A Commons-Evolved Meta-Architecture for Governance

A Preliminary Discussion within Generative Relational Governance

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Abstract

Governance design confronts a persistent difficulty. The targets of governance differ across scale, culture, kind, and historical period, so a single governance model transfers poorly among them. Bespoke design for each target does not accumulate, since a lesson learned in one setting seldom reaches another. And an attempt to author a universal governance standard from above is hard to legitimate, since no single body holds the standing or the knowledge to design governance for all targets at once. This paper offers a preliminary intuition in response, developed within the framework of Generative Relational Governance. We propose a meta-architecture for governance: an abstract specification of the components of a governance architecture, the standards those components answer to, and the constraints among them, together with the tools by which an adopter can implement the architecture for its own target, document it, analyze it, and revise it. The meta-architecture is not authored once and then adopted. It is evolved in a commons. An initial architecture is supplied as a starting point in the manner of the initial population of a genetic algorithm, each adopter implements and revises it in the course of governing its own target, the revisions become visible across a commons, and a working standard precipitates from differential adoption in place of being fixed in advance. The commons is where the contribution rests: the standard becomes the revisable output of a shared evolutionary process in place of its input, and this reverses the causal direction of conventional standardization. We separate the adopter, which is an organization or an individual, from the object of governance, which varies widely and need not be an organization. We adopt a cautious version that fixes a minimal normative floor by design, and we name the open problems a later programme must address, of which the representation of governance architectures in a shared and comparable form is the first.

Keywords: governance meta-architecture; commons; evolutionary standardization; generative relational governance; metagovernance; institutional infrastructure.

A note on the standing of this paper. This is a preliminary working paper. It states an early intuition and a research direction, and it does not claim a finished theory. Its aim is to identify a problem, state a motivation, and describe an envisaged approach clearly enough to be criticized and improved. The central claim is provisional, the parent framework is under development, and several of the tasks the paper names as necessary have not yet been carried out. Should the existing literatures on metagovernance, institutional design, and computational governance be shown already to answer the question posed here, the later sections lose their ground. Objection, correction, and counter-evidence are welcome at `huangwanhong@serendip.ngo`.

1 The Problem of Governance Design

Three constraints hold at once, and together they form the difficulty this paper addresses.

The first is heterogeneity. The targets of governance differ widely. A family, a community, a shared resource, a firm, a transnational association, and a state call for different governance, and what counts as sound coordination in one setting can be dysfunction in another. A single governance model that fits all of these at once is unlikely to exist, and the diversity is the substance of the problem and not noise to be averaged away.

The second is non-accumulation. When each target is governed by a design built from the beginning, the resulting knowledge stays local. Solutions are reinvented, and failures repeat. No substrate carries a lesson learned in one setting over to another, and so the stock of governance knowledge grows far more slowly than the number of governance experiments would allow.

The third is the legitimacy of universals. One response to heterogeneity and non-accumulation is to author a general standard and ask that it be adopted. This is the path of institutional standardization, and it has produced instruments of real value. Its limit, for the present purpose, is that the authority to author a cross-context governance standard is hard to establish. No body has surveyed all settings, and no setting is obliged to accept a standard written elsewhere on its behalf.

The difficulty is that these three constraints leave only a narrow space between them. On one side lie incommensurable one-off designs, which fit their settings and do not accumulate. On the other lie universal standards, which accumulate and fit poorly and legitimate with difficulty. The question this paper opens is whether accumulation can be had without paying either price.

2 The Adopter and the Object of Governance

Before the approach is stated, two roles must be kept apart, since running them together is a frequent source of confusion.

The *adopter* is the party that takes up an architecture, implements it, and revises it. An adopter is an organization or an individual, that is, an agent able to decide and to act. The *object* of governance is what the governance is about, the target upon which it is exercised. An object can be a family, a shared resource, a community, a process, an institution, a relationship, or a territory, and it need not be an organization, nor even an agent. We use the word object precisely because the target of governance varies so widely that any narrower word would smuggle in a restriction the framework means to avoid.

