The Seven Bonds and Ethical Coexistence

Conditional sufficiency, seven-way minimality and the role of governance

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Abstract

Can a short ethical framework protect what people need to live together, and does each of its principles do work that the others cannot replace? These questions matter because an incomplete framework can leave people unprotected, while an unsupported promise of harmony can hide failures of resources or governance. This paper examines the Seven Bonds: Security, Property, Agreements, Respect, Care, Environment and Reason. It first defines ethically acceptable coexistence independently of obedience to the Bonds. It then proves that sustained compliance secures specified local protections when responsibilities, resources and effective means are in place, and the fuller outcome when justified governance fills the remaining gaps. A seven-case deletion argument tests minimality: each Bond protects against a failure that can remain when the other six are followed. A common-domain construction connects that argument to conditional sufficiency. Thus the seven form a deletion-minimal sufficient ethical basis within the stated interpretation and operating conditions. This is not a claim that seven is the fewest possible ethical sentences, or that ethics alone creates institutions or prevents catastrophe. The practical contribution is a way to distinguish missing ethical protection from missing capacity or governance, and to make each claim open to a concrete counterexample.

Contents

1 Purpose, importance and proof outline **2**

2 Independent outcome definitions **4**

3 The Bonds and their adopted interpretation **5**

4 Conditions needed for the results **7**

5 Grounding and delivery lemmas **9**

6 The two outcome theorems **10**

7 What governance must provide **12**

8 Seven-way minimality for ethically acceptable coexistence **13**

9 Worked arrangements: the conditions can be met **18**

10 Applying the results **22**

11 Conclusions, review and citation **22**

References **23**

1 Purpose, importance and proof outline

People can live peacefully yet still neglect a dependent, withhold an earned payment or exercise power without a fair hearing. Avoiding open conflict is therefore too weak a test of a good shared life. We need to ask what protects people's welfare, dignity, choices and legitimate claims, including when they depend on others.

The Book of Seven Bonds (2026, Chapter 1 and Appendix A) proposes seven short standards for this purpose. This paper asks two main questions: **Do the Bonds suffice for ethically acceptable coexistence when the necessary practical conditions are present? Is every Bond needed?** The headline claim is that the seven form a minimal ethical basis for that outcome, in the precise, conditional sense established below.

The questions have practical importance. If a principle can be removed without losing protection, the framework may contain redundancy. If removing it leaves a distinct failure possible, that protection needs to remain. Equally, a moral rule cannot produce food without resources, deliver care without effective help, or create a legitimate public role simply by naming it. A proof should expose these dependencies so that an ethical failure is not confused with a shortage, a governance failure or an unavoidable loss. It should also show what evidence would refute the claim.

1.1 What the proof shows

The argument proceeds in five steps:

1. **Define the outcome first.** Section 2 states what people must actually receive or be able to do. Success is not defined as following the Bonds.
2. **Connect principles to action.** Sections 3-5 state the meanings and conditions, then show why particular people must carry out particular tasks. A second lemma shows how those tasks deliver and maintain the required protections.
3. **Prove sufficiency at two scales.** Section 6 proves a local result for everyday provision and choice, then a full result that also covers legitimate claims and accountable power. Section 7 identifies the governance functions needed for the full result.
4. **Test whether any Bond can be removed.** Section 8 gives seven distinct failure cases, checks the remaining six Bonds in each, and places the cases under the same conditions used for sufficiency. This establishes deletion minimality under the declared interpretation.
5. **Check that the conditions can be met.** Section 9 gives worked arrangements with real task and resource budgets. Section 10 explains how to assess an application and where the conclusions stop.

Here *minimal* means that no proper subset of these seven interpreted Bonds retains the same guarantee across the stated class of arrangements. It does not mean that no other ethical vocabulary could express the protections in fewer sentences. The conditions include fair responsibilities, compatible workloads, adequate information, effective means and, for the full result, justified governance. They do not assume that every society has these conditions or that people will comply.

1.2 Relation to earlier work

Plural accounts of obligation have a long history. Ross (1930/2002, Chapter II) treats several kinds of duty as relevant to what one should do, rather than reducing every decision to one measure of benefit. The present paper likewise keeps distinct responsibilities visible, but does not claim that Ross's account establishes these seven Bonds or their minimality.

The formal study of obligation also predates this paper: von Wright (1951) develops deontic logic, and Makinson and van der Torre (2000) study rules that connect conditions to normative outputs.

The duty rules below share the concern with explicit premises and valid inference. They are a purpose-built argument, not an implementation of either logical system. In particular, a duty to act is kept separate from an empirical claim about what the action achieves.

Ostrom (1990) studies how users sustain shared resources through institutions and collective action. That work provides relevant context for distinguishing ethical responsibility from the arrangements needed to carry it out. The five governance functions below are derived from this paper's stated outcome, not attributed to Ostrom as an established five-part classification. These references place the problem in context; none is used as evidence that the Seven Bonds have already been proved sufficient or minimal.

1.3 Status and notation

This is a conditional mathematical and philosophical argument, not a prediction of universal cooperation or a machine-checked proof. Its ethical interpretations and judgments are stated openly. Its causal premises must be supported separately in any real application. A fair response can coexist with an unavoidable loss; the loss is not counted as achieved welfare.

The paper has received human peer review; the reviewer's identity and credentials are not disclosed, and the acknowledgement does not imply endorsement of subsequent revisions. A separate language-model assessment contributed a clarification discussed in Section 11. Neither review constitutes machine verification or substitutes for independent scrutiny of the argument.

The following symbols shorten repeated statements. A *history* is a complete sequence of events, including actions and omissions. A *certificate* is the explicit evidence for the task, resource and causal conditions; it is not a badge of approval.

Symbol	Meaning
N	The people, operations, relationships and dependencies in an arrangement.
Π	The independently assessed people, needs, claims, choices, times and continuing protections.
Ω	The disturbances and outside effects the assessment covers.
h	One complete physical history of the arrangement.
$B_i(h)$	Compliance with Bond i throughout the assessed history.
$B(h)$	Compliance with all seven Bonds by everyone required by the theorem.
$E(h;\Pi)$	Full ethically acceptable coexistence under the specified profile.
$E_L(h;\Pi)$	The local outcome: essential provision, support, everyday choice and continuity.
$R_k(h)$	Available means and responsibility relationships at time t_k.
$C_L(N,\Pi,\Omega;h)$	The common and local conditions, including continuing facts on h.
$C_G(N,\Pi,\Omega;h)$	The common and full conditions, including governance and continuing facts on h.

Compliance means actual conduct, not an oath or a claim of good intentions. Every person whose conduct the result needs must comply. Other influences must be included in Ω; an omitted relevant threat invalidates the application. The square symbol $\square$ marks the end of a proof.

2 Independent outcome definitions

2.1 Full ethically acceptable coexistence

The controlling definition is:

> Ethically acceptable coexistence is a durable form of shared life in which participants' basic welfare, dignity and attainable agency are effectively supported; legitimate claims arising from their dealings receive fair treatment; and power is exercised with justification and meaningful opportunities for challenge. Participants take appropriate responsibility for their conduct, dependencies and shared resources. Conscious beings outside these social relationships remain protected against unjustified harm, while shared resources and ecosystems are maintained sustainably for present and future generations. Conflicts and failures receive genuine, evidence-informed efforts toward fair resolution and feasible correction. Different cultural identities and ways of life remain permissible within these protections.

