Persistence of Form: Operational Memory and Material Continuity

Olga Cuxart Oriol, Independent Scholar, Spain

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Abstract

This paper reexamines traditional symbolic and representational accounts of form persistence from a material and process-oriented perspective. Moving beyond explanations centred primarily on cultural transmission, it develops the concept of operational memory to describe how formal configurations endure through embodied practice, material engagement, and perceptual coherence. Drawing on examples from sculpture, architecture, and material culture, the study highlights the active role of matter, bodily action, and perceptual organisation in maintaining recognisable and adaptable forms across different historical contexts. By foregrounding the relational and operative conditions that sustain form, the research offers a nuanced account of continuity, showing how recognition, coherence, and reactivation emerge through recurrent material and organisational principles rather than from fixed symbolic meanings alone. In doing so, it proposes a framework for understanding how forms remain operative despite changing circumstances, while also opening new avenues for investigating the connections between materiality, perception, and cultural persistence.

Keywords: operational memory, form persistence, perceptual continuity, mythic recognition, material culture

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Introduction

Across different historical periods and cultural contexts, certain forms continue to reappear despite profound transformations in belief systems, symbolic frameworks, and modes of representation. Their persistence suggests that continuity cannot be fully explained through cultural transmission or inherited meaning. Instead, forms endure because they can be reproduced through recurring relationships of material engagement and spatial organisation. Drawing on artistic research and comparative visual analysis, the study introduces the concept of operational memory to describe how formal configurations are maintained through enactment rather than preserved as fixed representations. Using selected examples from sculpture, material culture, and the built environment, the paper explores how continuity emerges and why certain forms remain recognisable, adaptable, and effective despite changing cultural circumstances. By reconsidering persistence as an operative rather than symbolic phenomenon, the study offers a process-based account of formal continuity grounded in material, perceptual, and embodied conditions.

Methodological Approach

This study adopts a practice-based, comparative approach rooted in artistic research, phenomenological observation, and material analysis. It examines a curated selection of examples drawn from diverse artistic contexts. The selected works are understood not as disciplinary categories but as manifestations of enduring formal relationships. The analysis focuses on material stability, spatial organisation, perceptual coherence, and embodied engagement as operative conditions that support the persistence and transformation of form over time. Through comparison, the study examines how material properties and perceptual organisation interact in fostering formal resilience.

Conceptual Framework

This paper reexamines traditional understandings of the persistence of form, which often rely on a representation-based model where forms endure because they carry meanings transmitted across time through tradition, myth, or cultural memory. Such accounts assume that the continuity of form depends primarily on symbolic frameworks, presupposing that meaning precedes and sustains form. Instead, this research distinguishes between two interconnected questions: the persistence of the visual and material configuration itself, and the ongoing operative capacity of that form across shifting contexts. While a form may retain its visual configuration, this does not necessarily explain why it continues to generate coherence, recognition, or affective resonance when its original symbolic meanings are no longer shared or relevant.

By shifting the focus from symbolic representation to the function and operation of forms, the inquiry is reframed: it becomes less about what forms mean and more about how they function within perceptual and material environments. This perspective aligns with approaches viewing making as a form of embodied knowledge production grounded in material engagement (Ingold, 2013), emphasising that perception is rooted in bodily experience prior to conceptual interpretation—a view articulated by Merleau-Ponty (1962). Moreover, it shares important affinities with material agency theories that see matter not as passive but as an active participant in shaping and maintaining form, as proposed by Bennett (2010). Rather than framing agency as an attribute of objects, this paper investigates the operative conditions—material, perceptual, and spatial—that enable forms to persist and

remain operative across different environments. Taken together, these perspectives offer a nuanced understanding of form persistence, foregrounding material engagement and perceptual continuity over symbolic or representational stability.

Material Conditions of Persistence

Materiality plays a central role in this account. Forms do not persist in abstraction; they are sustained by the properties and constraints of materials. These constraints include physical forces such as gravity, structural stability, and resistance, which shape the range of viable configurations.

