consequentially one-sided if only a small set of actors can select the dimensions that count. Conversely, rules requiring documentation and qualified review can prevent arbitrary attribution or unsafe financial promises. The question is the historically evidenced mechanism and its effects on options and burdens.

Consider a programme reporting saved administrative expenditure. The saving may be calculated from the budgeted cost of a task previously carried out by employees. An evidence review could establish the calculation within that accounting convention. Further inquiries concern whether the task's demands were shifted to volunteers or households, whether output quality changed, and whether the saving supported further aid or merely reduced a reported cost. The same monetary figure can be consistent with multiple relational histories. Section 11 supplies a framework for examining observational equivalence, while Section 6 identifies possible labour and renewal burdens.

Conversion processes often depend on infrastructures that influence who is heard. A reporting portal may accept attendance figures and reimbursements but provide limited channels for recording translated emotional labour, recipient revisions, or the costs of discontinuity. The constrained format can

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make some effects relatively inexpensive to demonstrate and others expensive to investigate. Information rights, reporting specifications, and the control of classification categories therefore participate in political-economic power. The causal direction should be tested: an omitted dimension may reflect a legitimate scope limitation, an immature measurement infrastructure, an institutional incentive, or an intentional exclusion. Evidence of omission alone leaves those explanations open.

13.6 An Evidence-Indexed Valuation and Translation Event Register

The preceding distinctions can be organized into a provisional descriptive record. Let e designate an event in which a specified value attribution or translation is proposed, enacted, or contested; t indicate its time; h a bounded historical sequence; and κ an evidential standpoint. Equation 15 defines a typed valuation event register.

$$\mathfrak{V}^{\kappa}_{e,t}(h) = \big(\alpha, \rho, \eta, \omega, \chi, \delta, \sigma, \epsilon\big)^{\kappa}_{e,t,h}. \tag{15}$$

Here α identifies the appraising position and relevant authority; ρ the evaluated object, activity, or relational change; η the valuation register and declared criteria; ω the observation and evidential protocol; χ any proposed cross-register translation, including its conditions and domain; δ the allocative or organizational decision affected by the attribution; σ recorded disagreement, revisability, and practical opportunities to contest; and ϵ the provenance of the available evidence and any unresolved fields. Each field is typed: a criterion, observation, conversion rule, decision, and means of contestation require different forms of evidence. Summing them into a score would require an independently justified measurement model.

A single aid history can contain several valuation events with different appraisers or conventions. Linking their records requires explicit identification of the shared activity, its time, and the participants whose positions are affected. The presence of a conversion rule is distinguished from its valid application; actual use of a numerical value in a decision is distinguished from the value's causal influence on the decision; and institutional authority is distinguished from justificatory adequacy. An absent observed conversion can indicate documented non-use or simply lack of accessible evidence. These distinctions allow the register to remain informative where some documents are withheld, some participant experiences are unrecorded, or the evaluative categories themselves are disputed.

One plausible use is comparative audit of two programmes sharing an output metric. For each, the researcher could collect the definitions of the reported outputs, grant award criteria, evidence of actual service, participant assessments obtained through appropriate procedures, and change records for decisions. The resulting registers could establish whether a monetary attribution was made under the same convention, whether changes affected the same groups, and where relevant evidence remains missing. Such an audit would test limited claims about valuation practice. It would not show that one arrangement maximizes welfare or that a contested valuation is unjust without additional substantive argument.

13.7 Valuation Across Three GR Reality Levels

The three-level GR discipline helps prevent an economic measurement from being mistaken for a comprehensive reality claim. At the *ontological level*, the ultimate status of value and its relation to being remains suspended. The present paper does not posit a universal unit in which personal meaning, monetary costs, legal entitlements, and generative capacities are ultimately commensurable. At the *relational level*, valuation procedures, institutional positions, relations of recognition, dependencies, and the capacity to revise decisions are candidates for historically constituted objects of analysis. At the *manifestation level*, records, prices, stated preferences, evaluation forms, budgets, observed interactions, and public narratives are partial presentations of those structures.

Table 13 illustrates how the three levels discipline inference across seven objects of valuation. The table serves as an audit of analytical categories; it does not assign moral priority among them.

The table also indicates why a three-level analysis needs historical comparison. A value claim may change because the underlying aid relation changes, because its mode of presentation changes, or because

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Table 13: Valuation objects, evidence, and limits of inference in volunteer-aid political economy

Analytical object	Manifestation and relational inquiry	Inference requiring additional grounds
Monetary outlay	Expense ledger, price period, restricted budget, payer and recipient	Overall benefit, fairness, or actual affordability
Unpaid contribution	Task diary, recognized work categories, role and renewal conditions	Voluntary consent or a single equivalent wage
Recipient appraisal	Contextual testimony, requested alternatives, service history	Stable preference, comprehensive welfare, or unconditioned agreement
Institutional recognition	Eligibility classifications, report templates, decisions and appeals	Accurate recognition of all relevant needs
Relational continuity	Repeat interactions, withdrawals, dependency and accessible substitutes	Trustworthiness or desirability of persistence
Generative capacity	Historically observed opportunities, capabilities, revisions and new aid possibilities	Scalar improvement or ultimate ontological value
Conversion authority	Criteria, approval, funding effects, contestation and version history	Legitimacy, legal validity, or demonstrable causal capture

a new evaluator applies a different protocol. A donor reporting reform might enlarge the visible set of recipient outcomes without any immediate change in delivered services. A service improvement might remain unrecognized because an older form retains narrow categories. These possibilities should be compared using dated changes in both the relation and the reporting protocol. Their identification is an empirical task rather than a consequence of the three-level terminology alone.

13.8 Generative Capacity, Value Circulation, and Normative Limits

Within this GR programme, *generative capacity* is used provisionally for historically constituted possibilities through which subjects and relations can sustain, revise, or create subsequent activities and configurations. In volunteer aid, candidate manifestations include the ability to seek help through a reliable channel, volunteers' sustained competence, organizational receptivity to correction, and the recipient's practical opportunity to make future choices. The meaning of a specific change depends on the relevant subjects, time horizon, available alternatives, and permissible evidential interpretation. A new organizational relationship may enlarge capacity for one group while imposing unsustainable burdens on another.

Circulation analysis asks how an attributed contribution, recognition, or resource affects subsequent relational possibilities. A volunteer may provide time, an institution may record the service, a funder may renew financing, and some of the proceeds may support supervision and accessibility. Another arrangement may concentrate recognition in a donor's public image while leaving renewal costs with volunteers. These are candidate trajectories of political-economic effects; the existence of a repeated relationship alone cannot determine which occurred. The contribution of Eglash's generative justice scholarship is especially relevant as an independently developed invitation to examine production, circulation, and control over generative capacities [21]. A more extensive comparison of the distinct theories' assumptions belongs to later research.

Valuations of generativity can also involve disagreement over the desired future. A recipient may seek independence from a particular institution; a volunteer may prefer a sustainable finite commitment; an organization may seek to retain a service for continuity; and a donor may favor a visible programme expansion. Their aims can be mutually conditioning without being identical. Normative resolution requires attention to rights, consent, justice, and the arguments of affected persons, including limits on what can lawfully be offered or exchanged. The ethical and justice analyses of Papers VI and VII remain separate argumentative resources. Neither relational generativity nor successful value conversion automatically supplies the verdict they must establish.

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13.9 Constructed Comparisons of Competing Valuation Mechanisms

Three hypothetical cases illustrate distinctions that an empirical investigator could test. They are constructed diagnostics, with no claim to describe a named organization.

Interpretation hours and accessible communication. A hospital-adjacent volunteer programme records hours of language assistance and estimates the paid replacement cost of each hour. One interpretation is that the estimate provides a useful accounting account of contributed work and supports the renewal of a needed service. Another is that a uniform hourly measure obscures rare-language preparedness, cancelled appointments, difficult scheduling, and the recipient's continuing difficulty navigating subsequent encounters. Relevant observations include language-specific request logs, interpreter competence, consent and privacy safeguards, completed encounters, and recipient opportunities to report unresolved communication barriers. A wage-based estimate and evidence of accessible understanding answer different research questions.

Community transport and relational continuity. A municipal contractor evaluates volunteer transport by cost per completed journey, while some recipients value predictable accompaniment by a familiar person. A lower expenditure per journey may reflect improved routing, reduced idle capacity, transferred unpaid preparation, exclusion of complicated requests, or some combination. To discriminate among these explanations, the researcher would require service-request histories, cancellations, allocation criteria, volunteer time burdens, recipient descriptions, and the timing of alternative transport options. If a new schedule yields more completed journeys while creating inaccessible time windows for some participants, the same administrative improvement can coexist with differentiated relational effects. The inquiry should specify which effects are evidenced and which remain unresolved.

Emergency assistance and public recognition. A donor-backed emergency-aid partnership allocates future funding partly through publicly visible activity reports. The donor may reasonably require transparency about expenditure and service performance. Public recognition may also enable volunteers to recruit support and recipients to locate services. A competing mechanism arises if reporting incentives prioritize photogenic distribution events while less visible coordination, follow-up, and local capacities receive limited attention. The distinction requires examining reporting templates, publicity permission, protected data, fund renewal criteria, activity records, and the practical ability of affected participants to challenge claims. The existence of visibility incentives is compatible with several mechanisms; evidence of a specific distortion requires tracing its influence on actual decisions.

These cases share a diagnostic structure: begin with an explicitly bounded valuation convention, identify the actors able to authorize its use, recover other relevant standpoints, and examine the practical effects of applying the convention over time. The aim is to distinguish legitimate simplification, unresolved omission, unequal authority, and demonstrable harmful conversion under conditions where the available evidence permits such distinctions.

13.10 Research Obligations for Valuation and Political-Economic Analysis

A usable study of value in volunteer aid should specify the unit of analysis, the participants' historical positions, the valuation conventions at issue, the evidence required for a proposed translation, the consequences of enacted valuation, and the conditions of possible contestation. Multiple valid registers can coexist, and institutional decisions sometimes require selecting among them. The relevant scholarly question is how a particular selection is justified, authorized, implemented, and revised, including who bears the burden when an evaluative scheme changes.

Three methodological obligations follow. First, maintain *provenance*: mark clearly which concepts derive from prior scholarship, which are GR reconstructions, and which are local empirical hypotheses. Second, maintain *partiality*: distinguish a supported comparison from a conventional estimate, a

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contested translation, and an evidentially undetermined case. Third, maintain *consequence sensitivity*: investigate whether a valuation changes resource allocation, role expectations, recognition, or future feasible actions, and avoid assigning causal influence solely from contemporaneous records. An evidence-indexed register can organize these obligations, but its fields need domain-specific operational definitions and ethically appropriate collection procedures.

The section's principal result is an analytical vocabulary in which value pluralism and value conversion become traceable political-economic processes. It permits inquiry into who can define a contribution, who may translate it into money or institutional recognition, whose appraisals remain publicly accessible, and how the translation changes future relational possibilities. It leaves open the empirical frequency of particular mechanisms, the validity of comparative measures across institutions, and normative judgments about justified priority. The next section examines symbolic recognition, credit, and reputational capital as specific institutional consequences of attributing and circulating value; subsequent sections consider gratitude, bargaining, capture, and the longer pathways through which value circulates.

14 Symbolic Recognition, Credit, and Reputational Capital

This section investigates how symbolic recognition and the attribution of credit enter the political economy of volunteer aid. Its role is to develop a mechanism that links the plural valuations analyzed in Section 13 to historically changing access to funding, participants, organizational authority, and public attention. It distinguishes a contribution, its documented authorship or performance, the credit publicly assigned to it, the audiences that recognize the assignment, and any subsequent change in practical opportunities. A critical reading of established scholarship on symbolic capital, legitimacy, status, and prosocial incentives precedes a provisional generative relational (GR) representation. The argument then examines evidence, contested attribution, distributional consequences, and hypothetical cases. The present construction remains a descriptive research proposal; the legitimacy of any particular recognition practice requires separately justified ethical and institutional judgments.

14.1 Recognition Objects and the Social Positions of Contributors

Symbolic recognition may attach to the provision of an individual service, repeated availability, specialized knowledge, an organization's coordination of assistance, a funder's material contribution, or a recipient's role in identifying and improving the service. These objects overlap in an aid episode but have different evidential traces. A public announcement crediting an organization for a successful intervention can truthfully identify the coordinating institution while leaving unreported the volunteer time, local expertise, referral labor, and recipient cooperation that made the intervention feasible. Such partial attribution need not reflect deliberate concealment. It calls for specifying the purpose and expected completeness of the particular public statement.

The social positions involved are similarly differentiated. A person may act as a frontline volunteer, qualified practitioner, coordinator, recipient, witness, interpreter, donor, board member, or institutional representative. Each position can participate in producing an outcome, constructing its documentary record, or approving its public presentation. Permission to speak on behalf of an organization should be distinguished from evidential competence to describe every contributing activity. The designation of an official spokesperson establishes an institutional representation rule; it supplies no automatic account of all labor or knowledge that contributed to the outcome.

Recognition practices may be personal, collective, anonymous, or deliberately withheld. A contributor may wish to receive public credit, prefer acknowledgment within a team, or seek protection from publicity. A recipient may wish to express gratitude privately while declining inclusion in promotional images. A donor may request publicly reportable results, while a professional or volunteer coordinator may operate under confidentiality duties. An adequate analysis therefore treats visibility and attribution

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as relationally regulated possibilities with distinct authorized audiences, rather than measuring recognition by the volume of publicly available material alone.

Analytical work begins with the *recognition object*: the particular contribution or claim for which acknowledgment is proposed. Its definition affects who is considered eligible for credit, which forms of labor are made legible, and how disputes are resolved. Institutional visibility can be valuable for recruiting assistance and securing continuity. The significance of visibility depends on the costs, alternatives, and effects of the associated presentation rule.

14.2 Symbolic Capital, Scientific Credit, Status, and Organizational Legitimacy

The expression *symbolic capital* enters the present argument through established sociological scholarship. Bourdieu's discussion of economic, cultural, and social capital, their conditions of accumulation and conversion, and the work of social recognition supplies an important conceptual precursor for examining how institutionally recognized relations become consequential resources [9]. The present use of symbolic recognition is an aid-specific interpretation of those differentiated arguments, not a claim that his chapter specifies a ready-made volunteer credit metric. The GR proposal neither originates the distinction between material and symbolic advantage nor assumes that all recognition can be accumulated and exchanged in the same way. It asks which historically particular recognition practices change feasible action and through which institutional interfaces such changes occur.

Merton's analysis of the Matthew effect distinguishes unequal attribution of scientific credit within the reward system from the heightened visibility of established contributors within scientific communication [58]. His research does not investigate contemporary volunteer coordination. Its relevance here is a bounded mechanism hypothesis: where previous reputation affects who receives subsequent credit, advantages in visibility might become self-reinforcing. Testing the hypothesis in aid settings requires evidence about how initial reputation, subsequent performance, information channels, and decision procedures interact. An observed concentration of awards alone would leave these mechanisms unresolved.

Organizational legitimacy and reputational prominence are also distinct. Suchman distinguishes pragmatic, moral, and cognitive bases of organizational legitimacy, including different strategies of gaining, maintaining, and repairing legitimacy [85]. Public familiarity with an organization may support comprehensibility, while approval of its mission and demonstrated usefulness involve further evaluative claims. Legal authorization, accountable governance, and institutional legitimacy likewise arise through partially different relations. A widely publicized aid programme can remain contested by affected participants, and a comparatively obscure initiative can possess reliable legal authority and practical competence.

Podolny's status-based analysis of markets provides another analytical interlocutor. His model and supporting observations concern hierarchy among market producers, particularly investment-bank underwriting, where status conditions opportunities and economic terms [69]. The present aid analysis inherits a question about how an audience interprets status and acts on it; it does not transfer that study's market-specific cost and revenue relationships into volunteer organizations. The distinct source domains matter because nonprofit funding, public procurement, and volunteer commitment may respond differently to reputational signals.

These intellectual origins establish several candidate mechanisms: reputational recognition can condition attention, status can influence which claims are credible, and prior visibility can help structure later visibility. Whether those mechanisms are present, dominant, or desirable in a particular aid organization is an independent empirical and normative question. The GR contribution is the bounded tracing of recognition through the positions, mediation rules, histories, and practical alternatives developed in the earlier sections of this paper.

14.3 Contribution Credit and Rules of Public Attribution

Credit should be specified according to the claim being made. *Activity credit* records that an identifiable person or collective performed a task. *Coordination credit* records that an institution or third position assembled contributions into an executable service. *Financial credit* records a material commitment under

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a specified accounting convention. *Interpretive credit* recognizes work in defining a need, translating a concern, or creating knowledge required for a service. *Outcome credit* attributes a result to one or more contributing positions under an explicit evidential standard. The last category requires particular caution because a single visible result can depend on several contributions distributed over time.

Organizational publications often simplify the number of credited positions. Simplification can be justified by length, privacy, accessibility, or administrative purpose; it can also suppress contributions that an organization has reason to recognize. The analyst should recover the document's intended audience, institutional authorship, authorized disclosure conditions, and claims about completeness. A short donor report that openly summarizes collective effort presents a different issue from a report that represents a jointly produced result as the exclusive achievement of one organization.

Attribution rules have temporal features. A programme may recognize contributions only after approval, completion, or verification. Delayed credit can allow careful assessment, while indefinite delay can deprive contributors of timely evidence of experience or completed service. Organizational membership or formal contract status may affect inclusion in recognition systems. A volunteer coordinating complex tasks could be excluded from an employee-only credit register, even when the volunteer's work was materially required. Conversely, an authorized employee may carry formal responsibility for outcomes despite having delegated portions of the work. These possibilities require separate investigation of labor, responsibility, and credit.

A transparent attribution procedure would describe relevant kinds of contribution, evidential thresholds, permitted naming, review responsibilities, and paths for correction. Its adequacy depends on context, especially where recipients' identities and circumstances are protected. Disagreement about credit can reflect contested factual contribution, incompatible institutional categories, divergent interpretations of an outcome, or reasonable disagreement about the appropriate public representation. Those forms of disagreement should remain distinguishable.

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14.4 Reputational Mediation and Access to Political-Economic Opportunities

Recognition becomes a political-economic question when audiences condition their subsequent decisions on a person or institution's attributed standing. Funding officers may consider past performance or credibility when renewing support; prospective volunteers may evaluate an organization's perceived reliability; collaborators may select coordinators they already know. Public visibility can alter how quickly a claim receives attention, how readily an organization obtains a hearing, or how much documentation a decision maker demands. These effects are candidate relational mechanisms, rather than inherent powers contained inside a name or reputation.

The relevant translation sequence should be stated explicitly. A documented contribution is represented through a recognition protocol; one or more audiences encounter the representation; an audience may revise its assessment of credibility, competence, affiliation, or desirability; an authorized position may then change an allocation, invitation, permission, or monitoring requirement. Each transition can be interrupted or reversed. A well-known institution may receive more scrutiny rather than fewer conditions. A recipient association with limited public reach may gain influence through formal representation rights without accumulating extensive reputation in public media.

The material consequences of reputation are also heterogeneous. Recognition might facilitate donations, volunteer recruitment, referral priority, or access to a consultation forum. Some effects concern resource flows, others concern feasible choices or burdens of proof. A sponsor could convert recognition into favorable contract terms while a frontline volunteer receives only a certificate. An organization might use increased visibility to secure accessible service equipment; an alternative trajectory might channel attention toward public relations at the expense of service maintenance. Evidence about budgeting, rules, decisions, and subsequent activities is needed before attributing either trajectory to reputation.

The broader power question concerns control over recognition interfaces. The actor who selects which achievements are publicized, approves a logo, certifies service hours, manages testimonials, or ranks grant recipients may affect later opportunities for those being recognized. The institution granting

a badge might be distinct from the audience assigning it value. A highly visible certificate may carry little weight in a particular funding decision, while a private referral from a trusted local organization may significantly change access. Symbolic influence thus depends on relational position, audience uptake, alternative channels, and history.

14.5 Evidence-Indexed Credit Allocation and Attribution Uncertainty

A provisional representation can make the distinction between an aid event and its credited positions explicit. Let E_t denote a bounded set of aid events, P_t the historically specified set of eligible attribution positions, and Q_t a set of credit categories such as performance, coordination, financing, and documented interpretive contribution. Let π identify a dated attribution protocol and κ an evidence standpoint, including access restrictions and the status of available records. An evidence-indexed partial attribution map $\mathsf{Cred}^{\kappa}_{t,\pi}$ is introduced in Equation 16. The credit categories Q_t are protocol-defined attribution types and remain distinct from request sets denoted Q_t in other, locally scoped constructions.

$$\mathsf{Cred}^{\kappa}_{t,\pi} : E_t \rightharpoonup \mathcal{P}(P_t \times Q_t). \tag{16}$$

Where the map is defined, its value is the set of position–credit-category pairs supported for an event under that protocol and evidential standpoint. This set may contain several persons, organizations, and categories. The notation carries no assertion that the recognized pairs exhaust the contributions to the event. An undefined value indicates that a defensible attribution has not yet been constructed from the specified evidence and rules; it should remain distinguishable from a justified empty set. The construction is descriptive and does not make a named position entitled to recognition merely because a documentary source records that position.

A separate contestation record is required. A credited position may be challenged by participants who disagree over factual contribution; an omitted position may claim that the protocol failed to record an eligible activity. Such disputes can persist despite sufficient information about the official attribution decision. They are consequently different from evidentially undetermined cases. The investigator should preserve the relevant protocol version, source documents, possible corrections, and the provenance of competing accounts. Where sources are confidential, a public report can document the existence and status of an inquiry without disclosing protected identities.

The map in Equation 16 supports comparisons between protocols. A revised rule may credit community translators or recipient advocates formerly absent from a public record, while the underlying service history remains unchanged. An organization might also change its reporting practice without changing the distribution of funding. Observing a changed attribution set is therefore insufficient to infer an effect on reputation, economic allocation, or experienced dignity. Those consequences require tracing later audience responses and the constraints under which decisions were made.

A more extensive empirical model could connect attribution sets, specific audiences, decision opportunities, and subsequent changes in feasible alternatives through a time-indexed event history. The current proposal leaves its causal mechanisms unestimated. It deliberately refrains from assigning a scalar amount of *reputational capital* to each position, since the empirical basis for comparability and the relevant audiences may be heterogeneous or unknown.

14.6 Public Recognition, Participation Incentives, and Differentiated Motives

Recognition practices can influence participation without determining participants' motives. Bénabou and Tirole develop an economic model in which prosocial behavior involves heterogeneous preferences and concerns about social reputation or self-respect; the effects of material and image-related incentives vary with the circumstances in which motives are inferred [5]. The model provides a reason to investigate how incentives interact with interpretive expectations. It cannot establish that publicly acknowledged volunteers are motivated mainly by prestige, or that public recognition systematically undermines their altruism.

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Empirical findings also support conditional inquiry. Lacetera and Macis report that blood donors in a studied Italian town responded to symbolic award thresholds when awards were publicly announced and presented ceremonially [52]. Their observation concerns a particular donation system, incentive schedule, and audience. Winterich, Mittal, and Aquino report, across studies of donations and volunteering, increased charitable behavior in response to recognition especially for participants with high moral-identity symbolization and low internalization [93]. This moderated finding should be distinguished from an average benefit of recognition across participants. These results identify potentially relevant variation; neither result establishes the response of a particular volunteer-aid programme without additional data.

In practice, a recognition system may provide information about achieved competence, maintain a sense of shared effort, or enable newcomers to identify experienced participants. The same system may generate concerns about rank, favoritism, comparison, pressure, or the use of recipient situations as public evidence. An investigator should distinguish recognition's informational function, its affiliative function, and its incentive effects. A badge confirming training completion has a different evidential purpose from a popularity award; a confidential acknowledgement from the recipient has a different audience and consent structure from an institutional advertisement.

Selection complicates claims about incentive effects. People who already expect public acknowledgment may volunteer for certain events, while those requiring privacy may select other tasks or avoid public-facing opportunities. Organizational awards may be given to participants who had privileged access to visible assignments before the award system began. Reported changes after introducing recognition might therefore reflect recruitment, assignment rules, measurement conventions, or actual behavioral response. Studies designed to discriminate these explanations would require ethically permissible baselines, comparable task opportunities, and attention to participants' voluntary choice.

14.7 Reputational Accumulation, Institutional Memory, and Unequal Visibility

Reputation develops through historically situated interactions rather than through one transferable stock. Previous contributions can become easier to retrieve when they are documented, endorsed, and reproduced in organizational histories. A donor's annual report may preserve the names of partner organizations while omitting changing volunteer teams. A university or hospital may record individual service hours but publish institutional achievements collectively. The resulting asymmetries in institutional memory can shape which contributions remain available as evidence in future selection and funding processes.

A possible feedback mechanism arises when recognized participants receive better access to further visible opportunities, allowing them to accumulate additional documented achievements. Merton's analysis of scientific credit suggests a relevant comparative question, but volunteer aid may have countervailing mechanisms such as rotation, open nominations, collective attribution, and protected anonymity [58]. To study a purported recognition feedback loop, an investigator should trace the successive opportunity allocations and compare credited positions with participants whose work was similar in role, timing, and exposure. Structural accumulation should be established from sequences of decisions rather than inferred from unequal award totals alone.

Recognition can also involve temporal dissociation between labor and public status. An intermediary may establish a programme's legitimacy through repeated informal negotiations before its contribution becomes visible. Conversely, an organization's reputation may persist after personnel changes, service contraction, or altered quality. Institutional continuity can justify some retained confidence, especially when documented procedures, supervision, and competencies remain effective. The analyst should nevertheless distinguish the transfer of a name or credential from evidence that relevant practical capacities remain in place.

Power over archives and naming systems may reinforce inequalities even in organizations without monetary profit distribution. Editors, grant officers, programme managers, and communications specialists can influence which activities enter retrievable records. Credit may travel across institutions through references, awards, professional qualifications, and collaboration invitations. The costs of document-

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Table 14: Evidence audit for recognition, credit, and reputational consequences in volunteer aid

Analytical object	Relevant manifestations and relational inquiry	Inference requiring additional support
Service contribution	Role-specific action history, records, witnesses, task dependencies	Individual sole authorship or complete causal attribution
Credit allocation	Named awards, authorship rules, approvals, corrections, access restrictions	Agreement of affected participants or exhaustive credit
Public visibility	Publication channels, audience reach, permitted disclosure	Audience endorsement or positive recipient experience
Reputational standing	Dated endorsements, referrals, trust assessments, audience differences	Uniform reputation across institutions or time
Material conversion	Funding decisions, invitations, procurement, assignment history	Causal effect of recognition absent rival-mechanism checks
Contestation and privacy	Review procedures, consent scope, confidentiality protections	Misconduct solely from restricted public disclosure
Historical feedback	Successive awards, opportunities, role transitions, missing contributors	Universal accumulation law or justified inequality

ing contributions fall unevenly on people with differing language access, administrative time, literacy, or confidence in approaching formal authorities. More inclusive documentation procedures are therefore a political-economic subject as well as an editorial matter, although their optimal design requires operational evidence and independent normative scrutiny.

14.8 Attribution and Reputation: Evidential Levels and Consequence Audit

For symbolic recognition, ontological suspension leaves the ultimate substance of reputation and worth unsettled. The relational object is a historically constituted process of contribution, attribution, audience uptake, and changes in future access or authority. Certificates, web pages, donor reports, referrals, and recipient testimony are manifestations with different constituencies and temporal reach. Attribution in a public record is evidence of a credit decision; demonstrating reputational influence requires tracing audiences and consequential later opportunities. Table 14 therefore keeps contribution, recognition, reception, and resource consequences distinct, while allowing cases in which recognition has little observable downstream effect.

The table's categories are compatible with the resource-access analysis of Section 5, the information-control analysis of Section 11, and the valuation conventions of Section 13. A single public record can be evidence of a naming decision while remaining weak evidence of actual performance, social legitimacy, or resource impact. Dated versions and independent accounts matter where institutional records are revised. The use of the three-level language organizes research questions; it does not remove uncertainty or determine the ethical status of a publicity decision.

14.9 Constructed Cases of Recognition and Credit Distribution

Three hypothetical cases expose rival mechanisms. They are analytical configurations rather than reports about a particular hospital, nonprofit organization, donor, or participant.

Volunteer interpretation and uneven authorship credit. A language-support initiative publishes annual service results under the coordinating institution's name. The institutional attribution could accurately express responsibility for supervision, privacy protection, and quality assurance. A competing account is that multilingual volunteers' preparation and recipient feedback are systematically omitted from the programme's records, reducing access to references or future training opportunities. Assessment would require role histories, the publication's stated attribution rules, protected participant testimony, changes to recognition practices, and evidence concerning the subsequent allocation of opportunities. Public identification of recipients would remain inappropriate where confidentiality or consent restric-

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tions apply. Collective credit and contributor visibility need to be evaluated together rather than assumed to be alternatives.

Donor-backed public imagery and resource renewal. An emergency-aid organization obtains funding partly through reports showing visible distribution events. Public images might allow communities to identify available assistance, document expenditure, and attract needed supplies. Alternatively, the same reporting arrangement could privilege easily photographed activities while long-term coordination and less visible local contributions receive reduced recognition. Competing explanations include differing service demand, logistical cost, donor restrictions, and publicity incentives. Investigators would compare dated funding criteria, assignment decisions, the production of publicity, consenting participants' reports, and the subsequent use of funds. Recognition of a donor's role alone would provide no proof that donor publicity displaced aid priorities.

Volunteer awards and access to desirable assignments. A programme introduces annual honors for especially reliable volunteers. The awards may express legitimate appreciation, encourage sustained participation, and disclose experienced mentors to newcomers. They may also favor volunteers assigned to highly visible events, leaving others who undertake routine support with fewer opportunities for recognized accomplishment. An audit would compare assignment opportunities before and after the award, selection criteria, role-specific demands, participants' expressed preferences, and opportunities to challenge factual inaccuracies. If an award subsequently affects training or supervisory selection, the study must also trace that decision channel. Unequal award frequencies cannot by themselves distinguish greater contribution, differential opportunity, and discretionary favoritism.

All three cases connect credit to later possibilities through an identifiable interface: official reporting, donor renewal, or assignment and selection. The evidential task is to determine whether that interface actually changed feasible options and for whom. A public acknowledgment may have informational value even when it confers little reputational advantage, while a low-visibility administrative reference can materially affect future opportunities. Such distinctions help isolate mechanisms before considering remedies.

14.10 Empirical and Normative Boundaries of Symbolic Political Economy

Research into recognition and reputational power requires a bounded unit of analysis, historically specified participant positions, dated attribution rules, and distinguishable audiences. It also requires explicit protocols for collecting and interpreting the records through which credit is assigned. Investigators should identify the purpose of recognition, who controls its production, which contributors can participate in correcting it, and how later resource, assignment, or governance decisions refer to it. Where an asserted effect depends on reputation, researchers need comparisons that address prior differences in access, contribution opportunities, status, and reporting conventions.

Evidence collection presents ethical and legal questions of its own. Recipients' privacy, participants' preferences for anonymity, safeguarding duties, and rights concerning the use of images and testimonials condition the permissible research and publicity arrangements. A method that makes invisible labor legible should avoid assuming that all contributors desire public identification. Mechanisms for privately documenting service, providing references, and permitting contestation may sometimes serve recognition-related needs with less disclosure. These are design possibilities whose adequacy must be considered under the relevant law, organizational rules, and the independent ethics of volunteer intervention.

The section's contribution is a preliminary account of symbolic recognition as a relational political-economic process linking attribution, audience uptake, institutional authority, and subsequent practical options. It distinguishes established sociological theories of capital, status and legitimacy from the proposed evidence-indexed attribution map. It also preserves uncertainty about motivational effects, feedback mechanisms, and inequalities in credit assignment. Recognition may support continuity, compe-

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tence, solidarity, and accountable funding; its pathways can also concentrate advantage or obscure labor. Particular conclusions require situated evidence and defensible normative argument.

A further research question concerns what happens when public acknowledgment becomes experienced as personal obligation. Gratitude may be freely given, strategically elicited, institutionally expected, or attached to an enduring asymmetry in bargaining capacity. Section 15 examines gratitude, indebtedness, reciprocity, and unequal bargaining as related yet analytically distinct relations. The investigation of symbolic credit here supplies an evidential starting point for that analysis without prejudging whether any specific recognition practice creates a legitimate expectation of return.

15 Gratitude, Indebtedness, Reciprocity, and Unequal Bargaining

This section examines the political-economic consequences of gratitude, perceived indebtedness, and expectations of reciprocity within volunteer aid. Its role is to connect the recognition practices investigated in Section 14 to the historically situated dependencies, feasible alternatives, and institutional decision rights examined in Sections 5 and 12. The objective is to distinguish an experienced appreciation, an expression addressed to a helper, a belief about an expected return, an asserted duty, and a change in practical bargaining position. The argument first identifies the provenance and limits of relevant exchange theories, then develops an evidence-indexed account of return expectations and their consequences, and finally tests competing mechanisms in constructed cases. Its method is comparative, interpretive, and provisionally formal. The account does not infer moral duties from social expectations or treat a recipient's polite expression as proof of consent to further demands.

15.1 Aid Relations and the Analytical Objects of Appreciation

A volunteer-aid encounter can generate multiple responses among participants. A recipient might appreciate an interpreter's careful explanation, value the institution's provision of a service, recognize a volunteer's unpaid time, or feel unsettled by the prospect that the service will later be invoked to solicit a concession. These responses concern different objects: assistance received, the helper's action, the institutional provision, and the consequences of the encounter. Their coexistence should be investigated through the recipient's situated expressions and available evidence, with room for silence, ambivalence, and change over time.

