

# The Architecture of Analogy: A Multidimensional Analysis of The Notion of Metaphor

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## ABSTRACT

The study of metaphor has transitioned from a peripheral concern of classical rhetoric to a central pillar of cognitive science. This article examines the "Notion of Metaphor" through the lens of Conceptual Metaphor Theory (CMT), Neural Theory of Language (NTL), and Conceptual Blending. We argue that metaphor is a fundamental mapping mechanism that allows the human mind to navigate abstract complexities by grounding them in sensory-motor experiences. By analyzing the structural, biological, and sociolinguistic dimensions of metaphor, this paper demonstrates that figurative thought is not a linguistic "extra" but the primary scaffolding of human cognition.

**Keywords:** Metaphor, analogy, figurative language, cognitive linguistics, conceptual metaphor, semantic analysis, discourse analysis, stylistics, meaning construction, language and thought, metaphor theory, cross-domain mapping, rhetoric, interpretation, linguistic creativity.

## INTRODUCTION

### The Epistemological Shift

For over two millennia, the Western intellectual tradition viewed metaphor as a decorative deviation from "proper" or "literal" language. Rooted in the Aristotelian tradition, metaphor was defined as a process of substitution, where a poet replaces a standard term with an exotic one to achieve aesthetic pleasure [1]. However, the late 20th century witnessed a "Cognitive Turn" that redefined metaphor as a matter of thought rather than mere words [2]. In modern linguistics, the "notion of metaphor" refers to a systematic cross-domain mapping between a concrete source domain (physical experience) and an abstract target domain (complex concepts). This article posits that we do not merely "speak" in metaphors; we live, reason, and perceive through them [2, 3].

### HISTORICAL GENEALOGY: FROM RHETORIC TO REALITY

### 1 The Aristotelian Legacy

In Poetics, Aristotle described metaphor as the "application of an alien name by transference" [1]. Under this Substitution View, metaphors were categorized by their logical relationship (e.g., genus-to-species). The implication was that every metaphor could be "translated" back into literal language without cognitive loss. This view persisted until the mid-20th century, treating the metaphor as a tool of the orator, not the scientist [4].

### 2 The Interaction Theory

The first major challenge to the substitution view came from I.A. Richards [5], who introduced the terms Tenor (the subject) and Vehicle (the metaphorical frame). Richards argued that meaning is not "transferred" but "generated" through the interaction of these two components. Max Black [6] expanded this, suggesting that

a metaphor acts as a "filter" that organizes our view of the subject. When we say "Man is a Wolf," we are not just comparing two things; we are projecting the entire biological and social "wolf-system" onto our understanding of humanity, creating an emergent meaning that literal language cannot capture [6, 7].

## **CONCEPTUAL METAPHOR THEORY (CMT)**

### **1 The Mechanics of Mapping**

The seminal work of Lakoff and Johnson [2] established that metaphors are structured, unidirectional, and largely unconscious. They identified that we understand abstract concepts through Source-to-Target Mappings.

- **Source Domain:** Grounded in physical, sensory-motor experience (e.g., JOURNEYS, BUILDINGS, CONTAINERS).
- **Target Domain:** Abstract, subjective, or complex (e.g., LOVE, THEORIES, THE MIND).

A classic example is the metaphor THEORIES ARE BUILDINGS. This mapping allows us to use architectural logic to reason about abstract ideas: we speak of "foundationless" arguments, "shaky" claims, or "constructing" a case [2, 8].

### **2 The Invariance Principle**

A critical constraint in metaphoric thought is the Invariance Principle [9]. This principle states that metaphorical mappings must preserve the image-schematic structure of the source domain in a way that is consistent with the target domain. We cannot map the "end" of a path (Source) to the "beginning" of a project (Target) because the internal logic of the physical path—moving from start to finish—is "invariant" [9, 10].

## **THE BIOLOGICAL AND NEURAL BASIS OF METAPHOR**

### **1 Embodied Cognition and Image Schemas**

The notion of metaphor is deeply rooted in Embodied Cognition, the theory that the mind is shaped by the body's interactions with the world [11]. Mark Johnson [12] identified "Image Schemas"—dynamic patterns of our sensory-motor experience, such as UP-DOWN, IN-OUT,

and BALANCE. These schemas provide the "skeletal" structure for our most complex metaphors. Because we are vertical creatures who stand up when healthy and lie down when dead or ill, we naturally map HAPPY IS UP and SAD IS DOWN [2, 12].

### **2 Neural Theory of Language (NTL)**

Recent neuroscientific research using fMRI has provided empirical evidence for these mappings. The Neural Theory of Language posits that metaphors are literal physical circuits in the brain [13].

- **Hebbian Learning:** When a child is held by a caregiver, the brain's regions for "Affection" and "Physical Warmth" fire simultaneously. According to Hebbian principles—"neurons that fire together, wire together"—these two regions become physically linked [13, 14].
- **Sensory Activation:** Studies show that hearing tactile metaphors (e.g., "She has a rough personality") activates the somatosensory cortex, the same area used for physical touch [15]. This suggests the brain does not "ignore" the literal source; it uses it as a cognitive scaffold [15, 16].

## **CONCEPTUAL BLENDING AND EMERGENT MEANING**

While CMT focuses on two-domain mappings, Gilles Fauconnier and Mark Turner [17] introduced Conceptual Blending Theory (CBT). This model involves at least four "mental spaces":

1. **Input Space 1:** The Source.
2. **Input Space 2:** The Target.
3. **Generic Space:** Shared structural elements.
4. **The Blend:** Where a new, "emergent" structure is born [17, 18].

CBT explains complex metaphors that CMT cannot, such as the "Computer Desktop." In the Blended Space, we can "drag" a file into a "trash can." This action makes sense only in the blend; in the physical world, dragging a paper to a bin doesn't erase the ink, and in literal computer code, there are no bins—only binary shifts [17].

## **METAPHOR IN SCIENTIFIC DISCOVERY**

Scientific progress is often viewed as the accumulation of literal facts, but philosophers like Thomas Kuhn [19] argue that it is driven by Paradigm Metaphors.

- The Clockwork Universe: Newtonian physics relied on the metaphor of the universe as a giant machine [19].
- The Genetic Code: Modern biology would be impossible without the metaphor of DNA as a "code" or "text" that is "read" and "translated" [20].

Science does not just find new facts; it finds new metaphors to house those facts. When a metaphor reaches its limit (e.g., the atom as a "solar system"), a "paradigm shift" occurs, and a new metaphor is born [19, 21].

## **THE POWER OF FRAMING: SOCIOPOLITICAL METAPHOR**

Metaphors are not neutral; they are tools of social and political power [22]. By "framing" a complex issue through a specific metaphor, we dictate the range of possible solutions.

- Crime as a Virus vs. Crime as a Beast: Research indicates that when crime is framed as a "virus," people support social reform and "treatment." When framed as a "beast," they support harsher policing and "caging" [23].
- The Nation as a Family: This metaphor allows political leaders to use the logic of the "Strict Father" or the "Nurturant Parent" to justify economic and social policies [24].

## **CONCLUSION**

### **The Inevitability of Metaphor**

The "Notion of Metaphor" has evolved from a rhetorical ornament into a recognized biological and cognitive necessity. It is the bridge between our physical existence and our abstract intellectual achievements. To understand metaphor is to understand how the human brain makes sense of an otherwise incomprehensible world. As we look toward the future—whether in the development of Artificial Intelligence or the exploration of quantum realities—the metaphors we choose will continue to define

the limits of our world [2, 25].

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