Old Tools, New Eyes:

Edgerton's "Shock of the Old" Through the Four Philosophers Framework

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Abstract

This essay interprets David Edgerton's The Shock of the Old through four philosophical lenses – Wittgenstein, Lewis, Dennett, and Nagel – to explain why technological landscapes are shaped less by invention than by persistence, with particular attention to contemporary AI systems. Edgerton's empirical claim that old technologies dominate lived experience is strengthened by four complementary ideas: meaning-as-use (Wittgenstein), convention-based coordination (Lewis), the predictive usefulness of anthropomorphic projection (Dennett), and the layered structure of experience (drawing on Nagel). Applied to modern AI, this synthesis shows why seemingly radical systems are constrained by older institutional, infrastructural, and experiential structures. To understand technological futures, we must study what endures – not just what emerges.

I. Introduction – The Unexpected Life of Old Technologies

Most conversations about technology follow a familiar script: innovation is front-loaded, invention is glamorized, and history is told as a chain of breakthroughs. Yet the technological world people actually inhabit is built far more from continuities than from disruptions. We live inside layers of old tools, infrastructures, and routines that shape experience more profoundly than the latest headline-grabbing invention.

This is the central provocation of David Edgerton's The Shock of the Old. The "shock" is that most technologies that matter are not new at all. They are the mundane and persistent systems that endure, are repaired, are repurposed, and dominate daily life long after the attention of innovators and historians has moved on. We overestimate novelty because we underestimate the durability of practice.

This essay uses four philosophical lenses – Wittgenstein, Lewis, Dennett, and Nagel – to deepen Edgerton's thesis. Together, they help explain why the old persists, why novelty

deceives, and why common intuitions about technological change are often misaligned with reality. Technological persistence becomes more than an empirical observation: it becomes a philosophical insight. Technology is anchored by meaning, convention, cognitive habit, and lived experience – not by invention alone. The next sections outline Edgerton's argument, develop these four lenses, and then apply them to the current AI ecosystem before closing with practical takeaways.

II. Edgerton's Thesis – The Persistence of the Old

Edgerton challenges the invention-centric view of technological history. Technological life is defined less by breakthroughs than by:

- how tools are adopted, maintained, and circulated
- who repairs and supports them
- how they embed within institutions and habits
- and how long they remain in use globally, often in ways that surprise us

The 20th century, for example, is unintelligible without bicycles, corrugated iron, diesel trucks, shipping containers, and radio communication. In warfare, logistics and fuel transport mattered more than iconic breakthrough weapons. In everyday life, repaired and repurposed tools have shaped more human action than their innovative replacements.

The surprise is not that old technologies persist. The surprise is that we continue to assume they do not. The four lenses that follow help explain why this assumption is so resilient – and so misleading.

III. Wittgenstein – Use Creates Meaning

Wittgenstein's later philosophy provides the first key: the meaning of a word is its use in the language. Technologies behave in much the same way. They acquire significance through the social practices in which they function – through the contexts of everyday life, the norms surrounding their use, and the shared expectations that stabilize their role.

Seen through Wittgenstein, Edgerton's thesis becomes a grammatical point: technologies take on meaning when they "enter the language game" of daily life. Old tools endure because their use is already woven into the fabric of practice. They possess a socially stabilized meaning that no new invention automatically replaces.

If meaning is grounded in use rather than invention, persistence is not an anomaly. It is the default state of technological life. If Wittgenstein explains how technologies acquire meaning, Lewis explains how those meaningful practices become stable – and when they finally break.

IV. Lewis – Conventions, Stability, and the Conditions of Change

Lewis shows how social conventions arise when communities converge on shared expectations that coordinate behavior. Once established, these expectations are self-

reinforcing: it is easier for everyone to continue using a familiar tool than to restructure the surrounding norms.

Technologies survive not because users are stubborn but because equilibrium is rational. Legacy systems persist when the cost of breaking coordination, retraining users, and rebuilding institutional routines outweighs the benefits of novelty.

Conventions can shift abruptly at tipping points – even as older forms persist alongside them for a long time.[1] Once a new configuration passes some threshold of advantage, the prior equilibrium can unravel quickly, even though remnants and hybrids may remain in use for years or decades.

Through Lewis, the "shock of the old" becomes a theory of both technological inertia and rare, discontinuous change. If Lewis accounts for stability and tipping points, Dennett explains why, despite this stability, the new continually captures our attention.

