From Ethical Geometry to Institutional Design

Deriving Ostrom's Core Design Principles from the Syntegrity Ideal

CDP	Ostrom's Principle	Why the Framework Requires It
1	Strong group identity & shared purpose	Syntegrity requires positive coupling across all three ethical dimensions for all members. Without shared identity and purpose, the ethical field fragments—the holistic coupling cannot hold. *Formal basis: well-definedness of the field domain.*
2	Proportional equivalence between benefits & costs	Each agent's contribution must be synergistic with their own welfare. If someone bears high costs but receives low benefits, the coupling is antagonistic—exactly what syntegrity rules out. Proportional equivalence ensures mutual, positive benefit–cost coupling. *Formal basis: syntegrity condition on the Good field (positive off-diagonal coupling).*
3	Fair & inclusive decision-making	Unfair processes set justice against fidelity; exclusive processes set autonomy against beneficence. Fair inclusion ensures positive coupling within the Right field and across fields: participation cultivates civic virtue (Right → Virtue) and tracks the real distribution of goods (Right → Good). *Formal basis: syntegrity condition on the Right field and inter-field couplings.*
4	Monitoring agreed-upon behaviors	Without monitoring, defectors create local negative coupling that propagates and can trigger vicious spirals. Monitoring detects perturbations before they shift the system from the syntegral attractor to the antisyntegral one—it stabilizes the equilibrium. *Formal basis: attractor stability analysis (perturbation detection for dynamical equilibrium).*
5	Graduated sanctions	Because the ethical field varies locally, uniform punishment introduces antagonism between norm enforcement and character cultivation. Graduated sanctions calibrate the response to local coupling structure: signaling seriousness while preserving conditions for moral reintegration. *Formal basis: field character of the ethical tensor (local variation requires locally calibrated response).*
6	Fast & fair conflict resolution	Conflicts are regions of negative coupling. Left unresolved, they propagate: goods-conflicts generate deontic tensions, which corrupt character, which degrades outcomes. Because inter-field coupling is multiplicative, damage compounds fast—speed is essential. Fairness prevents the resolution from introducing new asymmetries. *Formal basis: multiplicative dynamic coupling and syntegrity condition jointly.*
7	Local autonomy	The ethical field varies across the landscape. Centralized policies imposing uniform rules cannot track this variation—synergistic in some contexts, antagonistic in others. Local autonomy lets institutions calibrate to the actual field configuration. This is the ethical analog of the locality principle in field theory. *Formal basis: field character of the ethical tensor (locality of coupling).*
8	Polycentric governance (nested enterprises)	Inter-field coupling operates at every scale—household, community, regional, global. Sustaining syntegrity requires governance at every scale, and these structures must themselves be synergistically coupled. Monocentric governance at a single scale cannot track cross-scale field variation. *Formal basis: scale-independence of the coupling dynamics.*

Each principle is derived from a different formal feature of the ethical field framework, applied to the syntegrity ideal.

The multiplicity and independence of the derivations constitutes strong evidence that the framework tracks genuine ethical structure.

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