Write $E = W \wedge T \wedge L \wedge A \wedge R \wedge F \wedge O \wedge V$. Each component is assessed through conditions and available choices, rather than by asking whether a Bond has been followed:

Coordinate	Independently assessed protection
W: welfare and agency	Actual essential access, effective developmental and dependency support, and attainable supported choices.
T: treatment	No unjustified bodily or significant functional injury, disproportionate imposed risk, degrading treatment, unjust seizure or specified deceptive exploitation.
L: legitimate claims	Timely due performance or fair disposition of valid claims, including appropriate attributable correction. A claimant's wealth alone does not cancel an earned claim.
A: accountable power	Justified consequential authority; safe, usable challenge; material grounds or equivalent scrutiny; and valid objections capable of changing the response.
R: conflict response	Genuine evidence-informed engagement, openness to correction and the separately due feasible substantive response. Consensus is not required.
F: continuity	Sustainable common means, ecosystems, knowledge and important established shared opportunities across the covered changes.
O: outside protection	Harm restraint, relevant risk assessment and due attributable correction for genuinely nonsocial conscious beings.
V: cultural latitude	Harmless identities and practices remain permissible; identity alone does not justify deprivation, sanctions or imposed conformity.

Social participation is a factual relationship, not citizenship, assent or official recognition. Children, involuntary dependents and people an authority refuses to recognise remain included. Cross-border interactions can also be social interactions. Future generations remain beneficiaries of stewardship. For genuinely nonsocial conscious beings, this theorem does not add a universal positive duty of community provision; the settled harm protection still applies without reciprocity.

The interpretation of harm here includes bodily and significant functional injury and disproportionate imposed risk, with the existing proportionate-preservation qualifications. The theorem does not settle every disputed meaning of harm or every question of consciousness. Nor does it demand elimination of every latent discretionary power: it requires justified exercise and meaningful challenge.

2.2 Local provision and everyday choice

The local outcome is:

> Local material and agential coexistence obtains over a specified period when the people within an assessed arrangement have effective access to the essentials and support required for tolerable welfare and attainable functioning, retain meaningful choices within their capabilities over everyday life, and can continue to enjoy these conditions through the specified changes and disruptions, without making that provision depend on unjustified harm or deprivation imposed on others.

This is E_L. Before evaluating compliance or choosing an implementation, specify Π:

1. All people whose everyday provision the arrangement controls, including dependents and providers; the period and protected service times.
2. Independently assessed quantities, quality and accessibility of essentials; effective bodily, communicative, developmental and practical support.
3. Concrete everyday domains important to each person and meaningfully different feasible choices where choice is attainable. Incapable persons retain protected interests and developmental opportunities.
4. Resource, ecological, knowledge and opportunity bounds; relevant changes; and the disturbance class Ω.
5. All causally relevant external and future burdens. An inconvenient dependent, claim or external cost cannot be omitted to make the arrangement succeed.

Nominal entitlement is insufficient: essentials and options must actually be accessible at their protected times, without unjustified coercion or degrading conditions. Voluntarily declining an available service is not denial of access. Neither E nor E_L guarantees subjective happiness or a cure for every impairment. No universal numerical welfare threshold is derived here; whether a threshold or option has the stated ethical significance is an independent substantive judgment.

The outcome is not compliance restated. A valid fee could remain unpaid to a well-provided creditor while local resources, support and choices remain intact: E_L can hold although Agreements is breached. Conversely, unavoidable overwhelming loss can defeat access despite every feasible responsibility being fulfilled: compliance can hold while E_L fails outside the operating conditions. The causal part of the proof is therefore necessary.

3 The Bonds and their adopted interpretation

The seven statements are reproduced unchanged:

1. **Security.** Do not harm conscious beings unless in proportionate preservation of self or community.
2. **Property.** Do not seize or destroy the property of others without just cause.
3. **Agreements.** Honour explicit agreements and do not deceive others in malice or for gain.
4. **Respect.** Treat others with consideration for their dignity and needs, as you would have your own considered.

5. **Care.** Nurture your dependents toward self-sufficiency and support vulnerable members of your community.
6. **Environment.** Maintain shared resources and ecosystems sustainably for present and future generations.
7. **Reason.** Strive for evidence-based decisions, remaining humble, open to correction, and committed to resolving conflict through reason.

The proof uses the following interpretations. They state what the Bonds require in this model; arithmetic does not establish their moral truth. The additional boundaries used for minimality are identified explicitly in Section 8.

Conduct and correction. Security and Property include appropriate, feasible attributable correction, including after blameless accidents. Security does not turn every bystander omission into caused injury. Earned debt remains a claim under Agreements and is not automatically classified as theft. Respect concerns actual treatment, not merely private consideration; a request alone creates neither an unlimited service duty nor a universal duty to disclose private reasoning.

Care and agency. Genuine dependence and vulnerability concern inability to secure dignified functioning through actually accessible means. Possessing money without access to effective assistance can leave someone vulnerable. Known, fair, feasible and unopposed support is a performance duty. Support must allow attainable choices rather than needlessly substitute another person's decisions. Caregivers' protected interests count too.

Stewardship. Actual involvement in common resources can ground duties without a promise. Shared means include ecosystems, infrastructure and relevant knowledge; important future opportunities matter even when present basic needs are met.

Reason and conflict. Reason requires genuine appropriate effort, not infallibility. Genuine deliberation does not by itself perform an independently due service or remedy. A consequential evidential dispute can require feasible material evidence or equivalent scrutiny. In genuine unavoidable collisions, appropriately reasoned and acted-on resolution can preserve alignment despite sacrifice. No unique numerical weighting is assumed. Earlier avoidable failures and remaining mitigation duties still count; a feasible unopposed task remains due.

A responsibility needs a ground. Beyond constraints on one's own conduct, a required additional contribution needs an actual undertaking, injury or damage for which the person is responsible, genuine dependence or vulnerability, involvement in shared resources, or a relevant responsibility to resolve a conflict. Merely naming one of these grounds does not determine a bearer, amount or allocation. Utility, spare capacity or a request alone is insufficient.

Shared responsibility (CR). The adopted shared-responsibility interpretation is:

> Care and Environment require fair participation in the necessary coordination and effective contributions. The absence of a prior agreement or official assignment does not, by itself, discharge an existing shared responsibility.

A necessary contribution need not produce the complete service by itself. CR includes reasonably available practical coordination and compatible effective parts, subject to fair capacity, information, actual cooperation and competing responsibilities. It does not impose arbitrary quotas, settle every contested allocation, authorise coercion or require one person to overcome unlimited refusal by others. It is an interpretation of Care and Environment, not an eighth Bond.

4 Conditions needed for the results

4.1 Tasks, time and who is included

Divide the assessed period into intervals with boundaries $t_0 < t_1 < \cdots$. For an unlimited horizon require $t_k \to \infty$, so infinitely many operations cannot be hidden before a finite deadline. Each interval has finitely many relevant tasks. The people, workloads and technologies may change between intervals.

For each task, record what must be done, for whom and by whom. Identify its inputs, legitimate access to them, duration, completion standard and actual deadline. Record the available methods, effective alternatives, dependencies and effects on other tasks. Finally, explain why the person or group is responsible and why the burden is fair and feasible. "Achieve ethical coexistence" is not a concrete task.

