

METAPHORICAL USE OF SCIENTIFIC TERMS IN JOURNALISTIC DISCOURSE

Ja'far Madraimov

3rd-year PhD Student, Faculty of Foreign Philology,
Urgench State University named after Abu Rayhon Beruni

Abstract: This research explores the metaphorical application of exact and natural science terminology in journalistic discourse. Scientific vocabulary from disciplines such as physics, biology, chemistry, and mathematics often transcends its technical domain to express abstract, emotional, and evaluative meanings in mass media. The study examines how these terms are metaphorically recontextualized to make complex phenomena understandable and persuasive to the general public. By analyzing Uzbek and English journalistic texts, this paper reveals the cognitive, stylistic, and cultural functions of scientific metaphors in the construction of media narratives.

Keywords: metaphor, journalism, science terminology, cognitive linguistics, public discourse, semantics.

1. Introduction

Language and science have long maintained a complex, reciprocal relationship. While science depends on language to conceptualize and communicate discoveries, language itself is enriched by the conceptual frameworks provided by scientific thought. In the field of journalism, this relationship manifests vividly through the metaphorical use of scientific terminology. Journalists frequently employ scientific terms to describe political, social, and cultural processes. Phrases like “the political climate,” “economic gravity,” “social evolution,” or “information explosion” reveal how scientific vocabulary is embedded in publicistic discourse.

The use of such metaphors serves two key purposes: to simplify complex issues and to strengthen persuasive appeal. By adopting scientific terminology metaphorically, journalists give abstract concepts concrete and familiar dimensions. Consequently, readers can visualize and emotionally relate to phenomena that might otherwise remain too theoretical or remote.

This paper seeks to investigate the linguistic and cognitive mechanisms through which terms from the natural and exact sciences function as metaphors in journalistic texts. The research also aims to identify the cultural and communicative roles these metaphors play in shaping modern media narratives.

2. Literature Review

The study of metaphor has undergone significant evolution over the last few decades. The classical rhetorical view, dating back to Aristotle, regarded metaphor as a decorative linguistic device. However, the cognitive approach proposed by Lakoff and Johnson (1980) in *Metaphors We Live By* radically shifted the focus from style to thought, arguing that metaphors shape how humans perceive and conceptualize reality. According to their theory, metaphor is not merely a linguistic phenomenon but a cognitive mechanism that structures our understanding of the world.

Subsequent research in cognitive linguistics (Kövecses, 2002; Cameron & Deignan, 2006) has expanded the scope of metaphor analysis to include specialized discourses such as science, education, and the media. In journalistic discourse, metaphors serve as interpretive tools,

helping readers navigate complex social or political realities. Charteris-Black (2004) emphasizes the persuasive power of metaphor in political communication, while Semino (2008) demonstrates that metaphors derived from science reflect contemporary culture's fascination with technological and empirical knowledge.

Despite the growing body of literature, little attention has been given to the specific role of scientific terminology—particularly terms from physics, biology, and mathematics—when used metaphorically in journalism. This study addresses that gap by focusing on how these terms function in Uzbek and English media contexts.

3. Methodology

The research employs a comparative-descriptive method, analyzing samples from Uzbek and English journalistic sources, including newspapers, magazines, and online platforms. Approximately 120 journalistic texts published between 2015 and 2024 were selected for analysis. These texts were categorized into three main domains: politics, economy, and social issues.

The study identifies instances where scientific terms—originally belonging to the fields of physics (e.g., energy, force, gravity), biology (e.g., virus, organism, evolution), chemistry (e.g., reaction, fusion, catalyst), and mathematics (e.g., equation, balance, formula)—were used metaphorically. Each occurrence was examined in terms of:

1. **Semantic shift** (the new meaning acquired in the journalistic context);
2. **Cognitive function** (how the metaphor aids understanding);
3. **Stylistic effect** (the emotional or persuasive tone created).

The findings were interpreted using the theoretical framework of conceptual metaphor theory and cognitive linguistics.

