

Article

Cognitive Mechanisms of Simile Construction (Based on English Language Data)

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Abstract: This article analyzes the cognitive foundations of simile-based constructions and their role within language and thought systems. The study demonstrates that simile is not merely a stylistic device, but a complex cognitive process grounded in comparison. Through analogical and narrative mapping, features of the source domain are projected onto the target domain, generating new knowledge and culminating in inference. The formation of similes relies on cognitive mechanisms such as associative memory, analogical reasoning, creative imagination, emotional expression, attention direction, sensory perception, and the encoding of sensory details. In particular, attributive, relational, and systemic mapping processes serve to identify structural and functional similarities between the simile's subject and object.

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1. Introduction

Simile is constructed on the basis of comparison. As a cognitive operation, comparison—despite its uncontrolled and non-goal-oriented nature—is carried out through a sequence of stages involved in cognitive information processing. The outcome of comparison is not limited to the formal enumeration of shared and distinctive features of two or more objects; rather, it culminates in the generation of new knowledge, that is, inference. As a fundamental mental operation, comparison constitutes the foundation of linguo-cognitive processes such as analogical and narrative mapping [1]. In poetic discourse, these linguo-cognitive operations are verbalized through similes.

Analogical and narrative mapping enable the projection of partial structures or features of the source domain (i.e., the objective component or object within the simile) onto the partial structures or features of the target domain (i.e., the subjective component or subject within the simile). This projection is motivated by real or imagined similarity between the compared objects. Such similarity arises from perceiving the external world through parabolic and analogical modes of thinking. Consequently, simile is often regarded as a two-stage phenomenon.

At the first stage, simile functions as a means of cognition—that is, as a mental operation in which object or phenomenon “A” is compared with “B” in order to identify similarities or to clarify unknown features of “A” through juxtaposition with “B.” The result of this process is the identification of a shared feature “S” between “A” and “B.” Once the feature “S” is established, the second stage is realized: alongside the two

compared objects, a third relational element becomes salient, and the simile is fully formed [2].

Literature Review

In language, a simile is a rhetorical device that establishes an explicit comparison between two distinct elements. This comparison is typically marked by the words “like” or “as.” For instance, in the sentence *Truth is like a torch*, “truth” functions as the target (or topic), while “torch” serves as the source (or vehicle). The expression highlights a shared characteristic between the two elements; although this characteristic may not be explicitly stated, it is inferred from context [3].

Unlike ordinary comparisons, similes typically connect elements belonging to entirely different categories. These elements may initially appear unrelated or incompatible; however, the simile foregrounds a single shared feature, thereby generating an unexpected yet meaningful comparison. In the example above, the comparison between truth and a torch emphasizes illumination. Thus, unlike literal comparison, simile frequently bridges disparate domains to produce a creative and conceptually rich analogy [4].

Importantly, the structure of a simile cannot be freely reversed without altering its meaning. For example, *A torch is like truth* does not convey the same meaning as *Truth is like a torch*. This asymmetry demonstrates that target and source fulfill distinct cognitive roles in the comparison.

Structurally, similes generally assume one of three configurations:

1. Noun Phrase is like Noun Phrase: *Truth is like a torch*.
2. Noun Phrase is like Clause: *Her smile is like she has won the lottery*.
3. Clause is like Clause: *A politician making promises is like a child making sandcastles*.

The use of more complex configurations enhances clarity and intensifies the comparison. In the third example, the clause-to-clause structure strengthens the analogical parallelism between the two scenarios [5].

The analysis of similes provides a foundation for numerous linguistic and cognitive studies exploring their nature and mechanisms. Linguists such as Eva Feder Kittay and Adrienne Lehrer conceptualize similes as an “analogy engine” that creates a cognitive bridge between the compared entities, thereby facilitating understanding. This view aligns with the “Career of Metaphor” theory proposed by Brian Bowdle and Dedre Gentner, who regard analogy as central to figurative comprehension. Their arguments emphasize that similes function as cognitive tools for linking new information with existing knowledge, a notion compatible with Lev Vygotsky’s theory of learning as a socially mediated process [6].