Treat contributions that must occur together as one joint task with identified parts. The other dependencies must admit an order with no endless chain of prerequisites. Every operation needs actual inputs and enough time after its prerequisites. A preferred timetable does not create an obligation: deadlines come from actual needs, valid undertakings or necessary latest implementation times. A permissible alternative timetable must remain possible where it discharges the same responsibility.

The model includes every actor, action and dependency capable of affecting the assessed protections, including optional conduct, neglect, diversion, delay and obstruction. A limit on the arrangement's capacity limits where the theorem applies. It does not reduce anyone's moral standing. Additional needs, claims or threats beyond capacity invalidate the application rather than legitimise exclusion.

Fairness, legitimate holdings and powers, real vulnerability, meaningful choices and tolerable welfare are independent ethical and factual inputs. A government's declaration that a burden is fair is not evidence sufficient to establish that judgment.

4.2 Rules connecting responsibilities to tasks

Every required human task needs a finite chain of reasons under the following rules. Establish the facts for that task: merely naming a Bond is insufficient.

D1. Direct Care. A genuine dependent or vulnerable community member has an independently identified essential or developmental need. A responsible person is established, knows an effective way to help, can fairly provide it, and has no overriding responsibility. Care then requires effective help and support for attainable choice by the actual due time.

D2. Shared Care or stewardship. People already share a Care responsibility or are involved in a relevant common resource. Their fair contributions are independently justified, effective methods fit together, and timely coordination is possible. With no unresolved allocation dispute or overriding responsibility, CR requires the necessary coordination and contributions. No new promise or official assignment is needed.

D3. Correction of caused injury or damage. A person has caused bodily or functional injury, or property damage. An appropriate remedy and responsible bearer are independently justified, taking account of capacity and competing duties. Security or Property then requires the feasible correction, including after a blameless accident.

D4. An actual undertaking. A person has genuinely accepted an explicit, valid undertaking with definite performance and timing. Its content is legitimate, and fair performance remains feasible without an overriding change. Agreements then requires that performance. A role description, social benefit or membership alone is not acceptance.

D5. Reasoned effort. An actual decision or conflict calls for a feasible standard of inquiry or engagement. Materially relevant evidence or opportunities to engage are reasonably available. Reason then requires that effort. This rule alone guarantees neither a correct verdict nor an actual remedy.

D6. Necessary means. A performance duty has already been established. Fulfilling it requires a known, fair and feasible step, or a choice among effective permissible alternatives. The duty then requires that step or an effective alternative in time to fulfil the original responsibility. This rule cannot create the initial duty.

Duties that can be fulfilled together must all be fulfilled in the same history. Where a duty permits alternatives, one effective alternative is enough. Independently plausible plans for different people must fit together. Excluding a genuinely compliant method simply because it threatens the desired conclusion is invalid: it must fail an actual due service, lack legitimate means, or conflict with an independently established responsibility.

4.3 Evidence that the tasks work together and keep working

For each operation, establish what actually happens when it is performed with the stated inputs. This is a technical or empirical premise about actions and effects, not an assertion that compliance guarantees the target. Inventory equations, physical laws, verified workflows or case analysis may supply the evidence. Check every genuinely permitted method, every combination that may be used together, every protected combination of choices and every covered disturbance. A single successful plan is not enough.

C1. Inputs, information and timing. Resources, legitimate access and each person's time are available when needed. Decisions use information available at that time. Resources arriving later cannot fund an earlier task; one person cannot do incompatible jobs at once; hindsight cannot supply missing knowledge.

C2. Compatibility. Work and protected choices fit together. Coordination has a time and resource budget. Check whether optional actions or outside effects could remove inputs or undo a service while its protection is still due.

C3. Concrete effects. The methods, when performed, deliver the required quantities, access and support for as long as needed. Include risks and side effects. An effort duty supplies only effort. Guaranteeing a particular result also needs a mechanism that reliably produces it in the covered cases.

C4. Continuing means. Completed operations keep shared resources, ecosystems, knowledge and important opportunities within their protected limits. They also supply the resources, capacity and legitimate access needed for the next interval. Count burdens on outsiders and future people.

The operating condition R_k lists means and relationships, not already delivered E or E_L. Where future role acceptance or an ongoing responsibility is supplied as an explicit continuing premise, use that premise at the next boundary; do not pretend present training produces future consent. All task-grounding facts remain true when required, or a separately checked alternative is available. Unanticipated disabling events cannot be ignored after occurring.

Also check what people remain free to do before and after a task. If a person could finish a task and then permissibly divert its output before the protected time, the certificate must account for that effect. Either the same continuing responsibility or another Bond constrains the interference, or the causal protection withstands it. If a genuinely compliant failing option remains, this arrangement does not satisfy the certificate. Showing one favourable sequence of events is insufficient.

These requirements permit nonlinear, coupled and adaptive arrangements and changing populations. They do not assume that every feasible society can be certified, or that verifying a real certificate is easy.

4.4 Local and full conditions

Local domain. Each person has genuinely accessible independent means for the assessed needs and choices, or support tasks derived under D1-D6. Every relevant common dependency has involved bearers with derivable fair upkeep or coordination duties. Existing obligations to others and all boundary effects are included. The certificate separately establishes the independent access, choice and continuing thresholds.

No added allocation office, adjudicator, enforcement power or newly assumed administrative undertaking creates a missing local duty. Ordinary communication, scheduling and cooperation are permitted. Existing real service agreements may count. An institution settling disputed collective burdens belongs in the governance analysis and cannot be concealed as a local fact. A still-unassigned contested contribution lies outside this local domain.

Full domain. Governance supplies actual justified roles and effective mechanisms wherever direct responsibilities leave a public gap. For every admitted need, valid claim and consequential power, the network includes the concrete provision, access, review and implementation tasks required by the independently fixed full target. Their duties have valid derivations, often through actual limited undertakings.

Affected people can reach the channels in time. Fair response standards are independently justified; adopting a procedure does not make its verdict fair. Adequate evidence or a justified uncertainty response is available. If a correct determinate result is promised, the admitted mechanism reliably supplies it. Governance roles include actual binding power limits and harmless cultural latitude. Initial and succession roles are genuinely supplied, whether by demonstrated transition effects or explicit continuing premises.

Let $C_L(N, \Pi, \Omega; h)$ collect the common and local conditions, and $C_G(N, \Pi, \Omega; h)$ the common and full conditions. The history argument makes the continuing premises explicit. It does not relax the structural certificate's quantification over all permitted alternatives and disturbances.

5 Grounding and delivery lemmas

5.1 Lemma 1: established responsibilities require performance

Statement. A task with a valid finite derivation under D1-D6 is required to its derived standard and time whenever its contextual premises hold. Compliance fulfils that responsibility, allowing its effective permissible alternatives and justified qualifications.

Proof. Follow the finite chain that establishes the duty. At its starting points, D1 applies Care to known, fair, effective support. D2 applies CR to an established shared responsibility whose fair contributions have been resolved and fit together. D3 applies the responsibility to correct caused injury or damage. D4 applies an actually accepted valid undertaking. D5 requires the specified genuine effort, without adding a guarantee of success.