Gratitude designates, for the present analysis, an attributed or expressed appreciative orientation toward a benefit, action, or contributor. It can refer to an experienced affect, an interpersonal communication, or an institutionalized practice of acknowledgment. The researcher must indicate which meaning is operative. A verbal "thank you" is a manifestation of acknowledgment under a particular conversational convention; it may be compatible with several affective states. Public acknowledgments in reports, photographs, ceremonies, and social media likewise communicate through situated protocols. Their circulation can affect reputational and economic opportunities, as examined in Section 14, while the underlying feeling remains only partially accessible.

Indebtedness refers here to an experienced or ascribed outstanding relation of return, restitution, or obligation that a participant connects to a prior benefit. Such an obligation may be personally felt, socially presumed, institutionally communicated, contractually specified, or contested. The existence of a psychological burden and the validity of a legal debt are separate questions. A programme's eligibility rule, a person's spontaneous intention to help another, and a donor's belief that recipients owe publicity likewise arise from distinct mechanisms. Analysis should trace their origin and authority before describing any one of them as obligatory.

Reciprocity denotes a family of patterns and expectations through which actions can become related across participants and times. Direct reciprocal conduct concerns a return between specified positions; indirect or generalized patterns may circulate through wider networks without a return to the original giver. A condition attached to a formal contract has a further source of authority and should be separately recorded. These distinctions matter because the appearance of a return can express solidarity, mutual

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assistance, institutional obligation, strategic compliance, or a response to pressure. Neither a return itself nor its absence identifies the full relational mechanism.

15.2 Gift Exchange, Reciprocal Norms, and Intellectual Provenance

Mauss's analysis of gift exchange offers an important historical and anthropological reference for relations in which giving, receiving, and returning have socially organized meanings. The study considers exchange as embedded in legal, religious, political, and collective practices rather than reducible to a monetary transaction [56]. Its objects and comparative settings differ from contemporary formal volunteer programmes. A preliminary GR interpretation can therefore inherit a research question about the historical institutions through which giving and return acquire force, while reserving the empirical character of present-day assistance for contextual investigation. Calling an act of aid a gift supplies an analogy with a distinguished intellectual provenance, rather than a demonstrated identity of the two institutional forms.

Gouldner's account differentiates reciprocal patterns of action, socially held beliefs concerning reciprocity, and reciprocity as a moral norm [39]. This differentiation is especially useful because practices, beliefs, and norms need not have identical effects. A recipient may exchange help with a neighbor without interpreting either contribution as a debt. A coordinator may believe gratitude to be expected while the recipient understands thanks as optional. An organization may communicate a collective ethic of mutual assistance without granting anyone authority to demand personal compensation. A study that collapses these situations into a single "reciprocity rate" would suppress the mechanisms it aims to explain.

The distinction also clarifies analytical limits. Gouldner's proposed breadth of reciprocity norms belongs to his theoretical argument; this paper does not adopt a universal law governing assistance. Historically specific norms may conflict with professional safeguards, unconditional entitlements, emergency duties, or institutional commitments to assist without expectation of return. What counts as giving may also be disputed. Volunteer time can depend on public funding, professional supervision, recipient knowledge, and household labour. The relative contributions of those positions complicate a simple giver–receiver designation.

Exchange theory introduces additional questions about how dependence affects responses to requests. Emerson's power-dependence approach, introduced earlier in Section 5, links dependence to the value of a relation and available alternatives [23]. Molm's analysis of coercive power distinguishes reward-based influence from the possibility of imposing costs in social exchange [60]. These are scholarly frameworks with their own assumptions and evidence. Their GR use remains conditional: the analyst must locate a particular dependency, identify an actual source of pressure, and examine its effect through evidence. The possibility that a benefactor might impose costs does not establish that gratitude caused compliance or that a specific helper has exercised coercion.

15.3 Emotional Gratitude, Experienced Indebtedness, and Return Intentions

Psychological studies offer useful reasons to distinguish gratitude from indebtedness. Yoshino and Aikawa propose an integrated model in which gratitude and indebtedness are related but distinguishable emotional responses to receiving help. Their vignette-based study with 330 participants examined benefit appraisals and intentions of reciprocal conduct [96]. Such evidence informs the conceptual separation while remaining limited by the vignette method, sampled population, and measures of intention. Actual volunteering, institutional dependency, cross-cultural meaning, and persistent recipient vulnerability require additional evidence.

Bartlett and DeSteno report experiments in which experimentally induced gratitude increased certain costly helping behaviors in the studied interpersonal situations [3]. Their contribution concerns experimentally investigated prosocial motivation. It does not establish that receiving aid creates a morally justified duty to repay, nor that an organization may impose new conditions after delivering assistance. A distinction between empirically associated motivation and normative authorization is indispensable where power differences are substantial.

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A person might simultaneously feel appreciation and discomfort about an assumed obligation. Others may experience gratitude without an intention to reciprocate directly, or may fulfill an expected social convention without feeling especially grateful. Aid can be received under crisis, distress, fatigue, impaired information, linguistic difficulty, or institutional dependence. Such circumstances can complicate the interpretation of a response without denying a recipient's capacity to form and express genuine appreciation. The relevant question is the historical and practical context in which the response becomes available, elicited, recognized, and consequential.

Expressions may also change with the anticipated audience. A private acknowledgment to a volunteer, a signed testimonial to a donor, and a survey answer submitted through an intake platform are distinct manifestations. Their production costs, privacy conditions, and possible future uses differ. Acknowledgment offered while an individual depends on continued transport, accommodation, interpretation, or access to a coordinator should be assessed with attention to the person's opportunities to decline the request. No single interview answer or observable expression determines the entirety of an emotional or relational state.

15.4 Expressions of Thanks, Solicited Recognition, and Interpretive Authority

Appreciation enters an institution through conventions governing expression. A team may regard a short thank-you note as a respectful voluntary gesture. A funding report may solicit a recipient's narrative for evaluating services. An annual campaign may request identifiable statements about the benefits of assistance. The use of the resulting material varies with confidentiality, permissions, institutional purpose, and the participant's understanding of later circulation. Consent to one form of expression should be tracked by scope and audience; an expression of thanks need not authorize publication, reuse, or a subsequent funding appeal.

Organizations also differ in who may define a recipient's response. A volunteer might interpret silence as ingratitude, an administrator might interpret a completed satisfaction form as evidence of appreciation, and a recipient might view the same form as required for continued service. These interpretations can be compared with the actual instructions, access rules, language support, and participant testimony. The power to translate expressions into institutional indicators can alter whose needs become credible and which types of conduct are rewarded. It is part of the epistemic and measurement problem developed in Section 11.

Soliciting acknowledgment need not be an illicit practice. Requests can make the contribution of volunteers visible, identify successful forms of support, and invite recipients to participate in public advocacy. Their justifiability nevertheless depends on context and purpose. A recipient's permission may be freely granted with adequate information and realistic alternatives; it may also be obtained when refusing appears to threaten a valued resource. Analysts should record whether the request preceded or followed aid, which positions conveyed it, what choices were communicated, and whether the institution subsequently acted differently toward those who declined.

The language of "giving back" deserves particular scrutiny. It can express a volunteer's freely chosen hope to support others, a recipient's wish to contribute to a community, or a donor's strategy to create obligations. In some contexts, institutions frame beneficiaries as future volunteer labour. When voluntary community participation becomes a hidden criterion for continued eligibility, an ostensibly symbolic expectation can acquire material significance. Such effects should be established through actual assignment, referral, or allocation records and through accounts of the affected subjects, not inferred solely from an aspirational slogan.

15.5 Direct Return, Generalized Reciprocity, and Institutional Mediation

Return relations may operate between particular people, groups, and institutions at different temporal scales. A recipient might later volunteer in an unrelated programme, refer a neighbor to a service, advocate for accessibility improvements, or decline further participation. These developments can be related

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historically to earlier help while admitting multiple motives and additional conditions. The new contribution may involve skills acquired, strengthened trust, knowledge of available resources, or an opportunity to join a collective. It may also be independent of the original aid episode. Causal attribution requires evidence capable of discriminating these possibilities.

Generalized reciprocity is analytically important because the benefited position and the position that later receives assistance may differ. The continuity of a mutual-aid network can depend on distributed contributions, shared expectations, accessible resources, and organizational mediation. Its members may participate without keeping person-specific accounts. Conversely, a group may impose informal sanctions against people perceived to contribute too little. An apparent collective culture of giving back can thus support mutuality or facilitate exclusion, depending on how contributions, need, and membership are defined.

Third positions can mediate these expectations. A coordinator may explain that no return is expected, arrange opportunities for optional participation, or solicit publicity on behalf of a funder. A community organization may receive donations specifically because previous recipients become volunteers. A public agency may prohibit conditioning a service on unpaid work, subject to the actual governing rules. Institutional mediation therefore affects whether an expectation travels as an invitation, social pressure, contractual condition, or purported obligation. The relevant provenance includes the initiating position, the authorized communicator, the receiving position, and any review or appeal procedure.

These examples connect reciprocity to the plural valuation apparatus of Section 13. Giving time, providing money, publicly endorsing an organization, and offering personal information differ in their object, cost, and conditions. A programme may treat them as interchangeable “contributions” for a recognition ceremony while using more restrictive standards for allocation or accountability. Researchers should ask who authorizes such translations and whether a supposed return benefits the same persons or institutions associated with the earlier assistance. An apparent closed circulation of value may conceal outward transfer of recognition, data, or unpaid labour.

15.6 Dependence, Unequal Bargaining, and Feasible Refusal

An expectation of return can have political-economic consequences when participants occupy positions with unequal alternatives. A recipient who can obtain equivalent help elsewhere may treat a request for a testimonial as an ordinary invitation. A person whose housing, access to interpretation, or ongoing transport depends on a single provider may anticipate adverse consequences even without an explicit threat. The analysis must identify available alternatives, information about them, practical costs of switching, and institutional procedures for ensuring continuity. These conditions determine whether refusal is a realistic option in the relevant interval.

Formal freedom to refuse concerns the stated permission or absence of a formally enforceable requirement. *Practical refusal capacity* concerns the resources, knowledge, timing, security, and alternative pathways through which a person can exercise that freedom. An inquiry into unequal bargaining should evaluate both. Formal voluntariness can coexist with circumstances in which declining a request carries substantial perceived or actual risk. Equally, an apparent difference in resources does not by itself demonstrate that someone made a coercive demand. The distinction between feasible alternatives and exercised pressure remains essential.

Exchange dependence and coercive possibilities are relevant conceptual resources here [23, 60]. For a particular request, investigators should differentiate the perceived source of pressure, any explicit sanction, an institution’s authority to change eligibility, the helper’s personal expectations, and the recipient’s documented experience. Refusal followed by service interruption may warrant inquiry into the reason for interruption; the sequence alone leaves room for prior eligibility changes, resource constraints, scheduling problems, and retaliatory acts. Causal and legal interpretations require independent records and standards.

Bargaining positions may also be asymmetric within a volunteer organization. Volunteers who seek references, training, visas, future employment, or access to attractive roles may feel pressure to accept

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extra duties framed as an obligation to "give back" to the institution. Staff can experience similar pressures in different employment and governance settings. A donor may request recognition beyond the agreed reporting scope, using anticipated renewal to influence the institution's choice. These relationships differ from recipients' dependence in both authority structure and permissible obligations, yet they involve a common analytical task: comparing stated commitments, practical options, observed demands, and possible countervailing protections.

15.7 An Evidence-Indexed Register of Return Expectations and Consequences

The proposed formal representation records a particular communicated or institutionally attributed expectation of return, together with the position able to make that expectation practically consequential. It is intentionally narrower than a general psychological model of gratitude. Let h be a bounded aid history, t a time index, e a candidate expectation-related event, κ an evidential standpoint, and π a specified investigation protocol. Define the partial typed record in Equation 17.

$$\mathfrak{Q}_{e,t}^{\kappa,\pi}(h) = (b, g, r, x, n, a, c, v, \epsilon)_{e,t,h}^{\kappa,\pi}, \tag{17}$$

where b identifies the bounded prior benefit or claimed benefit; g denotes the ascribed or communicating position; r the addressed position; x the requested or anticipated return; n the asserted source and status of the expectation, such as invitation, social convention, formal rule, or contested claim; a the position with relevant control over access or allocation; c the communicated or reasonably evidenced consequences, if any, of acceptance or refusal; v the available processes for refusal, review, and revision; and ϵ the provenance, permitted disclosures, uncertainties, and protected evidential gaps. The tuple is a *typed event description*; it has no numerical aggregation, utility interpretation, or automatic normative output.

The domain of the partial record contains events for which the specified protocol supports sufficiently identified roles and an identifiable expectation or request. A gift or service accompanied by no observable return request does not automatically enter the register with a zero debt. When a competent inquiry documents the absence of a communicated expectation within a precisely delimited channel and period, that negative finding can be recorded as such in the evidence field. When records are missing, the status remains undetermined. A report of feeling indebted can be represented as the participant's attributed experience even where the analyst finds no institutional demand; the record should preserve the source of that report and avoid reclassifying it as a legal obligation.

Equation 17 connects with the classification-event register in Section 9 when an asserted return affects eligibility; with the governance register in Section 12 when it is embedded in donor terms; and with the credit-attribution map in Section 14 when the desired return is testimonial or reputational. These references identify interfaces among descriptive devices. The register does not imply that recorded expectations determine behavior, that the named controller exercised influence, or that every participant understood the request in the same way. Such claims require empirical comparison, interpretation, and, where relevant, independent normative and legal analysis.

15.8 Reciprocal Expectations: Evidential Levels and Return Audit

In the three-level GR interpretation of reciprocity, the ultimate nature of affect and obligation remains suspended. Relational analysis concerns shared expectations, unequal dependencies, recurring requests, and the practical consequences attached to a proposed return. Expressions of thanks, agreements, publicity requests, complaints, and subsequent eligibility decisions are manifestations of different parts of that relation. The central evidential separation concerns a person's expressed appreciation, an experienced sense of indebtedness, a communicated expectation, and an obligation recognized by an appropriate authority. One manifestation cannot establish the remaining states by implication. Table 15 identifies the additional histories and standpoints needed to examine when return expectations affect access or bargaining.

Temporal analysis matters because expectations can be revised or remembered differently. A volunteer's gesture may create an unsolicited feeling of indebtedness at one time; a later institutional campaign

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Table 15: Evidence audit for gratitude, return expectations, and bargaining conditions in volunteer aid

Analytical object	Relevant manifestations and relational inquiry	Inference requiring additional support
Received assistance	Task, timing, resource and recipient accounts	Agreed exchange or personal debt
Appreciative expression	Private thanks, forms, testimonials, audience and language conventions	Stable emotional gratitude or informed publicity consent
Experienced indebtedness	Voluntary reports, context, retrospective accounts	Valid legal or moral obligation
Return expectation	Dated requests, scripts, conventions, rule versions and speakers	Shared agreement or enforceable authority
Conditional access	Service rules, renewal decisions, available alternatives and switching cost	Retaliation or coercion from temporal sequence alone
Refusal and revision	Available channels, safe alternatives, response records and protected testimony	Effective freedom solely from a written right
Historical circulation	Later volunteering, referrals, contributions, changed positions and time gaps	Direct causality or a closed value-return circuit

may attach a distinct meaning to the same encounter. Historical variation in the perceived source of obligation should be represented as a sequence of interpretations and decisions. A recipient's current refusal of publicity need not invalidate earlier appreciation. Likewise, an organization's earlier promise of unconditional service remains relevant when participants later assess whether a new requirement has been imposed.

The table also foregrounds the ethical costs of inquiry. Asking people receiving sensitive assistance to describe gratitude or pressure may itself create burdens or fears about continuation of care. The collection of such evidence calls for independent review, defensible confidentiality arrangements, genuine refusal options, and appropriately separated service and research roles. Documenting power requires special care when the analyst's access to the field depends on the institution being studied.

15.9 Constructed Cases of Gratitude, Return, and Bargaining

Three hypothetical cases illustrate competing political-economic reconstructions. The cases contain no claims about particular recipients, hospital programmes, donors, or volunteers. Their purpose is to expose what evidence would distinguish apparently similar situations.

Emergency accommodation and a requested testimonial. A community organization provides temporary shelter during a disruption. Afterward, staff invite former recipients to record statements for a funding campaign. Some participants welcome the opportunity to thank volunteers and explain the programme's value. Others fear that declining might influence future admission. A benign interpretation would emphasize clear voluntary invitation, protected identity options, and separation of publicity from allocation. A competing interpretation would emphasize ambiguous service rules and the organization's control of a scarce alternative. Researchers would need the timing and wording of requests, recipient access to other assistance, public-use permissions, eligibility and reentry procedures, and independent accounts of what participants understood. A recipient's choice to express gratitude supplies no blanket authorization for identifiable publication.

Language assistance and informal demands on recipients. Volunteer interpreters support communication in a public-service setting. A coordinator asks recipients to help orient new participants as an informal way of "giving back." Such participation might be welcomed by individuals who wish to contribute local knowledge and gain communal standing. It may also become burdensome where participants lack time, confidence, or the resources to decline. Assessment would distinguish an open invitation from a practical prerequisite for future bookings, examine supervision and competence boundaries, and verify whether refusal changes access. If the recipient later becomes a volunteer, that trajectory is com-

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patible with gratitude, new skills, independent commitments, and pressure; one observed transition does not choose among those histories.

Volunteer loyalty and institutional renewal. A volunteer organization supplies training and offers a valued reference for future applications. Coordinators describe additional shifts as an appropriate return for the organization's investment. Volunteers may accept voluntarily because the training has strengthened their commitments, or they may feel dependent on references and fear reduced opportunities if they decline. A study would compare the communicated training terms, the distribution of undesirable shifts, reference policies, exit options, and differences in access to comparable training elsewhere. The analytical question concerns how an ascribed obligation becomes linked to institutional control and feasible alternatives. The fact that someone has benefited from training does not settle whether additional unpaid work is owed.

Across the three cases, the decisive evidence concerns a mediating interface between a return expectation and later practical options. Appreciation can be sincere even where bargaining is unequal. Unequal dependence can be present without any exercised threat. A social norm can also support mutual aid where participants possess safe opportunities for disagreement and refusal. Identifying these distinctions permits closer scrutiny of where a request becomes a condition, where a perceived obligation becomes a burden, and where supportive relationships remain open to revision.

15.10 Empirical Boundaries and Institutional Responsibility

The political economy of gratitude requires a research design attentive to participant position, prior commitments, institutional rules, opportunity structure, and evidential provenance. A minimally informative inquiry would specify the benefit at issue, who communicated an expectation, whether the expectation was perceived as optional, which alternatives were actually available, and which resource or authority could be affected by declining. It would differentiate private feeling, public expression, organizational record, and later behavior. Where possible, longitudinal data and independently collected accounts can help test rival explanations concerning motivation, selection, institutional pressure, and changing service need.

Normative and legal conclusions remain separate. The mere presence of reciprocity practices supplies no generalized justification for conditioning humanitarian, medical, or other forms of aid on personal return. Equally, a voluntary choice to reciprocate can be meaningful, supportive, and generative. Distinguishing invitation from requirement demands attention to applicable institutions and laws, and to the ethics of consent, privacy, dignity, and accountability. Papers VI and VII develop those dimensions on their own argumentative grounds. The present political-economic section contributes evidence-sensitive mechanisms for locating and testing possible influences over choice.

Several limits remain. Gratitude cannot be read directly from behavior; the formal event register is a provisional descriptive tool; and observational sequences are compatible with multiple causal histories. Cultural norms, social positions, forms of support, and institutional authority vary. Comparisons of bargaining conditions can identify feasible alternatives without quantifying the entirety of a relationship's value. An empirical programme would also need procedures to protect recipients against the risk that participation in evaluation alters their eligibility or perceived standing.

The section's central proposal is a differentiated account of how appreciative experiences, interpretations of return, institutional mediation, and practical dependence can become coupled. It preserves established gift and exchange scholarship as intellectual antecedents while identifying the narrower GR contribution: tracing historically situated expectation-events through their evidence, authority, possible consequences, and avenues of revision. Section 16 turns to institutional substitution and the distribution of public responsibilities. That investigation can clarify when reliance on volunteer goodwill transfers costs or duties across public agencies, nonprofits, households, and persons receiving aid, and when inter-organizational cooperation genuinely enlarges the range of support available.

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16 Institutional Substitution and the Distribution of Public Responsibilities

This section examines how public institutions, nonprofit organizations, volunteers, households, and recipients participate in the provision and governance of assistance across changing institutional arrangements. Its role within the political-economy manuscript is to connect the contractual arrangements of Section 12 with the resource dependence, labour reproduction, and practical access considered in Sections 5, 6, and 10. The objective is to distinguish delivery arrangements, formally assigned responsibilities, actual work, cost incidence, accountability, and the feasible alternatives through which participants can accept, revise, or refuse an allocation. The discussion first clarifies the conceptual provenance of mixed provision and coproduction; it then specifies substitution mechanisms and an evidence-indexed event record, develops a three-level audit, and tests competing explanations in constructed cases. The method is comparative, historical, and provisionally formal. Public responsibility is treated as a jurisdiction- and institution-specific object requiring legal and documentary inquiry.

16.1 Public Responsibilities and Historically Defined Service Baselines

An account of institutional substitution requires an identified responsibility and an explicitly bounded comparison. A service can be publicly financed, publicly administered, legally required, professionally regulated, communally supported, or voluntarily offered. These descriptions identify different attributes. For example, the presence of a publicly funded hospital does not establish that each conceivable language, navigation, accommodation, and companionship activity is owed by the same authority. Conversely, an activity delivered by volunteers may help implement an existing public responsibility. Institutional analysis should therefore specify the service, beneficiaries, competent authorities, applicable period, and evidentiary basis before interpreting a change in delivery as a transfer of responsibility.

For the present inquiry, a *responsibility baseline* is a historically situated description of obligations, powers, planned service levels, resource commitments, and review procedures recognized at a specified time. The baseline can be derived from legislation and regulations, an applicable public programme, a formal contract, organizational policy, professional standards, or documented practice. These sources possess different legal and epistemic status. Budgetary intent, organizational custom, and a judicially enforceable right should occupy separate fields. The baseline must preserve disputes concerning interpretation, implementation, or the standing of a purported commitment.

The baseline also requires a defined population and an account of services actually accessible to that population. An agency may record an authorized programme while people encounter waiting periods, eligibility rules, physical barriers, or language restrictions. As discussed in Section 9, recognized needs and administrative eligibility can diverge. A shift in budget lines therefore provides limited evidence of a corresponding shift in effective assistance. Historical comparisons should document whose access changes, the timing of that change, and whether the reported denominator includes people whose requests remain unrecognized.

The term *public* has multiple roles in such descriptions: governmental legal authority, publicly controlled resources, collective interest, public-service mandate, and open accountability. The paper uses the term with an identified referent. An organization acting under public contract may deliver a publicly funded service while possessing its own employment relations and governance. A private household may provide a vital input while remaining outside a formal public-service agreement. Such arrangements become analytically significant when the allocation of tasks and risks changes the practical distribution of assistance.

16.2 Welfare Mix, Third-Party Government, and Coproduction

Research on government–nonprofit relations supplies several distinct intellectual starting points. Salamon's account of *third-party government* addresses the historical importance of publicly financed services delivered through nonprofit organizations and challenges explanatory models that treat state and

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voluntary sectors as largely separate providers [74]. Its theoretical setting includes particular features of United States social provision. The present paper inherits the problem of distributed financing and performance while reserving generalization to other legal and institutional contexts.

Evers conceptualizes a *welfare mix* connecting state, market, household, and third-sector arrangements. His account characterizes third-sector organizations as hybrid institutional formations and explicitly examines synergies alongside substitution among resource and provision systems [28]. This work supports an analysis in which a programme may combine public authority, nonprofit coordination, household time, and recipient knowledge. It also cautions against assuming that the organizational labels alone determine the activity's economic function. Historical institutional formation remains relevant to each mixture.

Milward and Provan's analysis of the *hollow state* focuses on the governance of services delivered through third-party networks acting for public purposes [59]. It supplies a distinct inquiry into control instruments, coordinating structures, and provider accountability. A network with a public funder and several implementers may have distributed operational tasks and concentrated decision authority. Network complexity may require substantial monitoring and contract-management work, whose costs and competence conditions deserve empirical investigation. The existing contractual-governance register in Section 12 records individual commitments; the present section examines changes in the broader division of responsibility.

Coproduction offers another conceptual route. Ostrom examines cooperation across organizational boundaries and the conditions under which officials facilitate or obstruct contributions by citizens [64]. Bovaird describes user and community coproduction as an important component of public-service governance while identifying implications for coordination and accountability [10]. Coproduction may expand local knowledge, responsiveness, and participants' influence. It may also involve time commitments, unequal access to participation, or disputed authority. Those consequences depend on concrete arrangements. Volunteering itself spans diverse organizational and disciplinary domains, as Hustinx, Cnaan, and Handy emphasize [46]. The present GR inquiry is a selective reconstruction of these distinct literatures, with independently testable claims about responsibilities, feasible options, and historical subject formation.

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16.3 Substitution, Complementarity, and Task Reconfiguration

The term *institutional substitution* is most useful when a specified activity, resource commitment, or provider position changes relative to an established comparison. A volunteer who performs a reception task previously undertaken by salaried staff may participate in task substitution. A volunteer who accompanies a patient during a service that previously lacked an accompaniment provision may furnish additional capacity. In a third configuration, volunteers and staff can perform interdependent activities such that neither contribution supplies the complete service. These cases can generate superficially similar descriptions of volunteer hours and completed encounters while having different political-economic implications.

A preliminary typology distinguishes *task substitution*, *capacity supplementation*, *coproduction*, *responsibility displacement*, and *unresolved reconfiguration*. Task substitution refers to a documented reassignment of a task within a defined comparison. Supplementation concerns an additional activity or capacity relative to that comparison. Coproduction identifies complementary inputs whose combination constitutes the realized service. Responsibility displacement is a stronger historical claim: a previously established burden or expected provision is effectively transferred to another position, while the original authority, resources, or obligations change in ways requiring separate examination. Reconfiguration remains unresolved when different baselines or unavailable records prevent a defensible classification.

These mechanisms can coexist within a programme. An organization may replace staff-led appointment reminders with volunteers while adding a new multilingual orientation service and retaining professional supervision. A public authority can also modify the service specification as needs or resources change. The causal interpretation of a volunteer's contribution depends on the comparison period, af-

fected function, recipient population, and compatible alternatives. The typology is a diagnostic vocabulary; it does not presume a stable hierarchy of preferred provider types or settle the legal validity of reassignment.

The counterfactual question is demanding. A programme's description that a volunteer *saved staff time* may mean that staff were released for other work, paid positions were reduced, demand was absorbed without additional hiring, or work was shifted to families. A claim of displacement needs evidence about staffing trajectories, service obligations, budget decisions, policy changes, comparable requests, and plausible alternative arrangements. Changes in case mix, demand, technology, or legal requirements may offer competing explanations. The paper therefore treats substitution as a historically tested relation between configurations rather than a quality automatically attached to unpaid labour.

16.4 Formal Duties, Operational Delegation, and Practicable Accountability

The division of work in a service network has several layers. A public body may retain a statutory duty, delegate operational delivery under a lawful instrument, fund another organization, and impose monitoring requirements. The implementing organization may assign coordination to paid staff, use volunteers for permitted activities, and ask recipients or households to contribute information and logistical cooperation. The status of each assignment depends on applicable law, authorized roles, consent and service specifications. The analytical object is the distribution of these attributes, including cases where responsibility is asserted without an identifiable source. For every putative public duty, the research record should distinguish (i) an obligation established by an applicable legal or contractual instrument, (ii) a task or expectation described in institutional practice, and (iii) a proposed ethical or policy responsibility. Each claim requires a dated source, responsible jurisdiction or institutional authority, relevant beneficiaries, authorized delegations and available remedies. Similarity of practical tasks cannot establish identity of legal duty across countries, institutions or time periods.

Duty allocation concerns the recorded or legally established assignment of an obligation. *Operational delegation* concerns permitted performance by another position. *Resource provision* concerns who supplies money, facilities, staff time, information, and logistical capacity. *Answerability* concerns who has to explain or justify an action to whom under an identified procedure. *Remedy access* concerns the available means to challenge or correct a failure. The distinctions permit an analysis in which a public entity retains formal oversight yet offers a difficult complaint pathway, or a nonprofit has operational discretion while possessing insufficient funds to implement an assigned task.

The relevant authority can also be plural. Professional standards, hospital policies, municipal contracts, privacy obligations, and volunteer agreements may bear on a single activity. A formal task description cannot by itself confer professional competence, waive recipient rights, or establish a volunteer's consent. Conversely, an institutional requirement for supervision may protect participants and sustain accountable service. Whether such requirements are proportionate or effectively accessible requires a distinct legal, institutional, and ethical inquiry.

The separation between responsibility and performed task has important causal implications. Concentrating complaints on frontline volunteers may obscure an upstream eligibility restriction or contracting decision. Concentrating all blame on a public funder may disregard an implementing organization's independent decisions. A satisfactory empirical reconstruction should identify decision sequences, available knowledge, delegated competence, budgetary constraints, and response opportunities across positions. The historical formation of each position remains part of the object, following the approach developed in Section 4.

16.5 Fiscal Reallocation, Service Continuity, and Hidden Burden Transfers

A change in the mode of service provision can alter visible expenditure without producing an equivalent change in the resources required to sustain assistance. Paid staffing, volunteer recruitment, training, supervision, insurance, facilities, safeguarding, translation, record management, and household transportation occupy different accounting categories. Some are recorded as public expenditure, others as

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nonprofit costs, and still others as uncompensated time or household expenditures. Comparing public budget lines alone may therefore misrepresent changes in the aggregate resource burden or its distribution.

The timing of commitments is especially important. A public authority might continue its funding but delay reimbursement, placing temporary financing demands on an intermediary. A nonprofit may sustain service continuity through reserves or volunteer time, while weakening its capacity for future operations. Section 8 examines this temporal difference in resource availability. A one-year decline in paid expenditure can coexist with rising coordination demands or deteriorating recruitment capacity, and the consequences may appear only after a funding cycle or volunteer cohort changes.

A cost transfer can be analytically meaningful even when an activity is willingly undertaken. For instance, a household may elect to accompany an older relative because that arrangement fits its preferences. The same household may subsequently become the de facto service fallback when publicly funded transport is inaccessible. Evidence about its preferences, feasible alternatives, time constraints, and experienced consequences is necessary. The presence of care or solidarity cannot alone establish that shifting the burden was legitimate, nor does the existence of unpaid effort demonstrate exploitation. Separate ethical and legal standards remain relevant.

An effective study should therefore retain a distributed account of *cost incidence*: who initially pays, who bears delayed or indirect costs, who controls reimbursement, and who can revise the arrangement. It should also trace service performance. Cost savings that preserve or improve access under the same safeguards have different implications from reductions achieved by excluding difficult cases or lowering service continuity. The measurement concerns raised in Section 9 and Section 10 are essential to discriminating those possibilities.

16.6 Volunteer Agency, Household Capacity, and Subject Transformation

Volunteer participation can generate practical capacities and social meaning through learning, cooperation, and historically accumulated relationships. It may also involve fatigue, role confusion, continuing requests, and dependence on credentials or references supplied by the host institution. The political-economic question concerns the conditions under which participants can sustain, modify, or cease these activities. A programme with a formal volunteer exit provision may nevertheless contain substantial relational pressure when withdrawal endangers a recipient's access or a volunteer's opportunities for future engagement.

The distribution of public responsibilities can thereby influence subjects as well as service outputs. Repeated crisis coverage may alter a volunteer's perceived role, professional aspirations, obligations to coworkers, and expectations concerning future availability. A household repeatedly asked to fill a service gap may reorganize paid employment or care responsibilities. A recipient whose access depends on a familiar volunteer may gain an important relationship yet become vulnerable to its interruption. These changes form candidate subject-co-formation mechanisms inherited from Paper III; they require historically situated observation rather than automatic interpretation from programme labels.

Institutional designs can preserve participants' agency through advance role clarity, adequate supervision, accessible substitutions, predictable scheduling, fair notice, and independent means of declining additional work. Such conditions are plausible dimensions for comparative empirical assessment, not a complete normative checklist. Their feasibility depends on the setting, especially when immediate safety obligations, complex professional competencies, or short-term emergencies constrain available options. Safeguards may create their own administrative costs that need to be represented explicitly.

The question of agency also concerns recipients. A recipient may prefer a trusted volunteer arrangement to a formal service or may want professional provision, a different helper, or greater privacy. The analyst should distinguish stated preferences, informed and feasible choices, and outcomes attributed by others. The aim is to reconstruct the practical formation of service relations without presuming that recipients, volunteers, and public institutions share one stable conception of the desirable allocation of assistance.

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16.7 An Evidence-Indexed Register of Responsibility Reallocation

For bounded case reconstruction, the present paper proposes an event-level *responsibility-reallocation register*. The register records changes in the division of public-facing assistance under a specified evidentiary standpoint and historical comparison. It is a typed descriptive device rather than a monetary balance, an algorithm for assigning duties, or an index of justice. Its structure is defined in Equation 18.

$$\mathfrak{S}_{e,t}^{\kappa,\beta}(h) = (q, \lambda, \alpha, \varphi, \omega, \chi, \nu, \upsilon, \epsilon)_{e,t,h}^{\kappa,\beta}. \tag{18}$$

Here e is the particular reallocative event, t a time index, h a bounded aid history, κ an evidentiary standpoint, and β an explicitly identified historical or institutional baseline. The component q names a service function and addressed population; λ records sources and statuses of relevant obligations or commitments; α identifies positions exercising decision, implementation, and oversight roles; φ specifies the change in performed tasks or service pathways relative to β; ω records resource contributions and cost incidence; χ identifies authorization, safeguarding and review channels; ν records practicable alternatives and capacity-renewal conditions; υ records the resulting access and continuity evidence; and ϵ maintains provenance, contestation, and uncertainty.

