Culture Is Infrastructure

Why the Institutions That Governed Creative Economies for Three Centuries Cannot Process What AI Has Done to Culture, and the Coordination Framework That Explains Why

Sinéad O'Sullivan

IDEA IN BRIEF

THE PROBLEM

The institutions that governed creative economies for three centuries—copyright law, collecting societies, arts councils, public broadcasters—were designed for a world of discrete works, identifiable copies, and traceable distribution. However, AI training dissolves all three. The creative output of the open web has been absorbed into model weights through a mechanism that is not copying but *enclosure*: value is captured as statistical patterns distributed across billions of parameters. The institutional architecture cannot process this mechanism because the assumptions it was designed for no longer exist.

THE FRAMEWORK

Institutions are coordination architectures. Their capacity for change is measured by adaptive bandwidth (B)—how fast they can revise their settings when technology, markets, and governance fall out of alignment. When technology advances faster than institutions can adapt, an architecture gap (Δ) opens. In cultural infrastructure, B is measurably below the rate of change, and the gap is widening. The sector is in the *premature regime*.

THE IMPLICATION

Industrial policy for the intelligence age that skips cultural infrastructure is building on sand. Economic systems rest on the shared symbolic architecture through which communities make meaning, propagate memory, and survive crises. The question is not whether AI will transform culture, as it already has. The question is whether institutional architectures with sufficient bandwidth will exist to coordinate that transformation.

Every major substrate shift in the history of media has required new institutions: Print produced copyright law and the public library; cinema produced the studio and the national film institute; broadcasting produced the public broadcaster; the internet produced the platform and the creator economy. In no case did the institutions of the previous era absorb the coordination requirements of the new one. The *adaptive bandwidth* of existing institutions was consistently below the rate of change imposed by the new substrate.

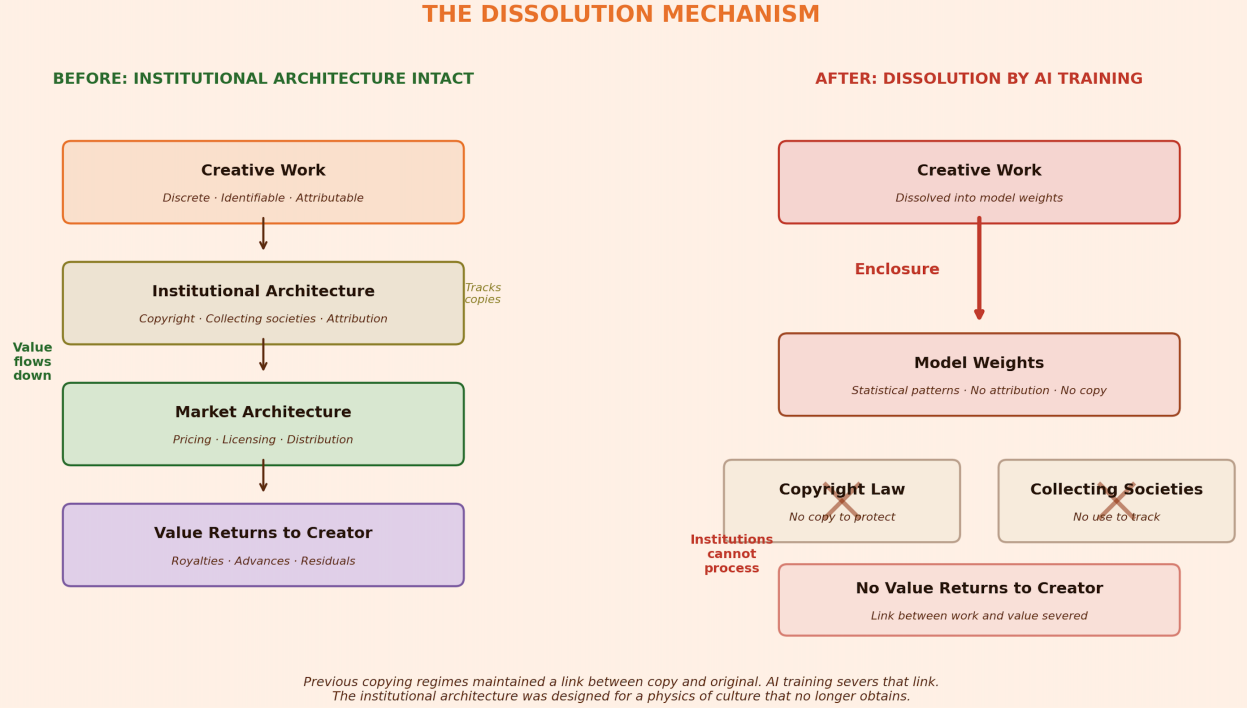
The intelligence age is the next substrate shift. And it is the first for which no credible institutional response has yet emerged.