For D6, suppose the person uses none of the permissible effective methods by the due time. The previously established duty is then unfulfilled. Fulfilling it therefore requires the indispensable step or an effective permissible alternative. If acting later would miss the duty's deadline, the step must happen earlier. Compatible duties all apply to the same history; alternative methods

preserve the permitted choice. Every rule either starts the chain or preserves its conclusion, so induction proves the claim. □

The lemma does not assert that all desirable tasks have a duty source. A task lacking a valid individual derivation fails the theorem's conditions.

5.2 Lemma 2: delivery and continuation

Statement. Suppose R_k holds, the interval's grounding and causal conditions hold, and its declared continuing role premises hold. If the responsible actors comply, all due tasks receive their required performance, all certified effects occur throughout their protected times, and R_{k+1} holds.

Proof. Group operations that must occur together, then put the remaining tasks in an order that respects their prerequisites. At its first level, R_k and the certificate supply actual inputs, true responsibility grounds and sufficient timely capacity. Lemma 1 requires the due action or an effective permissible alternative. Waiting beyond the actual due time would fail that responsibility. The duty to perform on time makes the work advance. An orderly task diagram alone would not do so. C3 supplies the method's concrete effects.

At each subsequent level, predecessor effects and C1-C2 provide inputs and time without double counting, while the facts supporting the responsibility remain true or a checked alternative applies. Lemma 1 again supplies the required performance; C3 supplies its effects. Induction through the finite structure completes all due interval operations.

Simultaneous contributions use CR within one compatible joint task. Separately plausible but incompatible schedules fail C2. Coordination has actual reliable means and an accounted cost; no general agreement theorem over contested burdens is assumed. Neglect, refusal, diversion and delay remain physically possible, but in a compliant history are excluded only where they breach a derived duty or another applicable Bond. If a genuinely compliant choice could still fail, the check of alternatives or later interference has failed. The lemma then does not apply.

C3 establishes the required duration and accessibility, not merely an end-of-interval balance. C4 gives the next material, knowledge, capacity and access conditions. Combined with genuinely supplied or explicitly continuing role facts, these establish R_{k+1}. This does not derive a future person's role acceptance. Because all permitted methods and admitted disturbances were covered, the reasoning applies to every qualifying compliant execution. □

6 The two outcome theorems

Let $\mathrm{Runs}(N, \Omega)$ include every physically admitted execution, including noncompliant omissions and delays. It is not prefiltered for success. For every N, Π, Ω and $h \in \mathrm{Runs}(N, \Omega)$, the two statements are:

$$C_L(N, \Pi, \Omega; h) \ \wedge \ R_0(h) \ \wedge \ B(h) \quad \Longrightarrow \quad E_L(h; \Pi),$$

$$C_G(N, \Pi, \Omega; h) \ \wedge \ R_0(h) \ \wedge \ B(h) \quad \Longrightarrow \quad E(h; \Pi).$$

The C predicates expand to the preceding conditions; neither abbreviates its displayed implication.

6.1 Theorem L: local coexistence without a governance supplement

Statement. For any independent local profile and any network satisfying the common and local conditions, initial operating means and sustained compliance imply E_L throughout the declared protected period, across every certified transition and admitted disturbance sequence.

Proof. Lemma 2 supplies the first interval's services and continuation. Check each independent clause:

1. **Essentials and functioning.** Independent means remain genuinely accessible. Derived support tasks are performed, and their certified effects meet the independently assessed quantities, accommodations, support and times. Inaccessible goods or a nominal entitlement do not count.
2. **Everyday choice.** Every protected combination of choices has compatible effective means and assistance. Care supports attainable agency and Respect governs actual treatment. Options therefore remain available without needless substitution, degrading conditions or unjustified coercion. Voluntary refusal does not turn availability into denial.
3. **Continuity.** The completed operations preserve the required resource, ecological, knowledge and opportunity bounds, including protection during the interval, and establish R_1. Restoring a stock after a missed protected time would not meet C3.
4. **External effects.** The certificate includes all relevant causal burdens. Security, Property and Respect constrain treatment; derived correction, Care and stewardship tasks supply the specified responsibilities. Provision does not depend on unjustified harm, deprivation or future exhaustion.

These are all clauses of E_L. Apply Lemma 2 at R_1 and induct. If the horizon is unlimited, every finite protected time belongs to a finite prefix because $t_k \to \infty$. The conclusion therefore holds throughout the declared horizon. No additional institutional allocation or enforcement supplement supplied the duties. □

6.2 Theorem G: full coexistence with governance

Statement. For the independent full target, a network satisfying the common and full conditions, including the operational governance functions below, has E at its protected times and through its certified transitions whenever initial means and sustained compliance hold.

Proof. Actual legitimate role undertakings and any direct Care, stewardship or corrective grounds provide finite derivations for the necessary tasks. Lemmas 1-2 therefore apply. On the same actual history:

- W**:** performed provision and choice-support operations meet the independent needs, including providers and involuntary dependents.
- T**:** Security, Property, Agreements and Respect constrain actual conduct. Authorities additionally remain within the justified binding limits of their roles; a title creates no exemption.
- L**:** every independently valid admitted claim has grounded intake, assessment and implementation tasks. Their performance and certified effects give timely fair treatment and the due substantive response. A hearing or apology alone is not a remedy.
- A**:** independently justified power limits and performed access, representation, scrutiny, unconflicted review and response tasks make challenge safe, usable and capable of changing what happens. The challenged actor cannot veto the route.
- R**:** Reason supplies genuine evidence-informed effort; separately grounded performance duties supply due corrections. Reliable mechanisms supply determinate results where promised. Reason is not declared infallible.

- F**:** maintenance, resource, knowledge and transition tasks preserve the independent bounds and subsequent operating means. Future roles are genuinely supplied under the continuing premise, not inferred from aspiration.
- O**:** Security's settled scope constrains unjustified injury and supplies applicable attributable correction without membership or reciprocity. External effects are accounted for without inventing a universal outside Care duty.
- V**:** actual governance obligations protect the independently specified harmless cultural latitude and bound consequential power. Other conduct remains subject to dignity and harm constraints. The arrangement supplies no authority to coerce or deprive solely to impose a harmless identity or way of life.

All eight coordinates hold together with compatible workloads and resources. Lemma 2 gives the next interval's operating premises; induction and $t_k \to \infty$ establish the temporal conclusion as in Theorem L. □

The governance supplement does substantive work. A claim's validity and fair content are independently assessed; where its administration needs a new role, an actual valid undertaking can create that specific performance duty. The Bonds alone do not create the undertaking. No complete taxonomy of every morally possible claim is inferred from seven sentences.

6.3 Starting, continuing and the limits of the result

R_0 supplies inputs and responsibilities, not the assertion that all services have occurred. The first interval establishes due services; the subsequent induction preserves continuing availability. Protection claimed from t_0 requires already accessible means or timely tasks covering that time. Later repair does not retrospectively establish a missed protection.

Lemma 1 establishes the required actions. Lemma 2 establishes their effects and continuation. Each theorem then checks every part of its independently defined outcome. The proof does not add a premise saying simply that the Bonds are ethically sufficient. Nor does it assume that they create institutions or guarantee agreement. The remaining work in an application is to establish the explicit premises. A stronger theorem covering every society with aggregate resources or some imaginable fair successful plan is not among these statements.

7 What governance must provide

Five functions are required where corresponding protections need them. They can overlap and be distributed across public bodies or other arrangements.

