

**COGNITIVE APPROACHES TO TRANSLATING SCIENCE FICTION
TEXTS**

Jizzakh branch of the National University of
Uzbekistan named after Mirzo Ulugbek
department of Foreign languages
Phylology and foreign languages
Student of group 103-23

Yusupova Zarina Anvar qizi

Supervisor: Mukhtorova Gavharibi Nurali qizi

Abstract

The translation of science fiction texts requires more than linguistic competence; it demands complex cognitive engagement with imaginative, speculative, and often unprecedented concepts. This paper investigates cognitive approaches to translating science fiction, focusing on how translators interpret, process, and reconstruct meaning across languages. Drawing on schema theory, conceptual metaphor theory, and relevance theory, the study demonstrates that translation in this genre involves dynamic mental modeling and creative decision-making. The research argues that successful translation depends on the translator's cognitive flexibility, domain knowledge, and ability to balance scientific accuracy with narrative creativity.

Keywords: cognitive translation, science fiction, schema theory, conceptual metaphor, relevance theory, neologisms

Introduction

Translation studies have increasingly recognized the importance of cognitive processes in understanding how meaning is transferred between languages. Translation is no longer viewed as a purely linguistic activity but as a complex mental operation involving interpretation, inference, and creativity (Munday, 2016).

Science fiction (SF) represents a particularly challenging genre due to its reliance on speculative ideas, futuristic technologies, and invented realities. Translators working with SF texts must engage in advanced cognitive processing to interpret unfamiliar concepts and reconstruct them in the target language. This includes dealing with neologisms, scientific terminology, and culturally embedded meanings.

The aim of this paper is to explore how cognitive theories inform translation strategies in science fiction. By examining key frameworks such as schema theory, conceptual metaphor theory, and relevance theory, the study highlights the mental mechanisms underlying translation decisions.

Literature Review

Cognitive approaches to translation have gained prominence in recent decades. Scholars such as **Bell (1991)** and **Gutt (2000)** emphasize that translation is fundamentally a process of meaning construction shaped by the translator's mental representations.

Schema theory, originally developed in cognitive psychology, has been applied to translation by researchers who argue that comprehension depends on prior knowledge structures (Rumelhart, 1980). In science fiction, where many concepts are unfamiliar, translators must adapt or expand their schemas.

Conceptual metaphor theory, proposed by **Lakoff and Johnson (1980)**, explains how abstract concepts are understood through metaphorical mappings. This is particularly relevant in SF texts, where new technologies are often described using familiar metaphors.

Relevance theory (Sperber & Wilson, 1986; Gutt, 2000) provides a framework for understanding how translators balance cognitive effort and communicative effect. It suggests that translators aim to produce texts that are optimally relevant for the target audience.

Despite these advances, limited research has specifically addressed cognitive processes in science fiction translation, making this study particularly relevant.

Theoretical Framework

Schema Theory

Schema theory posits that comprehension relies on structured clusters of prior knowledge. When encountering unfamiliar elements in SF texts, translators activate existing schemas or construct new ones.

For example, when translating a term describing an alien ecosystem, the translator may rely on knowledge of Earth-based ecosystems to interpret the concept. This process involves both analogy and imagination.

Conceptual Metaphor Theory

Science fiction frequently employs metaphorical language to explain abstract or futuristic ideas. For instance, artificial intelligence may be described in terms of human cognition.

Translators must identify these metaphors and determine whether they can be preserved, adapted, or replaced. This requires deep cognitive analysis and cultural awareness.

Relevance Theory

Relevance theory emphasizes that communication is guided by the search for optimal relevance. In translation, this involves minimizing cognitive effort while maximizing interpretive effect.

In SF translation, this may involve simplifying complex terminology or providing implicit explanations to ensure readability.

[Cognitive Processes in Translation](#)

Comprehension and Interpretation

The first stage of translation involves understanding the source text. In SF, this often requires interpreting implicit meanings and unfamiliar concepts.

Problem-Solving and Inference

Translators frequently encounter gaps in knowledge. Cognitive problem-solving strategies include:

- Contextual inference
- Analogical reasoning
- Use of external resources

Decision-Making

Translation involves constant decision-making. Choices between literal translation, adaptation, or borrowing are influenced by cognitive and contextual factors.

Creative Reconstruction

The final stage involves producing the target text. This requires creativity, particularly when dealing with neologisms and imaginative descriptions.

[Application to Science Fiction Translation](#)

Translating Neologisms

Neologisms are a defining feature of SF. Translators may:

- Create new words
- Use descriptive phrases
- Borrow terms

Each approach involves cognitive evaluation of readability and accuracy.

Imaginary Worlds and Mental Modeling

Translators construct mental models of fictional worlds. This helps maintain coherence and consistency in translation.

Scientific and Technical Language

SF often incorporates real scientific concepts. Translators must balance accuracy with accessibility.

Challenges and Limitations

From a cognitive perspective, key challenges include:

- Cognitive overload
- Lack of domain knowledge
- Cultural differences
- Maintaining stylistic coherence

These challenges highlight the importance of expertise and experience.

Discussion

The findings suggest that translation in science fiction is a cognitively demanding process requiring both analytical and creative skills. Translators must navigate between fidelity to the source text and adaptation for the target audience.

Conclusion

Cognitive approaches provide valuable insights into the translation of science fiction texts. By understanding how translators process and reconstruct meaning, we can improve translation quality and theoretical models.

Future research should explore empirical studies involving translator behavior and decision-making.

References

1. Baker, M. (2018). *In Other Words: A Coursebook on Translation*. Routledge.
2. Bassnett, S. (2014). *Translation Studies*. Routledge.
3. House, J. (2015). *Translation Quality Assessment: Past and Present*. Routledge.
4. Mukhtorova, Gavharbibi Nurali qizi. (2023). *Translating Dystopia: Lexical Challenges in Fahrenheit 451*. Termez University of Economics and Service.
5. Munday, J. (2016). *Introducing Translation Studies: Theories and Applications*. Routledge.
6. Newmark, P. (1988). *A Textbook of Translation*. Prentice Hall.
7. O'Sullivan, C. (2011). *Translating Popular Fiction*. Palgrave Macmillan.
8. Venuti, L. (2012). *The Translator's Invisibility: A History of Translation*. Routledge.