The nine component types are intentionally heterogeneous. For instance, λ may distinguish a documented statutory duty from an alleged promise; φ may record a task migration while leaving its cause unresolved; ω can contain nonmonetary time and logistical resources that lack defensible common prices; and ν can include alternatives assessed as supported, excluded, or undetermined under documented conditions. An empty set of observed alternatives and an absence of reliable information about alternatives are different records. The researcher should avoid converting either into an unsupported claim about participant preference or moral entitlement.

A comparison of two registers can support a claim of *recorded task reassignment* if their baselines, populations, functions and observation protocols are sufficiently aligned. A claim of *responsibility displacement* additionally requires identifying a relevant change in duties, burdens, or accessible remedies. Causal displacement, such as an assertion that the availability of volunteers caused a public authority to reduce a budget, requires an empirical identification strategy with attention to rival historical changes. Equation 18 consequently provides a disciplined way to organize an inquiry; it does not generate an answer by symbolic inspection.

The register interfaces with the governance-event construction in Section 12, the work-reproduction analysis in Section 6, and the resource-conversion analysis in Section 5. Its additional role is to locate a change of division across a public-facing service and a specified baseline. Reuse of the earlier devices remains preferable when a case concerns only one agreement, one work event, or one resource flow.

16.8 Public Responsibility: Evidential Levels and Reallocation Audit

For institutional substitution, GR's ontological suspension avoids treating a legal or organizational label as an ultimate bearer of responsibility. The relational object comprises historically situated duties, operational assignments, funding conditions, household contributions, and realized service pathways. Statutes, agreements, budgets, rosters, complaints, and encounter records partially manifest different aspects of that object. The key empirical comparison concerns an identified baseline and a subsequent allocation of tasks and burdens: volunteer delivery establishes who performed an activity but cannot alone show whether a public duty was discharged, displaced, or left unchanged. Table 16 separates documentary authority from enacted provision and the evidence needed to explain a reallocation. The standpoint index remains methodological rather than a fourth level of reality.

The audit also highlights missing links that may be concealed by attractive aggregate service indicators. A municipality may report a stable number of transport journeys while the share requiring unpaid household driving increases. A hospital may report more volunteer support hours while professional staff devote additional time to coordination and risk review. Those patterns permit several interpretations. They support further investigation into comparative service configurations; they do not establish deliberate offloading, recipient harm, or an improved welfare mix by themselves.

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Table 16: Evidence objects and inferential limits in responsibility reallocation for volunteer aid.

Object	Relevant manifestation evidence	Inference requiring additional support
Duty and service baseline	Legal text, policy version, programme mandate	Present enforceability and comparative service obligation
Provider and task position	Staffing, volunteer rosters, activity logs	Historical replacement and causal responsibility
Resource and cost incidence	Budget, reimbursement, travel, unpaid preparation	Total social costs and distributive effects
Recipient accessibility	Requests, waitlists, service traces, complaints	Inclusive need coverage and service quality
Authorized discretion	Agreements, supervision rules, approvals	Actual control, exercised influence, and legitimacy
Practicable alternatives	Substitutes, refusal pathways, capacity records	Free acceptance, bargaining equality, long-run renewal
Accountability and repair	Review records, remedy outcomes, responsible positions	Adequate redress and ultimate moral or legal responsibility

Evidence quality is relationally situated. Complaints can be suppressed by fear of jeopardizing access, volunteer time records can omit preparation, and public reports can aggregate heterogeneous services. Conversely, missing documentation may reflect limited administrative capacity or legitimate privacy protections. The research design should therefore specify observation protocols, permissible access, material gaps, and opportunities for independent correction before using the register for inter-organizational comparison.

16.9 Constructed Cases of Mixed Provision and Responsibility Change

Constructed case A: hospital reception and interpretation. A hospital introduces a volunteer wayfinding and language-orientation programme while leaving clinical explanation and professional interpretation assignments under existing institutional rules. A service dashboard reports shorter navigation delays and more volunteer hours. One interpretation is supplementary support that improves access. A second is task reconfiguration through which paid administrative staff redirect time to complex cases. A third is a partial replacement of previously funded nonclinical reception work. Distinguishing these histories requires staffing and task records, service specifications, patient experiences, supervision costs, and evidence concerning what occurred before the programme. The volunteer label alone is insufficient for identifying the mechanism or assigning clinical responsibility.

Constructed case B: municipal mobility service. A local authority reduces its direct transport schedule while funding a nonprofit dispatch service using volunteer drivers. Completed rides remain stable, while drivers provide vehicles and households arrange more alternative transport. One hypothesis is efficient coproduction enabling trips formerly unavailable. Another is budgetary displacement of time and vehicle costs to private participants. A third combines expanded geographic coverage with new exclusions for requests that require trained staff or accessible equipment. Testing these explanations requires comparative eligibility and waiting-time information, the authority's actual transport commitments, replacement costs, safety arrangements, and practicable options for refusing driving assignments. The normative and legal implications require further standards beyond the descriptive register.

Constructed case C: emergency accommodation. A public agency contracts an intermediary to arrange temporary accommodation. A sudden influx of requests leads the intermediary to mobilize volunteers and host households. Immediate service counts increase, and public spending appears contained. Emergency mobilization may represent a temporary coordination success; it may also develop into reliance on unbudgeted household expenses and improvised safeguarding. Relevant evidence includes the contingency mandate, duration of placement, reimbursement conditions, authority for placement decisions, available professional supervision, host exit arrangements, and recipient redress. The outcome

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cannot be evaluated through occupancy counts alone. A subsequent decline in household capacity may reveal renewal costs that were initially hidden.

The cases are hypothetical diagnostic configurations. They identify observational requirements and rival mechanisms; they are not allegations about particular hospitals, municipalities, nonprofit organizations, or public agencies. Each illustrates why coexisting improvements and burdens should be traced across actors and time periods before the researcher assigns a global descriptor such as *replacement*, *partnership*, or *withdrawal*.

16.10 Institutional Repair, Comparative Identification, and Scope

Comparative analysis of responsibility distribution should begin with bounded service functions and documented institutional histories. A useful design combines applicable legal and policy materials, sequential budget and staffing information, contracts, observation of working practices, recipient-access traces, volunteer and household time-use evidence, and documented opportunities for challenge. Triangulation can identify mismatches between recorded allocation and enacted practice. Where possible, comparison should account for concurrent changes in demand, technology, professional requirements, local demographics, and available resources. Observational indicators, interview evidence, and formal reconstructions carry different inferential weights.

An institutional repair may concern a service interface, an authorization rule, a funding delay, an unreasonable workload, or an inaccessible remedy pathway. Each intervention changes a different relational object. For example, restoring professional supervision can alter volunteer task feasibility while retaining a programme's supplementary role; providing reimbursement can redistribute costs without changing the service provider; and creating an independent review channel can improve contestability while leaving aggregate budgets unchanged. The explanatory aim is to identify which conditions sustain appropriate cooperation and which generate vulnerabilities requiring targeted evaluation.

This section leaves several questions open. The historical extent of public duty varies by jurisdiction and cannot be determined through GR formalism. Legal delegation, professional competence, ethical legitimacy, perceived solidarity, and causal displacement require distinct grounds. Quantitative comparison depends on commensurable service definitions and defensible evidence; qualitative reconstruction is needed where institutional documents omit participants' practical options. A model of institutional substitution should remain revisable as the affected subjects, service environment, and authorized responsibilities change.

The next section will investigate the circulation of value and the channels through which the returns generated by assistance can remain with participants, be reinvested in service relations, or be captured by other positions. The present analysis supplies the necessary distributional baseline: who contributes work and resources, who exercises decision authority, who bears continuing obligations, and who possesses effective opportunities for correction. These attributes remain analytically separable from any eventual claim of extraction, justice, or legitimate institutional governance.

17 Value Circulation, Return Pathways, Capture, and Extraction

This section develops an account of how value arising within volunteer-aid relations circulates among recipients, volunteers, households, public agencies, funders, intermediaries, and wider communities. Its role in the political-economic argument is to connect the plural valuation vocabulary of Section 13 with the material and institutional conditions that permit assistance to persist or change. The analysis identifies several distinct kinds of return, asks when resources or opportunities become concentrated in particular positions, and specifies the additional evidence needed to evaluate possible extraction. It proceeds through a review of conceptual provenance, a reconstruction of circulation and return pathways, a bounded formal representation, an evidence audit, and constructed comparisons. The proposed terms are exploratory analytical devices; they supply neither a universal accounting unit nor an empirical verdict concerning an actual programme.

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17.1 Value Formation, Recognition, Appropriation, and Circulation

A volunteer-aid episode can produce or sustain several distinguishable objects of value. A recipient may acquire access to an essential appointment, a volunteer may develop interpretive or organizational skill, an institution may improve its ability to coordinate referrals, and a funder may acquire visibility or credible evidence of public benefit. These changes need not be expressed in the same register or at the same moment. Some may be experienced as benefits, some as costs, and others as rearrangements of future possibilities whose desirability remains contested. Consequently, a political-economic description should begin with the specific processes by which a claim about value becomes meaningful.

Value formation names a historically situated change that participants or evaluators may judge significant under specified criteria. *Recognition* refers to the practices through which an activity, product, or capacity becomes institutionally or publicly acknowledged. *Appropriation* refers to an actor's obtaining control, benefit, or decision-relevant advantage associated with that activity. *Circulation* concerns the subsequent movements, conversions, deployments, and transformations of resources, claims, or capacities among relational positions. Each process may occur without the others being sufficiently observable. Recording completed visits establishes a manifestation of service delivery, for example, while statements about institutional learning or durable social value require further evidence.

The distinction has established precedents outside the generative relational (GR) programme. Lepak, Smith, and Taylor present a multilevel theoretical analysis of value creation and capture, explicitly treating the two as related but analytically differentiable processes [53]. Santos studies a potential divergence between social value creation and private capture in an account of social entrepreneurship, particularly where neglected positive externalities arise [75]. Neither theory by itself demonstrates how a volunteer-aid programme distributes benefits. The present section uses their conceptual distinctions as points of comparison and investigates additional relational conditions, including voluntariness, heterogeneous evaluations, public duty, and renewal of supporting capacities.

An appropriation may be ordinary, agreed, or beneficial: reimbursements, recognized contributions, and a nonprofit's retention of operating reserves can sustain future assistance. Conversely, a publicly celebrated programme might create advantages for its host while imposing unacknowledged costs on volunteers or recipients. To distinguish these histories, researchers need information about resource origins, beneficiaries, practical control, available alternatives, and changing consequences over time. The vocabulary of capture therefore names a possible mechanism of acquisition and control; assessment of exploitation or injustice requires a separate argument.

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17.2 Circulation Pathways and Heterogeneous Media

The phrase *value circulation* can cover several kinds of relations. A financial transfer moves funds under accountable conditions. A supply movement transfers goods or access to facilities. A skill transmission changes what participants can perform. A reputational return changes how an audience evaluates an organization or person. A relational return may increase the feasible opportunities for future contact, shared learning, or mutual support. These pathways differ in their objects, evidence, constraints, and possible bearers. Treating their changes as a single fungible magnitude would require an independently warranted valuation and translation convention of the kind examined in Section 13.

Circulation is therefore examined as a *typed sequence of relational events*, each specified by a resource or capacity, an originating and receiving position, an operative condition, and a temporal horizon. The same persons may occupy different positions across events. A volunteer can be a provider of interpretation, a learner from a recipient, a beneficiary of professional supervision, and an organizer of future training. A hospital can be both an enabling institution and an allocator of constrained space and attention. The observed relations may contain reciprocity, collective contribution, contestation, or persistent unilateral dependence without requiring that every transfer be framed as an exchange between equivalent actors.

A useful methodological distinction concerns the difference between a route of *transfer* and a route of *conversion*. An institution may transfer an unrestricted donation to a local support unit. It may also con-

vert donor visibility into future fundraising, volunteer experience into a credential, or statistical indicators into authorization for renewed funding. A conversion depends on historically established evaluative and institutional rules; its effects cannot simply be inferred from the occurrence of the preceding event. The partial, standpoint-indexed valuation representation of Section 13 provides the local conventions needed for defensible statements about such transformations.

Comparative scholarship on global value chains offers a relevant but bounded analogy. Gereffi, Humphrey, and Sturgeon analyze governance forms in production networks and show why transaction complexity, codifiability, and supplying capabilities are relevant to coordination and power asymmetry [36]. A volunteer-aid programme differs in its public-service duties, nonmarket contributions, and recipient vulnerability. Nonetheless, the governance insight motivates a question concerning which positions can define transfer interfaces and conversion standards. The present paper does not transplant a production-chain typology as an empirical classification of aid institutions.

17.3 Return Pathways and the Renewal of Generative Capacity

A *return pathway* is a historically situated sequence through which an earlier contribution is connected to a later change in the capacities, access conditions, or practical options of some contributing or affected position. Return may take the form of replenished funds, compensated expenses, training, shared infrastructure, recognition, accessible services, or institutional learning. The receiving position need not be identical to the original provider: a community programme may retain a collectively governed resource that supports future volunteers and recipients. The relevant empirical question is whether the later conditions actually enable a subsequent practice, under what constraints, and for whom.

Return has both a descriptive and an evaluative dimension. Descriptively, it concerns how resources, opportunities, and capacities are renewed or redirected. Evaluatively, a participant might consider a return adequate, unwanted, delayed, unfair, or unrelated to the meaning of the earlier contribution. A financial payment can preserve material viability while creating an unwanted expectation of service. A training opportunity can be appreciated by volunteers yet provide little remedy for the expenses borne by their households. These differences call for plural evidence and situated normative discussion rather than a presumed exchange-rate among kinds of return.

The idea of generative value also requires attribution. Eglash's work on generative justice is centrally concerned with patterns by which generative capacities and value circulate, including the conditions under which value can return to contributors [21]. That tradition is an explicit source of comparison for the present programme. GR's proposed concept of a historically constituted relational capacity is an additional interpretive framework with its own ontological suspension. The overlap in vocabulary permits a research dialogue, while the distinct premises and evaluation standards remain visible. Neither framework licenses a claim that every aid relation is generative or that a return to an original contributor is the only legitimate form of circulation.

An inquiry into renewal should include the less visible conditions that make future activity feasible. Volunteers require time, safe boundaries, supervision, and opportunities to withdraw. Recipients may require trustworthy access, continuity, privacy, and redress. Institutions may require cash reserves, professional competence, and functioning infrastructure. Households may need predictable schedules or replacement care. Section 6 describes several reproductive burdens; Section 8 identifies financial and temporal constraints. A return pathway that strengthens one organizational capacity while depleting another should be analyzed as a differentiated outcome, even when a reported service indicator improves.

17.4 Extended Circuits, Nested Loops, and Temporal Fragility

Value circulation can develop through sequences longer than a direct exchange. A volunteer's time helps a recipient attend an appointment; the recipient's feedback improves an institutional procedure; the improved procedure lowers future coordination burdens; the reduced burden permits more predictable volunteer participation; and later experiences influence the training and retention of volunteers. Each link is conditional and requires independent evidence. The sequence illustrates a possible *long return*

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circuit, but its description alone leaves unresolved which event caused which subsequent change and whether the putative benefits are similarly valued by all affected positions.

Shorter return circuits may be nested within longer ones. An intermediary may reinvest a grant into training, generating recurrent local support capacity, while a donor uses programme recognition to attract subsequent funding through a separate institutional loop. A household may alternate unpaid care with occasional support from a local service. The resulting circulation history need not be a single closed ring: branching, interruption, delay, and interaction among multiple circuits may matter more than any idealized cyclic picture. The analyst should specify a bounded set of events and a horizon; indefinitely extendable mathematical walks are possibilities within a representation, not observed histories of unlimited duration. A putative return should be linked to the originating contribution through identified intervening events and plausible temporal ordering. Where recognition or financial gain accrues to one position, the incidence of maintenance costs and any consequent change in others' capacities require separate resource and labour evidence. Such links are candidates for the cross-register joins formalized in Section 22; a closed directed walk is only a structural feature until causal renewal is supported.

Temporal fragility also varies with the character of the links. A long sequence may contain several points where permissions, trust, competence, or liquidity must be renewed. It may also gain resilience through redundancy, intermediate capacities, diversified funding, and locally retained knowledge. Length alone consequently does not determine vulnerability. The object of inquiry is a path's dependence on particular conditions and whether alternatives can preserve function when one condition changes. This complements the evidence-sensitive service-pathway assessment of Section 10 and the institutional-dependency analysis of Section 5.

Longer circuits create additional measurement difficulties. Reported outcomes often concern discrete encounters, while later effects appear in workforce stability, the continued availability of a service, or the gradual accumulation of shared resources. Repeated events may be counted more than once when an institution treats training, assistance, and subsequent publicity as independent products. Researchers should maintain event provenance and identify overlaps before aggregating records. The audit must also permit unknown or ambiguous returns: the absence of a measured link cannot by itself establish that a relationship lacked a later effect.

17.5 Positions of Capture, Control, and Institutional Conversion

A position can capture a benefit from aid activity through formal payment, discretionary control over retained resources, reputational recognition, privileged access to information, or influence over future institutional decisions. Such benefits differ from one another. They also arise through mechanisms that should be distinguished: an institution may receive an authorized reimbursement, control how a grant is allocated, or gain public legitimacy from a collectively provided service. A single statement about the institution's "capture" would obscure which advantage is at issue and which participants facilitated it.

Control over conversion is particularly consequential. A funder might specify which outputs count as evidence of success. A host organization may be authorized to use testimonials or assign contribution credit. A platform may determine visibility of volunteer activities or collect data later used in marketing and grant applications. In each case, the assessment must identify the specific rule, who can change it, the affected positions, the possible alternatives, and the conditions for contestation. The distinctions among financial commitment, contract, recognition, and information governance developed in Sections 12, 14, and 11 are complementary to the present circulation analysis.

Capture does not entail the complete loss of another actor's benefit. A donor's public acknowledgment can coincide with substantial service improvements; organizational savings may support more reliable access; volunteer learning may be independently valuable even when an institution also benefits. A stronger analytical question is whether the distribution of benefits, burdens, and authority changes feasible opportunities, and whether those changes were authorized or contestable under appropriate standards. Assessment of the legitimacy of appropriation requires the distinct normative reasoning developed in the related justice and ethics papers.

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Consider the case of public-facing data. An organization might collect anonymized statistics to satisfy legitimate reporting duties and improve coordination. It might also acquire a durable evidential advantage that later determines which recipients or volunteers are represented in decision-making. The latter is a possible accumulation of epistemic power, but evidence of actual use, decision authority, and effects on alternatives remains necessary. Confidentiality restrictions can properly constrain circulation, especially when participants face vulnerability. Greater information flow is therefore neither an unconditional indicator of generativity nor a sufficient remedy for concentrated control.

17.6 Extraction Hypotheses and Competing Interpretations

The present paper proposes treating *extraction* as a candidate diagnosis requiring a specified mechanism rather than as a synonym for outward transfers, profit, or unequal measured returns. An extraction hypothesis can be investigated when one position repeatedly appropriates resources, opportunities, or converted advantages associated with others' contributions while relevant costs or capacity-renewal requirements are systematically displaced onto those contributors or affected subjects. A stronger interpretation also examines the distribution of control, the practical ability to refuse or renegotiate, and the consequences for future feasible action. These are proposed diagnostic dimensions; their combination does not generate a moral verdict without specifying the applicable normative and legal standards. An empirically responsible extraction allegation would additionally need dated evidence of the relevant appropriation or conversion, an appropriate comparator, identification of affected parties, plausible rival explanations, and the source of the evaluative criterion. Because the illustrations in this paper are constructed, their descriptions of capture and extraction cannot be treated as allegations about actual service providers, donors or volunteers.

Several alternatives may fit an observed asymmetric pattern. A nonprofit may temporarily retain operating reserves to stabilize future assistance. A professional institution may exercise legitimate safeguarding authority over volunteer assignments. A donor may receive agreed attribution without constraining service decisions. A household may voluntarily contribute additional care within its feasible preferences. Conversely, stable-looking output records may obscure unpaid coordination, growing dependency, pressure to accept requests, or a narrowing of recipient participation. The analysis therefore asks which rival mechanism is supported, what evidence could discriminate it, and which standpoint defines the relevant burden and return.

A useful empirical comparison follows the sequence from contribution and appropriation to future capacity. If a programme's visibility and operating budget rise while volunteer turnover, household burden, and recipient access also change, the interpretation depends on contemporaneous context, baseline comparability, and plausible alternative causes. Increased volunteer departures may reflect new employment opportunities or organizational changes unrelated to appropriation. Increased demands may reflect a genuine rise in need. Evidence for an extraction mechanism requires more than correlation among selected indicators. Interviews, staffing and expense records, rule changes, institutional communications, and historical comparison may help evaluate the explanatory candidates.

A diagnosis may also concern *extractive recognition*: public credit or reputation accumulates in a central position while the contributions of less visible participants remain unrecognized and their capacity to negotiate credit is weak. Section 14 provides a partial attribution framework for such inquiries. Yet unequal visibility alone does not establish harmful extraction. Confidentiality may appropriately prevent public naming; contributors may prefer anonymity; institutional names may function as collective accountability signals. Assessment requires a stated attribution convention, participant preferences, and the actual consequences of disputed credit.

Countermodels for accounting asymmetry and extraction. Two constructed possibilities distinguish the descriptive observation from the stronger extraction hypothesis. An organization may retain most monetary receipts while using the balance for accessible storage, safeguarding, and the later replacement of consumable resources; a narrow immediate-return ledger records asymmetry while the relevant

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renewal pathway remains supported. A second organization may distribute visible benefits to contributors while depending on unpaid care that depletes their time and opportunities over successive periods. The observed return ratio alone adjudicates neither case. A supported extraction claim therefore needs independently evidenced appropriation and displaced costs, attention to feasible refusal and future capacity, a declared temporal boundary, credible rival explanations, and a justified evaluative premise. Positive returns can coexist with extraction, and uneven returns can coexist with legitimate institutional retention.

17.7 A Typed Register for Circulation and Return Pathways

To organize bounded empirical inquiry, this section introduces a *circulation-and-return event register*. The record is deliberately heterogeneous and evidence-indexed: a contribution may concern time, money, expertise, access, recognition, or another explicitly identified medium. The register supports reconstruction of temporal pathways without converting their components into a presumed common quantity. Its proposed structure is defined in Equation 19.

$$\mathfrak{C}_{e,t}^{\kappa,\rho}(h) = (a, b, m, x, g, d, u, r, \epsilon)_{e,t,h}^{\kappa,\rho}. \tag{19}$$

Here e indexes the event, t its temporal location, h a bounded aid history, κ an evidentiary standpoint, and ρ the explicit valuation or reporting protocol. The component a identifies originating and affected relational positions; b records receiving, controlling, or benefiting positions; m specifies the resource, capacity, or value register; x records the observed contribution, transfer, or change; g records the enabling rule, permission, or conversion convention; d identifies the related distribution of costs and burdens; u records documented uses and consequences; r records candidate return or renewal relations together with their assessed temporal and practical conditions; and ϵ records provenance, uncertainty, contestation, and missing observations.

The record is a typed tuple, and the terms may contain categorical descriptions or bounded evidence sets rather than quantities suitable for addition. The same event may require several linked records because benefits and burdens arise in different registers. A return relation in r should link to a further documented event and identify whether the connection is observed, inferential, contested, or undetermined. A temporal sequence of registers can then represent a directed, typed multigraph; the vertices are historically situated positions and events, while edges denote specified movements or dependencies. Parallel edges and shorter loops are permitted. However, mere graph connectivity cannot establish realized value creation, a causal feedback mechanism, or a morally adequate return. The symbolic representation records hypotheses that require situated inquiry.

The register inherits selected distinctions from earlier sections while adding a narrow new function. Section 5 records specific resource transfers and dependence; Section 6 records labour and burdens; Section 13 tracks valuation conventions; and Section 16 addresses changes in service duties and cost incidence. Equation 19 connects these observations across a bounded temporal sequence for the limited purpose of asking where resources, recognized benefits, and renewal opportunities move. Redundant re-description should be avoided when existing records already supply the required information.

The register retains three evidential statuses for proposed links where useful: supported by the specified evidence, excluded under the assessed conditions, and undetermined. A claim that a contribution generated a later outcome needs an explicit causal strategy beyond an observed chronological sequence. Likewise, a documented absence of monetary return is distinct from uncertainty about nonmonetary effects, and both differ from a normative claim that a contribution should have been compensated. These distinctions are conditions for responsible interpretation of the formal notation.

17.8 Three-Level Reality and an Evidence Audit of Circulation

At the *ontological* level, the GR programme suspends claims about the ultimate metaphysical substance of value or the final identity of participating subjects. At the *relational* level, recurrent practices of

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Table 17: Evidence objects, relational interpretations, and inferential limits in volunteer-aid value circulation.

Evidence object	Candidate relational interpretation	Principal inferential limit
Contribution records	Work, resources, or access provided	Entries may omit unpaid preparation and household support
Transfer and payment records	Material movement and authorized resource use	Monetary flow does not identify experienced value
Recognition and reporting	Institutional selection of visible contributions	Public attribution may differ from distributed contribution
Access and decision rules	Control of conversion, retention, and allocation	Formal permissions may differ from effective discretion
Renewal and maintenance	Conditions enabling later support and learning	Later capacity is not automatically caused by prior aid
Alternative pathways	Practical options for refusal, replacement, and redress	Unobserved alternatives remain undetermined
Historical outcome traces	Subsequent effects among affected positions	Time-ordering alone cannot establish extraction or justice

contribution, control, recognition, renewal, and institutional dependence can form historically stable and efficacious objects of study. At the *manifestation* level, budgets, volunteer logs, service encounters, interviews, donor reports, publicity, and records of changed permissions furnish situated expressions and incomplete evidence of those relations. The index κ in Equation 19 specifies the evidential standpoint and does not propose a fourth reality level.

Table 17 identifies seven objects to examine when a circulation claim is made. Its purpose is to support traceable inference and disagreement, particularly when economic accounts record only an institutional subset of the resources and effects involved.

A case analysis should locate discrepancies among the three levels without imagining that each document directly presents relational reality as a whole. An audited donation is a manifestation of a financial event. It may be embedded in more extensive relationships of trust, consent, or strategic bargaining whose strength requires additional evidence. Likewise, a participant's account of depleted capacity should be treated as a serious situated report with an identified standpoint; the researcher should consider corroborating and competing explanations while respecting privacy. Such an audit preserves plural sources of knowledge and the possibility of substantial disagreement about the value of the same episode.

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17.9 Constructed Comparisons of Circulation and Capture

Constructed case A: multilingual patient navigation. Volunteers assist patients with nonclinical wayfinding and language access. A hospital supplies training and supervision; successful encounters are recorded in aggregate. Volunteer familiarity subsequently informs clearer signage, reducing some later navigation requests. A plausible return circuit links time contributed to institutional learning, improved recipient access, and a lower burden on future volunteers. A competing history explains the reduced requests through changes in appointment scheduling or patient composition. To distinguish them, the researcher would need comparable service records, documented changes in signage, volunteer testimony, and evidence about institutional attribution. Public appreciation for the hospital may be legitimate even if individual volunteers remain unnamed for privacy reasons. A claim of extractive recognition would require stronger evidence about contested credit, practical consequences, and preferences.

Constructed case B: donor-funded community transport. A nonprofit coordinates volunteer drivers, while a donor pays for fuel vouchers and receives periodic reports. The organization retains an administrative allowance and allocates transport requests under eligibility rules. One interpretation is a sustaining arrangement: vouchers and administration stabilize journeys, drivers receive predictable support, and recipients gain reliable access. An alternative interpretation is a fragile return pathway: drivers cover

unexpected vehicle expenses, the donor receives considerable public exposure, and the institution's reporting protocol omits those costs. The two interpretations cannot be distinguished by funded-trip counts alone. Relevant evidence includes reimbursement terms, actual expenses, driver alternatives, recipient access, reserve policies, and renewal of the programme's capacity.

Constructed case C: emergency accommodation and a long return circuit. A coalition provides temporary shelter through local volunteers, an intermediary, and public agencies. Volunteer coordination produces a database that improves future referrals; improved referrals increase institutional trust and attract new resources; those resources fund training and more predictable supervision. Several local loops coexist with a longer community capacity pathway. During a later crisis, however, public reimbursement is delayed and some households absorb recurrent accommodation costs. The programme can exhibit a genuine collective benefit together with unequal burden incidence. An analysis should trace each temporal segment and evaluate whether later investments reach the affected households or chiefly reinforce the intermediary. It should also investigate alternative reasons for shifts in reimbursement and shelter demand. The constructed history is a diagnostic comparison, not evidence of actual exploitation or an established causal feedback system.

The three cases demonstrate the need to preserve heterogeneous outcomes and the possibility of mixed configurations. Legitimate reserves, selective disclosure, institutionally necessary control, and real social benefits can coexist with poorly distributed costs or a narrowing of practical alternatives. The empirical task is to identify the mechanism, standpoint, and history that sustain a particular description before assigning a normative classification.

17.10 Comparative Hypotheses and the Scope of the Circulation Account

The preceding argument motivates several bounded comparative hypotheses. First, where programmes enable participants to observe and contest conversion rules, differences between recorded contribution and allocated credit may become more discoverable; whether dispute rates increase or decrease depends on reporting practices and institutional responses. Second, where renewal resources are retained near the activities that require them, service capacity may become less vulnerable to selected external interruptions, provided the local position has adequate competence and governance. Third, where return pathways extend through multiple dependent intermediaries, interruption at a critical interface may expose support continuity to additional uncertainty; redundancy can moderate this possibility. Fourth, where a central actor controls both reporting metrics and allocation decisions, capture of economic or reputational advantages may be easier to sustain without public detection. These remain hypotheses for investigation, not laws of volunteer-aid systems.

The concept of extraction requires particular restraint. A defensible claim should specify the extracted object, the source and recipient positions, the mechanism of appropriation, the relevant temporal baseline, the distribution of costs, and the plausible effect on future capacities. Additional evidence should establish any asserted causal connection, and the normative standard should be stated separately. Cases involving severe dependency, contested consent, or institutional power require the jurisprudential and ethical perspectives developed elsewhere in the research programme. A descriptive pattern of unequal returns is one input to this analysis; it is neither a complete legal finding nor a universal moral criterion.

The proposed pathway and event vocabulary is also limited by observation. Individual and institutional records may conflict, long-term relational effects can be hard to measure, and the boundaries of a relevant circulation network depend on the question being asked. Selective records can conceal participants who left a programme or were excluded before entry. Historical contexts vary across forms of volunteering and humanitarian intervention. The GR representation is consequently a revisable aid to comparative inquiry, complementing qualitative reconstruction, legal analysis, interviews, financial examination, and empirically identified causal models. Its use does not establish that these modes of inquiry are mutually reducible.

Section 17 has identified differentiated formation, recognition, appropriation, circulation, and re-

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newal pathways as connected analytical objects. It has also specified a provisional way to represent extended and nested return circuits while keeping evidential uncertainty and normative assessment visible. The subsequent treatment of marketization, performance metrics, and funding incentives can investigate how particular institutional valuation and contracting regimes reshape these pathways over time. That inquiry should retain the distinctions between actual assistance, recorded outputs, and the future conditions under which support remains possible.

18 Marketization, Performance Metrics, and Funding Incentives

This section examines how market-oriented coordination, performance measurement, and funding incentives condition the practical organization of volunteer aid. Its objective is to differentiate changes in the rules governing aid provision from changes in recorded outputs, participants' behaviour, and the conditions sustaining future assistance. The argument proceeds through historically specific market arrangements, measurement and task allocation, funding conditions, motivation and discretion, an evidence-indexed analytical register, and constructed comparisons. Its method combines political-economic interpretation with limited formal description and the identification of empirically discriminable mechanisms. A quantified target may represent a genuine service priority, an administratively convenient proxy, or both in different respects. Analysis therefore requires attention to how a target enters an institutional relationship, who can revise it, and what kinds of support become more or less practicable under its use.

18.1 Market-Oriented Coordination in Volunteer Aid

Marketization describes a heterogeneous family of institutional developments. Within nonprofit and volunteer-aid settings these developments may include revenue-generating activities, competition for grants or service contracts, purchaser–provider distinctions, quasi-market referral schemes, performance-based procurement, pricing conventions, and the adoption of managerial practices associated with commercial organizations. Eikenberry and Kluver's review locates several such developments within the nonprofit sector and investigates their potential implications for civil-society functions [22]. The present inquiry draws on that analysis without assuming that the same institutional forms have uniform implications across countries, services, or participant groups.

An aid programme charging a fee for a supplementary service, a nonprofit competing for a public contract, and a community organization receiving donations subject to activity targets may operate under distinct regimes. The first concerns exchange conditions and access; the second concerns selection of providers and the transfer of operating risks; the third concerns the conditional allocation of resources. The same organization can participate in more than one regime. A study should specify the relevant market-making rules, the positions authorized to act under them, and the range of responses actually available to recipients, workers, volunteers, and intermediaries. A legal designation as charitable or nonprofit supplies information about institutional form but leaves important questions about practical economic relations open.

Market-oriented mechanisms can also support public purposes. Competitive procurement may enlarge the range of providers; a transparent unit-cost convention may reveal a neglected budget burden; predictable compensation can strengthen service reliability. The political-economic issue concerns the particular conditions that make such benefits feasible and the costs at which they are secured. Mission-based differentiation can be a strategic response to commercial competition in nonprofit human services, as Frumkin and Andre-Clark discuss in their analysis of welfare-to-work organizations [33]. Their case does not establish that a mission-driven strategy is necessarily more efficient or equitable than a competing arrangement. The present GR account treats competition, mission commitments, performance records, and participants' practical options as separate but interacting historical variables.