G1. Justified, bounded power. Every consequential power has an independently defensible basis and limits protecting affected people, valid claims and harmless cultural latitude. Evidence for sufficiency identifies actual power holders, binding responsibilities and relevant means; a title alone establishes none of these.

G2. Effective coordination and access. Responsibilities, resources, information, timing and delivery fit together without unassigned or inaccessible gaps. Evidence includes concrete tasks, finite duty derivations, full compatible workloads and actual service effects.

G3. Usable challenge. Affected people can safely question consequential power, access material grounds or equivalent scrutiny, and receive consideration capable of changing the response. Evidence includes accessible and affordable channels, representation where necessary, sufficient time, protection from retaliation, unconflicted review and no sole veto by the challenged actor.

G4. Fair decisions and actual correction. Valid claims and warranted remedies have an operative route to fair treatment and due performance. Evidence includes independently justi-

fied standards, adequate information or a justified uncertainty response, reliable mechanisms for any promised determinate result, and separately grounded implementation with resources and deadlines.

G5. Continuity and adaptation. Necessary provision, resources, knowledge, roles and accountable routes persist through the covered changes. Evidence includes verified continuation and revision tasks, succession costs, actual replacement responsibilities or accepted roles, and alternatives for admitted failures.

No function authorises unjustified coercion. Compelling a disputed contribution requires its own justified power. Under full compliance, actual undertakings and existing responsibilities can make performance operative without punitive enforcement.

Theorem M (functional necessity). If full E holds, each applicable G1-G5 function is present at the scale and time required by the corresponding protection.

Proof. Unjustified exercise of consequential power contradicts the treatment, claim, accountability or cultural coordinates, giving G1 in its required functional sense. Where provision depends on combined contributions, an achieved outcome has a feasible causal route to its recipient; absence of that route contradicts W or F, giving G2. An unusable challenge opportunity contradicts A, giving G3. A due disposition or remedy cannot occur without an executable route, giving G4 from L and the substantive part of R. Failure of a necessary continuing condition contradicts durability or F, giving G5. Apply each argument when its trigger exists. □

This establishes necessary functions, not five logically independent additions to B, five organisations, minimum bureaucracy or a uniquely weakest sufficient constitution. Nor is every detail in the sufficiency evidence above necessary for every conceivable ethical society. A function may already be supplied informally. The converse from five headings alone is not proved: Theorem G uses their concrete duty-grounded implementation and all common conditions.

8 Seven-way minimality for ethically acceptable coexistence

8.1 The exact claim and its common domain

The purpose tested here is the full **ethically acceptable coexistence** outcome E in Section 2.1. The claim concerns neither survival alone nor agreement with seven ethical labels. To show that Bond i is needed, we must exhibit a history in which the other six hold but a specified part of E fails.

Fix one interpretation of all seven Bonds, including the boundaries below, before considering any deletion. Let $\mathcal{D}$ be the class of tuples (N, Π, Ω, h) satisfying the full conditions $C_G(N, \Pi, \Omega; h)$ and initial means $R_0(h)$. It includes physically possible omissions and wrongful acts. Duties, resources, role undertakings and the causal rules are held fixed: membership does not require that the due tasks have actually been performed. Theorem G proves sufficiency of all seven throughout this class.

A deletion test removes only the assumption of compliance with one Bond. It does not remove that Bond's meaning, erase an existing duty, cancel an undertaking, change what counts as a fair claim or weaken E. In particular, a task's derivation under D1-D6 is still a fact about the original ethical system. Deleting compliance with its source may leave the task undone.

The result is about a guarantee across $\mathcal{D}$, not necessity in every individual arrangement. A particular contract can require conduct that another Bond also requires. In such an arrangement the duties overlap. To disprove sufficiency of a six-Bond subset across the class, one admissible arrangement without that extra contractual protection is enough.

8.2 Interpretation needed to isolate each Bond

The earlier deletion argument used four boundaries. They are retained as explicit model assumptions, not presented as conclusions forced by the seven sentences or as newly obtained author decisions.

1. **Deliberation and performance are distinct (RDP).** Reason requires genuine inquiry, openness to correction and efforts to resolve conflict. A person can correctly recognise a substantive duty and nevertheless fail to perform it. That failure does not automatically violate Reason as well. This is a uniform extension of the previously adopted Property/Reason distinction. It never excuses refusing a due evidential effort in an actual dispute.
2. **Treatment and additional performance are distinct.** Respect requires considerate actual treatment. It does not independently require every positive payment, remedy, lesson or preservation task that another Bond grounds. The omission cases below avoid separate humiliation, active obstruction and unmet needs that would independently breach Respect. Polite words do not make degrading treatment respectful.
3. **Injury and a missed improvement are distinct.** A lost developmental opportunity can matter without being a new bodily or significant functional injury. The Care case excludes deterioration, withdrawn aid and disproportionate imposed risk. Starvation or deliberate impairment would not fit it.
4. **Shared resources and proprietary holdings are distinct.** Important public-domain knowledge can be a shared resource without anyone owning its content. Property still protects the privately or collectively owned physical media. The Environment case damages no such medium or proprietary right.

The reason for RDP is to distinguish understanding a responsibility from fulfilling it. A person may examine the evidence, recognise what is owed and still fail through convenience, weakness or spite. The model attributes that failure to the substantive duty while retaining a separate question about the quality of inquiry and conflict engagement. This makes the sources of failure distinguishable; it does not make the conduct acceptable or let deliberation substitute for performance. Reason itself still requires practical efforts where inquiry or conflict resolution calls for them.

The second boundary similarly separates considerate treatment from the grounds of particular additional contributions. Considering another person's needs does not by itself determine who owes which payment, lesson or preservation task, in what amount and by what deadline. Requiring those grounds to be identified makes allocation and responsibility visible. Respect continues to constrain actual treatment, and duties may overlap where an omission also involves degradation, obstruction or an independently prohibited denial of needs. Fair allocation and legitimate authority remain substantive ethical judgments requiring justification, not merely administrative details.

Broader readings are possible. If Reason requires acting on every correctly recognised ethical duty, H1-H6 no longer retain Reason: each expressly involves a recognised duty that is not performed. If Respect independently requires the omitted payments, remedies, support, preservation or evidential response, the corresponding cases H1-H3 and H5-H7 also cease to isolate their omitted Bond. Replacement witnesses or a different minimality result would then be needed; none is established here. Such readings may preserve the protections through greater overlap, but whether a smaller subset suffices requires its own analysis.

The adopted boundaries therefore offer a way to distinguish responsibilities, not proof that this division is uniquely correct. Their plausibility is open to philosophical assessment. The deletion result applies to them as stated and cannot simply be transferred to a broader interpretation.

These assumptions are used consistently for all seven cases and for Theorem G as restricted to this interpretation. Rejecting a boundary calls for a new analysis of the affected witness. It does not make the boundary a proved moral truth.

8.3 A common arrangement for the seven tests

Start with a fully operating arrangement of the kind constructed in Section 9.2. Its actual undertakings cover production, existing support and the limited public review procedure. They do not contain a promise to obey every Bond or to perform every future private remedy, lesson or explanation. Give the participant in the test episode an additional protected reserve of one work unit and the particular legitimately held material input needed for that episode. Baseline provision, public review and all other workloads retain their full budgets. This is added capacity, not a second use of the same time or goods.