V. Dennett – The Predictive Utility of the Innovation Illusion

Dennett adds a cognitive dimension. The Intentional Stance – the tendency to interpret systems as if they possessed goals or agency - does not merely produce errors. It offers useful predictive shortcuts in a world full of complexity. People anthropomorphize not just because they are mistaken, but because treating complex systems "as if" they had intentions can be an efficient way to interact with them.

This cuts both ways. New technologies, especially AI systems, are readily treated as quasi-agents because doing so often helps users navigate them. Older technologies – once mysterious - are gradually moved to the Physical Stance: understood mechanistically, no longer imbued with agency.

The risk Dennett highlights is straightforward: novelty is mistaken for progress – confusing fluent performance with underlying competence ("competence without comprehension"). A system that produces impressive outputs is assumed to possess deep understanding. Yet his framework also clarifies why this illusion persists. It is not only an error; it is a coping mechanism for opaque complexity.

Edgerton's critique gains nuance here: societies exaggerate the importance of the new not simply because of hype, but because the Intentional Stance provides a functional way to predict unfamiliar systems – even when that prediction inflates their depth and status. If Dennett clarifies our attraction to the new, Nagel clarifies why, even under that attraction, lived experience still feels anchored in the old.

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[1] For path-dependent change and tipping dynamics, see W. Brian Arthur, Increasing Returns and Path Dependence in the Economy (1994), and Frank W. Geels, "Technological transitions as evolutionary reconfiguration processes," Research Policy 31(8–9), 2002.

VI. Nagel – Layered Experience: Surface and Deep Structure

Nagel's account of subjective experience completes the picture. Novel technologies clearly reshape aspects of surface phenomenology – the sensory and attentional texture of daily life. Smartphones, for instance, transformed how people navigate, communicate, and attend to the world in a relatively short time. Here Nagel is used to flag the limits of third-person explanation and the role of first-person experience - not as a full phenomenology of technology.

Beneath these surface shifts lies a layer of deep phenomenology: the organizational, temporal, and structural dimensions of experience shaped by older infrastructures – bureaucracies, transit systems, supply chains, institutional routines. These deeper strata change far more slowly.

A useful way to frame this is to distinguish between surface social reality and a deeper infrastructural reality. Surface phenomenology aligns with the constantly shifting terrain of social reality: interfaces, apps, social media, interaction patterns. Deep phenomenology aligns with the material–institutional reality that undergirds them: power grids, physical logistics, legal systems, long-lived institutions. A mobile banking app changes the surface experience of paying for things; the deep structure still depends on decades-old payment rails, clearing systems, and zoning laws that determine where shops and services exist.

Edgerton's point is not that phenomenology never changes. It is that the deepest layers of lived experience are anchored by long-standing systems, and most technological novelty must flow through these slow-moving channels.

VII. Synthesis – How the Four Lenses Interact

Taken together, the four lenses trace a single pattern. Because meaning is grounded in use (Wittgenstein), technological roles quickly become part of shared social grammar. Those patterns of use then harden into rational conventions (Lewis) that are costly to disrupt and tend to resist change until they hit a tipping point and begin to collapse. As these underlying structures stabilize, they recede from view; attention shifts instead to the thin layer of novelty on top. To navigate that novelty, people fall back on the Intentional Stance (Dennett), projecting agency and depth onto systems that seem new while overlooking the older infrastructures that actually govern their behavior. All of this plays out within a layered phenomenology (Nagel) in which surface experience changes rapidly but deeper experiential structures, rooted in long-lived material and institutional realities, move slowly if at all.

Seen this way, technological life is fundamentally conservative. Meaning, coordination, cognition, and lived experience are all slow to move. Edgerton's empirical "shock of the old" reflects a deeper structural fact: the human practices that give technologies their place in the world are themselves deeply conservative.

VIII. Contemporary Relevance – The Age of AI as the Age of the Old

Nowhere is this synthesis more useful than in the contemporary AI ecosystem. In Edgerton's terms, AI discourse is almost perfectly invention-centric: it celebrates new models while largely ignoring the infrastructures they rest on. Modern AI discussion centers on breakthroughs – model releases, benchmark wins, parameter windows – but organizations deploy these systems within architectures that are decades old.