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18.2 Service Contracts, Funding Competition, and Allocation Authority

A funding competition generally has at least four distinguishable stages: specification of eligible purposes, selection of a funded provider, implementation within the authorised scope, and review of expenditure and outcomes. At each stage different actors can exercise effective control. A funder may define service populations and reporting categories; a programme director may choose between alternative applications of staff time; a coordinator may adjust volunteer assignments; and a recipient may face the resulting menu of service pathways. The authority to decide a reported indicator need not coincide with the authority to interpret a particular participant's needs.

Contractual governance was examined in Section 12. The additional concern here is how the prospect of gaining or losing a contract changes action before any explicit sanction occurs. Organizations may prepare for future tenders by emphasizing reportable activities, investing in data collection, or reducing work with cases that are difficult to describe within the requested indicators. They may also improve service design, professional supervision, or financial discipline in anticipation of external evaluation. An observed change in organizational behaviour therefore has multiple possible causal explanations. A claim of displacement should establish a credible temporal sequence, a relevant funding rule, and plausible comparison conditions.

Funding competition does not operate independently of the resource and institutional dependencies described in Sections 5 and 8. An organization with liquid reserves and several usable service partners has a different bargaining position from a small group whose next funding decision also determines whether it can reimburse volunteers. Contract formalities such as termination rights, revision clauses, and appeal mechanisms are consequently only part of the relevant action space. Practical alternatives depend on time, availability of substitutes, access to information, and the resources needed to exercise those rights.

For a political-economic comparison, it is useful to distinguish a programme's ability to bid for funds, its authority to adapt a funded service, and its capacity to decline conditions inconsistent with an established mission or safe practice. These dimensions can move differently as funding arrangements change. A larger grant may stabilize transport or interpretation while concentrating decision rights in a funder's reporting office. A diversified funding base may broaden alternatives but add substantial administrative burdens. Each configuration requires an assessment of actual implementation and affected positions.

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18.3 Performance Indicators and Selective Institutional Visibility

Performance indicators select aspects of support that can be recorded, compared, and made actionable in decision procedures. Typical measures might include completed visits, waiting time, transport journeys, hours volunteered, expenditure per service event, or the share of requests processed within a target period. These measures have different observation protocols and denominators. A completed-visit count may omit requests rejected before registration; a volunteer-hour total may omit unpaid preparation and household care; and an expenditure-per-journey figure may shift costs onto drivers without revealing the transfer. Section 11 established that distinct aid histories can produce the same reported value under a fixed protocol.

Measurement can nevertheless serve legitimate coordination and accountability purposes. A consistent record of waiting time may reveal a bottleneck, and a carefully designed expenditure measure may permit examination of cash-flow requirements. Heinrich's analysis of public job-training programmes documents both limitations of administrative performance data as measures of programme impacts and their potential value for identifying manageable organizational factors [42]. The relevant lesson for volunteer aid is methodological: the information content of a measure depends on the estimand, the reporting process, and the decision for which it is used. Findings from job-training programmes provide a comparative point, not empirical estimates for humanitarian or hospital volunteering.

Three functions of a metric should be kept apart. A *descriptive function* records a stated feature of observed activity. An *evaluative function* uses that feature in a judgment about whether a service meets a

specified criterion. An *allocative function* connects the judgment to money, opportunities, reputation, or sanctions. The first function can exist without the other two. Once a reported indicator determines funding, the reporting system itself becomes part of the practical environment under observation. Espeland and Sauder's account of reactivity in public measures provides an established point of reference for this possibility [25].

A comparative analysis should identify who sets and revises a metric, who bears its reporting costs, and whose experiences can challenge the reported representation. The existence of unexplained discrepancies warrants investigation while allowing for administrative error, incomplete categories, justified confidentiality, case-mix differences, or strategic adjustment. A metric's partiality alone is insufficient evidence of deliberate manipulation.

18.4 Multiple Aid Tasks and the Distribution of Attention

Volunteer-aid work often combines activities with unequal observability. Providing directions at a reception desk may be countable as an encounter; developing trust, preventing a misunderstanding, and identifying a recipient's desire to decline support may require sustained attention and produce fewer convenient reportable events. Training, safeguarding, coordination, referral follow-up, and the repair of poor records can be essential to service continuity while contributing indirectly to activity totals. An aid programme therefore contains a portfolio of tasks, each with distinct competencies, authority requirements, and relationships to the needs expressed by participants.

The multitask principal–agent literature analyzes how incentive contracts and work design interact when multiple tasks are assigned within a principal–agent relationship [45]. Its conceptual insight makes a plausible research question for volunteer aid: when rewards depend heavily on selected measurable activities, how is effort distributed between those activities and less observable functions? Direct importation of the standard employment model would be unwarranted. Volunteers may have mixed motives; recipients can have independent decision rights; and nonprofits may face overlapping obligations to public authorities, donors, workers, and communities.

One potential mechanism is *attention substitution*. Increased emphasis on rapid processing might redirect scarce staff attention away from complex requests. A second is *task-complementary investment*: collecting better information may identify recurring problems and improve unmeasured aspects of care. A third is *boundary redrawing*: an organization may narrow what counts as its service and transfer preparation, travel, or follow-up onto households. Each mechanism has different implications for costs, access, and future capacity. Their coexistence within one programme is possible.

Observed increases in a target indicator should be paired with evidence about workload composition, the fate of uncounted tasks, recipient mix, waiting or exclusion, and longitudinal resource renewal. The match assessment developed in Section 7 and the responsibility baseline of Section 16 provide complementary registers. Where these observations remain missing, an apparent performance improvement and a suspected service loss remain competing hypotheses rather than an established causal comparison.

18.5 Financial Rewards, Recognition, and Volunteer Motivation

Financial incentives may enter volunteer-aid relations through reimbursement, stipends, bonus-funded organizational programmes, subsidized training, or indirect rewards for obtaining high evaluation scores. These instruments have different interpretations and practical effects. Reimbursing travel can remove an access barrier; a modest allowance can support participation by people with limited financial flexibility; a performance bonus to an intermediary can alter managerial allocation decisions without rewarding any volunteer directly. Nonmonetary incentives include public awards, access to training, future references, and reputational recognition. Their effects depend on participants' histories, the meaning attached to the reward, and the institutional conditions governing it.

Frey and Jegen's review of motivation crowding describes circumstances under which external intervention can weaken or strengthen intrinsic motivation [31]. This is a conditional empirical and theoretical literature; it supplies neither a universal crowding-out law nor a direct estimate of volunteer motivation

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in the cases examined here. A volunteer may experience a new reimbursement procedure as welcome recognition of previously invisible costs, while another may experience an intrusive activity quota as a loss of discretion. Those reactions may evolve as familiarity, obligations, and relationships change.

The symbolic-recognition analysis of Section 14 and the reciprocity account of Section 15 add two dimensions. Public appreciation may become linked to access to desirable assignments, and an invitation to take extra shifts may acquire special weight when the volunteer depends on the organization for a reference. The presence of a reward does not establish coercion, while a nominally voluntary incentive regime may create significant practical pressures for some participants. Empirical study should ask who can refuse, whether alternatives are usable, how incentives are communicated, and what consequences follow nonparticipation.

Motivational evidence is partly expressed through interviews, retention records, accounts of changed discretion, and observed patterns of participation. Each source has selection and interpretation problems. Retention, for instance, may rise because volunteers feel supported or because the tasks have become harder to exit without disrupting dependent recipients. The political-economic claim should remain tied to plausible mechanisms and differentiated histories rather than be inferred directly from a single participation rate.

18.6 Funding Renewal, Time Horizons, and Reproductive Capacity

Funding rules are often evaluated across short administrative periods, while aid relationships can extend through longer and partially unpredictable histories. A contract may reward completed trips within a fiscal quarter even though vehicle maintenance, driver training, and recipient trust require investments whose effects appear later. A grant may support a pilot year while expecting the programme to continue through volunteers after funding ends. Funding renewal therefore conditions decisions about present work and the future capacity to reproduce that work. Sections 6, 8, and 17 provide the existing analyses of labour renewal, liquidity, and heterogeneous return circuits.

At least three temporal mismatches deserve separate investigation. *Reporting lag* arises when recorded evidence becomes available after an operational decision must be made. *Investment horizon mismatch* arises when a necessary training or maintenance cost has a longer payoff horizon than the relevant funding decision. *Burden deferral* occurs when current programme operations remain possible partly because participants or households absorb costs whose consequences emerge later. A budget may be accurate for its accounting boundary while presenting an incomplete picture of distributed resource use.

A programme can also respond productively to renewal conditions. External evaluation may motivate the correction of neglected waiting lists, investment in interoperable records, or more reliable supervision. The key empirical question is which adjustment is encouraged, through what authority, and with which consequences across the relevant time horizon. Short-run performance, financial solvency, retained professional competence, and continuity of reciprocal support are related but distinct outcomes.

Longer return circuits raise an additional issue. A programme may improve its public reputation, obtain new grants, and invest in better support infrastructure; alternatively, the additional funds may chiefly expand reporting capacity while the participants sustaining service absorb increasing burdens. The latter pattern may motivate a capture or extraction hypothesis, but such a judgment needs a specified appropriated object, a comparison baseline, credible attribution, and a separate normative criterion. The present section analyzes incentive-conditioned pathways and leaves final judgments of justice and legality to their appropriate theoretical and institutional procedures.

18.7 An Evidence-Indexed Incentive Regime Register

To compare institutionally distinct incentive arrangements, the analysis proposes a bounded *incentive-regime register*. Its purpose is to identify the rule linking recorded performance to consequential allocations and to organize evidence about the practical responses of affected positions. The construction

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integrates, rather than replaces, the earlier registers for funding agreements, classification, reported outcomes, and circulation. Equation 20 defines the typed representation.

$$\mathfrak{I}_t^{\kappa,\pi}(h) = (\rho, \mu, \theta, \omega, \alpha, \nu, \upsilon, \epsilon)_{t,h}^{\kappa,\pi}. \tag{20}$$

Here h denotes a bounded aid history; t indexes the relevant period; κ specifies the evidential standpoint; and π identifies the reporting and institutional decision protocol. The component ρ records funding, competition, or exchange rules and the participating positions; μ records the measurement protocol, category definitions, and denominator; θ identifies consequential thresholds, rewards, penalties, or renewal conditions; ω describes the task portfolio and observed distribution of work; α records the positions authorized to interpret, change, and apply the rules; ν records practicable alternatives, exit conditions, and capacity-renewal arrangements; υ records observed responses and service traces, including underrepresented activities; and ϵ preserves provenance, dispute, missingness, and uncertainty.

The components are typed rather than numerically commensurate. In particular, θ can contain a rule that is expressed in money or a threshold, whereas ν may record qualitative evidence about feasible refusal and υ may contain reports from participants who disagree with the organization's interpretation. The register need not specify a single equilibrium, a utility function, or a common scalar measure of social value. An unobserved response is recorded as unresolved under ϵ; it should not be silently encoded as zero effort or proof that a reward had no effect.

A comparison between two registers with different π values can establish a change in documented policy terms. Demonstrating an induced behavioural change requires information about other relevant changes, such as demand, personnel, available funding, case mix, or regulatory requirements. A causal evaluation might use a suitably justified phased implementation, comparison group, interrupted time series with credible assumptions, or qualitative process tracing. The register itself supplies neither a treatment-effect estimator nor a legal determination. Its analytical value lies in locating which relation is being compared and which missing evidence prevents stronger claims.

The distinction between *measured improvement* and *capacity improvement* should remain explicit. A programme may increase μ-reported outputs while retaining uncertain ν and υ evidence about long-term continuity. Conversely, a higher administrative expenditure may reflect improved safeguards whose benefits are difficult to score in the current reporting period. Equation 20 organizes the evidential requirements for comparing these possibilities and remains provisional until tested against adequately documented cases.

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18.8 Incentive Responses: Evidential Levels and Performance Audit

In the GR account of funding incentives, ontological suspension applies to the categories of market, value, and social agency. The relational object is the evolving arrangement of contracts, funding contingencies, task portfolios, discretion, and feasible responses. Tender terms, dashboards, service records, interviews, and budget histories are manifestations produced under different reporting incentives. A higher recorded completion rate may express improved service, selective intake, revised definitions, or a change in the composition of cases; distinguishing these histories requires evidence outside the headline indicator. Table 18 organizes the observable mechanisms and the assumptions required for causal evaluation. The evidential index κ denotes the standpoint of reconstruction.

Different actors may observe different parts of the same regime. A funding officer may see a timely performance report while a recipient sees an inaccessible appeal procedure; a coordinator may report reduced waiting times while a volunteer experiences more unrecorded follow-up. These perspectives can be compatible, partially conflicting, or based on different populations. Their juxtaposition supplies research questions, not a license to treat a particular testimony as exhaustive or another as intrinsically invalid.

The three-level distinction also disciplines the use of economic metaphors. A "market" recorded in a procurement document may be a limited quasi-market with few possible providers; an "incentive" may be a formally stated rule without practical salience for the person presumed to respond. Relational

Table 18: Evidence objects, comparative interpretations, and limits in incentive-governed volunteer aid.

Evidence object	Situated analytical use	Inference requiring further support
Contract or grant version	Funding and eligibility conditions	Practical enforceability and negotiated flexibility
Indicator and denominator	Defined and reportable performance	Actual coverage, quality, and causal impact
Reward or renewal rule	Explicit consequence of reported performance	Credible anticipation and enacted influence
Task and time records	Recorded portfolio and apparent effort shifts	Invisible care, safeguarding, and displaced burdens
Recipient access traces	Requests, queues, completed services and refusals	Underlying need, inclusion, and counterfactual benefit
Volunteer and staff accounts	Discretion, incentives, experienced pressures	Common motivation or objective coercion
Alternatives and renewal	Exit options, reserve use, training, maintenance	Sustainability under future scenarios
Dispute and revision records	Reviewable measurement and funding decisions	Adequacy of remedy and normative legitimacy

interpretation requires tracing the interface between the manifested rule and actual historically situated options. This is particularly important where a recipient has little influence over what counts as a successful service or where volunteering is coupled to institutional reputation and unequal access to resources.

18.9 Constructed Comparisons of Performance and Funding Incentives

Constructed case A: multilingual reception under encounter targets. A hospital-affiliated volunteer programme receives funding tied partly to documented encounters at a public information desk. The coordinator introduces a quick-registration form, and the number of recorded contacts increases. Under one interpretation, previously unrecorded support becomes visible, permitting better scheduling and faster help. Under a second, volunteers spend more time documenting simple encounters while complex navigation and consent-sensitive communication are deferred or passed to family members. A third history involves a change in patient mix that raises encounter counts independently of the incentive. Credible comparison requires the historical indicator definition, record-production costs, service complexity, referral completion, and recipient experience. The example describes no actual hospital policy.

Constructed case B: community transport and cost-per-trip rankings. Several organizations compete for a transport contract. A funder emphasizes low reported cost per completed journey. One organization improves routing and reimburses volunteer drivers through stable, transparent rules. Another reduces the recorded cost partly by excluding remote requests and leaving vehicle maintenance to drivers. Both can improve a published ratio while experiencing different changes in inclusion and capacity renewal. A useful study would identify the eligible population, case mix, fuel and vehicle costs, driver alternatives, no-show policies, and subsequent continuity. The metric can still be relevant to allocating scarce public funds; its sufficiency as a social-value criterion is the disputed issue.

Constructed case C: emergency accommodation and short grant cycles. A local coalition receives time-limited funding tied to rapid intake and high bed occupancy. The conditions may motivate better coordination among referral agencies and bring otherwise unused capacity into service. They may also discourage the provision of slower, privacy-sensitive support for cases requiring specialist intervention. Volunteers cover additional overnight coordination, while the coalition expects renewal contingent on the reported occupancy rate. A comparison should trace the governing grant versions, actual safety and referral standards, occupancy measures, unserved requests, volunteer burdens, and available reserves. Evidence of a change following a new indicator would be informative but insufficient by itself to establish that the indicator caused it.

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These cases illustrate the possibility of genuine performance gains, changes in record production, burdens displaced beyond an accounting boundary, and selection effects within the same broad institutional form. Diagnosing the specific mechanism requires longitudinal and cross-position evidence, including cases that never entered a programme's public dashboard. The hypothetical construction makes the relevant distinctions explicit; it does not support claims about a particular institution's conduct.

18.10 Comparative Hypotheses, Identification, and Normative Boundaries

The analysis motivates several bounded hypotheses. First, where funding depends on a narrow set of reportable outputs and tasks differ in observability, changes in reporting and task allocation may be greater than changes in independently assessed recipient benefit. The size and direction of the difference will depend on supervision, complementary investments, case mix, and recipients' capacity to contest decisions. Second, where programmes have practicable financial and institutional alternatives, managers may have greater capacity to negotiate reporting requirements that preserve less visible work. Third, where contracts reward short-period performance while maintenance and learning have longer horizons, observable capacity-renewal costs may shift into later periods or onto participants outside the funder's accounting scope. Fourth, transparent and revisable indicators, joined with accessible participation and independent service evidence, may improve the detectability of such shifts. None of these hypotheses supplies a universal conclusion about marketization.

Testing them would require separating rule adoption from implementation and from the actual responses of participants. An empirical design should identify comparable service populations, changing external demand, accounting boundaries, changes in staff or volunteer composition, and the possibility that organizations anticipating a new contract begin to adapt before the reported implementation date. Interviews and historical document comparison can reconstruct meanings and contested authority; administrative data can describe large-scale patterns; and causal methods can evaluate particular identifiable changes when their assumptions are defensible. Multiple sources can disagree in informative ways. Failure to identify a net effect need not entail that the institutional rule is irrelevant; it can indicate offsetting pathways or insufficiently discriminating evidence.

Theoretical provenance is also consequential. Public-administration scholarship on marketization and performance management, the multitask-incentive literature, and motivation-crowding research have independent arguments, evidential bases, and limitations. The present GR contribution is a bounded relational translation that links decision protocols to heterogeneous aid work, feasible options, partial manifestation, and generative-capacity renewal. It neither establishes an equivalence among those traditions nor treats relational generativity as a substitute for legal, financial, or welfare assessment.

Finally, governance judgments require normative criteria and authorized legal interpretation beyond the descriptive record. Competitive selection may be consistent with procedural fairness in one jurisdiction and inadequately protective in another. An indicator may improve accountability while imposing disproportionate burdens. A programme may secure essential services while remaining overly dependent on a single donor. The researcher should describe the actual configuration, its history and evidence, the relevant counterfactuals, and the distinct standards under which a judgment is proposed. Section 18 has supplied a provisional vocabulary for that work. The following section examines choice, negotiation, exit, and feasible alternatives more closely, since incentives become practically consequential partly through the options available to those affected by them.

19 Choice, Negotiation, Exit, and Feasible Alternatives

The political-economic analysis of volunteer aid requires a situated account of the options available to those who provide, receive, finance, and organize support. This section examines choice, negotiated adjustment, institutional voice, refusal, and exit as historically constituted practical relations. Its objective is to distinguish formal permission from evidenced capacity, to identify how dependencies modify bargaining positions, and to show how attempted withdrawal or contestation may reorganize later aid

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relationships. The discussion develops an account of option formation, transaction and transition costs, asymmetric negotiation, differentiated exit, and evidence-indexed comparison, followed by a three-level audit and constructed cases. It combines political-economic and organizational interpretation with modest formal representation; a descriptive account of choice supplies neither a proof of valid consent nor an automatic conclusion about justice.

19.1 Choice as an Institutionally Conditioned Practical Capacity

Choice becomes politically and economically relevant when alternatives can be identified, understood, authorized, and undertaken in the circumstances of a historically situated subject. An organizational form may contain a menu of options, yet the subject's practical possibilities depend on timing, eligibility, information, location, material access, required competence, and consequences for ongoing relations. A choice recorded as formally open can therefore have a narrower domain in practice. Equally, forms that appear administratively constrained may coexist with informal, collectively produced alternatives that have not been entered in the official record. Both possibilities require evidence beyond a statement of policy.

Kabeer's account of empowerment relates resources, agency, and achievements while insisting on the conditions, content, and consequences of choice [51]. The current analysis borrows that caution for a different domain: negotiations among volunteers, recipients, households, organizations, and funders. It does not presume that a framework developed to investigate women's empowerment is an exhaustive model of aid provision. A practical opportunity is here understood as a candidate action supported by resources, information, permissions, accessible transitions, and subject-specific circumstances within a given interval.

A volunteer may choose between two shifts but have no feasible means of transport for either; a recipient may select among referral routes whose application requirements are intelligible only with assistance; an organization may nominally be eligible for several grants while lacking the liquidity to bridge their reimbursement schedules. These are different constraints. They can also be coupled: a recipient's choice depends on the volunteer's availability, and the volunteer's willingness may depend on household care arrangements. Studying these connections requires separating an option named in a document, a credible prospective option, an option actually exercised, and a retrospective description of why an option was declined. Such distinctions extend the resource-conversion and matching analysis of Sections 5 and 7.

19.2 Alternatives, Resource Dependence, and Bargaining Positions

Dependence in a volunteer-aid relation varies with the significance of the available service, the substitutability of its channels, and the costs of shifting to another arrangement. The power-dependence perspective developed by Emerson provides a useful starting vocabulary for these relational comparisons [23]. In two employment-pay bargaining simulations, Bacharach and Lawler examined actors' own dependence, counterparts' dependence, the availability of alternative outcomes, and the value of the negotiated outcomes as separate dimensions associated with proposed tactics [2]. The study's reported findings distinguish these dimensions and depend on its simulated employee–employer setting. Whether comparable bargaining processes occur in volunteer-aid relations requires direct observation, including evidence about the actors' real alternatives and the institutional consequences of refusal.

The bargaining position of a recipient may change when independent interpretation becomes available, even if the nominal value of the assistance offered by the original provider remains the same. A volunteer may acquire negotiating leverage when a programme depends on a skill that is costly to replace; another volunteer may have valuable skills while remaining constrained by reputation, housing, employment, or personal attachments to the organization. For a coordinating nonprofit, a single dominant funding source can affect the credibility of rejecting a condition, whereas diversified funding may introduce its own monitoring and coordination costs. Bargaining position is consequently an attribute of

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a historically specified relationship and option configuration, rather than a permanent rank attached to an actor.

The term *outside option* is useful if its reference scenario is explicit. Outside options for a recipient concern practicable assistance beyond a particular channel; for a volunteer, they concern uses of time and institutional affiliations; for an organization, they may concern funding and service arrangements. Their monetary values, if estimable at all, do not exhaust their significance. Safety, dignity, linguistic accessibility, continuity, and relational consequences can affect the appraisal of an alternative. A comparison may remain partially ordered where one option improves timing while worsening privacy or care continuity. Treating such differences as a single unqualified score would obscure precisely the bargaining conditions under investigation.

19.3 Negotiation, Interpretation, and Agenda Control

Negotiation includes requests to alter assignments, eligibility determinations, delivery times, grant restrictions, service boundaries, and the terms on which information or labour is contributed. A negotiation becomes institutionally consequential through positions authorized to receive proposals, to define permissible issues, to access relevant evidence, and to accept or reject revisions. Control over the agenda can therefore modify the options that participants experience before explicit bargaining takes place. The decision to classify a request as a scheduling adjustment rather than a question of accessibility may change the responsible office, admissible evidence, and possible remedies.

A coordinator may invite volunteer preferences while retaining final assignment authority. A recipient might request that a relative cease interpreting sensitive information and instead ask for an independent language service. A funding officer can listen to a nonprofit's request to revise reporting categories while the contractual process allows no change during the current period. Each interaction may involve communication, yet their mechanisms differ according to which counterproposals can alter operative rules. An adequate account records the sequence of proposals, authorized responses, revisions, refusals, and implementation, including whether the relevant participants could obtain comprehensible explanations.

Negotiation also has temporal and informational costs. Repeated meetings, document preparation, translation, travel, and waiting can limit a participant's capacity to persist in seeking change. As discussed in Section 18, administrative indicators may reward quick closure of a case while overlooking time spent contesting an unsuitable arrangement. Recorded acquiescence may therefore reflect informed agreement, strategic accommodation, exhaustion, or a perception that further attempts would be futile. A credible investigation should distinguish these interpretations through participants' accounts, rule histories, and observable institutional responses. The present framework does not infer private motives directly from a form bearing a signature or from the absence of an appeal.

19.4 Exit, Voice, and the Conditions of Loyalty

Hirschman's distinction between *exit* and *voice*, and his account of the role of loyalty, offer an influential organizational framework for responses to deterioration or dissatisfaction [44]. Its relevance to volunteer aid arises from the possibility that participants attempt institutional improvement while also considering withdrawal from particular relationships. The framework concerns organizational responses rather than a theory of moral permission, and its historical setting should be retained when adapting its categories.

Voice may take the form of a complaint, collective proposal, confidential report, negotiation over tasks, or request for an external review. Exit may include ending a particular assignment, withdrawing a donation, leaving an organization, switching a provider, or discontinuing a requested service. These actions occur at different organizational scales. A recipient's exit from one referral route can coexist with continued participation in another; a volunteer's exit from a coordinator role can leave a continuing obligation under another contract; a donor's withdrawal can affect service users who were not parties to the donation decision. The analysis therefore specifies the object and scope of exit rather than treating withdrawal as an undifferentiated event.

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Loyalty may help sustain voice by allowing participants to remain engaged in difficult periods. It can also raise the felt costs of leaving when affiliation, gratitude, reputation, or shared history matters. The strength and interpretation of loyalty are empirical questions. Commitment can involve reflective solidarity, instrumental caution, or several motivations together. Section 15 distinguished appreciative experience from asserted indebtedness; that distinction carries over when participants remain in demanding roles because they value a relationship. A reported willingness to continue is relevant evidence of preference but requires additional inquiry when used to assess the voluntariness of burdens.

Institutional reactions also influence future voice. A well-handled complaint may make later requests safer and more effective, whereas dismissal, retaliation, or opaque procedures may discourage proposals. Conversely, a formal exit option may be genuinely effective and valuable even when rarely exercised. The frequency of complaints or departures supplies a limited manifestation of the broader option structure. Their interpretation requires contextual evidence about information, access, expectations, and consequences.

19.5 Feasibility Costs, Refusal, and Withdrawal Transitions

The capacity to refuse a task and the capacity to withdraw from a continuing aid relationship can have distinct conditions. Refusal concerns an immediate request or assignment; withdrawal may require ending repeated actions, transferring responsibilities, returning materials, obtaining alternative support, or communicating with dependent participants. Timing matters. A volunteer may reasonably decline an unfamiliar task in advance, while an abrupt departure during a safety-sensitive activity may create different practical and legal questions. Describing these conditions does not determine when a participant bears a legal duty, nor does the existence of transition costs extinguish a subject's interests in safe withdrawal.

Relevant costs include lost income or reimbursement, unrecoverable expenditure, care disruption, travel, information transfer, reputational loss, threatened exclusion, social pressure, and the time needed to rebuild relationships. They should be recorded separately from costs that are merely conjectured. A programme might provide a documented transition procedure, yet it may remain inaccessible to a person without transport, language support, or independent advice. Another programme may have no detailed written process but reliable customary handover practices. Their differences are empirical, and the legally applicable obligations depend on jurisdiction, status, and the character of the service.

The analysis should also consider parties affected by another actor's exit. A donor can withdraw a discretionary grant; the downstream consequence may fall on recipients, paid workers, or households who did not choose the funding arrangement. A recipient might leave an organization because of a privacy concern, while the absence of an alternative service makes the result particularly costly. A volunteer may resist extra shifts because capacity renewal has already become precarious. These scenarios demonstrate why an actor's ability to leave and the distribution of exit costs constitute separate objects. The political-economic problem concerns the organization of feasible transitions and their consequences, while ethical and legal assessments ask which burdens can permissibly be imposed or shared.

19.6 Collective Negotiation and Institutional Intermediation

Collective voice can alter the practical balance of options by pooling evidence, knowledge, representation, and negotiating capacity. Volunteers may jointly request supervision, reimbursement transparency, or limits on responsibilities. Recipients and community groups may propose revised eligibility categories or more accessible service schedules. Nonprofit coalitions may negotiate shared reporting requirements with funders. Such arrangements can reduce individual transaction costs, preserve institutional memory, and make otherwise isolated information actionable. Their effects depend on representation, internal procedures, the distribution of speaking opportunities, and the receiving institution's power to make changes.

A representative body may also generate new exclusions. The priorities of established volunteers may differ from those of newcomers; an organization's preferred recipients may be more audible than

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people who face linguistic or technological barriers. Collective representation should therefore be described through its actual constituency, selection mechanisms, mandate, and means of correction. Institutional participation is meaningful to different degrees depending on whether representatives can obtain evidence, introduce an issue, require a reasoned reply, and affect a consequential decision. The presence of a committee alone is insufficient to establish these capacities.

Third-position actors considered in Section 12 can mediate negotiation by translating concerns, facilitating coordination, or offering review. They may also control the form in which proposals reach decision-makers. Independent interpreters, ombudspersons, peer advocates, funder representatives, and professional supervisors occupy different positions with different duties. An account of collective bargaining should document who selected an intermediary, who can replace that person, and whether a participant may access an alternative channel. Institutional mediation can support both problem solving and concentration of control, depending on its configuration.

19.7 Evidence-Indexed Option and Negotiation Register

To compare these mechanisms while preserving uncertainty, the present section proposes a typed *option-and-negotiation event register*. It describes a situated episode of choice formation, proposed revision, refusal, or exit and connects that episode to supporting evidence. Equation 21 states the descriptive construction.

$$\mathfrak{N}_{e,t}^{\kappa,\pi}(h) = (s, q, \mathcal{O}, c, \eta, \alpha, \nu, \omega, \epsilon)_{e,t,h}^{\kappa,\pi}. \tag{21}$$

Here h is a bounded aid history; e indexes the episode; t identifies its period; κ specifies the evidential standpoint; and π identifies the applicable institutional procedure and rule version. The component s records the history-bearing position or positions; q specifies the action, request, or contested decision; $\mathcal{O}$ records candidate options by type and source; c records material, informational, temporal, and relational conditions of their exercise; η describes communicated proposals, refusals, and counterproposals; α identifies decision rights and actors empowered to revise the terms; ν identifies available voice, review, and exit channels; ω records observed responses and relevant subsequent consequences; and ϵ preserves supporting records, disagreements, missingness, and limitations.

The option component $\mathcal{O}$ distinguishes a formally described option, an independently evidenced feasible option, a documented excluded option, and a candidate whose feasibility remains undetermined. The register should preserve the historical interval of each assessment because an option may become accessible after a policy revision or disappear with the departure of a trained interpreter. Options may also have joint conditions: a referral is usable only if transport, authorization, timing, and recipient acceptance can coexist. Consequently, evidence about each element individually may leave the composite option unresolved.

The register contains no presumed cardinal utility function or bargaining solution. A request's rejection can be described by ω without proving arbitrary exclusion; a signed agreement can be represented without establishing informed consent. Nor does an observed increase in voice after a change to complaint procedures itself establish the latter's causal effect. Confounding changes in staffing, publicity, demand, and the availability of alternative services require independent evaluation. Equation 21 is an organizational schema for comparison and cross-checking rather than a predictive model or verdict about legitimate authority.

For an explicitly bounded comparison, researchers may record two procedure-indexed versions of $\mathfrak{N}_{e,t}^{\kappa,\pi}(h)$ and identify differences in the feasibility and costs of otherwise comparable options. A formal option added to $\mathcal{O}$ may improve the documented choice architecture while leaving actual usability undetermined. A reduction in one participant's exit costs can coexist with new handover burdens for another. In such cases, a partial comparison is analytically preferable to a fictive aggregate measure of freedom or welfare.

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Table 19: Evidence objects and inferential limits for choice, negotiation, and exit in volunteer aid.

Evidence object	Situated analytical use	Inference requiring additional support
Choice and policy notices	Stated options, deadlines, conditions	Comprehension, access, and usable alternatives
Resource and capacity traces	Material support, travel, time, competence	Joint feasibility under the relevant history
Proposals and counterproposals	Recorded negotiation and agenda	Participant knowledge and unexpressed preferences
Delegations and decision records	Formal authority and revisions	Actual discretion and legal validity
Voice and complaint histories	Requests, appeals, response timing	Remedy quality and absence of retaliation
Refusal and exit transitions	Withdrawals, handovers, displacement	Voluntariness and distributive legitimacy
Participant and household accounts	Experienced burdens and attachments	Exhaustive motivation or common valuation
Comparative trajectories	Changes in options and consequences	Causal attribution and long-run generativity

19.8 Practicable Choice: Evidential Levels and Negotiation Audit

The three-level GR analysis of choice retains ontological suspension concerning agency and subjectivity, while treating historically structured options, dependence, and negotiation channels as relational objects. Rules, option menus, transcripts, schedules, requests, withdrawals, and service transitions are situated manifestations. The decisive question is whether an option could be exercised by the relevant subject at the relevant time, given prerequisites, possible losses, and available support for the transition. A written right of exit and an observed withdrawal support different claims, and neither by itself measures the costs borne after withdrawal. Table 19 specifies the required evidence about actual options, attempted voice, and practical effects. The index κ identifies evidential standpoint without extending the three-level ontology.

A three-level interpretation also guards against treating a nonresponse as a transparent manifestation of personal willingness. Institutional silence may reflect satisfaction, ignorance of the channel, anticipated costs, or a lack of available alternatives. Interviews and longitudinal observations can help differentiate these possibilities, subject to ordinary limits concerning selection, privacy, credibility, and recall. When manifestations conflict, the task is to identify their claims and provenance, construct compatible and incompatible histories, and preserve unresolved alternatives until evidence permits stronger inference.

19.9 Constructed Comparisons of Bargaining and Withdrawal

Constructed case A: language assistance and recipient choice. A hospital-affiliated reception programme allows recipients to request interpretation. The form lists an in-person volunteer option and a telephone referral. Under one history, the telephone service is consistently available and recipients can select it privately; a choice between two feasible channels is genuine within the stated constraints. Under another, the telephone option requires a call that the recipient cannot initiate without the volunteer whose involvement is contested. A third history involves technically accessible telephone interpretation with delays too long for a particular appointment. The same formal menu thus supports different accounts of agency. An investigation would require relevant language access, appointment timing, confidentiality safeguards, call logs, referral authorization, and recipient testimony. The example does not describe an actual hospital practice or determine legal rights to interpretation.