Each of the seven tests is a separate arrangement with one episode, not seven tasks imposed simultaneously on one person. Each episode has a genuine, independently justified due interval, a known effective operation costing at most the reserved unit, and no competing responsibility. The full protection profile includes the relevant claim, dignity, development, knowledge or conflict-response requirement. The requirement is not dropped when its performance is omitted.

For the positive tasks, performing the operation causes the specified effect: compensation reaches its claimant, a replacement restores the tool, payment fulfils the debt, adapted teaching supplies the protected learning opportunity, a recording preserves the common knowledge, or a short evidential response supplies the due conflict effort. For the treatment case, the permitted considerate alternatives avoid the indignity. Supplies and recipient access remain available throughout the due window. The episode has no further disturbance, and its private effects do not destroy the background's shared institutions or support systems.

Public power remains bounded and its challenge channels remain accessible. Public roles perform their actual undertakings. Direct duties need not be duplicated by a new public undertaking: D1, D2, D3 and D5 are permitted task grounds in the full domain. In the Reason case, the private party's due response precedes any later public review. The public route remains usable and has a fair uncertainty response if needed; it promises no infallible finding from unavailable evidence. It neither fulfils that party's earlier personal effort duty nor erases a missed response interval. The failed component in that case is R, not a claim that all public accountability is absent.

The causal check must not presuppose success. An omitted task remains physically possible and causes its specified failure. If it is performed, the checked effects protect the relevant interest. Optional actions cannot undo those effects without violating a continuing applicable duty; where several effective methods are permitted, each has the same protected effect and fits the reserved budget. The background supplies C1-C4 and its continuing roles. C4 describes what completed tasks preserve; it does not require a noncompliant history to retain resources that an omitted task would have preserved. Continuing role facts that are explicitly supplied remain premises. The added task has no unresolved allocation, missing input, hidden deadline, unprovided successor or extra authority requirement. Its finite duty derivation is given in each case below. The Respect case uses a direct constraint on treatment rather than inventing a positive D-rule duty.

Thus the arrangements meet the same non-compliance premises used in Theorem G. Within each arrangement the compliant and deletion histories keep those premises fixed. Other people act compliantly; later justified responses are performed where still possible. A later remedy does not change whether an earlier protected interval was missed.

8.4 The seven deletion cases

H1: Security. A reasonably careful activity causes an unforeseeable, temporary bodily injury. The injured participant has actual access to support and suffers no property loss or continuing unmet need. Appropriate modest compensation for the personal loss is independently due, feasible and unwaived. Its bearer understands the responsibility but omits payment during its due interval. There is no indemnity promise, deception, degrading interaction or contemporaneous dispute. D3 grounds the task in Security. The omitted corrective response fails L.

Property is retained because no proprietary holding is taken or damaged; a personal-injury claim is not automatically an owned object that has been seized. Agreements has no invented compensation promise. Respect, Care and Environment retain their treatment, support and shared-resource protections. Reason is retained through actual appraisal of the accident, remedy and competing demands, followed by genuine engagement with any later complaint. RDP distinguishes that appraisal from the omitted payment.

H2: Property. A blameless accident damages a legitimately held private tool. Accessible alternatives protect its owner's welfare and functioning, but do not waive the claim to restoration. No personal injury or common-resource loss occurs. The responsible participant understands and can supply the modest remedy, yet misses its actual due interval. There is no restoration promise, deceptive assurance, contemptuous interaction or contemporaneous dispute. D3 grounds the task in Property. The unfulfilled legitimate corrective claim fails L.

Security has no qualifying injury or risk. Agreements has no applicable promise. Respect is not made into a second source of every restoration service. Actual support and common resources remain protected under Care and Environment. Reason is satisfied through genuine factual appraisal, openness to correction and later conflict effort; RDP permits the substantive failure. This is the same distinction used for H1.

H3: Agreements. A worker completes substantial skilled work under a sincere, valid promise of payment by a definite date. The payer has funds, no overriding duty and no right to delay. The worker has independent means but has not waived the fee. The payer accurately understands the debt yet withholds payment for convenience during a meaningful due interval. There was no fraudulent inducement, seizure of work product, hidden asset transfer or false assurance. D4 grounds payment in Agreements. Its omission fails the valid-dealings protection in L.

Ordinary unpaid debt is not automatically theft under the fixed Property interpretation. No bodily or functional injury, degrading interaction, missing vulnerable-person support or common-system failure occurs. The debt and records are acknowledged. Any later dispute receives genuine engagement and then-due correction. Reason is therefore retained under RDP; later payment does not retrospectively fulfil the original deadline.

H4: Respect. In a private interaction, a participant gratuitously mocks another's harmless mistake in a clearly demeaning but factually accurate way. The speaker has checked the facts and effects, knows a considerate alternative and recognises the other person's equal standing, but acts spitefully. There is no threat, breach of confidentiality, deception, proprietary loss or denial of access. The recipient suffers no bodily or significant functional injury or disproportionate risk. The treatment directly violates Respect and the dignity protection in T.

The absence of qualifying injury preserves Security without denying the indignity. The other substantive protections remain supplied; no actual undertaking covers this private courtesy. Reason is retained under RDP and genuine subsequent admission, apology and engagement. This uses a failure to act on an understood standard, not an unexplained claim that a prejudiced belief survived perfect inquiry.

H5: Care. A community child needs a short adapted course for an important attainable developmental gain. It is unavailable through the child's or caregivers' accessible means. A skilled participant has the reserved capacity and is fairly responsible; no other timely teacher is available. The participant has not caused the condition, withdrawn support, accepted a teaching office or promised the course. Despite understanding the need and responsibility, the participant never initiates the course during its important due interval. D1 grounds it in Care. Its omission fails actual due developmental support in W.

Food, safety, existing communication and other support remain intact. There is no new injury, deterioration, disproportionate risk, degrading interaction or deceptive reassurance. Teaching resources remain available and maintained, so preserving them under Environment has not supplied this child's lesson. Property and Agreements have no separate violation. Reason is retained through actual appraisal and later genuine engagement under RDP. The injury/improvement boundary is essential to this case.

H6: Environment. An involved participant is the last competent holder of an important part of a public-domain oral archive used in an established common practice. No person or institution owns its content. The participant has not promised preservation, but knows that recording or transmitting it before a foreseeable natural death is a fair, modest and feasible responsibility. The reserved means suffice. The participant nevertheless omits the operation within its due interval; the knowledge is later lost. D2, with the necessary timing under D6, grounds stewardship in Environment. The loss fails the protected continuity of shared knowledge and opportunity in F.

All owned media remain intact and pass to their proper successors, so Property is not breached. There is no deceptive assurance or preservation undertaking. The knowledge matters without being essential to anyone's minimum functioning; alternative resources protect all current developmental and dependency needs. No qualifying injury or degrading treatment occurs. Actual inquiry establishes the preservation need; RDP separates that understanding from the omitted task. Reason is retained, and no subsequent dispute is evaded.

H7: Reason. After accidentally damaging a private tool, a participant promptly supplies objectively adequate compensation. The valuation depends on a feature recorded privately before the tool became uninspectable. On the claimant's available evidence, materially different values remain plausible. The claimant raises a reasonable consequential dispute. The responsible person knows that a short disclosure or equivalent scrutiny would help, can provide it easily, and faces no confidentiality, safety or competing-duty obstacle. The person nevertheless makes no such effort within the genuine response interval. D5 grounds the task in Reason. The failure of due conflict engagement defeats R, even though the compensation is correct.