ENCLOSURE, NOT THEFT

What has happened to the world's creative output is better understood as *enclosure* than as theft. Two decades of creative work—in every language, every tradition, every medium that touched the open web—have been ingested into model weights. The open web functioned as a creative commons; that commons has now been absorbed into commercial infrastructure. Theft implies goods that could be returned, whereas enclosure describes a structural transformation after which the prior arrangement is no longer available.

This mechanism is novel. Previous copying regimes of appropriation, forgery, reproduction all maintained a visible link between copy and original. But AI training severs that link. It does not copy; it dissolves. The value of a creative work is captured as a statistical pattern distributed across billions of parameters. A book has not been copied. It has been metabolised.

Copyright law protects *copies*; but there is no copy. Moral rights protect *attribution*; but there is no attributable act. The ongoing litigation—the Suno/RIAA cases, the Authors Guild suits, the EU's contested text-and-data-mining exceptions—are surface expressions of the same structural problem: the institutional architecture was designed for a physics of culture that no longer obtains.



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Previous copying regimes maintained a link between copy and original that kept the original identifiable and potentially valuable. AI training severs that link. The institutional architecture—copyright, collecting societies, attribution—was designed for a physics of culture that no longer obtains.

THE ARCHITECTURE GAP IN CULTURE

There is a recurring pattern: technology advances faster than the institutional architectures required to make it economically productive. We call this the *architecture gap*. In culture, the gap is now acute.

The institutions that governed creative economies—copyright, collecting societies, arts councils, public broadcasters, cultural ministries—were designed for discrete works, identifiable copies, and traceable distribution. These assumptions held across legal traditions: common law, civil law, Confucian administrative systems, and post-colonial frameworks all built cultural infrastructure on the same substrate. None of these assumptions hold in the post-extraction landscape.

THE MODEL

Let **T(t)** = maturity of technical architecture (AI capability in creative production). Let **I(t)** = maturity of institutional architecture (IP frameworks, collecting societies, regulatory regimes). Let **M(t)** = maturity of market architecture (demand elasticity, pricing, distribution).

The architecture gap is **Δ(t) = T(t) – A(t)**, where A(t) is the weighted combination of institutional and market readiness. When Δ exceeds a critical threshold θ, the sector enters the **premature regime**: the technology is present but the institutional conditions for productive use do not exist.

Adaptive bandwidth **B** measures the maximum rate at which institutional architecture can revise its design variables. The catch-up condition requires: **B > dT/dt**. When institutions cannot adapt as fast as the technology is changing, the gap widens. In cultural infrastructure, this condition has been violated since at least 2022.