Constructed case B: volunteering, loyalty, and a contested assignment. A community transport nonprofit asks an experienced volunteer to accept additional night shifts following staff turnover. The vol-

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unteer values the organization and worries that refusing will affect future references. In one history, coordinators clearly communicate that refusal has no consequences and provide alternative shift arrangements; the volunteer chooses an additional shift with informed acceptance. In a second, the volunteer has observed adverse treatment of others who declined, and an implicit cost shapes the decision. In a third, the organization offers new training and reimbursement, changing the practical feasibility of accepting the task. A diagnosis requires records of staffing and communication, independently available alternatives, actual referral or reference practices, and the volunteer's own account. Moral pressure, breach of a rule, and unlawful retaliation would each require separate grounds.

Constructed case C: contracted shelter services and organizational exit. An emergency accommodation provider negotiates a short-term grant containing a narrow performance definition. The provider may accept while seeking later revisions, refuse and rely on reserves, or exit service provision. Under one history, substantial reserves and a credible substitute funder permit firm negotiation without interruption to recipients. Under another, reserves are restricted and the provider risks abruptly abandoning dependent service users if funding ends. A third history involves a coalition that negotiates a shared transition plan, preserving service access while changing the reporting terms. Comparative inquiry requires contract versions, funding restrictions, timing, legal duties, notice procedures, service capacity, and the consequences for people who did not participate in the grant negotiation. None of these constructed histories establishes that a particular contracting model is intrinsically justified or unjust.

19.10 Comparative Tests, Normative Interfaces, and Research Boundaries

The next stage of research can investigate whether a change in rules alters a specified participant's usable alternatives, cost of refusal, or capacity to influence a decision. Relevant comparisons may involve the introduction of independent interpretation, a revised grievance procedure, a change in scheduling discretion, or a new financing arrangement. Suitable evidence includes longitudinal process records, policy version histories, observations of actual use, and participant accounts that permit rival explanations to be evaluated. Natural experiments or other quantitative designs may be helpful where assignment, timing, and case composition support credible identification; qualitative inquiry may be indispensable for understanding unrecorded voice and informal pressure. The research question determines what counts as an adequate design.

A useful negative-case design should also investigate situations in which organizations provide credible alternatives while participants nevertheless prefer a long-standing relationship, or where participant influence increases without a measurable expansion in the option menu. A recipient may gain meaningful voice through a trusted intermediary even when the number of providers remains constant. A volunteer may report a decline in pressure after the organization publishes predictable refusal procedures, despite no change in payment or staffing. Such findings would qualify any simple hypothesis that the quantity of alternatives alone determines the capacity for agency. They would also help differentiate conditions that sustain trust and continuity from arrangements that suppress disagreement.

The proposed mechanism can be challenged by demonstrating that an apparent limitation was practically irrelevant, that a purported alternative could not be used, that collective negotiation excluded some subjects, or that an observed change followed a different institutional cause. A possible increase in option count may coexist with deterioration in quality, continuity, or accessibility. Likewise, the existence of economic dependence supplies a question about bargaining conditions and leaves the evaluation of consent, coercion, fairness, and public obligations for appropriately specified ethical, legal, and empirical analysis. Section 15 addressed informal expectations of return, and Section 12 addressed contractual authority; choice research should identify when the same historical relation participates in these distinct mechanisms.

The central contribution of the present section is an evidence-sensitive account of *practicable alternatives* through which political-economic power may be examined. Options emerge and disappear through changing resources, institutional permissions, information, dependencies, and subjects' histories. Their availability is partly constituted through negotiation and collective action; their exercise can

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redistribute burdens and future capabilities. This framework prepares the analysis of concentrated power and institutional counterweights by specifying where control over options may be located and how it can be contested. Its claims remain provisional and domain-bounded: an organized choice register is a tool for inquiry, while demonstrated causal mechanisms and justified institutions require further research.

20 Concentration of Power, Contestation, and Institutional Counterweights

The political economy of volunteer aid involves distributions of influence that may become concentrated across resource, informational, classificatory, and organizational interfaces. This section develops a differentiated account of concentrated control, its historical reproduction, and the institutional conditions through which participants may contest consequential decisions. Its objective is to identify the positions and mechanisms that make concentration operative, distinguish counterweights that merely exist in formal descriptions from those that can affect decisions, and specify evidence required to compare alternative organizational arrangements. The inquiry proceeds through decision loci, coupled controls, agenda formation, collective contestation, accountability, independent review, and polycentric arrangements before introducing a limited formal register, a three-level audit, and constructed comparisons. The mode of argument is interpretive and comparative, supplemented by an evidence-indexed descriptive formalism. The analysis of institutional power remains separate from independent judgments concerning moral legitimacy, legal validity, and demonstrated causal effectiveness.

20.1 Concentrated Control Across Distinct Aid Interfaces

Concentration is meaningful only relative to a specified domain of decision, alternative arrangements, and the history in which a position exercises or can credibly threaten to exercise influence. A coordinating organization may control volunteer assignments, a donor may condition renewal of a restricted grant, an intake system may determine the documents admissible in an eligibility assessment, and a supervising institution may authorize the release of confidential information. Such controls are heterogeneous. A distribution of money among organizations cannot, by itself, establish the distribution of authority over individual cases, interpretations of need, or revisions of an institutional rule. Similarly, a diversified funding base may coexist with a single operational gateway through which all requests must pass.

Dahl's relational account of power provides a foundational precedent for specifying the actors, actions, and domains involved in an influence claim [19]. The present investigation extends the question to historically constituted organizational positions, multiple interfaces, and changing possibilities of collective action. Its comparison is conditional on an explicitly delimited task and institutional setting. An organization that controls every referral within one small programme may have little influence over the broader system of assistance, while a major funder can shape several programmes through requirements that are individually modest but jointly consequential. Hence the unit of inquiry may be a decision, an interface, a coupled network, or a bounded history; researchers should specify which one is under examination.

Concentration can be described in monetary, operational, informational, and procedural registers. Monetary concentration concerns command over finance and asset commitments; operational concentration concerns control of indispensable roles, specialized skills, or dispatch facilities; informational concentration concerns privileged access to records and classification systems; and procedural concentration concerns whose decisions are recognized, questioned, or revised. These registers interact through historically developed rules. The empirical task is to trace interactions without collapsing them into a single, intrinsically comparable quantity of power. A concentrated position may facilitate reliable service or narrow participants' practical options, and those possibilities can coexist in the same history.

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20.2 Coupled Decision Rights, Bottlenecks, and Institutional Dependence

The practical significance of a decision right often depends on other positions whose cooperation is required for the decision to become effective. A funder may approve resources that an operating organization cannot release without an institutional authorization. A volunteer coordinator may approve an assignment that requires a recipient's informed participation and a professional supervisor's agreement. A review committee may recommend reconsideration without having authority to suspend the contested operation. The concentration of one right therefore requires examination of the sequential and conjunctive conditions through which authority becomes operative.

The resource-event register of Section 5, the mediated-operation account of Section 4, and the pathway assessment of Section 10 supply distinct observations of these dependencies. A critical passage may be controlled by one office even when several institutions participate upstream and downstream. Equally, multiple offices may share the capacity to block a decision, thereby creating a joint veto structure that prevents unilateral exercise of authority but also risks persistent delay. The effects depend on coordination arrangements, usable alternatives, temporal urgency, and the distribution of accountability.

Organizational network scholarship differentiates governance modes and conditions under which various coordinating arrangements may be workable [71]. The present GR reconstruction treats such modes as historically variable arrangements of rights, resources, communications, and participants rather than a ranked sequence from centralized to decentralized. A single well-defined dispatch point may reduce transaction costs in a time-sensitive service; it may simultaneously form a bottleneck when its interpretation of need cannot be questioned before an opportunity expires. The proper diagnosis asks whether the control has a relevant substitute, who can initiate a correction, and which subjects bear costs during a failure or challenge.

Dependencies also extend across several scales. An apparently independent community organization may rely on the same payment platform, specialist, venue, or eligibility database as other providers. A programme with several funders may remain dependent on a shared public authorization. Counting institutions without mapping their common dependencies may exaggerate the redundancy of the system. Conversely, a formally centralized arrangement may include meaningful operational discretion, protected refusal, and external appeal. The object of analysis is the effective configuration of control, including its unobserved or contested components.

20.3 Agenda Formation, Classification Authority, and Invisible Exclusions

Power over an aid decision can be exercised through the prior determination of which issues appear as admissible questions. A classification may define some experiences as eligible needs and treat others as outside a programme's reporting mandate. A grant may count completed contacts while omitting assistance that required extensive preparation or was appropriately withheld. A complaint system may permit challenges to an individual allocation while excluding changes to the rule that generated repeated difficulties. Such arrangements alter the domain within which visible decisions occur and may shape the language available for describing a grievance.

Lukes's account of disputes over the conceptualization of power cautions against equating power with observed conflict alone [55]. The current argument adopts the limited methodological implication that the absence of a recorded objection does not settle whether a decision architecture restricted voice or alternatives. It leaves unresolved the philosophical controversies regarding interest attribution, preference formation, and the identification of latent conflict. The inquiry therefore investigates recorded exclusions, institutional histories, interviews, and the experiences of participants while avoiding claims to transparent knowledge of unexpressed interests.

Need classification and measurement have already been examined in Sections 9 and 11. Their coupling becomes relevant here: a subject may be unable to contest an allocation because the subject's difficulty is not represented in the administrative category used to authorize a remedy. Control over category design and control over review procedures may rest with separate positions or with the same authority. In the latter case, successful challenge may depend on the willingness of the challenged organization to

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broaden its own decision vocabulary.

The evidence should distinguish a published definition, the way decision-makers apply it, the opportunities subjects have to propose alternative descriptions, and the institutional consequences of those descriptions. An apparently narrow category may reflect limited legal authority, a justified service boundary, resource restrictions, or discretionary exclusion; diagnosing any particular mechanism requires the relevant documents and histories. A difference between participants' accounts and published categories establishes a research problem whose explanation remains open. A counterweight capable of reviewing only individual classifications may be effective for some mistakes while leaving the category-making power untouched.

20.4 Contestation Through Individual and Collective Agency

Contestation comprises efforts to question, suspend, revise, replace, or publicly scrutinize a consequential decision. It may be initiated by recipients, volunteers, coordinators, staff, families, funders, regulators, or collectively organized participants. The character of the process depends on the practical capacity to submit evidence, obtain an explanation, influence an agenda, and sustain participation through the relevant interval. A right to complain has different effects according to language access, confidentiality, timeliness, protection from retaliation, and the actual authority of the recipient forum.

Fung distinguishes participatory institutions along the dimensions of who participates, how participants communicate and make decisions, and how participation connects with public action [34]. These dimensions offer a useful comparative vocabulary for volunteer aid, although the article does not establish the effectiveness of any particular volunteer-support procedure. A consultation that collects narratives without allowing participants to alter a decision differs from a joint planning forum with delegated authority, a confidential independent review, or a collective negotiation over resource conditions. All may furnish valuable information; their causal and normative significance differs.

Individual and collective agency also interact. A recipient who cannot challenge a medical-visit transport rule individually may become able to raise a recurring accessibility concern through a representative organization. A coalition of volunteers may negotiate safer rosters while making it harder for those outside the coalition to have their distinct needs heard. Representatives can increase bargaining capacity and introduce new questions of authorization, selection, internal disagreement, and answerability. The existence of collective voice is therefore one part of a governance history; its distribution among affected subjects also matters.

Contestation may produce learning and repair, or it may consume attention and delay assistance. A complaint repeated across many episodes can indicate uncorrected institutional conditions, increased awareness of an available channel, a change in case composition, or growing trust that reporting is worthwhile. The count of complaints alone cannot distinguish these mechanisms. Researchers should examine the substance and sequence of complaints, the institution's responses, the possibility of reasoned disagreement, and consequences for the people whose support was interrupted or revised.

20.5 Accountability Forums, Answerability, and Consequential Review

A counterweight becomes analytically distinct from a mere organizational label when a forum can receive and examine claims and when the resulting processes have specified institutional effects. Bovens conceptualizes accountability as a relation between an actor and a forum involving explanation, questions, judgment, and possible consequences [11]. This distinction is useful for differentiating routine reporting, public visibility, reason-giving, internal supervision, independent scrutiny, and enforceable correction. The present analysis does not infer legal accountability from a general description of an organizational review procedure.

The status of the reviewing forum matters. A committee whose members are appointed by the position under review may still produce competent and fair assessments under some arrangements, but the structure raises questions about independent access to evidence, conflict management, and the authority to change an operative decision. An external auditor can identify a gap without having power to remedy

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it. A public feedback channel may increase visibility while exposing a vulnerable recipient to unwanted identification. The design of an accountability relation thus includes standing, procedures, evidence protection, timing, available remedies, and the allocation of implementation duties.

Answerability and corrigibility also operate at different timescales. An organization may be required to explain a past allocation while a future case requires immediate provisional access. A reviewer may recommend procedural amendments that become effective only in a later funding cycle. A programme can publish complete retrospective accounts while maintaining a decision process whose contemporaneous restrictions remain inaccessible to affected persons. Research should therefore distinguish ex post explanation, emergency suspension, individual remedy, prospective rule revision, and longer-term organizational learning.

The accountability literature's democratic, constitutional, and learning perspectives offer competing grounds for assessing arrangements [11]. Volunteer aid adds contextual questions about participant confidentiality, professional responsibilities, the location of public duties, and limited organizational capacities. The presence of a forum establishes a possible channel of contestation. Whether that channel improves fairness, safety, efficiency, or generativity is an empirical and normative question requiring separate evidence and justification.

20.6 Institutional Counterweights and Polycentric Governance

Institutional counterweights may include separated approval and review rights, independent translation, transparent allocation rules, shared governance boards, protected refusal, external complaint routes, competing service channels, and publicly accountable oversight. These arrangements work through different mechanisms: some expose reasons, others distribute decision rights, provide practical alternatives, or enable correction after an error. They may complement one another when a review body needs independent information and the capacity to revise an assignment. Their presence may also generate administrative costs, coordination delays, or contradictory decisions.

Ostrom's analysis of polycentric governance advances a framework for systems with multiple interacting centres of decision-making [65]. The GR application treats polycentricity as an institutional possibility with design conditions rather than a universal prescription. Multiple coordinating groups can enable locally informed service adaptations and provide a route around a dysfunctional gateway. They can also duplicate reporting burdens, undermine continuity, or leave unrepresented subjects navigating inconsistent eligibility systems. An independent actor's ability to disagree is consequential only when suitable pathways for communication, correction, and continued service exist.

The relation between institutional diversity and effective constraint can be indirect. A nominally independent review board that shares records exclusively through the contested coordinator may lack access to decisive evidence. Several competing providers may be unable to serve the same recipient because they all rely on a restricted funding category. A centralized office that publishes verifiable reasons, permits safe external appeals, and makes corrections promptly may offer stronger practical contestability for a particular decision than a diffuse system whose responsibilities are unclear. Institutional form should therefore be compared with actual access pathways and their costs.

Counterweights also require maintenance. Training representatives, translating rules, preserving data securely, assigning staff to adjudicate complaints, and financing independent oversight all consume resources. Those costs may be justified by benefits that are difficult to measure through a programme's primary output indicators. At the same time, elaborate review requirements can displace time and money from direct assistance. The political-economic analysis asks how the costs and benefits of counterweights are distributed, which claims are prioritized, and whether the arrangements preserve the capacity of participants and institutions to act over time.

Countermodel for formal and effective accountability. Consider a constructed organization with an independent complaints committee whose members cannot inspect contested records, alter any service decision, or protect complainants from discontinuity. Its formal existence supplies evidence of a review

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body while leaving consequential correction unestablished. A second, centralized organization may provide documented reasons, timely independent appeal, protected continued assistance, and an observed reversal of an erroneous allocation. Concentration of first-instance authority can thus coexist with an effective counterweight. The proposed audit should record separately a forum's nominal jurisdiction, actual evidence access, independence, capacity to produce an authorized correction, the opportunity to use that correction, and the costs imposed on participants. This is a mechanism-specific assessment, rather than an index obtained from the number of committees or decision centres.

20.7 Evidence-Indexed Control and Counterweight Register

A limited formal representation can organize comparison across these heterogeneous mechanisms while preserving the distinctions among formal power, practical control, enacted influence, and normatively justified authority. The proposed *decision-control and counterweight event register* has eight components and is explicitly indexed to a bounded institutional history, decision procedure, and evidential standpoint. Equation 22 states the construction.

$$\mathfrak{X}_{e,t}^{\kappa,\pi}(h) = (d, c, \mathcal{I}, \mathcal{A}, \phi, \omega, \nu, \epsilon)_{e,t,h}^{\kappa,\pi}. \tag{22}$$

The symbol $\mathfrak{X}$ denotes a decision-control episode. It is distinct in type and scope from the case-level diagnostic configuration $\mathfrak{D}_{B,T}^{\kappa}$ introduced in Section 22; the latter can include several such episodes. Here h denotes a bounded aid history; e is a decision or contestation episode; t is the relevant interval; κ specifies the evidential standpoint; and π specifies the applicable decision and review procedure, including its version. The component d identifies the contested or potentially consequential decision; c records claimed and evidenced controlling positions, with the domain of control; $\mathcal{I}$ denotes relevant resource, informational, classificatory, and authorization interfaces; $\mathcal{A}$ identifies affected subjects and their historically situated positions; ϕ records the practical alternatives, access conditions, and costs of contestation; ω describes forums, participation rules, and review or corrective capacities; ν records enacted exercises of control, objections, responses, and subsequent outcomes; and ϵ records documentary and testimonial provenance, evidential conflicts, missingness, and limitations.

The fields are typed descriptive entries rather than commensurate magnitudes. For example, control over public communication and control over restricted funding are recorded as different interfaces; a nominal review authority and a documented implemented correction occupy different descriptions. Missing evidence about an independent route is retained as unknown, rather than encoded as the route's absence. A documented inability to use a route is treated differently from an unverified claim that the route might have been available. The register can therefore link a decision to several participants, overlapping institutional forums, and alternative historical explanations.

A comparison between two instances of Equation 22 is meaningful only when the decision domain, affected population, relevant constraints, and observational procedure are specified. A newly introduced review body may change the documented accountability structure while leaving its practical usability undetermined. A recorded successful appeal may support the existence of a consequential correction in that episode but cannot establish that the system is generally fair. The schema is neither a numerical concentration index nor a theory of equilibrium. It does not yield a causal estimate, proof of domination, or justification for a particular distribution of decision rights. Stronger inference requires empirical designs and domain-specific normative reasoning.

20.8 Consequential Review: Evidential Levels and Counterweight Audit

The three-level GR distinction is applied here to the efficacy of institutional counterweights. Ontological questions about the substance of power remain suspended. Relational analysis follows the allocation of decision rights, control of evidence, challenges, and responses through time. Charters, hearing records, appeals, revised decisions, and participants' accounts are partial manifestations. A published appeal process supports the existence of a formal forum; its countervailing efficacy depends on accessibility,

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Table 20: Evidential objects and inferential boundaries in the analysis of concentrated power and institutional counterweights.

Evidence object	Situated analytical use	Stronger inference requiring support
Resource and permission records	Controlling positions and stated access limits	Effective exclusive control across feasible alternatives
Classification and agenda histories	Admissible claims and rule revisions	Suppressed or unexpressed interests
Decision and communication logs	Enacted choices, vetoes, justifications	Causal influence and informed agreement
Participation and representation rules	Formal admission to consultation or decision	Inclusive and consequential voice
Complaint and review files	Claims, judgments, decisions and timing	Accessible remedy and absence of retaliation
Oversight and funding traces	Independence claims, costs and resource support	Practical autonomy and institutional sustainability
Participant and household accounts	Experienced access, pressure and burdens	Exhaustive motives or common valuation
Comparative institutional trajectories	Changes in rules, options, and outcomes	Counterfactual effects and long-run generativity

informational independence, authority to alter outcomes, and the actual consequences of review. Table 20 distinguishes these tests, including cases where central coordination coexists with effective review or dispersed committees reproduce a common dependency. The evidential index belongs to the method of inquiry.

Manifestations may diverge. A volunteer may report that a supervisor's approval is practically mandatory even where the written delegation grants discretion. A recipient may state that an appeal channel is too slow for an urgent service even though the organization documents a high percentage of successful appeals. A reviewer may find procedural compliance while affected participants describe continuing exclusion. These observations should be retained with their provenance and timing, and investigated through candidate relational histories, rather than collapsed into a single presumed truth of institutional experience.

The evidence audit should also attend to those who never enter the published data. People deterred by inaccessible applications, language barriers, or concerns about confidentiality may be absent from both utilization statistics and complaint logs. Locating these absences requires ethically appropriate outreach, historical comparison, and careful protection of private information. An observed discrepancy may justify further inquiry without establishing a causal or normative diagnosis. The framework is designed to keep those limitations visible.

20.9 Constructed Comparisons of Power and Counterweights

Constructed case A: centralized hospital-related language coordination. A hypothetical volunteer-run language-support programme assigns interpreters through a single coordinator. Under one history, centralized allocation reduces missed appointments because the coordinator has current schedules and an effective mechanism for correcting errors. Under a second, the coordinator controls both assignments and the only complaint channel, and a recipient's challenge to a confidentiality concern cannot reach an independent reviewer before the visit. Under a third, professional authorization remains centralized while an external multilingual help desk enables independent requests and speedy correction. A comparison requires locally verified task boundaries, professional supervision, participant consent, channel accessibility, response times, and the costs of maintaining parallel access. The case asserts no actual hospital policy or service arrangement.

Constructed case B: donor influence over eligibility and reporting. A regional nonprofit receives most of its finance from a donor requiring narrow evidence of completed transport trips. In one history,

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the requirement generates clear accounts of expenditures while a separate unrestricted budget protects complex cases. In a second, the organization implicitly prioritizes shorter journeys and ceases accepting difficult referrals to preserve its reported performance. In a third, affected recipients and volunteers participate in a review process that revises the indicator and secures a transition allocation. Evidence would include grant terms, rule versions, longitudinal referral and denial data, decision minutes, available alternative services, and the practical authority of the reviewing forum. Market pressure, organizational learning, and exclusion remain rival explanations until appropriately tested.

Constructed case C: emergency shelter governance and distributed oversight. Several organizations share a temporary shelter intake platform. Under one history, a single intake protocol permits rapid identification and coordination of limited spaces, with independently supported appeal and emergency exception routes. Under another, the same platform becomes an unreviewable bottleneck and excludes applicants whose circumstances do not fit the required fields. Under a third, separate organizations control admissions but rely on an identical classification service and funding restriction, leaving a common dependency despite apparent institutional plurality. Distinguishing these mechanisms requires technical and procedural mappings, rights and obligations established by the applicable jurisdiction, records of correction, and recipient-centered evidence gathered with safeguards. None of the hypothetical histories decides whether centralization or decentralization is generally preferable.

20.10 Comparative Research, Normative Interfaces, and Section Boundaries

The proposed research agenda compares specific decision domains across institutional changes. Relevant interventions may include adding an independent appeal route, diversifying a critical service gateway, separating intake from review, introducing representative participation, revising evidentiary rules, or granting volunteers a protected means of declining assignments. Suitable observations include versioned procedures, actual access attempts, anonymized decisions, handling times, staffing and financing records, case composition, and follow-up reports from those affected. A before-and-after comparison should examine other simultaneous changes, including demand, policy restrictions, resources, publicity, and staff turnover. Where strong causal identification is unavailable, mechanism tracing and explicit rival-history analysis remain valuable.

Adversarial tests are particularly important. An apparent power concentration may have little effect because independent alternatives are available and used. A supposedly independent forum may depend on the contested authority for documents, financing, or implementation. An increase in formal participation may coexist with narrower access for unrepresented subjects. More distributed institutions may raise coordination burdens and interrupt continuity. Conversely, a well-supported centralized arrangement may prove more responsive to timely correction than a fragmented alternative. These possibilities make counterweights empirical objects of research rather than honorific institutional labels.

The legal location of public duties and the authority to adjudicate complaints require jurisdiction- and role-specific analysis. An institutional power register alone cannot determine standing, confidentiality obligations, professional discretion, statutory responsibility, coercion, or a just division of work. The justice and ethics questions developed separately in Papers VI and VII must therefore be engaged on their own grounds. Section 19 supplies a related account of feasible alternatives and voice; the present section locates these possibilities within arrangements of distributed or concentrated institutional control. Section 17 provides an additional question concerning which consequences and returns follow after a decision and whether affected capacities are renewed.

Concentrated power, contestation, and counterweights can thus be examined as historically variable relationships among control over a domain, the ability to raise and revise consequential claims, and the costs of maintaining institutional alternatives. Their observed configurations may sustain reliable support, redistribute burdens, restrict access, or enable correction. The present contribution is a method for distinguishing these possibilities with explicit evidence and revisable interpretations. Subsequent analysis will address the historical feedback through which repeated decisions may reinforce or transform resource dependence and the organization of volunteer aid.

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21 Historical Feedback in Power and Resource Dependence

The political economy of volunteer aid includes the historical reproduction and alteration of resource dependencies, organizational authority, practical alternatives, and the capacity to maintain assistance. This section examines how an earlier aid-related decision can condition later arrangements, how an apparent pattern of persistence may be reconstructed as feedback, and what evidence is required to discriminate among reinforcement, adjustment, and discontinuity. The analysis proceeds through historical baselines, feedback mechanisms, temporal coupling, a typed event register, a three-level audit, and constructed comparisons. It adopts a comparative and preliminary formal method. The object remains the political-economic configuration of volunteer aid; a fuller theory of historical system formation is reserved for Paper IX.

21.1 Historical Baselines and the Identification of Repeated Dependence

Dependence at one date expresses a situated relation between an actor's activity and the resources, interfaces, competencies, permissions, and alternatives available at that date. A sequence of observations can reveal persistence of that dependence. To examine the formation of dependence, however, the researcher also needs a baseline that predates the arrangement of interest. An institution relying on one interpretation provider in three consecutive reporting periods supplies evidence of continued reliance. The origin of that reliance, the availability of competitors, and its effect on subsequent choices require additional reconstruction.

A historical baseline therefore records the population of affected positions, the service obligation or proposed service, the participating organizations, the existing options, and the available evidence at a specified earlier interval. It also identifies the relevant level of aggregation. Repeated procurement by a municipal agency, repeated assignment of one volunteer, and repeated reliance by an individual recipient may involve separate histories whose boundaries partly overlap. A common indicator of service continuity can conceal these distinctions.

The resource-dependence vocabulary introduced in Section 20 and the option analysis developed in Section 19 provide complementary viewpoints. A recurring dependency should be examined through the actual configuration of alternative resource channels, the authority to select them, and the costs of exercising those alternatives. Reported continuity can reflect mutually beneficial specialization, externally imposed constraints, institutional convenience, contractual limits, or historically accumulated switching costs. Its meaning remains an empirical question.

Baselines are also revised by new evidence. Interviews obtained later may clarify an earlier informal arrangement, while newly discovered records may show that a service assumed to be available had never met the relevant authorization conditions. The evidential standpoint of the researcher and the historical conditions experienced by participants should be separately recorded. Retrospective reconstruction cannot be treated as a participant's contemporaneous knowledge.

21.2 Increasing Returns and the Formation of Organizational Paths

Research on path dependence provides a specific mechanism for studying historical constraints. Pierson's account of increasing returns emphasizes the consequences of timing, sequencing, and self-reinforcing processes for political developments [68]. Sydow, Schreyögg, and Koch develop an organizational framework in which self-reinforcing mechanisms can progressively narrow an organization's range of practical options, while allowing the investigation of departures from an established path [86]. Their claims arise in political and organizational research. Application to volunteer-aid programmes is a proposed translation requiring independent support.

A candidate increasing-returns mechanism occurs when each additional unit of participation in an arrangement improves the comparative usability or attractiveness of that arrangement. For example, repeated use of one information system may generate trained users, standardized intake records, vendor-specific knowledge, and more easily coordinated shifts. Such accumulated advantages can make the

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current system comparatively easier to maintain. An alternative system may remain technically available but impose growing transition costs. Conversely, repeated use may expose limitations that motivate diversification or replacement. Historical use supplies the conditions for either possibility.

The distinction between reinforcement and mere repetition is therefore methodological. Repeated arrangements qualify as candidates for self-reinforcement when prior adoption changes a subsequent opportunity set or the relative costs and capabilities of available arrangements. Evidence should identify the relevant accumulated asset, the decision process affected, the population bearing transition costs, and the interval over which a proposed effect operates. A later preference for the familiar arrangement, considered alone, may reflect a stable independent preference or a new external constraint.

In volunteer aid, possible reinforcing media include specialized training, donor recognition, referral relationships, data schemas, platform permissions, trust built through collaboration, and institutional authorization. These media are heterogeneous: a rise in donations does not equal an increase in trust, and the persistence of trust does not imply continuing financial liquidity. The direction of feedback may also differ across participants, as a programme's institutional advantages accumulate while a volunteer's capacity is gradually depleted.

21.3 Resource Accumulation, Capacity Renewal, and Feedback Direction

An aid arrangement may generate resources that make later aid feasible. These resources include funds, reusable equipment, acquired competencies, shared knowledge, accessible relationships, established procedures, and recognized opportunities for cooperation. They are embedded in different valuation and conversion conditions. The circulation analysis in Section 17 distinguishes transfers, returns, and the mechanisms through which resources may become available for renewal. Historical analysis asks whether those possible returns actually change later operating conditions.

A proposed reinforcing sequence might involve supported assistance leading to recipient confidence, subsequent participation in programme design, more appropriate matching, and a higher probability of successful future assistance. Each link requires its own evidence. A record of increasing service numbers, for example, does not establish greater confidence or reciprocal participation. Higher numbers might result from wider eligibility criteria, better recordkeeping, changed funding, or increased need. Relational causality should be investigated at the link level before proposing a self-sustaining circuit.

A balancing sequence is equally conceivable. As demand increases, volunteer time and coordination attention may become scarce; restrictions or waiting queues then limit further commitments, potentially conserving capacity. Alternatively, the same restriction can intensify unrecognized burdens among excluded subjects. An institution may introduce backup providers precisely because dependence on one actor has become operationally risky. The intervention can decrease concentration while retaining a functioning service. The costs and effects of such adaptation may be distributed unevenly.

Resource renewal also has a temporal structure. Training acquired this month may persist for several years, while a reimbursement delay may threaten tomorrow's service. Reputational capital may change slowly, volunteer availability weekly, and emergency demand hourly. Analyses that compress these processes into an annual financial statement risk confusing the persistence of a stock with the availability of a usable resource at a specific time. The appropriate temporal resolution depends on the mechanism under investigation and the documentation available.

21.4 Institutional Learning, Classification, and Accumulated Discretion

Repeated operations can change institutional knowledge. Organizations may refine eligibility categories, develop task-specific competence, alter their referral networks, establish interpretive conventions, or learn the practical consequences of earlier exclusions. Learning can expand assistance capacity when decision processes become more sensitive to actual requests and to the constraints experienced by participants. It can also stabilize an inherited classification system when administrative ease rewards conformity to established categories.

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The political economy of such learning concerns its beneficiaries, control points, and associated costs. An accumulated dataset can enable more reliable forecasting while making the organization dependent on the institution controlling access to it. A coordinator's tacit expertise may enable flexible assistance while concentrating operational authority in a role that is difficult to replace. The stock of knowledge, its institutional custody, and the authority to interpret it are thus separate objects. Changes in one dimension need not produce corresponding changes in the others.

Thelen's comparative historical research examines the evolution of skill-formation institutions in Germany, Britain, the United States, and Japan, tracing political settlements and modes of incremental, cumulatively transformative change [87]. These comparative findings help formulate questions about inherited institutional arrangements without constituting evidence about volunteer programmes. Aid-specific historical records would be required to identify comparable mechanisms, their timing, and their participants.

Small revisions to an eligibility rule may gradually alter which subjects can make claims, which requests become administratively legible, and which cases volunteers encounter. Their cumulative effect may be considerable even when annual administrative reports describe each revision as minor. Conversely, repeated revisions can leave the distribution of actual access largely unchanged because funding conditions or transport arrangements continue to constrain delivery. Historical investigation must connect formal rule changes to practices and consequential outcomes.

21.5 Multiple Timescales, Sequence, and Institutional Persistence

A feedback claim should specify which prior change is proposed to influence which later opportunity, and across what interval. The temporal order of a sequence may matter when accumulated expertise must precede authorization, authorization must precede access, or successful delivery must precede public recognition. Temporal proximity, however, supplies neither sufficient evidence of influence nor the direction of its operation. A later rise in funding may be attributable to political budget changes rather than earlier recognition, even when the two events occur in sequence.

Greif and Laitin investigate institutional persistence and endogenous change through historically evolving conditions that affect whether institutions continue to reproduce themselves [40]. Their formal argument is distinct from the evidence-indexed descriptive construction proposed here. The present inquiry does not import the assumptions of a repeated-game equilibrium, derive self-enforcement, or estimate quasi-parameters. It treats their work as a source of questions concerning conditions generated by institutions that may subsequently sustain or destabilize them.

A historically persistent arrangement may combine slow-moving elements, such as an inherited donor contract or organizational reputation, with rapidly changing ones, such as daily volunteer assignment or immediate transport access. Coupled timescales create several possibilities. A short-term scheduling improvement can conceal longer-term dependence on a single coordinator. A temporary service interruption can reveal durable informal cooperation that later supports restoration. An externally imposed rule change may alter the timing and composition of volunteer work while leaving the public service's formal responsibility intact.