As illustrated in Figure 1, the persistence of formal configurations occurs when similar material conditions give rise to effective spatial solutions. In the Alhambra, the arch functions simultaneously as a load-bearing element and as a device for organising movement, framing views, and articulating transitions between spaces. Although deeply embedded in a specific cultural framework, its stability depends on material and engineering principles common to arch construction throughout a wide range of architectural traditions.

Figure 1
Comparative Example of Formal Persistence: Alhambra Arch (Spain, 13th–15th centuries) and Gateway Arch (United States, 1965)

Source: My Travel Monkey; Unsplash.

Built in 1965, the Gateway Arch—conceived within a different historical and technological era—relies on comparable engineering principles. Its monumental scale and stainless-steel construction transform the arch into a modern landmark associated with expansion, mobility, and national identity. Despite differences in meaning and function, its integrity depends on the efficient transfer of forces characteristic of arch systems, which channel loads through a continuous curved form.

While the selected examples differ in context, both rely on recurring relational arrangements that organise space, distribute forces, and maintain coherence. Their endurance does not hinge on continuity of symbolic significance but on the ongoing viability of the material and mechanical principles from which they originate. This comparison suggests that certain forms remain reproducible because they successfully respond to similar material conditions, enabling their persistence and reactivation across changing cultural environments.

Operational Memory of Form

To account for this phenomenon, this paper introduces the concept of operational memory of form, defined here as the capacity of certain formal configurations to remain active through repeated material engagement and embodied practice. Within this framework, form is understood not as a fixed or static entity, but as a dynamic set of operative relationships. Attributes such as weight, balance, resistance, gesture, and spatial orientation do not function as isolated qualities; instead, they constitute enduring conditions through which forms are generated, sustained, and reshaped.

Operational memory therefore resides in action rather than representation. It is not stored as a symbolic image or transmitted as a fixed model. Instead, it persists through the continued reproduction of connections linking material conditions, bodily practices, and spatial organisation. What endures is not the preservation of a specific form, but the recurrence of principles that make such configurations viable.

From this perspective, formal continuity becomes a function of reproducibility within material constraints and embodied modes of engagement. Forms remain effective because the principles that sustain them can be enacted under different historical, cultural, and material circumstances. As the examples discussed in this paper suggest, operational memory thus provides a framework for understanding how forms persist, adapt, and regain effectiveness.

Perceptual Continuity

While material conditions provide a necessary foundation for the persistence of form, they do not fully account for the sense of coherence and significance that forms can generate in human experience. Perception also plays a crucial role, allowing such configurations to be apprehended as coherent wholes through embodied experience.

For example, the pyramids—such as the Pyramid of Khafre and the Louvre Pyramid—demonstrate how similar perceptual principles can sustain recognition despite vast differences in material, scale, and cultural meaning. These forms rely on features such as axial symmetry, geometric stability, a clear upward movement, and hierarchical spatial orientation—elements that serve as perceptual anchors. The broad base and converging sides reinforce a sense of balance, directionality, and visual unity, making the configuration immediately legible as a coherent spatial whole.

Figure 2
The Pyramidal Form Across Historical Contexts: Pyramid of Khafre (c. 2570 BCE) and Louvre Pyramid (1989).

Source: Dreamstime; Encyclopaedia Britannica.

Figure 2 illustrates this cross-temporal perceptual continuity, showing how recurring geometric principles can remain legible and stable despite substantial differences. Although separated by thousands of years, both pyramids depend on similar spatial principles that activate embodied modes of experience rooted in Gestalt psychology and ecological approaches to perception (Gibson, 1979). Symmetry, balance, and figure-ground relationships facilitate the organisation of visual information into recognisable patterns, allowing forms to be perceived as stable and coherent. These structures operate at a pre-conceptual level, engaging bodily experience and acquired perceptual habits that support recognition via embodied engagement. Rather than being assembled through conscious interpretation, the configuration is experienced as an organised unity through processes that precede reflective judgement. Consequently, even when symbolic or cultural associations change, the coherence of these forms persists.