4. Analysis and Discussion

4.1. Physics Metaphors in Journalism

Physics provides a particularly rich source of metaphorical expressions in journalistic language. Terms like energy, gravity, momentum, friction, and explosion are frequently used to describe political and social dynamics. For example:

- “The campaign gained momentum after the debate.”
- “Economic friction between nations continues to increase.”
- “A wave of political energy swept through the youth.”

These expressions borrow from physical concepts of motion and force to conceptualize abstract social change. The metaphor POLITICAL ACTION IS MOVEMENT reflects how human cognition maps physical experience (motion, direction, speed) onto social and political processes.

4.2. Biological Metaphors

Biological terminology is another fertile ground for journalistic metaphors. Expressions such as “a corrupt system infected the government,” “the economy is evolving,” or “social immunity against fake news” illustrate how biological terms describe the vitality or pathology of society. Here, metaphors draw from human and ecological systems to interpret the functioning of social institutions.

Biological metaphors often emphasize natural cycles—growth, decay, adaptation—and thus reinforce the idea that societies are living organisms subject to change. These metaphors not only inform readers but also evoke empathy and moral judgment, as concepts like disease or health carry evaluative implications.

4.3. Chemical and Mathematical Metaphors

In journalistic discourse, chemistry and mathematics serve as sources of metaphors that highlight balance, combination, or calculation. Phrases like “a political reaction,” “economic formula,” “social balance,” or “fusion of interests” demonstrate how abstract reasoning and empirical thinking shape the rhetorical structure of media language.

These metaphors convey rationality and precision. When a journalist says “the government seeks a formula for stability,” the reader perceives a logical, almost scientific approach to governance. In contrast, “a chemical reaction between parties” emphasizes unpredictability and interaction, reinforcing the dynamic and unstable nature of political life.

4.4. Cognitive and Cultural Implications

The widespread use of scientific metaphors in media reflects society’s trust in science as a source of authority and rationality. By framing complex social phenomena through the lens of scientific terminology, journalists make their narratives more credible and intellectually appealing. Moreover, such metaphors bridge the gap between specialized scientific knowledge and everyday understanding, democratizing science through popular discourse.

However, the metaphORIZATION of science also carries risks. Overuse of technical language in figurative contexts can distort meaning or oversimplify issues. For instance, calling a political scandal an “epidemic” may dramatize it beyond proportion, while using “energy crisis” to describe moral fatigue stretches the metaphor too far. Thus, the challenge lies in balancing expressiveness with conceptual accuracy.

5. Conclusion

The metaphorical use of exact and natural science terminology in journalistic texts serves as a vital cognitive and communicative mechanism. It transforms abstract realities into tangible experiences, making media language both accessible and intellectually engaging. Scientific metaphors—rooted in physics, biology, chemistry, and mathematics—perform explanatory, evaluative, and persuasive functions within public discourse.

This research confirms that journalistic metaphors drawn from science are not arbitrary; they mirror the epistemological shift of modern culture toward rationality and empirical thought. By embedding scientific concepts into media language, journalists create a shared cognitive space where science and society meet.

Further research could expand the corpus to include multilingual comparisons and digital media analysis, offering deeper insight into how globalized information flows influence the metaphorical patterns of journalism.

References:

1. Cameron, L., & Deignan, A. (2006). The Emergence of Metaphor in Discourse. *Applied Linguistics*, 27(4), 671–690.
2. Charteris-Black, J. (2004). *Corpus Approaches to Critical Metaphor Analysis*. Palgrave Macmillan.
3. Kövecses, Z. (2002). *Metaphor: A Practical Introduction*. Oxford University Press.
4. Lakoff, G., & Johnson, M. (1980). *Metaphors We Live By*. University of Chicago Press.
5. Semino, E. (2008). *Metaphor in Discourse*. Cambridge University Press.
6. White, M. (2012). *Science and the Media: The Power of Metaphor*. Routledge.