The architecture is accordingly wielded by an adopter and directed at an object. One adopter may govern several objects of different kinds, and one kind of object may be governed by many adopters. The revision of an architecture is carried out by an adopter, since only an

agent can revise; the appropriateness of a revision is judged against how well it governs the adopter's object. This distinction does the work of Section 4, where the site of revision and the site of selection are separated.

3 The Object of Design

We do not think the answer is a better universal standard. We think the object of design should change.

The motivation is partly practical and partly principled. The practical part is a limit we accept openly. To learn which governance architectures work across scales, cultures, kinds, and historical periods, one would want to experiment across all of them. We cannot do this. No research group can run controlled trials across civilizations and centuries, and the very diversity that makes the question worth asking is what places it beyond the reach of ordinary controlled study.

This limit is usually treated as a weakness. We treat it as a direction. Because we cannot move across all settings ourselves, we decline to author the standard that would span them. We propose to build the field within which the many adopters generate and revise governance for their own objects, and within which their results become visible to one another. The inability to experiment across settings is the reason the generative-field approach is the appropriate one, and we present it as such openly.

The principled part of the motivation follows from a prior commitment, set out in Section 5. That commitment holds that structure and value are generated through relation and are not fixed ahead of it. A standard authored in advance of any implementation fixes structure ahead of the relations it is meant to govern, and so runs against the commitment. A standard that precipitates from the relations among many implementations honors it. The reframe this paper proposes is what that commitment yields once it is brought to bear on governance.

4 The Meta-Architecture and Its Generative Field

We propose an abstract meta-architecture together with the field in which it evolves.

The meta-architecture is abstract in that it specifies the components of a governance architecture, the standards those components answer to, and the constraints that hold among them, while leaving the content of any particular governance to the adopter. It defines the form a governance architecture takes and the interfaces among its parts, and it stops there. Around it sits the generative field, an infrastructure that supplies affordances in place of commands. The field offers tools by which an adopter designs a governance architecture for its object, documents it in a shared and comparable form, analyzes its behavior, and reconciles or merges norms drawn from other settings. The field makes certain operations possible and certain results visible, and it leaves the governance itself to those who inhabit each setting.

The central reframe concerns the status of a standard. In conventional standardization a standard is authored and then adopted. A body produces it, adopters implement it, and revision is periodic and held by the body. In the approach proposed here a standard is emergent and then revised in commons. An initial architecture is supplied, and this initial architecture is not the standard. It is an initial population, in the sense a genetic algorithm gives the term, a starting point for variation and selection. The working standard, at any moment, is whatever has stabilized across many implementations through variation and differential adoption. The standard is an output of the process, and the initial architecture is the seed the process begins from.

The evolution runs at two grains, and this paper describes them as an intuition and not as a mechanism. At the finer grain, a single adopter revises its own architecture in the course of governing its object, guided by local fit, that is, by whether the revised architecture governs the object better for that adopter. At the coarser grain, the revisions do not stay sealed within their adopters. They are visible across the commons, and other adopters, sometimes governing objects of quite different kinds, borrow and revise from what they see. The finer grain is where a variant is produced. The coarser grain is where a variant spreads or fails to spread. A revision is at once a local adaptation and a contribution to the population, and the working standard that precipitates from the coarser grain becomes, in turn, part of the seed that later adopters begin from. So the site of revision is the adopter, and the site of selection is the commons, and the ancestor the population starts from rolls forward as the standard settles and resettles.

> **Central claim.** *A governance standard can be the emergent and revisable output of a commons evolutionary process. An initial architecture serves as an initial population and not as the standard, each adopter implements and revises the architecture in the course of governing its own object, and the working standard at any moment is whatever has stabilized across many implementations through variation and differential adoption. The task before us is accordingly to provide the abstract meta-architecture and the generative field within which standards are generated, documented, analyzed, and revised, and not to author the standard itself.*

We state the guardrail in the same breath, since emergence alone is not a source of legitimacy. What spreads is not thereby justified. A norm can propagate because it serves the strong, through network effects, or through accidents in the initial population, and none of these is a mark of governing well. An approach that only celebrates bottom-up emergence launders power as legitimacy, and this is the known failure of every account that reads spontaneous order as self-justifying. For this reason the generative field is deliberative as well as populational. The infrastructure should make selection pressures visible and open to contest, so that

adoption can be reasoned about and not merely undergone. The guardrail is developed as a design constraint in Section 5.