Similarly, Hugh Bredin underscores the communicative value of similes in discourse. His perspective resonates with Dan Sperber and Deirdre Wilson’s Relevance Theory, according to which figurative language is optimized for maximal cognitive effect with minimal processing effort [7].

2. Materials and Methods

The cognitive mechanisms underlying simile formation may be categorized as follows:

A. Associative memory.

Simile creation relies on associative memory, which involves retrieving and linking memory units based on perceived similarity. For example, in *It’s like eating sweet smooth silk*, the product’s texture is associated with the smoothness of silk. This demonstrates how abstract or unfamiliar experiences are conceptualized through more concrete and familiar ones.

B. Analogical reasoning.

Analogical reasoning transfers known similarities onto less familiar domains to facilitate understanding. Closely related to schema theory, this process allows individuals to interpret new experiences through pre-existing cognitive structures that encompass sensory, emotional, mnemonic, and cultural dimensions. For instance:

- *It was like eating sawdust.*
- *It's like chewing rubber bands.*

These analogies draw upon prior knowledge to enrich descriptive expression.

C. Creative imagination.

Creative imagination enables the recombination and restructuring of existing knowledge to generate novel associations. Within cognitive linguistics, creativity is viewed not as exclusive to poetic language but as integral to everyday communication.

D. Emotional expression.

Similes also serve expressive functions. For example: *Some people might not like how it smells at first, and how the texture is like eating jellyfish, chewy and almost tasteless.*

This simile conveys not only sensory description but also strong negative emotional evaluation, illustrating the embodied basis of cognition and the interrelation between perception, emotion, and language.

E. Attentional directing.

Similes can highlight salient aspects of experience: *It's like eating a mouthful of tortilla chip-flavored sand.* Here, attention is directed toward unusual texture and taste.

F. Sensory perception and integration.

Similes frequently engage multiple sensory modalities—taste, touch, smell, and vision—through processes of sensory integration that construct holistic representations.

G. Sensory Detail Encoding

This mechanism involves encoding and recalling sensory impressions.

Examples include:

- *Dry, chewy, soggy* (tactile/kinesthetic encoding).
- *Sourish, sweet, salty* (gustatory encoding).
- *Pungent, burnt, metallic* (olfactory encoding).
- *Small, big, bubbly* (visual/tactile encoding).

Such encoding is an active process requiring focused attention, underscoring the complexity of cognitive operations in simile production.

In her article *Simile: Cognitive and Semiotic Perspective*, the Ukrainian linguist Ya.N. Prosyannikova discusses analogical mapping in simile formation. Analogical mapping comprises three cognitive subprocesses: attributive mapping, relational mapping, and systemic mapping. Narrative mapping, by contrast, is realized through intertextual processes.

Attributive mapping establishes similarity based on a specific feature shared by subject and object, as in: "...patience / longer than the life of glaciers."

Systemic (or schematic) mapping—terminology associated with Gilles Fauconnier—occurs when a shared schema, frame, or model structures the contextual situation. Situations or events from the source domain are projected onto the target domain.

Relational mapping, as noted by L. I. Belekova, involves projecting analogous functions from object to subject, resulting in shared actions, states, or emotions. Many similes rely not merely on attribute matching but on structural or relational isomorphism between knowledge domains.

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mapping comprises three cognitive subprocesses: attributive mapping, relational mapping, and systemic mapping. Narrative (event-chain-based) mapping, in contrast, is realized through an intersexualization process. These cognitive sub-skills serve to clarify similarities between the subject and object of a simile.