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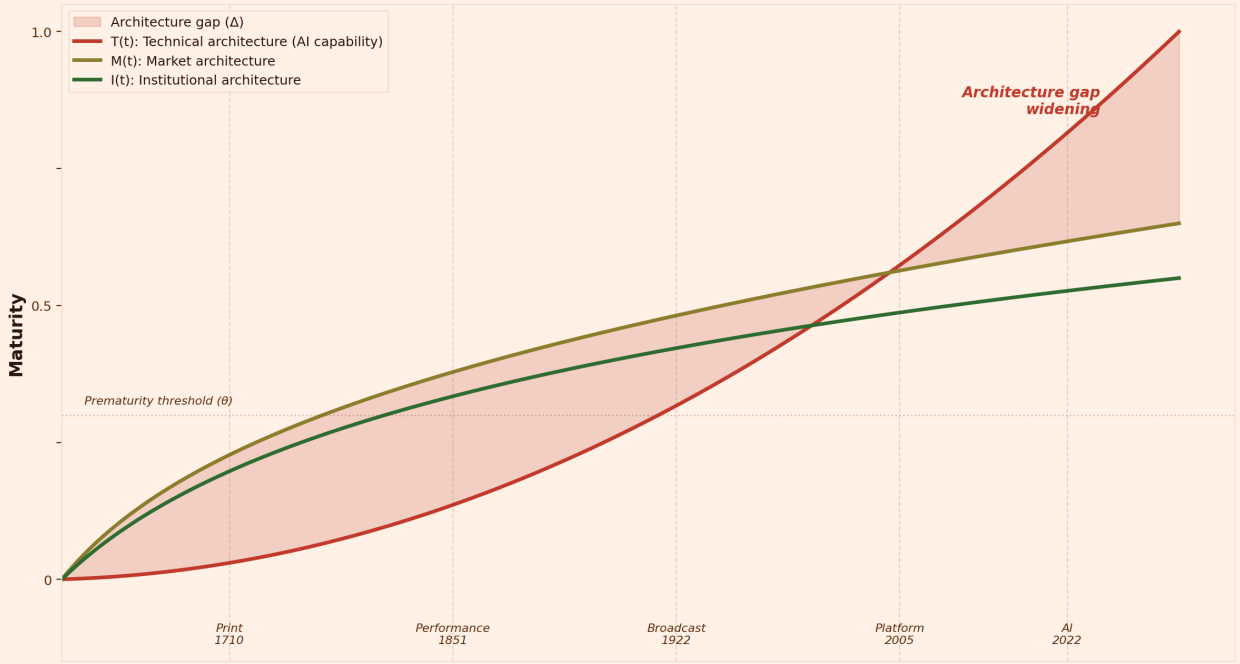

As AI capability accelerates, institutional and market architectures in culture flatten. The shaded region is the architecture gap. Beyond the prematurity threshold, markets cannot form regardless of how advanced the technology becomes.

WHY EXISTING INSTITUTIONS CANNOT ADAPT

The architecture gap framework distinguishes *transformation architectures*—designed for high bandwidth under uncertainty—from *optimization architectures*—designed for stability with low bandwidth. Every major cultural institution is an *optimization* architecture.

Copyright law revises on legislative timescales—decades. Collecting societies update distribution models on administrative timescales—years. Arts councils adjust funding criteria on bureaucratic timescales—years. None has the bandwidth to respond to a technology that changes creative production on a timescale of months.

This is structural, not managerial. The same features that make optimisation architectures reliable—procedural stability, rule-based governance, judicial enforcement—are what

constrain their speed of adjustment. You cannot have both high stability and high bandwidth. The institutions that protected creative economies for three centuries were optimised for stability. The intelligence age demands bandwidth.

REGRESSION TO THE MEAN

When a model is trained on everything—every novel, every song, every image, in every language—what it learns best is what most of that work has in common. Its outputs gravitate toward the average: competent, fluent, stylistically unremarkable. The tails—where the idiosyncratic and genuinely novel reside—are statistically downweighted.

This is most destructive for smaller cultural communities, whose entire creative output can be flattened by a single training run. Dissolution does to culture what the Green Revolution did to crop diversity: optimizing for the mean while eroding the variance that makes the system adaptive. And it compounds recursively, as model outputs become training data for subsequent models.