5 Grounding in Generative Relational Governance

The reframe of this paper did not begin from software and arrive at a framework afterward. It began within Generative Relational Governance, the governance framework of the present programme, which itself rests on the deeper commitment of Generative Relational Being: that structure and value are generated through relation and are not fixed prior to it. The approach is what that commitment yields once it is turned on the design of governance. Naming the framework here is deliberate, and it explains why the standard is asked to emerge at all.

From that commitment the shape of the proposal follows. A governance standard authored from above and specified before any implementation fixes structure ahead of the relations it is meant to govern, and in the framework's terms it is the anti-generative object. A standard that precipitates from the relations among many implementations is the generative object. This is why the proposal asks the standard to emerge: the relations among adopters, and between each adopter and its object, are what generate the architecture and the standard, and the standard is the settling of those relations into a shared form.

The generativity runs both ways, and this reciprocity is the framework's specific contribution here. The relations generate the standard, and the evolution of the standard in turn reshapes the relations, since a revised architecture changes how an adopter governs its object and how adopters stand toward one another across the commons. A standard that settles is not an endpoint that halts the relations. It is a passing form the relations take, open to the next revision, so that generating the standard and revising the relations are one continuing process seen from two sides.

The alignment also explains the guardrail and keeps it consistent with the framework. The cautious version of the proposal fixes a small set of normative constraints by design while letting the rest evolve. One might worry that fixing anything at all runs against a generative commitment. It does not, so long as the fixed constraints are the conditions that keep generation open and are not substantive verdicts about what good governance should contain. The minimal floor concerns the contestability of adopted norms, the visibility of selection pressures, the reversibility of adoption, and resistance to capture. These are the conditions under which the commons keeps generating, and without them it settles into whatever the strong propagate. The floor protects generativity, and it does not dictate governance content.

> **The cautious floor.** *The generative field fixes a minimal normative floor by design: contestability, visibility of selection pressures, reversibility of adoption, and resistance to capture. These constraints are the conditions under which a commons keeps generating in*

place of freezing into the interests of whoever propagates most forcefully. They are not judgments about the content of good governance, and fixing them is consistent with a generative commitment because they protect the openness of generation.

The platform that hosts this process is itself governed, and we take the recursion as a design requirement in place of a paradox. The governance of the generative field should obey the same principles the field is meant to host. This requirement is what keeps the word *emergent* from sliding into the phrase *whatever the strong propagate*, since a field whose own governance is contestable, visible, reversible, and resistant to capture has furnished emergence with the conditions that mark it off from mere spread.

6 Relation to Prior Work

We do not claim the meta level as our contribution. Governance of governance is a developed field. Work on metagovernance has theorized how plural modes of governance are coordinated (Jessop, 2011; Meuleman, 2008). Work on polycentric governance has shown how order arises among many overlapping centers of decision without a single apex (Ostrom, 2010). Constitutional political economy has long studied the design of the rules under which ordinary decisions are made (Buchanan & Tullock, 1962). Each of these lines has occupied the meta level for a long time, and each has met the problems named in Section 1. Standards for organizational governance already exist and are maintained by established bodies; ISO 37000 offers guidance said to apply to all organizations regardless of type, size, and purpose, and it names value generation among its own principles (ISO, 2021). To claim novelty at the altitude of the meta level, or at the fact of cross-context ambition, would be to ignore this work.