Perceptual continuity thus works in tandem with material stability. While physical conditions explain how forms can endure, organisational strategies account for why they remain recognisable and meaningful. By grounding recognition in embodied experience and relational configurations, structures like the pyramids exemplify how perceptual coherence sustains formal persistence across different environments. This dynamic process underscores that recognition is active and relational, rooted in bodily engagement with spatial and visual cues rather than primarily in symbolic meaning or cultural memory.

Operational Memory and Reactivation

Operational memory becomes most evident when a form persists despite changes in its surrounding conditions. While material continuity accounts for its physical viability and perceptual continuity explains its immediate legibility, operational memory helps explain how it can be reactivated under new circumstances.

As shown in Figure 3, the central form retains its coherence while geometric modifications in the supporting base alter the associations that emerge around it. Although the surrounding structures suggest different interpretations, the primary form is still perceived as the same entity. Its persistence does not depend on the continuity of a particular meaning, but on the recurrence of principles that remain operative across different formal arrangements.

Figure 3

Persistence of a Formal Configuration Across Different Supporting Geometries

Note. Artwork and photograph by Olga Cuxart Oriol. © 2025.

This example illustrates how forms can be adapted, repositioned, and reinterpreted without losing their fundamental identity. Operational memory is therefore not the preservation of a fixed appearance, but the capacity of a form to remain active through successive transformations. What persists is not symbolic content, but a set of underlying relationships that generate recognition and stability as circumstances change.

The Mythic as Pre-discursive Recognition

Within this framework, the mythic can be reconsidered as a pre-discursive mode of recognition embedded in material and perceptual experience. It emerges when formal configurations generate a sense of familiarity, inevitability, or coherence that precedes conceptual interpretation.

In this sense, mythic experience is not necessarily tied to specific symbolic meanings. It arises through a resonance between embodied perception and recurrent formal relationships, producing a pre-reflective familiarity that operates prior to discursive explanation. Recognition, however, is not limited to identification alone. Certain forms generate a heightened sense of presence, significance, or necessity that exceeds their immediate practical function. Such experiences do not eliminate cultural interpretation, but they suggest that some aspects of form may remain effective even when the symbolic systems through which they were originally understood have weakened or lost relevance. Viewed in this way, the mythic emerges at the intersection of material conditions, perceptual continuity, and embodied engagement.

Conclusion

This paper has argued that the persistence of form emerges through the interaction of material conditions, perceptual continuity, and embodied engagement. Material conditions help explain why certain configurations remain viable; perceptual continuity clarifies why they remain intelligible; and operational memory helps explain how these configurations can be reproduced, adapted, and reactivated across changing circumstances. Together, these dimensions offer an alternative account of formal persistence that does not depend exclusively on the survival of symbolic systems.

From this perspective, forms persist because relationships between matter, perception, and action continue to generate coherent and viable arrangements. The recurrence of formal configurations across sculpture, architecture, and material culture is therefore not simply a consequence of cultural inheritance or processes of cultural transmission, but also of their capacity to respond effectively to recurring material constraints and perceptual tendencies. By introducing the concept of operational memory, this framework shifts attention away from form as a fixed representation and towards an ongoing process in which forms are repeatedly stabilised, transformed, and reactivated within new historical and cultural circumstances. In this way, it becomes possible to understand continuity as the reactivation of operative principles across different contexts of use, interpretation, and practice.

Ultimately, this persistence suggests that continuity is not located exclusively in symbols or traditions. It also emerges through enduring patterns of engagement with material environments and embodied modes of experience. In this sense, operational memory offers a way of understanding continuity as a process of reactivation rather than preservation. Forms

persist not because they remain identical, but because the conditions that sustain them can be repeatedly enacted, generating recognition and resonance across time.

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Contact email: ocuxarto@gmail.com