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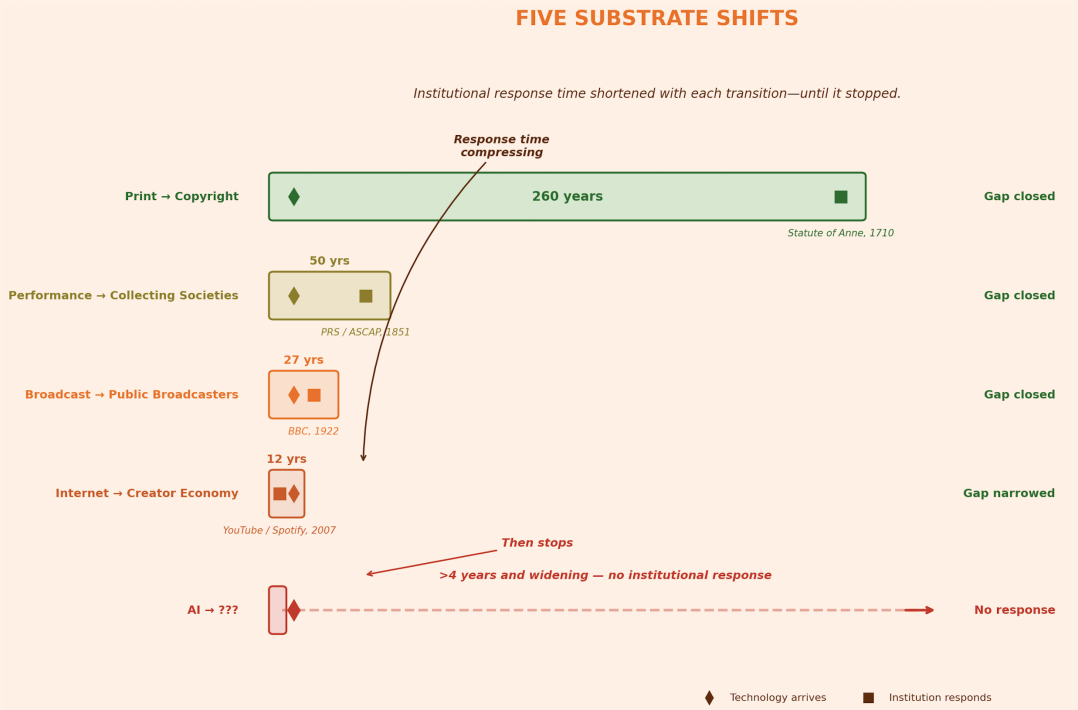
THE HISTORICAL PATTERN

Every institution that successfully coordinated a substrate transition shares a specific feature: a publicly underwritten body that absorbed the transition cost, invented the forms, trained the first generation of practitioners, and integrated with the independent market when the forms matured.

The BBC (1922) built radio culture from nothing: drama, journalism, public-service television, computing literacy through the BBC Micro. **The GPO Film Unit** (1933) advanced documentary film as a cultural form on modest budgets. **Channel 4** (1982) was designed not to make programmes but to commission them—with an IP structure that let producers keep ownership. A single institutional design decision produced hundreds of independent production companies and Britain's position as a global television exporter.

In the language of the framework: each was a *transformation architecture* with *high adaptive bandwidth*, purpose-built to close an *architecture gap* that optimization architectures could not. Nothing analogous exists for the intelligence age.



Each substrate shift required new institutions. The institutional response time shortened with each transition—until the intelligence age, where no adequate institutional response has emerged. The gap is widening.

SEVEN DOMAINS

Any comprehensive institutional response must span seven interdependent domains: **Memory** (what gets preserved); **Perception** (how we sense invisible systems); **Production** (what AI-native art looks like); **Economics** (who gets paid when the unit of value is dissolved); **Distribution** (how culture circulates outside algorithmic feeds); **Judgment** (who decides what is good when abundance overwhelms filtering); and **Rights and governance** (what frameworks apply when existing IP law cannot process the mechanism).

These domains contaminate each other. A preservation decision is also an economic decision. A distribution mechanism shapes what production is viable. A judgment function determines what gets preserved. Any institution that addresses one domain in isolation will find the problem has shifted in the others.

WHY CULTURE IS INFRASTRUCTURE

Industrial policy, in the architecture gap framework, is not primarily about subsidies or picking winners. It is about building the coordination architecture that allows markets to form. Culture is infrastructure in exactly this sense. Economic systems do not rest on institutions and markets alone; they rest on the shared symbolic architecture through which communities make meaning, propagate memory, and survive crises.

Every historically durable system of comparable scale was grounded in deep cultural architecture before it built institutions. When the cultural substrate degrades, the institutions built on top of it lose their legitimacy, their coherence, and eventually their capacity to coordinate.

THE TESTABLE PREDICTION

The architecture gap hypothesis predicts that as the gap between AI capability and institutional readiness widens, measurable degradation will accumulate across all seven domains simultaneously. The counter-prediction is that existing institutions will adapt. Whether either holds is empirical. But the structural logic is clear: if adaptive bandwidth remains below the rate of technological change, the gap will widen—and damage compounds recursively, because the degradation of cultural infrastructure undermines every institution built on top of it.

The question is not whether AI will transform culture. It already has. The question is whether institutional architectures with sufficient bandwidth will exist to coordinate that transformation.

The frameworks in this article are developed formally—with dynamic models, quantified architecture gaps, and cross-domain evidence—in the companion working papers of the Coordination Economics Institute. Copies available on request: s@sinead.co