Empirical boundaries are crucial. For a bounded comparison the analyst should state the initial conditions included, the periods observed, the relevant decision episodes, the actors that enter or exit the configuration, and the channels through which unobserved developments may matter. Assertions about a stable attractor, critical transition, or self-reproducing system would require stronger data and independent justification. Temporal recurrence alone has a narrower interpretation.

21.6 Positive, Balancing, and Disruptive Political-Economic Feedback

For preliminary political-economic investigation, three families of candidate mechanisms can be distinguished. A *reinforcing* mechanism alters later conditions in a direction that supports further operation of the relevant arrangement. A *balancing* mechanism changes later conditions in a way that counteracts a prior pressure or stabilizes capacity within a defined range. A *disruptive or reconfiguring* mechanism

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changes the operating rules, subjects, interfaces, or resources sufficiently that comparison with the prior arrangement requires a revised description.

These terms name mechanisms relative to specified variables and boundaries. Reinforcement need not be beneficial: repeat referrals can strengthen reliable provision or intensify dependence on an inaccessible gatekeeper. Balancing need not be fair: restrictive eligibility can stabilize a budget while displacing unmet demand into households. A disruptive event can damage support capacity, redistribute authority, or create an opportunity for a more inclusive arrangement. Classification of the feedback's direction leaves its normative standing open.

Feedback may occur through different channels. Resource feedback concerns replenishment, withdrawal, reinvestment, and the depletion of usable assets. Authority feedback concerns the repeated assignment of control, the accumulation of discretion, or the formation of alternative review institutions. Epistemic feedback concerns what is recorded, how categories are modified, and which observed outcomes shape subsequent policy. Recognition feedback concerns reputation, trust, visibility, or credit that influences later access to opportunities. Labour feedback concerns recruitment, skill development, attrition, and renewal. These channels may reinforce each other, offset each other, or evolve on independent schedules.

A single institutional episode may participate in more than one channel. A donor-funded scheduling platform can strengthen recordkeeping and reduce administrative time while imposing compatibility costs on smaller partner organizations. A new appeals procedure can improve the contestability of allocation while increasing short-term staff workload. A satisfactory service result may generate positive publicity, yet a volunteer's unpaid preparation and recovery costs may exceed the capacity returned through that publicity. These multiple changes motivate an evidence-sensitive representation of mechanism-specific histories.

Countermodel for historical persistence. Suppose a constructed aid programme renews the same procurement arrangement for four periods. An unchanged external licensing requirement could explain every renewal even if earlier procurement decisions exerted no influence on later feasibility or costs. A second arrangement may experience increasing returns through accumulated training while an external shock interrupts its observed continuation. Persistence is consequently neither sufficient nor necessary, on its own, to establish an endogenous self-reinforcing mechanism. Identification needs a specified earlier action, an intervening alteration of later constraints, observations that discriminate endogenous reinforcement from persistent external causes, and a credible comparison. A sequence of successfully joined records documents a history under the declared protocol; it does not independently identify its causal law.

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21.7 Evidence-Indexed Register of Historical Feedback Events

A historical-feedback event can be represented as a typed diagnostic record associated with a bounded history and a declared observation protocol. Let e denote a candidate event or a documented institutional episode, let $[t_0, t_1]$ denote its investigated interval, h the bounded aid history, κ the evidential standpoint, and π the protocol used to select and interpret records. The proposed construction is given in Equation 23.

$$\mathfrak{F}^{\kappa,\pi}_{e,[t_0,t_1]}(h) = (p, a, m, r, d, o, y, \chi, \epsilon)^{\kappa,\pi}_{e,[t_0,t_1],h}. \tag{23}$$

The component p identifies the participating and affected positions; a records dated actions or changes in practice; m identifies a *candidate* feedback mechanism; r records relevant resource stocks, flows, conversion conditions, and burdens; d records decision rights and institutional interface changes; o records practical alternatives and their supported, excluded, or unresolved feasibility; y records subsequent manifestations or outcomes; χ specifies rival explanations and the tests needed to discriminate them; and ϵ preserves documentary or testimonial provenance and its limitations.

The event register is a descriptive schema with partially filled fields. In particular, the mechanism field m may remain undetermined even when a dated action and a later outcome are well documented.

An observed growth in a programme's reported service volume is an entry in y; it can support a feedback hypothesis only when the links between actions, changed conditions, and subsequent outcomes are independently investigated. Unknown alternatives in o are kept distinct from positively established infeasibility. The recording protocol π may change during the study and should be versioned when definitions or inclusion criteria change.

Chains of records may share a resource, participant, or institutional interface. Such linkage indicates a plausible pathway for tracing historical effects; it does not establish their causal magnitude or exclusivity. A process-tracing design could compare the timing of rule changes, provider availability, documented deliberations, resource releases, refusals, and revised assignments. The ordering of traces is a separate identification problem. An observed administrative change at t_0 and an outcome entered at t_1 can be consistent with several causal histories if the outcome measure, sampled population, resource stocks, or decision rights also changed. A defensible historical test specifies the relevant pre-change baseline, the opportunity at which the alleged mechanism could operate, the intervening state or decision that the mechanism predicts, and a later observation using comparable definitions. Competing pathways, common prior causes, selective survival of successful programmes, and exogenous financing or demand shifts remain viable candidates until discriminating evidence is supplied. Where the interval of an action or outcome is uncertain, the analysis should preserve interval-valued ordering and withhold assertions of precedence that the records cannot establish. Counterfactual and comparative evidence is needed to evaluate whether later arrangements would probably have differed without an earlier episode. The register therefore extends the circulation event device in Equation 19 and the control-and-counterweight device in Equation 22 while preserving their separate purposes.

Selection into a joint historical record deserves a separate warning. Institutional periods with complete budgets, approved data linkage and stable identifiers may be systematically different from periods of administrative breakdown or reduced oversight. A sequence assembled exclusively from positively admitted cross-register joins can therefore overrepresent institutional continuity. The admissibility rule in Equation 25 protects the legitimacy of the links it accepts; it does not make the accepted subset representative of every earlier actor, request or funding event. Investigators should preserve the versioned reasons for unresolved links, compare frame coverage across periods and seek independent evidence about changes in the reporting population. Reclassification or withdrawal of authorization requires revision of the analytical sequence. The resulting selection problem is analytically prior to identifying a positive or balancing feedback mechanism.

21.8 Institutional Feedback: Evidential Levels and Sequence Audit

The three-level GR distinction directs attention to evidence for historical change. Ontological questions about the ultimate substance of causation remain suspended. The relational object is a dated sequence in which resources, competencies, decisions, and feasible alternatives may be transformed by previous events. Budgets, assignments, training histories, versioned procedures, interviews, and access attempts offer partial manifestations, often under changing recording conventions. A repeated allocation pattern supports historical persistence; identifying a reinforcing feedback requires evidence that earlier decisions changed later options or costs relative to credible alternatives. This is a conditional identification requirement: the claim that the earlier action changed a subsequent choice set needs observations of the intervening process and a defensible comparison, not merely repeated co-occurrence. The link discipline in Equation 25 permits the different records to be assembled, but a positively admitted linkage remains conceptually distinct from an identified feedback effect. Table 21 organizes the sequence tests and plausible rival mechanisms, including external continuity, institutional learning, and balancing correction.

Historical access to a service can also depend on an actor's contemporaneous knowledge. A provider may become available later, yet that later availability cannot retroactively expand an earlier participant's feasible choices. Similarly, a later published performance indicator may summarize practices whose earlier meanings were different. The evidence audit should therefore record the dates of observations and relevant decision opportunities, as well as the time at which the researcher obtained the documents.

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Table 21: Evidence audit for candidate feedback in volunteer-aid political economy

Analytical object	Relevant manifestations and comparisons	Inference requiring additional support
Initial dependence	Earlier provider options, access terms, authorizations, contracts	Original causes of dependence
Repeated practice	Dated assignments, procurement episodes, referral records	Self-reinforcement rather than recurrence
Resource renewal	Reinvestment, replenishment, skill records, unpaid burdens	Causal improvement of future capacity
Decision concentration	Versions of rules, gatekeeping records, review decisions	Exercised domination or legitimate authority
Alternatives and exit	Documented substitutes, timing, transition requirements	Practical feasibility for every affected position
Recognition and learning	Training, feedback, publicity, changed categories	Beneficial organizational learning
Temporal shock or reform	Before/after observations, relevant external events	Attribution of change to the focal intervention
Contestation and adaptation	Appeal outcomes, negotiated revisions, new channels	Durable redistribution of power

The three-level interpretation permits strong descriptive claims when supported while retaining uncertainty where the history is incomplete. It does not convert observed regularity into an ontological law or a demonstrated normative obligation. Its practical contribution is to specify which records would help distinguish competing interpretations of a sequence.

21.9 Constructed Comparisons of Reinforcement and Institutional Change

Case A: cumulative expertise in hospital-adjacent language support. Consider a hypothetical service in which multilingual volunteer assignments repeatedly pass through one experienced coordinator. The coordinator's accumulated familiarity with availability, terminology, and access rules may improve matching and decrease operational errors. Another interpretation is that prior centralization restricts training opportunities for alternative coordinators, increasing reliance on one position. A third possibility combines operational learning with deliberate distribution of coordination knowledge. Discriminating evidence would include dated training opportunities, assignment quality assessments, access to records, opportunities for competent substitutes to act, and consequences when the coordinator is temporarily unavailable. A high number of completed assignments alone would be insufficient to classify the feedback.

Case B: public transport assistance and changing referral networks. Imagine a municipal volunteer-transport programme whose referrals increasingly originate from a small set of partner institutions. Referral concentration may reflect trusted coordination and lower communication costs. It may also arise because existing partners influence which requests reach the programme and which neighborhoods remain unrepresented. New partnerships could extend access while increasing administrative burdens. A comparative record would distinguish changes in the population of potential users, formal and informal referral criteria, feasible travel arrangements, rejected requests, and the costs borne by volunteers and households. The resulting history might show reinforcement in one neighborhood and balancing adaptation in another; neither would be adequately described by a single programme-wide growth rate.

Case C: emergency accommodation, funding renewal, and institutional replacement. Consider a hypothetical accommodation network in which repeated short-term grants favor organizations with established reporting capacity. The resulting recognition may improve funding continuity and service coordination. It may also constrain participation by smaller groups that lack the administrative resources needed to meet the same reporting conditions. Following an external shock, the funder might introduce a consortium arrangement and a shared documentation platform. Potential histories include improved accessibility, newly concentrated control over participant information, or simultaneous changes of both

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kinds. Dated grant conditions, actual service access, costs of joining the consortium, appeals or correction outcomes, and renewal decisions would be required to discriminate these interpretations.

Each case is a constructed analytical comparison. Its function is to clarify what the proposed formalism makes visible and what its evidence requirements exclude from premature conclusion. None describes a documented hospital policy, municipality, donor, or shelter system.

21.10 Empirical Identification, Normative Interfaces, and the Boundary with Historical Systems

A feasible research design would begin with a bounded service process and a small set of linked decision episodes. Records should be indexed by the period to which they refer, the period of their production, the unit of analysis, and the authority under which they were created. Interviews and documentary observations can reconstruct intentions, perceptions, and procedural opportunities. Their convergence can strengthen a causal account; their disagreement may reveal incompatible informational positions or errors in the initial research boundary.

Candidate feedback mechanisms require discriminating observations. A path-dependence explanation should show how prior adoption changes later costs or feasibility beyond the persistence of an external rule. An institutional-learning explanation should identify an alteration in competence, procedures, or decision quality and examine alternative sources of that alteration. A burden-shifting explanation should connect changes in recorded institutional resources with independently investigated costs among volunteers, recipients, households, or collaborators. A counterweight explanation should document changes in the accessibility and consequences of voice, review, and institutional correction. Rival explanations include changing demand, new regulation, external prices, staff turnover, and altered reporting practices.

The relevant normative questions remain separate. Reinforcement can sustain valuable relationships or reproduce exclusion; balancing measures can distribute burdens fairly or impose them on those least able to contest decisions. Judgments concerning exploitation, institutional legitimacy, rights, consent, and duties require legal and ethical premises and contextual evidence beyond a historical-flow description. The interfaces with relational justice and the ethics of volunteer intervention are therefore matters for explicit assessment rather than consequences of the feedback register.

Paper VIII contributes a domain-bounded political-economic vocabulary for investigating historically accumulated resources, concentration, practical dependence, and adaptation within volunteer aid. Paper IX may take these mechanisms as inputs to broader questions about relational system formation, long-term subject co-constitution, and historical transformations across institutional fields. The distinction protects the present paper's explanatory focus. Its next section can compare finite diagnostic configurations using the components established here and earlier in the paper, while treating their empirical identification as a separate task.

22 Finite Diagnostic Configurations of Political-Economic Aid Relations

The political-economic framework developed in Sections 1–21 identifies resources, labour, institutions, classification, valuation, bargaining, and historical feedback as potentially coupled conditions of practical support. This section develops a bounded procedure for examining these determinants together. Its objective is to specify what constitutes a finite political-economic diagnostic configuration, how heterogeneous evidence can be joined without erasing its provenance, and how plausible explanatory mechanisms can be compared while preserving unresolved cases. The argument combines conceptual analysis, a typed formal representation, an evidence audit, and three constructed comparisons. The resulting diagnostic is a research instrument for a specified aid setting and interval. It supplies neither a comprehensive system model nor an empirical estimate of welfare, power, or justice.

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22.1 Diagnostic Questions, Case Boundaries, and the Unit of Analysis

A finite configuration begins with a research question whose domain can be identified. A question about whether funding conditions shift unpaid coordination costs requires a different observational unit from a question about whether a recipient can obtain a service after an eligibility revision. A possible case boundary consists of a programme, an institutional interface, a finite group of participating positions, a named service commitment, and an interval containing the events needed to examine the candidate mechanisms. A bounded history may include earlier conditions when they materially influence current dependence or capacity. The researcher should state the rule that admits those earlier conditions into the case.

The case includes positions whose contributions or feasible options may be affected even when they are omitted from an organization's service statistics. Recipients, volunteers, paid coordinators, household contributors, donors, brokers, public authorities, and evaluative actors may enter at different points. The boundary therefore follows a specified relation and its relevant external dependencies, subject to disclosure safeguards and the available evidence. It is unsuitable to define the population solely by who appears in the programme's published success indicator when the diagnostic question concerns unrecognized labour or excluded claims.

A finite boundary also entails deliberate omissions. The researcher records whether adjacent programmes, wider policy changes, parallel volunteer networks, and long-term household burdens have been excluded, approximated, or included through selected observations. The boundary may be revised when these omitted relations plausibly reverse an interpretation. Boundary revision should be versioned, as changes in a denominator, subject population, or observation interval can change the resulting comparison even when the underlying events are unchanged. These decisions determine the scope of an admissible answer, rather than an assertion that an aid relation naturally ends at an administrative border.

22.2 Selection of Existing Registers and Analytical Economy

The paper has introduced several distinct records because different questions require different evidence. The resource-flow and dependence constructions of Section 5 address control, conversion, and substitutes. Section 6 addresses work and the conditions for renewed capacity. The matching and pathway assessments in Sections 7 and 10 concern time-sensitive access. The classification and measurement discussions in Sections 9 and 11 concern recognition, evidential presentation, and institutional visibility.

Other registers concern contractual discretion, heterogeneous valuation, public credit, return expectations, responsibility reallocation, value circulation, incentives, practical alternatives, effective contestation, and historical feedback. A diagnostic case typically needs only a selected subset. The selection rule is governed by the proposed mechanisms, potential rival accounts, the relevant harms and benefits under examination, and the possibility of obtaining evidence. Invoking each preceding register merely because it exists would multiply fields without improving explanation.

The minimal question in selecting a register is whether excluding it would leave a material distinction invisible. If a proposed financial explanation depends on unpaid household support, a budget-only account omits part of its reproduction conditions. If institutional review has no apparent relation to the research question, a detailed review register may be unnecessary. When a register is included, its components retain their original types, meanings, evidence restrictions, and observational scope. Cross-register synthesis is therefore a typed linkage exercise, with explicit reasons for inclusion and omission, rather than construction of a maximal scalar indicator or a mechanically concatenated list of every available variable.

The types also occupy different levels of construction. Table 22 distinguishes an overall description of a bounded setting, event- or decision-level records, conditional feasibility assessments, and the evidence joins by which records enter a research case. The grouping is functional: a particular observation can be relevant to more than one family without requiring duplicate events or equivalent valuations.

The crosswalk in Table 22 also separates *schema* from *instance*. A symbol such as $\mathfrak{C}_{e,t}^{\kappa,\rho}(h)$ is one

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Table 22: Analytical roles of earlier constructions in a finite aid diagnostic

Construction family	**Representative objects**	**Role and boundary in the finite configuration**
Scope and relational mediation	Political-economic configuration; historical subjects; third-position operations (Sections 1–4)	Fix the research object, participating positions and role-sensitive interfaces; neither identify every affected subject nor prove ultimate ontology
Resources and capacity	Resource events, dependence comparisons, work-reproduction records, matching, and continuity (Sections 5–8)	Preserve stocks, burden incidence, conversion conditions, feasible tasks and temporally dependent renewal as separate evidence types
Access and institutional visibility	Classification, pathway, and reporting assessments (Sections 9–11)	Distinguish rules and observed access from eligibility, reported totals and unobserved exclusions
Institutional and social valuation	Contract terms, valuation, public credit, reciprocity, and public responsibility (Sections 12–16)	Locate authority over translations, obligations and attribution; preserve heterogeneous normative and monetary units
Circulation and power	Return paths, incentives, option histories, and decision-control episodes (Sections 17–20)	Trace possible effects on options and capacity; distinguish graph paths, actual decisions and causal attribution
Historical development	Dated feedback episodes (Section 21)	Compare reinforcing, balancing and externally sustained histories without inferring lock-in from persistence

proposed event description; admitting several such instances under $\mathcal{E}_j(B, T; \kappa)$ does not imply that each local component of a tuple is independently observable. A finite type selection $\mathcal{J}$ refers to record *kinds*, not to the similarly sounding mediated-operation relation $\mathsf{Med}^{\kappa}_{h,t}$ of Equation 4. Event and role identifiers must be scoped to their originating systems. A match between two variables called e or r is never, on its own, a cross-record identity claim. The indices e, t, h generally refer to event, local time or interval, and bounded history, respectively; κ refers to evidence access and standing, while π and ρ, when used as superscripts, can name distinct local procedures or valuation protocols. Their symbols are interpreted through the declaration in each section, not by imposing a common global codomain on different disciplines.

The diagnostic protocol should distinguish four evidence states: *supported observation*, *assessed absence or exclusion*, *unresolved or contested observation*, and *outside the selected research scope*. These concern evidence status and inclusion. The three-valued assessments for matching and pathway feasibility in Equations 8 and 12 are instead judgements about a candidate under specified conditions. In particular, a supported match does not certify an entire service pathway; a supported collection of individual steps does not certify their joint compatibility; and a period omitted from the conditional coverage set of Equation 9 can remain undetermined. A defined empty attribution or feasible-action set requires positive evidence under a declared coverage rule, whereas an undefined partial map records insufficient grounds. Competing testimonial accounts may coexist as separate attributed records even where sufficient data exist to document a formal institutional decision. This protocol keeps heterogeneous uncertainty explicit without manufacturing a common scalar confidence score.

The case-level construction in Equation 24 is therefore an assembly rule for selected evidence, not another event register of the same type. A decision-control episode in Equation 22, for instance, can be admitted as one observation whose relations to resource and classification events must be separately justified. The different dimensions and symbols do not imply a common scale or a one-to-one correspondence between their fields.

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22.3 Cross-Register Identities, Temporal Joins, and Provenance

An aid event can appear in a volunteer timetable, a funding report, a recipient account, and an authorization log. These records may employ different units and identifiers. A common case requires explicit rules for deciding when two entries refer to the same event, when a position changes occupants, whether an interval overlaps another, and how the timing of a decision relates to that of a reported outcome. An organizational name can remain constant while its contractual authority changes; conversely, a single participant may appear under several roles. Stable labels alone establish neither historical identity nor equivalence of responsibility.

Cross-register linkage should record the identifier and date conventions, the evidence supporting the join, the status of consent or permissible use, and the losses introduced by aggregation. An administrative service-hour record may link to a scheduling event yet remain uninformative about the same participant's off-site preparation. An aggregated funding statement may establish the availability of a category of funds while leaving the actual timing of conversion unobserved. A recipient report may identify a completed encounter without uniquely identifying the payer of each component of work. The appropriate result in these circumstances is a partially supported join. For each proposed join, the analyst should distinguish event identity, temporal compatibility, the comparability of measured units, and authorized use of the underlying records. Evidence of shared timing alone establishes none of the other conditions. A failed compatibility test should be retained as an excluded join under the stated rule; an untested or inaccessible condition should remain unresolved. This local discipline prevents a single weak join from silently propagating across multiple registers.

For the purpose of an auditable join, a proposed link carries a *relation declaration* θ specifying what is asserted: identical underlying event, common person occupying different roles, predecessor episode, shared resource commitment, or another justified correspondence. These alternatives have distinct evidential criteria. A shared identifier can be sufficient under a documented unique-key system; matching names or nearby times may yield only candidate correspondences. For a directed historical relationship, temporal compatibility concerns the ordering required by θ, including permissible lags and interval uncertainty. It need not mean that both records describe the same instant. A join between monetary and qualitative accounts also requires a type-specific interpretation, while retaining their different units.

Particular care is needed with negative evidence. Absence of a corresponding reimbursement entry in the examined ledger can support a claim about the contents of that ledger within its known coverage. It generally provides weaker support for the conclusion that no reimbursement was ever made through any channel. Similarly, an empty recorded grievance list may reflect successful treatment, restricted reporting, unsuitable categories, or unexamined channels of contestation. The diagnostic should retain the provenance and coverage of the evidence used to support each statement. Privacy-preserving linkage and secure separation of identifiable data are methodological conditions of responsible investigation rather than reasons to infer that inaccessible information is absent.

22.4 A Bounded and Typed Configuration Representation

A finite diagnostic can be represented as an explicitly indexed collection of selected records and their admissible relations. Let B denote the declared case boundary, T a finite set of time intervals, $\mathcal{J}$ a finite set of selected register types, and κ the evidential standpoint. Let $\mathcal{E}_j(B, T; \kappa)$ be the set of admissible observations or partial records of type j under that boundary. A diagnostic configuration is expressed in Equation 24.

$$\mathfrak{D}^{\kappa}_{B,T} = \big(B, T, \mathcal{J}, \{\mathcal{E}_j(B, T; \kappa)\}_{j\in\mathcal{J}}, \Lambda^{\kappa}_{B,T}, \mathcal{U}^{\kappa}_{B,T}\big), \tag{24}$$

Here $\Lambda^{\kappa}_{B,T}$ is a finite set of typed, provenance-qualified cross-record links, including temporal and role correspondences. The component $\mathcal{U}^{\kappa}_{B,T}$ registers unresolved identities, disputed observations, unavailable values, possible rival joins, and declared exclusions. Finiteness applies to the records and relations admitted to this research operation. It makes no claim that the underlying social histories or relational processes are finite. The construction inherits partiality, rather than transforming it into zero values or presumed absence.

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The admissibility of cross-register links can be stated as a finite, evidence-qualified guard rule. For a candidate $\ell = (j, x, k, y, \theta)$ with $j, k \in \mathcal{J}$, $x \in \mathcal{E}_j(B, T; \kappa)$, $y \in \mathcal{E}_k(B, T; \kappa)$ and a declared link relation θ, let each guard $G_g^\kappa(\ell)$ take values in $\{1, 0, \mathrm{u}\}$, representing supported satisfaction, supported failure, or an unresolved assessment. The five guards concern record-type admissibility, the asserted relational identity or correspondence, temporal compatibility with θ, traceable provenance, and authorized use for the proposed comparison. The admission condition is specified in Equation 25.

$$\begin{aligned}\Lambda_{B,T}^{\kappa,+} = \big\{\ell = (j, x, k, y, \theta) \;\big|\; & x \in \mathcal{E}_j(B, T; \kappa),\ y \in \mathcal{E}_k(B, T; \kappa), \\ & G_g^\kappa(\ell) = 1 \quad \text{for all } g \in \mathcal{G}\big\}, \\ & \mathcal{G} = \{\text{type}, \text{relation}, \text{time}, \text{provenance}, \text{permission}\}.\end{aligned} \tag{25}$$

The positively admissible links $\Lambda_{B,T}^{\kappa,+}$ instantiate the $\Lambda_{B,T}^{\kappa}$ component of Equation 24; the superscript $+$ makes the evidential threshold explicit. A candidate with a supported failure in any necessary guard is excluded for that declared link and protocol. A candidate with at least one unresolved guard and no supported failure enters the uncertainty register $\mathcal{U}_{B,T}^{\kappa}$, including the reason for nonadmission. This three-valued rule licenses neither unrestricted record matching nor a claim of causal effect. In particular, a positive join under a sequential θ establishes an admissible temporal comparison; it does not certify that the earlier event produced the later event. The authorization guard concerns ethical and institutional permission to use evidence; the availability of a data field is never itself proof of permission. A restricted record can still be recognized as an unresolved evidential obligation without exposing its contents.

Evidence revision and the limits of link composition. The admitted-link set is indexed by an evidential standpoint κ and a declared boundary B, T. It must be *recomputed* when relevant records, coding protocols, authorizations, or case boundaries change. Thus, a link supported under κ_0 may become unresolved or excluded under κ_1; the earlier status remains part of the versioned audit history, while the later configuration uses the guards supported at the later standpoint. Positive record linkage is accordingly revisable and need not increase monotonically when new evidence becomes available. This matters when a participant withdraws a data-use authorization, a mistaken identifier is corrected, or previously consistent encounter dates are revised. A restricted link can be marked as withdrawn without retaining or disclosing the underlying protected content.

Admitted pairwise links also provide no general rule of transitive *analytical* composition. If a resource event precedes a staffing decision, and a staffing record corresponds to a service episode, their linkage does not automatically identify the resource event as a cause of that service episode or establish an admissible direct link of a new relation type. Such a derived claim requires an explicitly typed composition protocol and its own evidential and permission assessments. A declared identity relation can have different formal properties from precedence, shared resource membership, or similarity of role; the analysis must preserve those differences. These restrictions apply to the inference constructed from Equation 25, not merely to archival bookkeeping.

The feasibility registers also require a directed evidential rule when integrated: an option supported in one scenario and unobserved in another cannot be coded as a demonstrated loss. The loss-of-options assessment in Equation 6 therefore combines supported feasibility with *positively evidenced counterfactual exclusion*, rather than subtracting two lists of known possibilities. Similarly, supported service coverage in separate periods (Equation 9) does not establish a feasible joint history; the intertemporal witness test in Equation 10 must additionally check shared stocks, participant schedules, institutional restrictions, and renewal. These two examples make the distinction between positive evidence, missing counterfactual information, and admissible composition consequential for the whole-case configuration.

Equation 24 is deliberately more economical than a new master event ontology. It packages earlier tools without redefining their fields. Its usefulness depends on an independently specified question, admissibility protocol, and evidence base. The set $\mathcal{J}$ is allowed to vary with B and the question. Thus, two cases may instantiate different configurations while remaining comparable on an explicitly declared common projection. This feature limits false completeness and supports a research programme in which

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the pertinent configuration space depends on the questions and observations available. Mathematical set membership here is descriptive bookkeeping; it does not establish causal influence, an ethical ranking, or the completeness of the case.

22.5 Conditional Comparability and Partial Projections

A comparison between two aid settings requires specification of the features and boundaries on which comparison is intended. A hospital interpretation programme and a community transport programme may share dependence on volunteers, donor restrictions, and institutional permissions while differing in professional regulations, the nature of the support, and the admissible indicators of service completion. Treating them as equivalent because both record volunteer hours could obscure the mechanism relevant to a claim of financial sustainability or recipient access.

A comparison protocol can identify a common set of register types $\mathcal{J}_c$ and a collection of qualified transformations between their relevant fields. Such a protocol should disclose any aggregation, currency conversion, time normalization, institution-specific coding, or change in the definition of service. If two configurations cannot be mapped onto a shared object at a justified level of abstraction, the finding can be an explicit failure of comparability. Incomparability is analytically meaningful where institutions use distinct representations of need, beneficiaries, unpaid labour, or value.

Comparisons should distinguish four outcomes: a feature observed with supported correspondence; a feature assessed as different within a reliable common frame; a feature remaining undetermined owing to missing information; and a feature for which the proposed translation is inapplicable. The latter two cases require different treatment. Missing financial data in an otherwise common accounting system could sometimes be obtained; the absence of a defensible common unit for recipient dignity and donor expenditure is a conceptual issue. Section 13 supplies the relevant limits on valuation translation. Comparability remains relative to the declared protocol rather than an intrinsic equivalence of whole institutions.

22.6 Competing Mechanisms and Causal Discipline

Integrated records can support more discriminating hypotheses when their temporal order and control relations are specified. Consider a rise in reported service throughput following a change in funding rules. Candidate mechanisms include a real increase in usable staffing, redistribution of attention toward countable activities, changed classification thresholds, reporting artefacts, and changes in demand composition. A finite diagnostic specifies observations that each candidate mechanism would make more or less plausible. It also records what evidence could overturn the current interpretation.

George and Bennett's treatment of structured comparison and within-case process tracing supplies methodological resources for discriminating candidate explanations without treating a numerical indicator as sufficient proof [35]. The present configuration formalism remains a separate preliminary proposal. A temporally ordered record may show that a reporting rule changed before case selection changed. Such sequencing strengthens some explanations but can also be consistent with contemporaneous staffing, policy, or population changes. Establishing a mechanism may require decision records, participant accounts, internal procedures, and comparison with relevant alternative periods or institutions.

An analyst can mark evidence as diagnostic for a proposed mechanism only relative to a stated theory of how the mechanism operates. Test designs should specify countervailing evidence, alternative causes, and whether the relevant trace would reasonably have been observed if the mechanism were present. A formal account of a resource pathway remains distinct from an identified counterfactual change in outcomes. In this section, hypothetical cases illustrate research designs; they provide neither empirical confirmation nor parameters suitable for forecasting. Later empirical work may use statistical, comparative-historical, qualitative, experimental, or computational methods when the required data and design assumptions can be defended.

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Table 23: Evidence and inference audit for finite political-economic aid configurations

Object	Evidence or representation	Principal limit
Case boundary	Service, participating positions, intervals and exclusions	Excluded links may change interpretation
Typed records	Resource, labour, access, valuation and control observations	Different field types cannot be silently merged
Cross-record joins	Identifiers, time correspondence and provenance	Apparent coincidence need not identify one event
Unknown information	Missing, disputed or protected attributes	Missing observations do not equal zero or absence
Candidate mechanism	Temporal sequence, actor account and rival traces	Association alone does not establish causation
Three-level inquiry	Ontological suspension, relational hypothesis, manifestation trace	Observations partially represent relational reality
Normative or legal claim	Applicable rules, rights, duties and justified ethical reasons	Description and efficiency are insufficient warrants
Revision history	Versioned case boundaries, protocols and new evidence	Results depend on the chosen research specification

22.7 Three-Level Reality and Epistemic Status Auditing

The three GR reality levels guide the use of a finite configuration. At the ontological level, the ultimate nature of value, subjectivity, obligation, and power remains suspended. At the relational level, a diagnostic proposes historically constituted subjects, resource conditions, institutional permissions, and causal or generative relations that could explain the case. At the manifestation level, investigators encounter budgets, logs, interviews, eligibility criteria, donor reports, interface states, and public decisions through historically situated access channels. The configuration in Equation 24 is a fallible representation assembled from these manifestations, rather than a literal map of ultimate being.

Table 23 states the evidence distinctions that constrain cross-register diagnosis. The audit should be completed at the level of a specific claim and its supporting records. If a claim moves from observed association to historical causation, or from causation to moral judgment, it requires additional warrants whose adequacy must be assessed independently.

The three-level audit also requires attention to conflicting manifestations. A funding report, a volunteer's account, and a recipient's experience may each capture different dimensions of the same activity. An evidential conflict can reflect error, disagreement about classification, differential standpoint, or separate aspects of the relation. The task of historical inquiry is to investigate the source of divergence. A single preferred record should be justified by its relevance and reliability, with the limits of the comparison made explicit.

22.8 Constructed Diagnostic Configuration of Hospital Language Support

Consider a hypothetical hospital support programme with a bilingual volunteer roster, a contracted interpretation provider, donor funding for language services, and an institutional rule distinguishing clinical interpretation from nonclinical navigation. A quarterly report records a larger number of completed language-support encounters. The bounded research question concerns whether additional assistance became accessible to recipients and whether the same arrangement redistributed costs or control among participants. Relevant records may include authorization rules, shift assignments, provider invoices, recipients' permissible accounts, a classification protocol, and accounts of preparation or travel time.

Three candidate mechanisms may generate the same reported increase. Expanded available language capacity may enable more encounters. A revised reporting category may count previously excluded nonclinical encounters. Alternatively, increased reliance on volunteers may replace paid coordination time without increasing the range of requests that can be served. Different combinations are possible.

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Evidence joining the funding, staffing and service records must identify which encounters fall within each category and which costs or displaced tasks remain outside published reports.

Repeated use of a generic language-support setting in Sections 9, 10, 11, 18, 19, and 20 serves different analytic questions. Those sections respectively investigate recognized claims, usable pathways, reporting conventions, incentive responses, exit options, and effective review. Their cases are independent hypothetical variations, not observations from a shared dataset. A unified study would need to establish common participant identities, temporal order, consistent units, and admissible cross-record links before combining the proposed mechanisms.

This case makes selective register inclusion concrete. The diagnostic needs access, labour, funding, classification and decision-control records. A detailed symbolic-credit record would be included only if recognition or attribution affects the funding or recruitment mechanism under examination. A counterfactual conclusion about what would have occurred without volunteers remains open unless additional design assumptions and evidence are supplied. Clinical permissions, confidentiality, consent and professional boundaries are independently assessed within the governing setting; a successful diagnostic join grants no authorization to cross those boundaries.