Consider a typical example. A large enterprise rolls out a generative AI assistant to improve knowledge work. The model is cutting-edge, but it operates atop 15–20-year-old systems: legacy databases, brittle permission frameworks, SharePoint sites, email-driven workflows, and compliance routines designed for a pre-AI era. Employees' daily routines – meetings, documents, reporting structures – are structured around older technologies and institutional habits.

Failures occur when the "shock of the old" is ignored:

- the assistant returns unreliable answers because enterprise data is unstructured, siloed, or poorly labeled
- agent workflows break because role-based access controls (RBAC) and directory services are outdated
- AI-generated summaries misalign with business processes that remain analog, undocumented, or highly idiosyncratic
- employees do not adopt the system because incentives and routines remain unchanged

And because these systems speak in fluent natural language, they trigger the Intentional Stance more intensely than earlier digital tools: it becomes even easier to overestimate what has changed and overlook the old constraints beneath the surface.

In practice, this is layering, not replacement. New AI systems depend on the stability of old contexts – and fail when those contexts are misunderstood.

Edgerton's lesson applies directly: what matters is not the novelty of the model but the ecosystem it enters. The four philosophical lenses clarify why: meaning, convention, cognitive stance, and phenomenology shape adoption more than model capability does.

A brief vignette makes the layering point concrete:
Example: A team ships an AI assistant that "understands" procurement emails, but adoption stalls. The model is fluent, yet the old layers dominate: RBAC prevents it from seeing vendor history; identity mismatches hide key records; and no data lineage means finance cannot audit outputs. The fix that works is boring: wire the assistant into identity, surface lineage and approvals, and let it route exceptions to existing queues.

IX. Conclusion – Seeing Technology Clearly

Edgerton invites readers to see that technological life is governed more by persistence than by invention. The four philosophical lenses reveal why this persistence is not accidental but structural. Technologies endure because human practices, norms, cognitive tendencies, and lived experiences anchor them deeply in the fabric of social life.

To understand the technological landscape clearly, it is not enough to track what emerges. It is necessary to study what endures.

X. Practical Takeaways for AI and Strategy

For practitioners working with AI and other complex systems, these abstract claims translate into a few concrete heuristics:

1. Focus on Use, Not Hype
   Evaluate technologies based on real-world integration and patterns of use, not on model-release narratives or marketing claims.

2. Upgrade Social Conventions And Systems
   Technology adoption succeeds when expectations, roles, and routines shift first. New systems cannot thrive inside unchanged conventions.

3. Recognize the Predictive Function of the Innovation Illusion
   Anthropomorphizing new systems is a cognitive shortcut, not merely an error. It can help people interact with complex tools – while still distorting judgment.

4. Account for Legacy Constraints
   Old systems and infrastructures determine the pace and shape of real change. Any serious strategy must start from what already exists.

5. Design for Maintenance and Fit
   Most long-term value comes from what persists – governance, data hygiene, support structures, and integration – not from what launches.

6. Distinguish Surface from Deep Phenomenology
   Surface experience (interfaces, apps, digital touch points) can change quickly; deeper structures of experience, anchored in institutions and infrastructures, almost never do.

7. Use Philosophical Tools to Debias Judgment
   Meaning (Wittgenstein), convention (Lewis), stance (Dennett), and experience (Nagel) together offer a practical filter for avoiding hype-driven decisions about technology.

Ethics, Disclosure, and Acknowledgements

Ethical Considerations

This essay does not draw on private, sensitive, or personally identifiable data. All examples are hypothetical, anonymized, or derived from public sources. No human-subjects research was conducted, and no institutional ethics review was required. All citations conform to

academic standards. The broader ethical implications concern public interpretation, policy design, and stakeholder responsibility in AI deployment. These implications are intended to provoke critical discussion and inform future regulatory and design frameworks.

Use of AI Tools

AI language models – most notably OpenAI's ChatGPT – *were* used during the writing process as interlocutors: for brainstorming, structuring sections, and testing rhetorical clarity. These tools helped refine transitions, surface edge cases, and probe internal consistency. This meta-use aligns with the essay's themes. Interacting with generative AI during authorship provided firsthand insight into the very limitations analyzed here: fluency without grounding, responsiveness without perspective, and the ease with which stylistic coherence can be mistaken for conceptual depth. Responsibility for all ideas, arguments, and conclusions lies solely with the human author.