Property's material remedy has been supplied. The fixed interpretation does not assign this further evidential duty independently to Property or Respect. There is no explanation promise, lie, seizure of another's record, humiliation, missing support or shared-resource failure. Later public review can still operate; its officials keep their distinct undertakings. The personal effort due earlier remains unperformed. Unlike H1-H6, this case does not rely on RDP to excuse nonperformance under Reason: the missing performance is the very effort that Reason requires.

8.5 Theorem N: a deletion-minimal ethical basis for the defined purpose

Statement. Under the fixed interpretation above, the seven Bonds are a deletion-minimal sufficient ethical basis for full ethically acceptable coexistence E on $\mathcal{D}$. More precisely:

$$\forall (N, \Pi, \Omega, h) \in \mathcal{D}, \quad \left(\bigwedge_{j=1}^{7} B_j(h) \right) \Longrightarrow E(h; \Pi),$$

and, for each $i \in \{1, \dots, 7\}$, an admissible tuple in the same class satisfies

$$\left(\bigwedge_{j \neq i} B_j(h_i) \right) \wedge \neg B_i(h_i) \wedge \neg E(h_i; \Pi_i).$$

Proof. Theorem G supplies the first implication. Its argument does not require Reason to absorb all the other duties; the separate D-rules and direct conduct constraints still apply under the stated interpretation.

For each i, use the common construction and the corresponding episode H1-H7. The reserved means, genuine responsibility, finite timing and effective operation meet the same full-domain conditions. In H1, H2, H3, H5, H6 and H7 the finite derivation establishes the omitted task even though its bearer does not perform it. In H4, the means and duties stay in place while a physically possible private act breaches the direct treatment constraint. Each local audit shows that every retained Bond holds and an independently required component of E fails.

The audit covers complete histories. Inside the episode, the retained duties are checked explicitly. Duties crossing its boundary retain legitimate acquisition, appropriate precautions, actual background undertakings, support and later feasible responses. Outside it, the supported background continues compliantly. The knowledge case includes the later natural death and loss. No collateral violation is assumed away in an actual application: their specified absence is part of these disclosed possible arrangements.

Now take any proper subset of the seven Bonds. It omits some Bond i. History h_i satisfies every Bond in that subset yet fails E while remaining in $\mathcal{D}$. The subset is therefore insufficient across this class. All seven suffice there by Theorem G, so the set is deletion-minimal. □

The result links the prior seven-way deletion argument to the defined outcome and a common sufficiency domain. It does not claim that the five governance functions are independently minimal, that every particular institution needs seven separate rules, or that another ethical language cannot combine the same protections. It also does not remove the model's interpretive and practical premises. The purpose-relative conclusion is precise: **within those premises, removing any one Bond loses the guarantee of ethically acceptable coexistence.**

9 Worked arrangements: the conditions can be met

The following idealised cases demonstrate nonempty domains. Their needs, fairness judgments and causal technologies are disclosed model facts, not measurements of an actual economy. The resource calculations do not make the assignments fair by themselves.

9.1 Shared local provision with complementary work

There are two capable adults, A and B, and one vulnerable dependent. A is the existing direct caregiver. Both adults genuinely share the relevant community Care responsibility and use and maintain the common supply. Each has six work units after protected personal needs. Each person needs two usable goods units per interval; the dependent also needs two effective support-time units and one goods unit for either of two meaningful, equally costly activity choices.

Initial legitimate common stock is eight. A pre-allocation disturbance removes at most one unit. The remaining seven cover six essential units and the activity input. Accessible delivery is part of the operations. The one-unit reserve is independently assessed as a fair precaution against the known loss.

Replenishment requires two complementary operations, each taking two work units in a mutually known window. Neither adult can perform both operations in that window; an incomplete pair produces no new stock. The complete pair produces eight units. The two-unit blocks include reliable coordination, delivery, operation and source maintenance. Both parts are fair and feasible, without a competing duty, missing permission, official assignment or prior promise.

A also supplies two support-time units and follows the dependent's permitted activity choice. A uses four of six work units, leaving two for independently meaningful personal options; B uses two, leaving four. Both activity choices fit the same capacities. Other legitimate claims and needs are included, rather than omitted to obtain these totals.

The renewable source starts at twenty, yields eight without crossing its safe floor of twelve, and regenerates eight through the completed maintenance. Necessary knowledge is retained. Legitimate access, benign side effects and harmless surplus storage or cycling are specified. Capacities and responsibilities continue over the assessed horizon.

Duty step. The actual shared Care and commons responsibilities ground both necessary parts under CR. Each part can be required although ineffective in isolation. Direct Care grounds A's support and attainable choice assistance. Unexcused refusal is not compliance merely because the other adult cannot produce the result alone.

Causal step. Let $0 \leq \ell \leq 1$ be the admitted loss. After seven units of provision and completed replenishment:

$$s_{k+1} = \min\{8,\ 8 - \ell - 7 + 8\} = 8.$$

Every pre-replenishment withdrawal fits the initial eight units, so there is no borrowing from future production. Support, options and delivery occur at their due times. The source returns to twenty and never crosses twelve. These effects and the continuing role facts establish the next boundary. Induction gives E_L for every admitted loss sequence, without a governance supplement.

9.2 Full coexistence with limited, usable review

Take two modules, each containing two capable adults, two children and two dependents. Each participant has one essential goods unit per interval. Each child receives sustenance assistance and effective development; each dependent receives sustenance assistance and participation support. Competent recipients can choose between two equally effective, equally costly support formats. Refusal is not permission for forced treatment. The adults' personal needs are protected before their work capacity is assessed.

For each adult the complete work budget is:

Operation	Work units
Child and dependent support	4
Production	1
Involved upkeep	1
Specific accepted service	1
Records, representation and review	1
Triggered attributable correction	At most 2
Total	**At most 10**

Each module has typed initial stock and production

$$S = (14, 2, 2, 2), \qquad P = (6, 2, 2, 2),$$

for essentials, upkeep/development inputs, service materials and corrective materials. Total withdrawals satisfy $0 \le q \le P$ componentwise, including all due claim transfers and service inputs. No transfer spends an essential allocation or goods already used elsewhere. Each processor converts six raw units into three essential units and one of each other category. The raw renewable source starts at twenty, is harvested by twelve without falling below eight, and is restored by twelve through the maintained renewal process. Goods categories are appropriate to their uses; no food substitutes for a missing machine part. Working storage and harmless cycling cover surplus.

An adult has actual valid production and service undertakings, fair direct support responsibilities, involvement-based maintenance duties, and due attributable remedies. Admit at most one loss per adult needing at most two work units and one corrective-material unit. Any capacity loss is already included in the available capacity. Necessary machine repair precedes processing, using initial supplies. All release times, locations and due windows fit a known schedule that preserves assistance during proceedings and repairs.

The causal model stipulates effective support for these actual recipients and a supported life-course transition. Initial adults have a supplied supported childhood and legitimate equipment history. Reproduction and succession costs are included in personal allowances, goods and development blocks. Service intervals represent stages containing repeated deliveries, not literal one-year human lifetimes. At succession, the next adults actually accept the same limited roles and receive legitimate access and justified assignments. This acceptance is a continuing premise, not a result of education or compliance.