22.9 Constructed Diagnostic Configurations of Transport and Emergency Accommodation

A hypothetical community transport association relies on a municipal grant, volunteer drivers, vehicle maintenance, and household support for volunteer availability. Its annual report shows stable completed journeys despite a decline in unrestricted reserves. A resource-only diagnosis may suggest operational continuity; a broader configuration can ask whether unpaid scheduling time increased, volunteer withdrawal became more costly, and repairs were postponed. Competing interpretations include improved logistics, temporary cross-subsidy, deferred maintenance, and a genuine decline in demand. The finite boundary should include the periods in which repair commitments and volunteer availability become consequential. Apparent stability in journey counts may coexist with distinct future capacities.

In a second hypothetical programme, emergency accommodation depends on a municipal agreement, a nonprofit coordinating organization, several temporary sites, and volunteers handling referrals. A change in the public contract coincides with shorter recorded intake times. An initial account credits newly unified scheduling. Other candidates include a tighter eligibility definition, a changed start time for measuring delay, or displaced burdens borne by external referral organizations. Tracing the same applicant pathway through classification, scheduling, refusal and accommodation records may discriminate some alternatives, subject to safety and data-access restrictions. A person’s exclusion may remain difficult to observe precisely because that person never entered the institutional service registry.

These two examples share a methodological pattern while differing in applicable tasks, authorization, confidentiality, and evidential feasibility. The transport programme emphasizes temporal renewal of material and volunteer capacities; the accommodation programme emphasizes classification and interface control. Their common projection can compare changes in the practicability of support and the distribution of burdens. It cannot assume a common scale for journeys, accommodation, recipient experience, and organizational legitimacy. The proposed links in these examples would require the type-, identity-, time-, provenance-, and permission-specific guards of Equation 25; matching case titles or calendar periods supplies no substitute. Both cases are constructed diagnostic exercises and are unrelated to factual claims about identifiable providers.

22.10 Research Outputs, Sensitivity, and Interfaces with Later Inquiry

A completed finite diagnostic yields a documented case boundary, a list of selected register types, qualified links across those records, an uncertainty and exclusions record, one or more candidate mechanisms, and a set of evidence requirements for discriminating them. The output may identify an institutionally relevant dependency without proving that it causes a harm; it may identify a shift in unpaid burdens

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without settling the legitimacy of that shift; and it may explain why a published metric cannot distinguish among particular historical pathways. These are useful bounded research findings even when a comprehensive causal verdict remains unavailable.

Sensitivity analysis examines whether an interpretation changes when the interval, population, join rule, accounting convention or assumed available alternatives change. An interpretation strongly dependent on treating a disputed record as complete should be presented as contingent. When evidence is insufficient for a proposed join, a diagnostic can retain several compatible configurations rather than choose a convenient one. The documented selection of registers also permits principled extension when a newly relevant relation emerges. Versioned changes make disagreement inspectable and revision scientifically meaningful.

The case-level synthesis is complemented by Section 23, which develops verification and empirical research designs; Section 24, which separates interdisciplinary questions; and Section 25, which summarizes the open obligations. Paper IX remains the appropriate place for broader accounts of historical system formation. Within Paper VIII, finite configurations provide a limited method for studying the political economy of particular volunteer-aid relations without converting their heterogeneous histories into an assumed universal ordering of welfare or value.

23 Verification, Measurement Limitations, and Empirical Research Designs

The political-economic configurations developed in this paper require explicit procedures for deciding which claims are supportable by observation, which mechanisms remain compatible with available evidence, and which causal questions could be investigated under an appropriate research design. This section specifies those procedures for bounded volunteer-aid settings. It first distinguishes formal validity, measurement adequacy, and causal identification; then examines sampling, missing information, comparison strategies, and the ethics of evidence production. A claim-specific evidence-warrant construction, an audit table, and three hypothetical study designs identify practical tests and potential failures. The proposed approach combines historical inquiry, qualitative evaluation, administrative analysis, and conditional causal designs. It specifies requirements for future empirical work; it reports no field study, intervention, validated instrument, or estimated programme effect.

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23.1 Verification Questions and the Separation of Inference Levels

A useful diagnostic begins by identifying the kind of statement being assessed. The assertion that a transport voucher was issued, the assertion that the voucher made a journey feasible, and the assertion that issuing vouchers increased access relative to a specified alternative are three claims with different evidential requirements. The first may be examined through issuance records, appropriately checked for coverage and accuracy. The second requires information about eligibility, usable transport, recipients' circumstances, timing, and relevant permissions. The third additionally invokes a comparison between outcomes under different assignments or conditions and consequently faces problems of selection and confounding. Calling all three statements an "evaluation of access" conceals those differences.

We distinguish five tasks: *syntactic and formal verification* of the representation; *measurement validation* of its observable fields; *historical reconstruction* of events and practical positions; *causal assessment* of candidate mechanisms; and *normative or legal evaluation* of the arrangement. Their results can inform one another, while their standards of warrant remain distinct. A correct cross-reference, logically typed register, or computationally consistent case configuration supplies a check on representation. It establishes neither the accuracy of a donor report nor the legitimacy of a volunteer assignment. Likewise, a strong causal study of a narrow service outcome need not resolve whose contribution was fairly recognized or which institutional obligations were lawfully discharged.

The finite configuration in Equation 24 supplies a bounded entry point. A research design must identify the claims that justify its selected register types, the accessible observations that could bear on those

claims, and the counterevidence that would prompt revision. For each substantive claim, investigators should state whether the objective is description, explanation, forecasting, comparative evaluation, or normative argument. Evidence gathered for one objective may be useful for another, provided its new use is justified. The research programme thus remains open to both integrative explanations and findings that reveal limits of the formal vocabulary.

23.2 Construct Specification and the Measurement of Relational Properties

Several political-economic terms in this paper designate relational constructs whose empirical presentations are heterogeneous. *Dependency* may involve substitutability, delays, material exposure, restrictions on access, and the consequences of withdrawal. *Gatekeeping* may concern decision rights, interfaces, discretionary filtering, and effective review. *Relational generativity* concerns historically situated possibilities for sustaining or developing capacities, for which a single short-term service count provides only partial evidence. A construct must therefore be defined for the relevant population, institutional setting, period, and mode of access before an indicator is chosen.

Cronbach and Meehl's account of construct validation asks how observational tests connect to theoretical attributes within a nomological network, allowing multiple and potentially competing empirical implications to inform interpretation [18]. This supplies a methodological antecedent for testing whether a chosen aid indicator genuinely tracks the proposed relational property. The present paper extends that question to political-economic relations without assuming that they are standardized psychological traits. For example, a count of completed referrals may be a reliable count under a declared recording protocol yet a weak representation of recipients' effective opportunities to obtain services. A percentage of volunteers retained through the quarter may be informative about programme continuity while remaining silent about unpaid burdens among those who stayed. Construct adequacy depends on the connection between the proposed object and the measurement operation.

The protocol should record the unit of observation, the rule for inclusion, a versioned definition, the relevant decision-maker, and the likely sources of classification error. Where more than one standpoint is relevant, the researcher should preserve permissible recipient, volunteer, coordinator, and funding records as distinct evidential contributions. Agreement may increase confidence about a specific event; disagreement can also be informative about different meanings attached to the same event. Translation between registers should remain conditional upon an explicit convention, as developed in Section 13. Measurement validation therefore includes examination of rival operationalizations and circumstances in which they give materially different answers.

23.3 Observation Coverage, Denominators, and Missingness Mechanisms

Aid records frequently reflect institutional selection before an analyst encounters them. A register of completed encounters omits requests that never reached intake, applications rejected before formal submission, interrupted referrals, and participants who avoided a reporting channel. A volunteer roster identifies formally registered participants while potentially excluding household support, informal translation, and preparation occurring outside recorded shifts. A donor report may aggregate service categories whose boundaries changed across reporting periods. Consequently, missing information has several possible origins: unrecorded activity, restricted disclosure, incompatible identifiers, absent observation, participant nonresponse, and deliberate exclusions determined by the administrative protocol.

Rubin's analysis of inference under missing data provides a precise reminder that some methods for ignoring missingness require assumptions about the missingness process [73]. It would be unwarranted to infer that volunteer-aid omissions satisfy such conditions by default. For instance, recipients unable to navigate an online request form may be particularly likely to be absent from the service dataset whose accessibility is being evaluated. An imputed zero or a complete-case analysis could then systematically alter the estimated population of unmet requests. Investigators should maintain a provenance-qualified missingness register that distinguishes a known zero, an unobserved event, an excluded field, a protected value, and an inconsistent report.

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Denominators should be recorded with equal care. A programme might report the fraction of approved requests completed, the fraction of all submitted requests completed, or the fraction of potentially eligible people reached. These fractions address different questions, and the last denominator may be poorly identified. The design should preserve dated versions of eligibility criteria, intake capacity, changes in geographic coverage, and opportunities for alternative service provision. Sensitivity comparisons can examine how conclusions vary under explicitly stated ranges for missing requests or under plausible changes to the observation boundary. A statement about the observed sample remains legitimate when its denominator and exclusions are transparent; generalization to the surrounding population requires additional evidence.

For a narrow binary outcome, uncertainty can sometimes be bounded without imputing the missing observations. Suppose a *genuinely enumerated*, fixed and lawful population of $N > 0$ requests has a consistent case definition. Let c be positively documented completions, f positively assessed noncompletions, and u unresolved outcomes, with disjoint classification and $N = c + f + u$. Assume that the outcome for each request is either completed or uncompleted under that definition, and that the accepted classification contains no errors. The possible completion proportion p then satisfies Equation 26.

$$\frac{c}{N} \;\le\; p \;\le\; \frac{c+u}{N}, \qquad N = c + f + u > 0. \tag{26}$$

The bounds are sharp under the stipulated binary-outcome and fixed-frame assumptions: every unresolved request may count as an uncompleted or completed case. If no unresolved outcome remains, both bounds coincide. If the register contains only successfully linked or completed requests, or if the target population cannot be enumerated, N is unidentified and Equation 26 does not yield a population proportion. A mismatch between the classified total and a documented frame size instead signals a counting or boundary problem requiring investigation. Neither positive cross-register admission under Equation 25 nor an apparent improvement within the linked subset justifies silently discarding unlinked cases. These descriptive bounds rely on correct classification and do not identify a treatment effect, resource dependence, or legal compliance. Publication of the counts remains subject to lawful access, confidentiality, and disclosure-risk review.

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23.4 Temporal Ordering, Cross-Register Reliability, and Rival Histories

The causal interpretation of a political-economic relation often depends on event order. A funding restriction may precede a change in volunteer shifts, yet other administrative reforms or demand fluctuations may have occurred at the same time. A donor's increased visibility may follow a service expansion without being its cause. An apparent rise in recipient complaints can follow both declining service quality and improved access to grievance mechanisms. Dated evidence is therefore necessary for historical reconstruction and insufficient on its own for causal identification.

The case-study methods of George and Bennett and Yin emphasize explicit case design, within-case inquiry, and examination of plausible rival explanations [35, 95]. A proposed mechanism should generate traces that can be sought in the record. If a contractual change is hypothesized to shift preparation labour to volunteers, the researcher might examine revised job descriptions, dated rosters, reimbursement records, interviews, and the continuity of service demand. A rival account could attribute the change to volunteer-initiated reorganization, a staffing shortage, or a different classification of the same activity. The evidence is more informative when the investigator specifies in advance which observations would discriminate between these histories.

Cross-register joins warrant independent scrutiny. A payment identifier, service event, volunteer shift and recipient account may appear to describe one encounter while referring to overlapping but nonidentical work. Identity matching should therefore record the matching rule, time tolerance, institutional authority, uncertainty, and privacy constraints. Where a unique linkage cannot be established, the configuration should preserve multiple compatible links rather than invent a canonical event. The partial joins developed in Section 22 support exactly this treatment. A contested join may change whether costs

appear internalized by an organization or borne by a household, making linkage uncertainty politically relevant as well as technically relevant.

23.5 Claim-Specific Evidence Warrants and Revision Protocols

A finite diagnostic becomes empirically useful when its claims are associated with evidence that could support, weaken, or leave them unresolved. Let Π be a declared research protocol specifying the question, population, observation rules, admissible data, comparison strategy, and permissible inferential scope. Let q denote one claim within that protocol and κ the evidential standpoint. The proposed claim-specific warrant dossier $\mathscr{W}_{\Pi}^{\kappa}$ is represented in Equation 27. It is a protocol-level research assessment and has a different type from the work-reproduction event $\mathfrak{W}_{e,t}^{\kappa}(h)$ in Equation 7.

$$\mathscr{W}_{\Pi}^{\kappa}(q \mid \mathfrak{D}_{B,T}^{\kappa}) = \big(E_{\Pi}^{+}(q), E_{\Pi}^{-}(q), A_{\Pi}(q), U_{\Pi}^{\kappa}(q)\big), \tag{27}$$

Here $E_{\Pi}^{+}(q)$ is the set of admissible observations favoring the claim under the chosen method, $E_{\Pi}^{-}(q)$ collects relevant counterevidence or discriminating rival traces, $A_{\Pi}(q)$ records identifying, interpretive and measurement assumptions, and $U_{\Pi}^{\kappa}(q)$ describes unresolved, unavailable or contested evidence. The components are typed evidence collections and protocol statements, not commensurable numerical magnitudes. The dossier is partial when the required data are unavailable; emptiness in one observed collection carries only the meaning allowed by its coverage. Its construction is a proposal of this paper, not a standard estimator established by the cited methodological literature.

A dossier may inform a finding that a particular statement is corroborated, contradicted under stated conditions, or unresolved. That classification is itself a reasoned conclusion made under Π, and the dossier does not calculate the conclusion automatically. A causal finding requires the stronger design-specific assumptions described below. For a claim about funding dependence, access, or renewal, a usable protocol should also state the eligible population, observation window, relevant comparison, the anticipated traces of each rival mechanism, and an observation that would weaken or overturn the preferred account. A discrepancy between published outputs and participant accounts can motivate such a test, but its direction is not predetermined. Distinct tests can target descriptive coverage, historical mechanism, and causal effect without conflating their evidential requirements. These claim-level specifications operationalize the register selection and linkage rules in Section 22.

The researcher should preserve the versions of q, Π, the case configuration, and the supporting sources so that subsequent corrections can be traced. Substantive disagreements should appear as documented rival interpretations rather than be erased through averaging. Equation 27 thereby gives a bounded operational role to the uncertainty component of Equation 24, while keeping the individual warrant appropriate to the claim.

Claim-specific countermodel protocol. For each high-consequence proposition, a finite formal countermodel can test whether its proposed conclusion follows from its stated premises. The researcher first writes down the relevant record types, assumptions, observation boundary, and target conclusion. The candidate model then fixes those premises while varying a neglected mechanism, evidential status, time horizon, or legal or ethical premise. A single admissible construction satisfying the premises and defeating the conclusion shows that the unconditional inference is invalid within that proposed semantics. A test suite should also include cases in which the stronger, properly qualified conclusion is supported. Logical countermodels cannot establish the prevalence of a mechanism in actual programmes, and finite tests of implementation cannot establish general completeness. The companion Pass 9 audit register therefore separates failure of logical implication, insufficiency of data, failure of causal identification, and unmet normative justification; the corresponding disposition determines whether the manuscript should narrow the claim, add conditions, or withhold it.

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23.6 Comparative, Longitudinal, and Conditional Causal Designs

The choice of method should follow the object and feasibility of observation. A within-programme longitudinal study may reconstruct how revisions in funding rules, staffing and eligibility interact over multiple periods. A comparative case design can examine similarly situated programmes with different contractual or gatekeeping arrangements, while explicitly documenting the bases for similarity and possible differences that remain uncontrolled. Interviews and process records can elucidate when participants understood a restriction, how a decision was implemented, and which alternatives were actually available. Qualitative evaluation methods offer procedures for contextual interpretation, triangulation, and critical examination of competing readings [66].

When a researcher asks for the effect of a specified intervention, the design must define what is being compared. A candidate intervention might be the introduction of an independent review channel, a change in reimbursement timing, or a new shift-matching rule. A well-defined effect question requires an outcome, study population, treatment specification, timing, comparator, and the assumptions permitting an inference from observed to relevant counterfactual outcomes. Randomization, natural experiments, interrupted time series, and matched comparisons offer different possibilities and limitations. The treatment may also alter who enters the dataset, which in turn affects outcome definition and sample composition. A causal analysis should also establish that the observations forming a comparison were linked under the declared identity, time, and permission rules of Equation 25. A questionable join can make a purported before–after difference partly an artefact of changing identifiers, definitions, or records selected for access. Linkage sensitivity belongs alongside adjustment for confounding and case-selection sensitivity; a corrected data join is an evidential improvement, whereas causal identification requires additional assumptions. Shadish, Cook and Campbell provide methodological foundations for considering these validity threats in experimental and quasi-experimental inquiry [79].

The relational setting raises additional complications. An intervention applied to one volunteer team may alter demand, staffing, or routing in another team. A donor's new policy may change both programme funding and measurement procedures. Consequently, a causal design should examine interference across participants, concurrent interventions, differential implementation, and follow-up periods adequate for observing capacity renewal. There are settings where a controlled comparison is unavailable or ethically inappropriate. A disciplined historical account with competing explanations is then a valid research product within its stated limits. Mathematical representations can help clarify a comparison, while the required identifying assumptions must come from substantive knowledge and design rather than notation.

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23.7 Indicator Sensitivity, Robustness, and the Three-Level Audit

Robustness assessment should vary assumptions that might materially affect the result. These include the case boundary, the time window, the inclusion of preparatory or household labour, the attribution rule for a shared service event, the treatment of incomplete referrals, and the institutional categories defining eligibility or completion. A conclusion that changes when a small but credible set of omitted requests is included has a different evidential standing from one that survives a broad range of defensible specifications. The set of variations should be declared before interpreting results when feasible, and later exploratory changes should be reported as such.

Table 24 links major classes of political-economic claims to suitable observations and principal inference risks. It is a research-planning audit, not a scoring system. The row on relational generativity particularly requires differentiated evidence about renewal conditions and later alternatives. A single reported outcome may be compatible with several histories, as analyzed in Section 11. Stronger empirical claims therefore require longitudinal or comparative traces that discriminate among the relevant histories.

Across the three GR reality levels, the ontological status of subjectivity, value and power remains suspended; relational inquiry proposes historically situated structures and mechanisms; manifestation inquiry assembles fallible observations and interpretations. Neither the richness of manifestation data

Table 24: Claim-specific empirical design and inference audit for volunteer-aid political economy

Claim object	Relevant evidence and design	Principal inference limit
Recorded resource flow	Dated custody, restriction, transfer and use records	Accounting coverage and linked identifiers
Practicable service access	Referral sequence, usable alternatives, permission and timing	Unobserved requests and selection into intake
Unpaid or reproductive labour	Task traces, participant accounts, time-use or cost records	Hidden burdens and disputed task attribution
Institutional control	Versioned rules, decision logs, review attempts and outcomes	Formal authority differs from exercised influence
Valuation and recognition	Multiple appraisal standpoints, publicity and conversion decisions	Incommensurability and selective reporting
Historical feedback	Repeated decisions, dated mechanism traces and rival cases	Persistence alone does not identify reinforcement
Causal programme change	Explicit intervention, comparator, population and follow-up	Confounding, interference and changing measures
Justice or legal responsibility	Applicable rules, normative reasoning and affected-party input	Descriptive evidence cannot settle justification

nor the coherence of a relational model discharges the other levels' unresolved questions. Robustness is thus also conceptual: a formal device should be revised when empirical realities require distinctions it cannot represent.

23.8 Constructed Research Design for Hospital Language Navigation

Consider a hypothetical hospital language-navigation programme that introduces a multilingual request form and a revised volunteer scheduling interface. For this independently constructed research-design case, the unit of analysis is a documented request pathway, rather than the assembled diagnostic record considered in Section 22. A superficial evaluation might compare completed encounters before and after the change. A stronger descriptive design would track form access, submitted and abandoned requests, triage reasons, available qualified shifts, wait times, completed tasks, and permissible recipient accounts. It would distinguish clinical interpretation governed by professional rules from nonclinical navigation assistance. The historical case boundary would include staffing or referral changes that plausibly affect the recorded outcome. No actual hospital practice is asserted by this example.

Three competing mechanisms may explain an increase in completed encounters. The interface may reduce coordination delays for previously unmet requests; a new classification protocol may count more encounters without expanding practical access; or shifts may have increased through unpaid preparation that is absent from administrative records. The corresponding warrant dossiers under Equation 27 would contain different discriminating traces. A prospective protocol could specify how to examine abandoned forms, where permitted, and how to gather information about off-shift burdens with participants' voluntary agreement. The researcher should avoid collecting identifiable clinical narratives when aggregate or de-identified process evidence is sufficient. The principal inferential output may be a mechanism comparison with unresolved causal status, rather than a numerical treatment effect.

A bounded quantitative comparison could become appropriate if an actual institutional change furnished a credible comparator and the relevant ethical permissions, data access, and implementation information were in place. Otherwise, the appropriate result would describe observed process changes, measurement gaps, and candidate explanations. Recipients' permission to participate in research is analytically separate from eligibility to receive assistance. Refusal of research participation should not influence the service offered. A programme-specific study must also obtain the applicable institutional approvals and protect the distinction between proposed research and operational authority.

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23.9 Constructed Research Designs for Transport and Emergency Accommodation

A hypothetical community transport programme reports that a new donor contract improved journey completion. An observational design might combine dated contract terms, driver availability, dispatch logs, canceled requests, geographic coverage, reimbursement timing, and recipient travel alternatives. The comparison should separate the number of trips from the share of needed journeys practically served. An increase in reported completion may arise through additional resources, changed eligibility, a narrower covered area, or a revised recording rule. If the study can observe only approved trips, its legitimate estimand is correspondingly restricted. A broader claim about access for all potential users would require evidence about those screened out or unable to apply.

An emergency accommodation network provides a different case. Suppose several organisations share referrals while an intermediary retains authority to assign beds and to report occupancy to funders. A study might examine whether the new interface reduces transfer delays while shifting night-time coordination costs to unpaid volunteers. It might also consider whether independent review of rejected referrals becomes more or less usable. The primary observations would include time-stamped referrals, capacity and restriction records, admissible coordination traces, and appropriately protected participant accounts. Disagreement between shelter records and recipient descriptions could indicate divergent event definitions, incomplete observation, or an actual procedural defect; the design should retain those rival explanations.

Neither constructed design is an empirical finding. They demonstrate how a finite diagnostic configuration can be specified for different objects without imposing a maximal variable list. Their comparisons also show why a single administrative metric would have limited reach across material access, labour reproduction, contractual discretion, and relational consequences. A credible multi-site project would need to document institutional and population differences before claiming transferability. Such a project may yield generalizable mechanisms under stated conditions, while still leaving local duties and ethical conclusions to separate inquiry.

23.10 Research Ethics, Replicability, and Criteria for Revising the Framework

Political-economic research on assistance can affect people whose access to resources is precarious. Confidentiality, role power, and the meaning of voluntary participation therefore enter the design itself. Researchers should minimize the acquisition of personal details, separate access-control functions from research recruitment, obtain the ethics review, permissions and lawful data-access basis appropriate to their study, and communicate limitations on confidentiality and data reuse clearly. In health-related research involving humans, the CIOMS–WHO ethical guidelines treat meaningful informed consent and research ethics committee authorization as central safeguards, while permitting specified, approved modifications or waivers only under their conditions [17]. This guidance is domain-specific: empirical inquiry into other aid settings requires its own applicable ethical, legal and institutional review. Recording a recipient's complaint or a volunteer's financial burden can expose participants to risks if those accounts are combined with highly identifiable operational events. A detailed mechanism reconstruction may require controlled access and an auditable analytic summary rather than disclosure of raw trajectories.

Replicability should be specified relative to the admissible information. A project can publish coding rules, variable definitions, synthetic examples, data dictionaries, versioned boundary decisions, and documented analysis procedures while restricting sensitive records. Transparent reporting should also state which joins failed, which cases were excluded, how conflicting evidence was handled, and which conclusions depended on contestable assumptions. Preserving a methodological record is compatible with the protection of sensitive personal information; unrestricted access to original records is not the measure of scientific adequacy in this setting. Where record linkage itself increases re-identification risk, public release should use aggregate diagnostics or genuinely synthetic exemplars, with linkage keys and identifiable details restricted according to the study's approved governance. A constructed illustration provides neither permission to use an operational database nor exemption from required research review.

The formal framework should remain corrigible through empirical findings. Revision is indicated

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when observations repeatedly resist its categories, when cross-register joins produce unstable subject identities, when assumed alternatives prove practically unavailable, or when a value conversion protocol erases consequential differences among participants. Greater mathematical complexity should follow identifiable failures of representation or explanation. A complete evaluation would report the questions and assumptions the framework can sustain, the matters it cannot resolve with the available design, and the relationships requiring separate legal, ethical, or historical inquiry. These standards define a programme of disciplined verification, rather than certification of the theory's empirical success. They also establish the evidential boundary for Section 22 and for the subsequent examination of justice, ethics, historical dynamics, and heterogeneous subjects.

24 Interfaces with Justice, Ethics, Historical Dynamics, and Heterogeneous Subjects

The political economy of volunteer aid describes how resources, work, access, authority, and value circulation condition assistance. These configurations also present questions of justice, ethical intervention, legal responsibility, historical development, and the status of subjects whose needs or capacities remain uncertain. This section specifies the interfaces through which the descriptive programme can inform those questions while preserving the distinct premises and evidential demands of each domain. The discussion proceeds through differentiated normative and legal inquiries, longer historical trajectories, heterogeneous subjects and humanitarian contexts, a typed interface rule, and constructed comparisons. Its method is conceptual and diagnostic: connections among programmes are formulated as research obligations whose satisfaction remains open to argument and evidence.

24.1 Division of Analytical Responsibilities across Research Programmes

A political-economic diagnosis can establish, within the reach of its evidence, which resources are available, which actor controls their conversion, how responsibilities are distributed, and what alternatives remain practicable. It can identify a payment delay, a review procedure, or a concentration of eligibility authority. The descriptive record may also provide relevant counterevidence to a public account of fair participation. A judgment that an allocation is unjust, an intervention wrongful, or a claimant legally entitled requires additional kinds of reasons. The problem is therefore to establish disciplined connections between distinct objects of inquiry, rather than to develop a vocabulary broad enough to absorb them all.

Within this research series, Paper VI considers justice across distributive, procedural, recognitional, epistemic and relational dimensions, and Paper VII examines the ethics of volunteer intervention, including consent, competence, restraint and the responsibilities of acting subjects. Paper IX is reserved for more extensive historical-system analysis, while the planned heterogeneous-subject papers consider questions of suffering, protection, responsibility and adjudication under divergent conditions of subjecthood. Paper VIII can provide evidence and candidate mechanisms to these studies. Each programme retains the task of defining its own justified inferences, the populations to which they apply, and the conditions under which conclusions could be revised.

A diagnostic configuration under Section 22 should therefore carry a provenance-aware indication of the scope of each claim. For example, documented control over a funding decision may ground a description of dependence. Evidence that people could not effectively contest the decision may ground a procedural concern. A conclusion about injustice additionally invokes a defensible standard of fairness; a conclusion about illegality invokes an applicable source of law and its interpretation. The transition between these claims should be recorded and criticized. This discipline permits substantive interdisciplinary analysis while retaining arguments that resist translation.

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24.2 Distributive, Procedural, Recognitional, and Relational Justice

Political-economic observations matter to justice inquiries because institutional arrangements shape who receives support, who provides work, whose needs become recognizable, and whose burdens are visible. Section 9 shows how eligibility classifications can condition access. Sections 6 and 16 show how an apparently successful service may depend on unpaid tasks, household contributions and redistributed responsibilities. Section 11 documents why an aggregate performance indicator cannot stand in for the complete pattern of affected relationships. These observations provide differentiated inputs to a theory of justice.

A distributive inquiry may ask whether the allocation of money, support time, risk and opportunity is justified under a specified criterion of need, equality, priority or sufficient provision. A procedural inquiry may ask who has standing to contest a classification, whether reasons are accessible, and whether review can alter a decision. A recognitional inquiry may examine the social and institutional status assigned to recipients and contributors. An epistemic inquiry may consider which testimony counts as relevant evidence. A relational inquiry may investigate domination, dependence, and conditions for meaningful participation. These inquiries are related; their standards and evidential requirements need separate exposition. The empowerment framework of Kabeer [51] and the dimensions of accountability discussed by Ebrahim [20] supply useful external interlocutors for particular mechanisms, without providing a comprehensive judgment of justice for an aid programme.

Consider a volunteer transport programme with high completion among approved applicants. Its reported success may coexist with barriers faced by applicants who cannot submit an online form. Establishing those barriers supplies a politically relevant descriptive finding. Evaluating whether the programme violated a duty of accessibility calls for applicable law and institutional facts; evaluating the distribution as unjust requires a justified normative standard. Conversely, a documented difference in access may reflect safety restrictions or prioritization of urgent needs whose reasons warrant examination. A GR political-economic representation is most useful when it keeps these rival accounts visible rather than assigning a justice score to a vector of outcomes.

24.3 Agent-Relative Ethics, Consent, Competence, and Restraint

The ethics of intervention involves reasons addressed to identifiable acting subjects under specific conditions. Political economy can show the resources and alternatives available to a volunteer, recipient, coordinator, donor or public official; ethical inquiry asks what those actors may, ought or are permitted to do. Even under a shared descriptive history, the applicable moral reasons may differ according to role, prior commitment, institutional competence, foreseeable consequences and the affected subject's expressed preferences. This division follows the agent-relative emphasis of Paper VII without treating the ethical paper as a mechanically applied extension of an economic model.

Consent illustrates the difference. A recorded acceptance of an offered service is an observable event. Its moral meaning may depend on the availability of a usable alternative, freedom from threats, comprehensible information, appropriate communication support and the voluntariness of any consequential commitment. Sections 19 and 15 show how constrained options and social expectations can alter the practical setting of acceptance or refusal. Those conditions are relevant to ethical judgment, yet the presence of dependence alone cannot settle whether consent was valid or which intervention is justified. The inquiry also requires a normatively defensible account of consent for the particular task and subject.

Similar distinctions apply to competence and restraint. A volunteer's availability or willingness to assist does not establish competence to perform a clinically or legally restricted activity. A coordinator may be authorized to arrange nonclinical navigation but lack authority to delegate professional interpretation. Conversely, declining an unfamiliar task may constitute responsible restraint when safe referral is available, while leaving a person without a feasible referral can create a different problem of continuity. A political-economic record should therefore distinguish task resources, authority, supervision, transition arrangements and consequences, leaving the final ethical assessment to a separately articulated argument. An institution's operational efficiency is neither a general permission to intervene nor

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an automatic justification for withdrawal.

24.4 Legal Duties, Public Mandates, and Institutional Accountability

Legal analysis introduces a source-specific dimension. Contracts, statutes, regulations, professional rules, international instruments, and institutional policies may assign different duties to the same participants. Their binding character depends on jurisdiction, parties, subject matter and relevant dates. Political-economic representations of delegated work and control can identify where a legal question arises, and dated documentary evidence may support its resolution. The allocation of practical control alone does not determine who bears a legally recognized duty or whether delegation is authorized. The responsibility-reallocation analysis of Section 16 accordingly treats legal obligation as a separate field of inquiry.

The *Convention on the Rights of Persons with Disabilities* provides a concrete domain-specific illustration. Article 12 affirms recognition before the law and equal legal capacity for persons with disabilities, with access to support in exercising that capacity and safeguards against abuse [91]. This treaty-based position has a materially different standing from hypothetical claims about legal personhood for artificial systems or unknown life forms. For a volunteer aid service, a question about supported communication, individual preference, or institutional representation may therefore require examination of established human rights protections in addition to a service-cost analysis. Domestic implementation and the particular legal dispute still require jurisdiction-specific investigation.

A record of funding, operational discretion or service withdrawal should also be distinguished from a finding of legal responsibility. Public agencies may retain obligations while procuring delivery from contractors; organizations may owe different duties under a contract and professional regulatory frameworks. Where legal evidence is incomplete, the resulting claim should identify the missing text or authoritative interpretation. Jurisprudential questions about who can judge, whose interests receive standing, and which actors may enforce a determination become especially salient for heterogeneous-subject contexts. Such questions belong to the planned jurisprudential papers, with this section supplying relevant mechanisms of control, resource access, evidence production and feasible remedy.

24.5 Historical Dynamics and Cross-Timescale Institutional Development

The historical scope of Paper VIII follows the creation, maintenance and transformation of political-economic aid arrangements within bounded observational histories. It includes feedback from previous funding decisions, volunteer learning, accumulated reputation, repeated eligibility judgments and changing opportunities to enter or exit an organization. Section 21 separates persistence from demonstrated self-reinforcement and admits rival explanations. This constitutes a particular historical analysis of resource dependence; a more general dynamics of social institutions has a broader object and requires its own abstractions and evidential tests.

A future historical-systems study could examine the interplay of slow-moving legal mandates, intermediate organizational routines and rapidly changing coordination decisions. The same event may have different significance at different temporal scales. A short-lived funding shock may expose a long-standing dependency without causing it; a new classification system may change how future participants are recognized even if its initial implementation has little measurable effect on service volume. An extended value-return circuit discussed in Section 17 may sustain work for several periods, but a connected graph alone does not establish a self-maintaining dynamical regime. Temporal ordering, intervention traces, renewal conditions and countervailing pathways remain essential.