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This work was conducted independently, without institutional affiliation, funding, or external influence. The views expressed are the author's alone and do not represent any current or former employer. No financial or professional conflicts of interest are declared.

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Related Companion Papers

Stoyanovich, Michael. *Philosophy, Cognitive Science, and Policy: Interdisciplinary Perspectives on Generative AI from Wittgenstein, Lewis, Dennett, and Nagel*. Version 1.23.5 (October 2025). https://www.mstoyanovich.com

Stoyanovich, Michael. *The Human Lesson: A Response to Sutton through Wittgenstein, Lewis, Dennett, and Nagel*. Version 1.6.2 (November 2025). https://www.mstoyanovich.com

Stoyanovich, Michael. *The Question Concerning Learning: Babich, Heidegger, and the Enframing of Intelligence*. Version 1.0.1 (November 2025). https://www.mstoyanovich.com

Stoyanovich, Michael. *Context Collapse and the Four Philosophers: Wittgenstein, Lewis, Dennett, and Nagel in the Age of AI Chat.* Version 1.4.2 (November 2025). https://www.mstoyanovich.com

Version History and Document Status

This is a living document. As generative AI systems and their use evolve, this paper will be periodically updated to incorporate new empirical findings, theoretical insights, and policy developments. Major revisions are recorded here to preserve transparency and scholarly traceability.

Version	Date	Description
1.4.2	December 2025	Initial release.

Appendix — Further Reading

1. Core Historical Text

•David Edgerton, The Shock of the Old: Technology and Global History Since 1900.
A concise, empirically rich challenge to innovation-centric histories of technology. Focuses on use, maintenance, and global unevenness rather than invention. Essential background for the argument developed here.

2. The Four Philosophers

Wittgenstein — Meaning-as-Use

•Ludwig Wittgenstein, Philosophical Investigations.
The primary source for "meaning is use," language-games, and forms of life. Central to the idea that technologies gain significance through practice rather than invention.

•Marie McGinn, Wittgenstein and the Philosophical Investigations.
A clear, accessible guide to the later Wittgenstein, useful for readers who want help navigating the text without getting lost in commentary disputes.

Lewis — Conventions and Coordination

•David Lewis, Convention: A Philosophical Study.
Classic account of social conventions, coordination problems, and equilibrium. Provides the conceptual machinery for thinking about technological inertia and tipping points.

•Brian Skyrms, The Evolution of the Social Contract.
A short, game-theoretic exploration of how conventions and equilibria emerge and change over time. Helpful for connecting Lewis's ideas to dynamic technological shifts.

Dennett — Intentional Stance and Illusion

•Daniel Dennett, The Intentional Stance.
Introduces the Physical, Design, and Intentional Stances, and explains why treating systems "as if" they had beliefs and desires can be predictively useful.

•Daniel Dennett, From Bacteria to Bach and Back.
Broad, synthetic work that situates the Intentional Stance within a larger story about minds, artifacts, and cultural evolution. Useful for readers interested in how "as-if" reasoning and technological complexity interact.

Nagel — Phenomenology and Perspective

•Thomas Nagel, "What Is It Like to Be a Bat?"
The classic essay on subjective experience and the limits of third-person description. Provides the conceptual basis for distinguishing surface from deep phenomenology.

•Thomas Nagel, Mortal Questions.
A collection that situates the bat essay within Nagel's broader thinking on objectivity, subjectivity, and the limits of certain kinds of explanation.

3. Technology, Infrastructure, and Society (Complementary Reading)

•Langdon Winner, The Whale and the Reactor.
Essays on how technologies embody political choices and social arrangements. Pairs well with Edgerton, especially around infrastructure and power.

•Thomas P. Hughes, Networks of Power.
A detailed history of large technical systems (electric power networks) that shows how infrastructures and institutions co-evolve and lock in.

•Susan Leigh Star and Karen Ruhleder, "Steps Toward an Ecology of Infrastructure."
An influential paper on how infrastructures become invisible and taken-for-granted. Helpful background for the distinction between surface and deep phenomenology.

•Donald MacKenzie, Inventing Accuracy or Mechanizing Proof.
Case studies of how technical systems (missile guidance, proof systems) are shaped by institutional and political forces. Illustrates "old" systems quietly governing what appears innovative.