3. Results and Discussion

The Attributive mapping aims to establish similarity based on a specific feature characteristic of the object, as illustrated in examples such as [8]:

1. "...patience / longer than the life of glaciers"
2. "Perfect love resembles a green, beautiful plant"
3. "The mysterious river ... / Untamable and changeable like fire"

The interpretation of the simile "*day like smoke*" is relatively complex. Understanding does not occur immediately because there are no obvious, dominant attributes shared between the subject and object. However, the verb *fades out* serves as a key cue for interpreting the comparison: just as smoke disperses and gradually disappears in the air, so too the day slowly passes and reaches its end. This conveys the irreversibility and transience of human life, as well as an inherent apprehension and awareness of life's inevitable conclusion, which are critical for correctly decoding the simile's meaning [9].

Systemic or schematic mapping occurs when a general schema, frame, or model is applied to organize a situation. In other words, particular events or circumstances from the source domain (the simile's object) are projected onto the target domain (the simile's subject) [10].

For example:

"The branches themselves wander like a grandmother's sentences, generating a distinctive sharpness. Picking berries should be like a delicate conversation between gloved hands."

This simile, "branches – grandmother's sentences," is based on systemic mapping and is open to multiple interpretations. The interpretive process is activated through the metaphor *ramble* ("to wander, to become distracted") and the metonymy *a grandmother's sentences*. There is an analogy between the process of picking berries and the manner of elderly people's conversation. As the berry-picker moves from one branch to another, often similar in size and color, it can sometimes appear as if they are strolling around a person. In this way, the simile creates a narrative meaning based on a sequence of actions and experiential perception [11].

This type of mapping represents the "simplest form of analogy," as it highlights a clearly shared attribute between the simile's subject and object. Additionally, the basis for comparison is explicitly expressed (e.g., *longer than, fair green, untamable and changeable*). Therefore, the interpretation process is relatively straightforward and does not require extra cognitive effort from the reader. Successful interpretation depends on the alignment of attributes between subject and object [10].

From a linguistic perspective, examples of similes used in online reviews can reveal markers indicating the presence of speech aggression. These markers can generally be divided into two main categories: lexical choices and figurative (imagery-based) constructions.

1. Lexical choices

The selection of words expressing actions or referring to objects can signal the presence of speech aggression. Words with unpleasant, harmful, or negative connotations often serve as clear indicators of aggression. For example, expressions like "*licking a dirty chalkboard*" or "*chewing gravel*" evoke discomfort or pain, signaling a negative evaluative stance [11].

2. *Exaggerated comparisons*

The use of hyperbolic or excessively intensified similes can also indicate an aggressive attitude. For instance, *“drinking sunscreen”* goes beyond ordinary disapproval, reaching a strong negative evaluation and approaching the level of speech aggression [12].

3. *Incongruous pairings*

Combining ordinary, everyday actions with unsuitable or harmful objects intensifies an aggressive tone. For example, *“cooking rocks”* links familiar cooking activity with completely inedible objects, surprising the reader and clearly emphasizing the reviewer’s dissatisfaction [13].

4. *Creative and unusual similes*

Linguistic creativity can indirectly signal speech aggression. Unexpected and unusual comparisons, such as *“eating slivers of candle wax in your cereal”*, not only attract attention but also dramatize the negative experience, amplifying the aggressiveness of the speech [14].

5. *Similes involving tasteless or inedible substances*

Similes that involve tasteless or unconventional substances, such as *“eating a salted air bubble”* or *“chewing shoe leather”*, often convey passive aggression. In such cases, dissatisfaction or frustration is expressed subtly and effectively, rather than directly [15].

4. Conclusion

The formation of similes relies on cognitive mechanisms such as associative memory, analogical reasoning, creative imagination, emotional expression, attention direction, sensory perception, and sensory detail encoding. Attributive, relational, and systemic mapping processes serve to identify structural and functional similarities between the subject and object of a simile.

Furthermore, examples from different languages, particularly English and Uzbek, indicate the presence of cultural and cognitive universals in simile formation. Thus, similes are not only a tool for expressive language but also reflect an integral connection between human cognition, sensory experience, and cultural knowledge.

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