Accountable roles. Limited governance roles implement only the pre-established support schedule and elementary valid service or correction claims. They cannot remove essential provision, impose punishment, create new liabilities or restrict harmless identity, association or belief. Real undertakings bind those limits. Storage and records have access for recipients and backups; no official has sole custody of essentials. Each consequential role act has an inspectable record of facts, grounds and proposed response. Each dependent has a designated adult representative who has accepted that role. Concerns carry no fee or permission requirement, and nonretaliation is an actual obligation.

The four adults' administration blocks total four units. Routine records use one quarter-unit per adult, totalling one unit. At most one exceptional review per interval uses twelve quarter-unit operations, totalling the remaining three units. Data and communication technology genuinely fit these costs.

Elementary review. A dispute concerns an authentic recorded quantity $b \in \{0, 1\}$ under an independently valid modest claim, with due transfer $f(b) = b$. A provisional proposal a can be mistaken. Two adults from the other module have no case interest and can reliably inspect the authentic record. The review does not concern those reviewers; cases involving them, both modules or larger concurrent workloads require a different arrangement. Extra real complaints do not lose standing: their presence would exceed this example's domain.

The twelve ordered operations are: register and notify; obtain the authentic record; offer the claimant or representative a hearing; offer the respondent a hearing; obtain the first independent check; obtain the second; state the result and rule; supply grounds or equivalent scrutiny; provide the bounded correction opportunity; verify the corrected result; issue the justified instruction; and release the transfer or verify the substantive response. Actual physical service or repair uses its separate budgeted block.

Label the respondent A, claimant or representative B, and reviewers C and D. Allocate those operations in order to

$$(C, A, B, A, C, D, D, A, B, D, C, B).$$

Each adult performs three quarter-unit review tasks plus one routine quarter-unit, exactly filling its administration unit. Hearing opportunities are asynchronous, so no unbudgeted meeting or facilitator is needed. Optional speech may be declined. Actual undertakings cover the limited procedure and its fair correct application; no consent is inferred from membership. A compliant official has no legitimate veto over the accepted correction route. This does not imply resistance to arbitrary malicious capture.

Outcome proof. D1-D6 ground all due tasks. Equal capable roles bear equal burdens; support follows real needs; actual agreements ground the modest claims; remedies fit their assessed harms; optional services never displace essentials. These disclosed judgments justify this instance without deciding arbitrary distributive disputes.

For every pre-production withdrawal prefix $p \le q \le P$,

$$S - p \ge S - P = (8, 0, 0, 0), \qquad \min\{S, S + P - q\} = S,$$

with componentwise minimum. Initial supplies therefore fund timely provision, upkeep and prior repair; completed production restores the stock, and the source returns to twenty. Effective chosen support establishes W, while performed maintenance and the continuing roles establish F.

The twelve due operations advance in their genuine time slots. Reliable checks yield $f(b)$ even if $a \neq b$; separately grounded implementation supplies the actual remedy. Representation, safe access, inspectable evidence, unconflicted scrutiny and the operative correction route establish A and the specified R. Appropriate performance and conduct give T, L, O. Binding role limits and protected equally affordable harmless practices give V; cultural latitude is availability of alternatives, not an inference from one homogeneous history. The same resources and duties recur, so Theorem G applies. Choosing actual role acceptance, compatible performances, a corrected mistaken proposal and a repairable accident constructs a compliant history with genuine dependency, disagreement and correction.

9.3 Why compliance matters and catastrophe remains possible

In either example, keep the resources, technology, duties and initial conditions but let a bearer omit a required service. The material setup remains available while a due protection can fail. Thus the setup did not already assert the delivered outcome. Compliance supplies a real step in the implication. These examples test whether compliance matters. The separate seven-case argument in Section 8 tests whether each Bond matters for the full target.

Conversely, an unforeseeable and unavoidable loss can destroy the last essential reserve after every fair precaution and available response has been performed. The participants may remain compliant while actual access fails. The destructive event falls outside the certified disturbance class. Restricting the theorem does not excuse prior negligence or convert the later deprivation into success.

10 Applying the results

Start with a declared arrangement and assessment period. Identify independently justified needs, claims, choices and external effects. Establish each responsibility ground and its concrete bearer, standard and due time. Then demonstrate the actual means, joint budgets, accessible channels, all permitted alternatives and relevant interference. Check continuation, including actual future roles where needed.

For each governance function, record **demonstrated**, **contradicted**, **unresolved** or **not applicable**, with scope and evidence. Ask who can actually obtain a service, question a decision or receive a correction, and what happens when the usual actor fails. Passing selected cases does not certify an entire government. An office name or policy statement alone proves neither operation nor ethical legitimacy.

A missing outcome, unavoidable incapacity and unjustified official conduct are distinct findings. A family's or charity's actual provision does not excuse an authority's unjustified obstruction. A factual shortage does not erase a person's standing, and an unverified premise cannot be treated as verified to make the theorem apply.

The local result does not require a functional public government. It can establish real support, everyday options and maintained provision where cooperating participants' responsibilities and means cover the tasks. A simple reserve calculation illustrates the interference boundary: if need is n, prepositioned goods are $n + r$, and the post-response loss can be any $\ell \in [0, L]$ with no later replenishment before the deadline, accessible goods are $n + r - \ell$. Provision is guaranteed for every admitted loss exactly when $r \geq L$. This is a useful bound, not a guarantee against confiscation of arbitrary size.

Under oppression, restraint, due care, honest dealings and cooperation can preserve actual benefits while wider injustice persists. The theorem requires the real regime's relevant interference to be covered, not a conveniently benign Ω. It promises neither political victory nor that every additional compliant act monotonically improves aggregate outcomes. Failure to restore the whole society does not erase a protection actually provided or impose unlimited compensating duties on victims. Following the Bonds does not legitimate oppression or imply unconditional obedience.

11 Conclusions, review and citation

The paper separates three questions: what people are owed, what conduct fulfils those responsibilities, and what effects that conduct actually produces. Theorem L establishes local provision and everyday choice under the stated conditions. Theorem G establishes full ethically acceptable coexistence when justified governance supplies the additional roles and means. Theorem M identifies necessary governance functions without claiming a uniquely smallest constitution.

The seven-way argument in Theorem N adds a distinct result: within the declared interpretation and common domain, all seven Bonds suffice and no proper subset retains that guarantee. This is deletion minimality of the ethical basis, with practical and governance conditions held fixed. It is not a minimum number of sentences, a proof of universal moral agreement or a guarantee that ethics alone supplies an outcome.

Fairness, legitimate power and welfare thresholds still require independent judgment. Reliable causal claims still need evidence. The result does not manufacture resources, future consent, knowledge or compliance. Covering further disruptions or unresolved allocation problems requires further evidence or a new theorem, and may require reconsidering the interpretation.

11.1 Review record

Human peer review informed the paper's context, readability, references, attribution and treatment of minimality. A separate language-model assessment examined the revised argument and suggested the clarification in Section 8.3 distinguishing what completed tasks preserve from what must already hold in an omission history. Such an assessment is not machine verification or a substitute for independent mathematical scrutiny.

Numerical checks test the worked examples' arithmetic, not the ethical premises or the general proofs. The conclusions remain open to a counterexample satisfying their premises or a demonstrated invalid inference.

11.2 How to cite and identify this paper

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