

From Operator Strings to Semantic Economy: A
Semantic-Economic Critique of Pearson's Theory of Operational
Semiotics (EA-OPSEM-PEARSON-01 v1.0)

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Abstract

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Body

From Operator Strings to Semantic Economy

A Semantic-Economic Critique of Pearson’s Theory of Operational Semiotics

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Summary

Charls Pearson’s Theory of Operational Semiotics (TOS, 1982–1998) factors natural language sentences into operator strings ($M:S \rightarrow X:P:S$) and models sign dynamics through a Dynamic Principle in which every sign transformation is representable as an operator acting on an initial sign to produce a final sign. TOS is a coherent formal-linguistic achievement on its own terms. This paper does not challenge TOS’s internal validity. It asks what TOS leaves outside the operator string — and argues that what it leaves out is the entire semantic economy.

What TOS Does

Pearson’s system begins with Bosanquet’s Law: every indicative sentence can be factored into a proposition predicated of a world. He extends this to all moods, producing the general form $M:S$ (mood operator : semantic operator). The mood operator M factors further into syntactic, pragmatic, and illocutionary components, yielding the pheme equation $X:P:S$ (syntactic : pragmatic : semantic). The Dynamic Principle asserts that all sign transformations can be represented by an operator that converts an initial sign into a final sign: $f = \Omega(f, in) : in$.

TOS then develops a sign-processing architecture: the Doleme Stack (a LIFO vector stack storing genre, time, role, and script registers), the “once-upon-a-time” doleme (the genre-setting initial communication unit), and the type-token conversion operator. Searle’s speech act theory is integrated as a component of the pragmatic operator string, with Gricean conversational postulates as operator-string tools.

This is a theory of *operations within semiosis* — the internal formal dynamics of sign processes.

What TOS Leaves Out

TOS treats the sign processor as a neutral, stable container. The Doleme Stack receives input, processes it through operators, and outputs transformed signs. The system asks *how* the transformation works. It does not ask:

Who pays? Every semiotic operation has a cost. Composition costs labor. Retrieval costs attention. Compression costs fidelity. TOS treats these costs as invisible — the operator acts, the transformation occurs, the cost is external. Operative semiotics makes cost the central variable through the Three Compressions thermodynamics: fuel source (C_b), ledger structure (L), and commons effect (-C).

Who controls the summarizer? Pearson’s framework assumes a sign process between a source interpreter (I_S) and a target interpreter (I_T), mediated by a sign. In 2026, the dominant mediator is not a sign but a summarizer layer — a machine system that compresses, recombines, and re-presents signs to downstream interpreters. The summarizer is not a neutral operator; it is an economic actor that determines which signs survive, which are merged, and which are erased. TOS has no model of this layer.

What happens to provenance? TOS’s Dynamic Principle assumes that the operator and its operands are known. In machine-mediated retrieval, the operator (the summarizer, the embedding model, the knowledge graph) is opaque, and the operands (the source signs) lose their provenance chains in the process. Provenance Erasure Rate (PER) measures this loss. TOS cannot ask the question because it assumes transparent operator-operand relations.

Does the operation enrich or deplete the commons? Two operator transformations with identical formal structure can have opposite commons effects: one enriches the shared meaning-pool (Witness compression), the other depletes it (Predatory compression). TOS cannot distinguish them because it lacks the regime variables.

The Extension

Operative semiotics takes what TOS does — formalize sign dynamics through operators — and embeds it in the larger question of what those operations *cost and produce* in the world. The relation between the two frameworks is not contradiction but extension:

Operational Semiotics formalizes the operator. Operative Semiotics analyzes the operation’s world.

Pearson supplies a theory of operations within semiosis. Operative semiotics supplies a theory of semiotic objects acting within material, institutional, computational, and retrieval systems. The first offers one formal account of sign dynamics; the second addresses a different scale of analysis — the operation’s world rather than the operator’s structure.

TOS formally brackets the institutional ownership, economic incentives, provenance effects, and commons consequences of the sign-processing apparatus. In 2026, the sign processor is the embedding model, the retrieval-augmented generator, the AI Overview engine — none of which is neutral, and none of which TOS was designed to address. Operative semiotics is the theory that addresses this new condition. TOS offers one formal account of operations within semiosis; operative semiotics addresses a different scale of analysis.

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