The nearest neighbor is more specific, and we engage it directly. Schneider et al. (2021) propose Modular Politics, a governance layer for online communities assembled from computational components that are modular, composable, portable across settings, and interoperable across platforms, and they propose an open standard for networked governance built on the Institutional Analysis and Development tradition. The proposal is bottom-up, component-based, and standard-oriented, and it shares much of the spirit of the present one. Three differences mark the direction taken here. The first concerns scope. Modular Politics addresses online communities on digital platforms, whereas the object here varies across kinds, scales, cultures, and historical periods, and includes objects that are neither digital nor organizational. The second concerns the status of the standard. Modular Politics specifies a target architecture and a set of design goals, and in this respect it authors the framework, whereas the move here is that the standard precipitates from differential adoption and is revised in commons in place of being authored in advance. The third concerns the source of the normative floor. The floor here is grounded in Generative Relational Governance, which supplies a principled reason for the small set of constraints the field fixes, in place of a list of design desiderata.

The analogy that fixes the difference is with the infrastructures of open collaboration in place of any theory of governance. A version-controlled commons for software is a substrate on which practices of structuring software vary, propagate, and are selected, and on which no committee authored the standard that in fact emerged. The proposal here asks whether governance architectures admit a substrate of the same kind. That question is the one this paper means to open.

> **The claimed contribution.** *The contribution is not the meta level, which is old, and not the idea of a governance standard, which is old, and not modular or bottom-up governance, which is current work. It is the proposal that a governance standard be treated as the emergent and revisable output of a commons evolutionary process in place of an authored input to it, that the object of design be accordingly the abstract meta-architecture and the generative field within which such evolution occurs, and that the whole be extended to governance objects of any kind. The claim is held lightly, as a direction to be tested by building.*

7 Open Problems and Further Work

This paper states a direction. The programme it opens has a first and load-bearing task, and several that follow.

The first task is the problem of representation. An evolutionary account requires something that varies and recombines. If governance architectures cannot be represented in a shared and comparable form, then variation and differential adoption have nothing to operate on, and the evolutionary language stays a metaphor. The programme must ask what the reusable components of a governance architecture are, and in what form two architectures drawn from different settings can be compared, merged, or made to exchange parts. Until this is answered, the generative field is an aspiration, and the distinction drawn in Section 6 between an evolutionary substrate and an authored framework rests on a promise not yet kept. We name representation as the central open problem in place of deferring it quietly, since the weight of the proposal rests upon it.

The second task is the design of the field itself. This includes tools for authoring and documenting governance architectures in the shared form, tools for analyzing their behavior, and tools for reconciling and merging norms across settings. The merging of norms is likely the hardest of these, since it is where heterogeneity resists comparison most strongly, and it is also where the cautious floor of Section 5 does its work, because a merge that broke contestability or enabled capture is one the field should refuse.

The third task is the specification of the minimal normative floor. The cautious version of the proposal depends on identifying constraints that protect generativity without dictating governance content, and on showing that this small set is at once sufficient to prevent capture

and modest enough that it does not become a universal standard reintroduced by the back door.

The fourth task is the evolutionary environment itself. Where controlled experiment across settings is unavailable, the alternative is an environment in which many implementations coexist, adopt from one another, and revise. The programme must describe what this environment requires in order to function, and how emergence within it can be observed and studied while the designer observes from outside in place of steering the outcome from within.

We offer this as a beginning. The claims are provisional, the framework is under development, and the purpose of the paper is to make the direction clear enough to be criticized and improved.

A note on method. No formal apparatus has been used here, and the abstention is deliberate. The proposal is at the stage where its work is to fix a direction and a vocabulary, and a formalism introduced now would borrow a rigor the direction has not yet earned. Two honest developments lie ahead. One is the representation problem named in Section 7, which when solved would give the evolutionary language a genuine object to operate on. The other is a connection to the language of evolutionary and dynamical systems, in which an initial architecture would answer to an initial population, differential adoption to a selection pressure, and a stabilized standard to an attractor of the commons dynamics. Neither is attempted here, and what is claimed is stated in prose meant to be legible without the apparatus that might later formalize it.

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