The historical interface also needs to preserve failures of apparent continuity. Institutional labels may stay constant while authority is redistributed, and actors may retain positions while their capacity to bargain changes. Proposed distinctions among reinforcing, balancing, delayed and disrupted feedback are hypotheses to be examined through dated records and historical interpretation. Fast–slow models, network evolution and dynamical-systems analogies may become useful when an identified mechanism calls for them. Paper IX can investigate the broader processes through which subjects, institutions and

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norms develop over time. Paper VIII contributes selected economic histories and their open questions while refraining from assigning general attractors or universal trajectories to volunteer aid.

24.6 Heterogeneous Subjects and the Three Reality Levels

A programme limited to presently documented human volunteer and recipient relations typically begins with legal and institutional categories whose standing is already established in a particular context. Extending inquiry to animals, AI-mediated systems, hypothetical artificial subjects, or possible extraterrestrial subjects raises additional epistemic and normative questions. The fact that an entity enters a resource flow, generates an output or appears in an institutional record does not itself establish sentience, moral patienthood, juridical capacity or responsibility. It is equally important to distinguish uncertainty about a novel entity's status from the already established legal and moral protections of human participants, including humans with disabilities, children and others whose communication may require support.

The three-level GR discipline helps identify the proper scope of each claim. Ontological reality retains suspension concerning ultimate being and consciousness. At the relational level, researchers may describe historically stable capacities, interactions, dependencies and institutional treatment without settling that ultimate question. At the manifestation level, reported preferences, behaviour, system outputs, bodily responses, records and situated testimonies may provide different kinds of evidence. Their interpretation must be justified for the type of entity under study. A model of the withdrawal of food from an animal, the disabling of a software process, and the denial of transport to a human requester can employ some shared resource vocabulary while the relevant welfare, rights and responsibility inquiries remain materially distinct.

A more precise taxonomy separates several positions: source of a request, bearer of a plausible welfare interest, recognized legal rights holder, operator controlling a service, addressee of a responsibility claim, and authorized decision-maker. Some positions may coincide, while others belong to different actors. An AI system used to rank requests can be an operative part of a classification infrastructure even when accountability remains with human or organizational actors. UNESCO's 2021 AI ethics recommendation explicitly emphasizes human oversight and the attribution of ultimate accountability to natural or legal persons under its recommended governance approach [90]. This is a scoped intergovernmental recommendation addressed principally to Member States and AI actors, whose implementation depends on national arrangements; it is neither a globally uniform domestic law nor an ontological proof that artificial sentience is impossible. The Recommendation expressly recommends maintaining ultimate attribution of responsibility to natural or existing legal persons and advises against granting AI systems legal personality within the regulatory frameworks it envisages. Whether a hypothetical artificial system could ever be a moral patient remains a distinct philosophical and evidential question.

24.7 Suffering Recognition, Humanitarian Protection, and Uncertain Status

Humanitarian assistance introduces both immediate practical needs and specialized institutional or legal obligations. A political-economic analysis can investigate food, shelter, care capacity, logistics, funding restrictions, risk distribution and exclusion from access. It can also identify when assessment categories fail to admit certain claims. The assessment of suffering, the allocation of protective priority and the justification of intervention involve additional evidential and normative standards. Those standards may depend on the type of subject, circumstances of harm and applicable legal regime. Resource scarcity does not supply a complete moral theory of triage; conversely, an asserted humanitarian purpose does not settle which resources can be mobilized or who bears their cost.

The International Red Cross and Red Crescent Movement's Fundamental Principles include humanity, impartiality, neutrality, independence and voluntary service, together with unity and universality [47]. They offer a substantial, historically developed institutional comparator for principled assistance, with particular commitments and operational scope. They should be understood as the Movement's own framework, while international humanitarian law has its distinct sources, protected persons and conditions of application. Neither the Movement's principles nor the law of armed conflict automatically

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create an identical protection regime for hypothetical AI–AI, animal–AI or extraterrestrial conflicts. The planned humanitarian-protection study must separately identify the subject categories, relevant sources of protection and any argued normative extensions.

Uncertain subject status calls for an explicit evidence policy and a reasoned account of precaution. In a hypothetical situation where an artificial system presents signals that might be interpreted as distress, a resource map can establish how the system was treated and what alternative actions were technically possible. It cannot independently determine whether those signals express morally relevant suffering. Equally, an institution might have legally enforceable duties toward affected humans whose access or safety depends on the system. A defensible study can separate precautionary operational measures, the evidential standing of possible suffering, and legal and ethical accountability for action or inaction. Comparable analysis of animal suffering requires evidence appropriate to the animal rather than translation of a machine-output metric. This differentiation permits openness to unfamiliar subjects while preserving the reasons for protecting those whose claims are already recognized.

24.8 A Typed Interface for Claims and Research Obligations

The preceding distinctions can be organized as a partial routing rule between research domains. Let $\mathfrak{D}^{\kappa}_{B,T}$ be the bounded configuration of Equation 24, and let $\mathrm{Claims}(\mathfrak{D}^{\kappa}_{B,T})$ denote its evidence-qualified descriptive claims. For a target domain τ such as justice, ethics, law, historical dynamics or heterogeneous-subject inquiry, define a partial interface $\mathcal{T}^{\kappa,\Gamma_\tau}_{\tau}$. Its role is specified by Equation 28.

$$\mathcal{T}^{\kappa,\Gamma_\tau}_{\tau} : \mathrm{Claims}(\mathfrak{D}^{\kappa}_{B,T}) \rightharpoonup \mathrm{Questions}_{\tau} . \tag{28}$$

Here Γ_τ identifies the independently stated definitions, premises, scope restrictions and admissibility rules for the target domain. A mapped claim supplies a properly formulated research question, not its answer. The mapping is partial because some economic observations are irrelevant to a given inquiry and because the relevant categories may be unresolved. A defined route requires an admissible source claim, a target question within the stated domain of Γ_τ, and an explicit description of which source qualifications must accompany that question. If a person's identity, an institutional mandate, or a relevant legal status is uncertain, the unresolved fact remains attached to the routed question. A restricted or unverified cross-register linkage cannot become permissible, verified, or legally operative by passing through the routing function; it remains subject to the linkage conditions of Equation 25. An out-of-scope target or inadequately specified translation leaves $\mathcal{T}^{\kappa,\Gamma_\tau}_{\tau}$ undefined rather than yielding a default conclusion. Its evidential index also prevents an observation recorded under one standpoint from being silently promoted to an unrestricted fact. Equation 28 is a formal description of a research workflow; it neither proves that an interface is philosophically adequate nor replaces the target discipline's reasoning.

Table 25 identifies representative interfaces and the independent work necessary after the descriptive claim has been established. It also identifies situations where evidence or categories cannot legitimately be transferred. The warrant dossier of Section 23 can be attached to the source claim, while the target inquiry must make its own premises, counterarguments and decision authority explicit. Disagreement across the programmes may be substantive: one account may find an economically stable arrangement while another finds a procedural defect, and an actor may face a moral reason to assist despite a limited economic return. Such disagreement is part of the object of interdisciplinary inquiry.

24.9 Constructed Cross-Programme Configurations

Consider a hypothetical community hospital using volunteer navigators and an automated system to route requests for language assistance. A bounded political-economic configuration could record donor support for particular languages, shift coverage, classification rules, requests abandoned before submission, authorized roles, and attempted reviews. Three descriptive histories may fit a rise in completed referrals: coordination improved; the eligibility threshold changed; or unpaid preparation increased. A justice study might examine differential accessibility and whether claimants have meaningful standing

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Table 25: Research interfaces from a political-economic aid configuration and their independent warrant requirements

Target inquiry	Relevant economic observations	Additional inquiry and transfer limit
Justice	Allocation, excluded claims, participation burdens, practical review	Defensible fairness criteria, standing, rival normative reasons
Intervention ethics	Consent conditions, task resources, exit alternatives, effects	Agent-relative reasons, competence, moral permission and restraint
Law and jurisprudence	Duties recorded, authorization, contractual transfer, adjudicative control	Binding sources, jurisdiction, procedural standing and legal interpretation
Historical dynamics	Dated resource and rule changes, renewal, dependency shifts	Mechanism evidence, timescale selection, counterfactual histories
Human and disability rights	Accessible procedures, preferences, support for decisions	Actual rights instruments, implementation and safeguards
AI and other heterogeneous subjects	Requests, observable responses, resource dependence, classifications	Subject-status evidence, differentiated welfare criteria, responsibility rules
Humanitarian protection	Triage, logistical restrictions, exposure, protected access	Domain-specific humanitarian principles, applicable law and justified extension

to contest classification. An ethics study would examine whether volunteers' roles were competent and appropriately authorized, and whether recipients had usable choices. A legal inquiry could examine applicable duties concerning access and information. An AI governance study would examine control of the system, available oversight, and institutional responsibility for erroneous decisions. Each requires additional premises and evidence beyond the shared register.

A second hypothetical case concerns emergency accommodation jointly organized by a public authority, a nonprofit provider and volunteers. The economic diagnosis finds that a public contract finances beds while unpaid night coordination carries part of the operational burden. The justice inquiry may evaluate the allocation of those burdens and the fairness of exclusion criteria. The ethics inquiry may distinguish voluntary commitment from conditions of pressure or poorly supported withdrawal. A legal inquiry must establish the actual contractual and statutory responsibility for safe shelter. A historical study could examine whether successive contract renewals progressively reduce the organization's bargaining alternatives or whether funding diversification and institutional learning counterbalance dependence. The same initial budget and occupancy measure could be compatible with different trajectories, motivating cross-programme questions without prejudging their answers.

Finally, consider a deliberately speculative aid platform asked to prioritize a distressed human, an injured animal and a putatively sentient software agent. A common resource interface might describe available supplies, staff competence, access permissions and competing claims. The observed signals and stakes are heterogeneous: established human rights, animal welfare evidence, and unsettled questions about the artificial agent's status cannot be exchanged as though they represented one measure of need. A plausible research programme would examine the distinct legal regimes, ethical premises and evidence for each claimant, together with the rights and responsibilities of the humans operating the platform. This hypothetical case tests the limits of the common political-economic vocabulary; it supplies neither a triage decision nor an assertion about actual machine experience.

24.10 Open Research Obligations and Boundaries of Synthesis

The main result of the interface analysis is a set of defined research obligations. A claim about exclusion requires adequate observation of the relevant population and its practical access pathways. A claim about injustice requires justified normative criteria. A claim about wrongful intervention requires an account of agent-relative reasons, consent and competence. A legal conclusion requires authoritative rules within their jurisdiction and temporal scope. A claim about self-reinforcing historical change requires evidence of the mechanism and plausible rival histories. A claim concerning a novel moral patient re-

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quires a defensible evidential and philosophical account of the subject's relevant status. These are related inquiries whose answers may condition one another but whose justification cannot be replaced by the shared vocabulary of resource flows. In particular, a public discussion of possible AI moral status should not dilute currently applicable protections for human participants or imply that established rights can be balanced away using the paper's economic register. The manuscript proposes no allocation algorithm or automated triage policy for heterogeneous claimants.

The present paper makes two more limited contributions. It supplies typed, historically situated political-economic observations capable of informing these questions, and it proposes an explicit routing architecture that records where additional substantive argument must begin. Its finite diagnostic configurations remain revisable, evidence-sensitive and selective. Cross-programme comparison may fail when the relevant objects, valuation standards or applicable laws do not admit a common projection. Such failure should be documented with reasons, as it can reveal a meaningful boundary of the proposed formalism.

This division also protects the programme against premature theoretical closure. GR's suspended ontological commitments remain distinct from positive models of relational structures and their manifestations. Interdisciplinary translations should preserve the prior authorship and independent standing of the relevant ethical, legal, humanitarian and historical concepts. Paper VIII therefore concludes its interfaces with questions to be investigated through subsequent work, and prepares the final synthesis of its specifically political-economic findings in the concluding synthesis of this paper.

25 Foundational Synthesis and Open Political-Economic Obligations

The final section consolidates the political-economic argument of the present study and specifies the research obligations that follow from its preliminary status. Its object is the historically organized set of conditions under which volunteer aid becomes practically possible, institutionally recognizable, sustained, restricted, and revisable. The synthesis first restates the explanatory units and their relations, then connects resource dependence, unpaid work, classifications, valuation, governance, and historical feedback. It subsequently distinguishes the knowledge claims supported by finite diagnostic configurations from causal and normative conclusions requiring independent warrants. A closing audit identifies specific tasks for theoretical comparison, empirical study, and interdisciplinary development. The synthesis is conceptual and methodological. It reports proposed distinctions and conditional mechanisms; its constructed illustrations throughout the paper have supplied analytical tests rather than observations from a sampled population of aid programmes.

25.1 The Political-Economic Object and Its Three-Level Interpretation

Volunteer aid is frequently visible through hours contributed, money expended, people served, or activities completed. Such observations can be indispensable for administration, accountability, and policy. The political-economic object specified here also encompasses the historically constituted relations that make these observations possible: control over resources and access interfaces, authority to recognize needs, allocation of paid and unpaid work, institutional means of refusal or contestation, and the renewal of assistance-producing capacities. These relations form the paper's explanatory target: which historically organized conversion and governance conditions change who can support whom, under what burdens, with which possibilities for revision, and with what implications for continued capacity. Identifying the target separates a political-economic contribution from an inventory of volunteers' reported outputs. Section 1 stated this object in a preliminary configuration; subsequent sections differentiated its constituent mechanisms. A useful inference is therefore relative to a declared question and case boundary. The empirical fact that an organization completed a certain number of visits provides one manifestation of its activity while leaving several explanatory histories open.

The three-level GR discipline constrains this claim. Ontological suspension leaves ultimate claims about the substance of value, power, obligation, and subjecthood outside the present demonstration. Rela-

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tional reality identifies candidate historically formed structures whose effects can be investigated through suitable inquiry. Manifestation reality concerns budgets, accounts, testimony, task logs, classification rules, public claims, and situated observations through which such structures become partially accessible. The movement between these levels is an epistemic undertaking with selective records, incomplete correspondence, and revisable interpretations. Formal symbols describing resource channels or governance positions consequently remain models with declared domains rather than claims that the observed social world consists literally of a specified graph or operator system.

A second methodological consequence concerns the constitution of subjects. Volunteers, recipients, family members, coordinators, donor representatives, and public officials occupy different positions under particular histories. Their positions can change without a corresponding change of person, and organizational roles can persist while their occupants change. The dyadic and triadic formalisms of the earlier papers support distinctions among action, mediation, provenance, and co-formation; Paper VIII applies them selectively to economic interfaces. Neither a person's administrative category nor a recorded action is sufficient to establish the complete subject or relationship under investigation. This restraint is important when support modifies participants' skills, dependencies, recognition, and opportunities over time.

25.2 Resources, Work, and Practical Conversion Conditions

An initial contribution is the differentiation of resource possession from access, use, allocation authority, and effective conversion into assistance. The resource-dependence tradition provides an established organizational point of departure [67]; Emerson's relational account additionally directs attention to alternatives and reciprocal dependence [23]. The present proposal treats such traditions as intellectual sources for an aid-specific reconstruction rather than as evidence that the suggested mechanisms operate uniformly across programmes. A donation can be available in an account while restricted to particular activities; a translation service can exist while remaining practically inaccessible because of hours, eligibility rules, competencies, or authorization; and two nominally distinct suppliers can share a fragile infrastructure. Access must therefore be examined as a conditioned relation among resources, procedures, persons, institutions, and times.

The labour account adds a second condition: aid depends on people whose capacities have histories and whose participation requires renewal. Direct service provision, preparation, learning, communication, supervision, record keeping, coordination, travel, household support, and recovery may be distributed among different subjects. Accounting and volunteer-work measures have legitimate purposes, yet such measures can capture different portions of this work. Section 6 distinguishes observed expenditure, imputed replacement or opportunity-cost values, feasible foregone alternatives, and participant interpretations. Social-reproduction scholarship helps to identify burdens and sustaining arrangements that formal programme accounts may omit [30]. The meaning of a particular unpaid contribution still depends on task, alternatives, commitments, institutional practice, and the testimony of those affected.

The political-economic issue is consequently not exhausted by calculating a larger monetary total for unpaid work. An institutional arrangement can be financially economical over a short accounting period while shifting preparation and continuity costs onto volunteers or households. Another arrangement can involve substantial unpaid effort as a chosen practice of mutual support sustained through shared authority and feasible withdrawal. Investigating either configuration requires evidence of who bears which costs, which tasks are substitutable, which skills remain accessible, and how capacity can be renewed after assistance has occurred. The link between resource conversion and labour reproduction is itself an object of explanation: a service may meet its target during one interval by drawing down reserves of time, trust, competence, or household support needed in subsequent intervals.

25.3 Classification, Infrastructure, and the Production of Institutional Visibility

A second contribution concerns the conditions under which an expressed problem becomes a recognized need, an eligible claim, an authorized service, and finally an instance of realized assistance. Section 9

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separates these stages and the authorities that govern their transitions. Eligibility categories can coordinate scarce resources, make allocation decisions answerable, and support consistent treatment. They can also redirect attention toward cases that are administratively recognizable, impose burdens on those seeking assistance, or exclude claims whose manifestations fall outside established classifications. Evidence of exclusion may concern a rule's scope, an individual's practical access to the rule, an implementation error, or differences between the recorded and affected populations. These mechanisms require different explanations and remedies.

Physical, digital, procedural, and organizational infrastructures mediate the stages of access. A declared entitlement may depend on a functioning referral procedure, accessible communication, an available coordinator, compatible scheduling, and an institution empowered to revise a decision. The pathway analysis of Section 10 preserves the joint compatibility of such steps. Likewise, the epistemic analysis of Section 11 shows that a published service measure depends on choices of numerator, denominator, category, observation window, and reporting protocol. Records can be reliable within their intended scope while remaining incomplete for another question. Multiple histories of waiting, abandonment, unseen assistance, or burden transfer may produce similar reported totals.

The distinction has implications for epistemic power. An actor able to define reporting categories, control access to records, or authorize corrections may shape what other participants and external observers can establish about a programme. This influence can be exercised through routine procedures without explicit commands. Conversely, confidentiality restrictions can protect participants and may be required by law or professional obligation. The descriptive task is to identify the source, exercise, and practical effects of information control, along with appropriately independent paths of contestation. Open disclosure, complete data linkage, and unrestricted publication cannot be assumed to be ethically appropriate. Research design must treat privacy, record coverage, contestation, and the limits of measurement as jointly relevant.

25.4 Heterogeneous Values, Circulation, and Renewability

The valuation analysis gives monetary expenditure, institutional performance, recipient experience, symbolic recognition, and relational generativity different analytic roles. These registers can affect one another, yet a common total cannot be presumed. A reimbursement can enable further work; a public report can support donor renewal; a participant may experience an action as helpful, intrusive, or ambiguous; and an improvement in practical capacity can remain invisible in an annual output count. Commensuration is therefore a historically adopted evaluative practice whose authority, interpretive limits, and downstream consequences require examination. Section 13 provides a typed description of the conventions and decisions through which partial translations are attempted.

The present research also distinguishes creation, recognition, appropriation, circulation, return, and renewal. The idea of generative value has important antecedents in Eglash's generative-justice programme [21]. Paper VIII proposes a separate, provisional analysis of aid-specific circulation pathways and power over their conversion interfaces. A donor can receive public recognition following an aid project; an institution can attract new resources because of the project's recorded outputs; recipients and volunteers can develop capacities useful beyond the immediate programme. The different returns may occur at different times, be valued by different subjects, and remain contested. The presence of a path in a circulation network identifies a candidate connection. Demonstrating that a return was causally produced and that it renewed the capacities of relevant participants requires further evidence.

Capture and extraction accordingly have demanding evidential and normative requirements. Institutional retention of resources, reputation, knowledge, or administrative authority can support collective coordination, maintain accountability, and preserve future capacity in one setting. Similar practices can also consolidate asymmetric control or externalize burdens in another. A hypothesis of extraction needs to specify the relevant process of appropriation, the subjects bearing costs, the alternatives they could reasonably access, the institutions governing the transfer, and the temporal horizon over which capacities are affected. Unequal numerical returns, taken alone, are insufficient. Conversely, apparent balance in

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a narrow financial ledger need not show that relational or reproductive capacities have been maintained. The open character of these questions is part of the proposed political-economic inquiry, rather than an inconvenience to be concealed through a composite index.

25.5 Governance, Reciprocity, and the Distribution of Practical Power

A third contribution concerns how public agencies, nonprofits, intermediaries, donors, volunteers, and households jointly produce assistance while occupying different positions of authorization, control, and responsibility. Coproduction provides an established vocabulary for contributions across organizational boundaries [64]. The present study differentiates who finances a function, who performs it, who may change its rules, who must answer for failure, and who bears costs when the arrangement is interrupted. Section 16 shows why task reassignment and the displacement of public responsibilities require separate historical and legal assessments. These distinctions also apply to contractual oversight, grant restrictions, delegated classifications, and coordination networks.

Practical power is relational and conditional. Concentration of resources or authority may affect bargaining, yet the direction and magnitude of influence depend on alternatives, dependence, information, forum access, and the consequences of contestation. A participant's nominal right to decline an assignment or leave a service may be meaningful when a feasible alternative exists and costly when withdrawal would risk essential support, community membership, or continuity of care. The resulting description is more discriminating than a binary classification of free and coerced participation. Section 19 therefore analyzes options through their access conditions, while Section 20 evaluates whether oversight and review can actually alter consequential decisions.

Gratitude, indebtedness, and reciprocal expectation add another dimension. They may contribute to continued mutual support and shared commitment; they may also become coupled to requests for favours, publicity, unpaid overtime, or continued loyalty. Section 15 preserves appreciation, perceived obligation, communicated expectation, and legally enforceable duty as different kinds of claim. The analysis should follow whose expectations become institutionally consequential and whether affected parties can negotiate or contest them. An observable inequality of bargaining positions prompts further inquiry into the quality of choice and institutional safeguards; determining coercion, wrongful pressure, or valid consent requires contextual normative reasoning.

25.6 Historical Feedback, Alternative Mechanisms, and Counterexamples

Political-economic aid configurations evolve through repeated allocations, rule changes, accumulated expertise, retained funds, reputational recognition, and changing relationships with funders and recipients. The historical-feedback inquiry of Section 21 treats persistence, contingent sequencing, positive reinforcement, balancing responses, and institutional transformation as distinguishable hypotheses. Pierson's political analysis of increasing returns provides one established mechanism with identifiable conditions [68]. An arrangement's survival across several funding cycles may reflect genuine increasing returns, but it may equally reflect stable external rules, limited alternatives, coordination economies, or simply insufficient observation of attempted change.

Consider a service that becomes more dependent on one coordinating institution while improving accessibility, volunteer training, and review. Resource concentration may coincide with a real expansion of practical opportunities if shared infrastructure permits participants to obtain help they previously could not access. Another service may diversify its funding yet become more difficult to contest because reporting and eligibility are fragmented across organizations. These logically possible counterexamples prevent concentration and diversification from functioning as unconditional judgments about power or sustainability. They direct investigation toward the mechanisms connecting control with actual opportunities, including the distribution of correction authority.

A related counterexample concerns performance incentives. The introduction of a completion target can increase timely service for a previously neglected group; it may also shift staff effort away from harder-to-measure support or change which claims are included in the denominator. Both consequences

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may arise together. Assessing their occurrence requires a suitable observation horizon, valid records of unmet requests and unpaid labour, attention to changing demand, and credible rival explanations. Historical comparison should examine the reproduction of capacity, including whether short-term gains depend on deferred maintenance or accumulating work burdens. A longer value-return circuit can introduce fragile dependencies and, under other institutional conditions, beneficial redundancy. Neither topological path length nor temporal persistence supplies a universal measure of resilience.

Inferential sufficiency across political-economic mechanisms. The key formal distinctions admit simple countermodels. An actor may depend on the only presently feasible supplier while retaining safeguarded consent and review; concentrated authority may permit effective independent correction; institutional retention of financial returns may finance renewal; and a persistent allocation rule may be maintained wholly by an unchanged external mandate. Each case satisfies an important descriptive indicator while withholding the stronger conclusion of coercion, ineffective accountability, extraction, or endogenous reinforcement. Complementary cases can reverse a familiar proxy: diffuse control may coexist with shared exclusion, generous visible returns with concealed unpaid burdens, and interrupted historical continuity with a previously operative reinforcing mechanism. These are constructed possibilities, useful for falsifying insufficient inference rules. They imply a positive research procedure: declare a mechanism-specific contrast, identify its evidential trace and credible rival, specify the historical horizon, and supply an independent normative warrant whenever the conclusion is evaluative. The Pass 9 countermodel ledger and executable checks make the proposed restrictions reproducible for a finite set of stylised cases; additional formal proofs, source-level scrutiny, and empirical investigation remain separate research tasks.

25.7 Finite Configurations and the Discipline of Inference

The paper's formal constructions have a cumulative methodological role. Typed event records provide descriptions of distinct operations; partial feasibility assessments preserve uncertainty about access and alternatives; historical records identify candidate sequences and changing configurations; and the finite diagnostic construction in Equation 24 joins selected records through explicitly qualified relations. A bounded configuration does not require a universal list of variables. Its composition depends on the research question, admissible records, and declared case limits. This selectivity reduces the pressure to replace heterogeneous observations with spurious common units and allows researchers to mark a failed correspondence as a result requiring interpretation.

The warrant dossier developed in Section 23 is a complementary discipline. An inference should identify its supporting observations, counterevidence, assumptions, and unresolved information at the appropriate level of specificity. Descriptive claims about financial transfers or recorded assignments usually require different evidence from causal claims about the effect of a rule change. A claim of generative capacity may require longitudinal or interpretive evidence of renewed agency and feasible opportunities. An ethical conclusion about fairness or coercion, in turn, requires justified normative premises as well as relevant facts. The interface routing of Equation 28 makes these boundaries explicit across the programme.

The resulting synthesis is a method for structuring questions and evaluating qualified claims, not a complete causal model of volunteering or a calculable social welfare ordering. A credible diagnosis should be capable of revision when a missing class of subjects, a newly discovered payment channel, or an alternative account of a decision changes the relevant history. Its documentation should preserve which conclusions depend on an observed trace, which depend on interpretive assumptions, and which remain conjectural. The analytical adequacy of a configuration also depends on whether it can distinguish rival explanations in cases that matter to the substantive question, rather than simply reproducing the descriptions used to define it.

The qualified-link criterion of Equation 25 supplies a further boundary for finite synthesis. Passing its safeguards establishes an admissible descriptive correspondence under a protocol. Claims about de-

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Table 26: Open research obligations for claims about political-economic volunteer-aid relations

Claim domain	Required inquiry or warrant	Challenge or possible disconfirmation
Resource access	Dated stocks, restrictions, interfaces, alternative channels	Nominal supply without jointly usable access
Unpaid labour	Work traces, supporting households, renewal and feasible time uses	Unobserved preparatory or displaced paid work
Need and visibility	Classification rules, eligible population, abandoned and excluded claims	A changing denominator or inaccessible reporting path
Power and bargaining	Decision rights, resource dependence, accessible refusal and review	Formal rights without effective correction; robust alternatives despite concentration
Value circulation	Typed transfers, appraisal conventions, time horizons and return evidence	Apparent graph links lacking causally established renewal
Historical feedback	Temporal ordering, mechanism traces and rival trajectories	Persistence explained by an unchanged external constraint
Causal effects	Explicit comparison or identification design, assumptions and robustness	Selection, simultaneous policy change, missing outcomes
Justice, ethics and law	Domain-specific standards, agents, standing, applicable authority	Competing norms, inapplicable rules, unsettled subject status

pendence, organizational feedback, or the legitimacy of an allocation require their own feasibility, causal, or normative warrants. Failure or uncertainty in a required cross-register condition should remain visible when the case is summarized, rather than being converted into an apparently complete organizational history.

The integrated configuration also has an explicit limit at the population level. It admits positively warranted links after the five checks in Equation 25, and revised evidence may later remove an earlier admissible link. Consequently, the set of linked records is a protocol-dependent analytical subset, never automatically a complete denominator. Where a fixed population is independently enumerated, the finite uncertainty interval in Equation 26 can delimit a descriptive outcome proportion while retaining unresolved cases. Where that frame is unavailable, even such a descriptive population proportion remains unidentified. This strengthens the distinction among record-level admissibility, bounded description, historical explanation, causal identification, and normative justification. The final synthesis retains each layer's own premises and allows empirical investigation to overturn an earlier coding or explanatory claim.

25.8 A Research-Obligation Audit for Political-Economic Aid Claims

The transition from preliminary theory to responsible application requires an explicit research agenda. Table 26 organizes the principal obligations by the kind of claim to be evaluated, the evidence or argument necessary to support it, and a possible source of disconfirmation. The table is intended as an audit of intellectual responsibilities, not a scoring instrument. A project may need only the subset of rows relevant to its question; however, an omitted row should be defensible when the corresponding inference is made. A study of the timing of funding transfers, for example, might not need to adjudicate contested accounts of subjecthood, while a proposal to prioritize assistance among novel heterogeneous subjects would require far more than the transfer ledger.

In practice, the audit requires iterative coordination between conceptual and empirical work. Researchers may begin with a disputed eligibility rule, discover that the relevant group was omitted from administrative records, revise the population boundary, and then reconsider the resource and power hypotheses. A programme may show real short-term improvements while lacking the data needed to assess long-term capacity renewal. Such outcomes should be reported as differentiated findings. The possibility of a mixed result is expected where resource, recognition, and normative relations are only partly aligned. Responsible evaluation accordingly records well-supported improvements alongside unresolved burdens

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or governance defects, without forcing either side into a premature overall verdict.

25.9 Limits of Generalization and Interfaces with Further Research

The present paper's arguments are conditional on volunteer-aid settings within an explicitly stated domain. The formalism is neither a census of volunteer institutions nor a validated predictive instrument. Comparative inference requires histories of how local terms such as assistance, beneficiary, volunteer, duty, cost, and recognition have been formed and used. The paper's cases are hypothetical tests of analytical distinctions; the presence of similar institutional forms elsewhere should motivate a study rather than establish that any reported hypothetical mechanism has occurred. Particular sectors also differ in legal mandates, professional competencies, hazards, and the kinds of support considered appropriate. Categorical claims about hospitals, international humanitarian institutions, mutual-aid groups, or technology-mediated services would require domain-specific investigation.

Important interdisciplinary remainders must be preserved. Justice research can investigate the fairness of allocation, recognition, participation, and burden distribution. Intervention ethics can investigate reasons for providing support, role competence, consent, restraint, and accountability. Legal research can determine enforceable duties and remedies in the applicable jurisdiction. Historical-system research can address longer time horizons, structural transformations, and feedback mechanisms whose generality exceeds the political-economic domain studied here. Research on heterogeneous subjects can consider differentiated forms of need, welfare evidence, protection, representation, legal status, and the responsibility of those authorized to decide. Section 24 establishes only interfaces with these independent inquiries. It preserves their authorship, epistemic requirements, and potential disagreements with the present explanatory account.

The three GR reality levels also place a limit on proposed generality. The suspension of ultimate ontology is compatible with empirically serious study of historically efficacious relations and with the plural methods required to interpret their manifestations. This does not make the distinction between observation and explanation disappear. The adequacy of a representation depends on the question, its access to evidence, and the capacity to respond to contradictory observations. Future applications should make revision possible at the level of concepts, record types, case boundaries, and normatively consequential categories; the research programme benefits from documented failures of translation as well as successful comparisons.

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25.10 Concluding Political-Economic Propositions and Open Tasks

The preliminary contribution of Paper VIII can be stated in four connected propositions, each with a limited domain. First, the ability to provide and receive volunteer aid is conditioned by historically organized resource conversion and by the differentiated institutions that govern access. Second, the capacity for assistance depends on labour and supporting relations whose costs and means of renewal may extend beyond the service and budget records used for administrative evaluation. Third, recognition, valuation, information, classification, and bargaining practices can change who exercises influence over the production and distribution of aid; their effects remain context-sensitive and may include enabling as well as constraining operations. Fourth, the circulation of values and the evolution of power are temporally extended processes in which recorded returns, dependency, capacity renewal, and mechanisms of capture must be separately investigated. These propositions articulate a research orientation and conditional explanatory distinctions. Their evidential test is whether the chosen distinctions discriminate rival histories: for example, stable service volume under renewed volunteer capacity versus stable volume sustained through unpaid depletion, or formally identical eligibility rules with differing practical access. A well-specified case that defeats a predicted differentiation should prompt revision of its mechanism, case boundary or measurement account. The propositions make no claim of universal empirical confirmation.

The most immediate obligations are therefore scholarly and empirical. The proposed conceptual types require critical comparison with existing political economy, nonprofit governance, care, and social-theoretical scholarship. The formal objects require type and notation consistency, admissible links be-

tween distinct evidence records, and tests of analytical economy. Candidate mechanisms require empirical studies capable of observing defining traces, feasible alternatives, and competing explanations. Table 22 provides a map of the distinct formal roles; the claim-specific warrants of Equation 27 provide a separate account of evidential support. A source-level critical audit further distinguishes positively supported counterfactual exclusion from missing alternatives (Equation 6) and pointwise continuity witnesses from jointly feasible histories (Equation 10). These are substantive inference constraints, open to correction with new evidence and revised candidate domains. Publication review should assess each citation's support for the specific passage, the accessibility and protection of any underlying evidence, and the limits of inference from constructed examples. Future empirical reports should state results that challenge or narrow the framework as clearly as results that support it. The current manuscript completes a first-draft theoretical architecture, while remaining open to structural revision and to independent scholarly criticism.

The political-economic perspective developed here directs attention to the conditions under which helping relationships can remain viable, revisable, and materially supported across historical time. It provides instruments for investigating those conditions while leaving judgments of justice, ethical permission, legal obligation, and ultimate ontology to their appropriate arguments. The next stages of the research programme can test the framework in bounded institutional settings, examine wider historical transformations, and explore related questions of humanitarian protection and heterogeneous subjecthood. The present synthesis supplies a starting architecture for those investigations, together with explicit reasons to preserve uncertainty, plurality, and the possibility of correction.

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