Book Review: *Metaphor Translation in Popular Science: From Minds to Languages* by Sui He, 2025, New York, Routledge, 226pp. ISBN: 9781032620640 (eBook) $204.80.

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Metaphors are crucial in bridging complex scientific concepts into everyday knowledge and profoundly impact human thinking, cognition, and communication. The translation of scientific metaphor however represents significant and multifaceted challenges. The book “Metaphor Translation in Popular Science: From Minds to Languages” by Sui He offers a comprehensive insight into how scientific metaphors are translated in practice and the potential implications of these translated metaphors in a broader social and cultural context (p.6). This timely and insightful book not only delves into the theoretical basis of metaphor translation research but also introduces a new analytical framework that integrates the cognitive and linguistic dimensions of metaphor translation, making it the first large-scale publication that examines metaphor translation through

both conceptual metaphor theory (CMT) and conceptual blending theory (CBT). Sui He further develops a dual-parameter approach: "provenance" and "projection" to analyze popular cosmological articles published in Scientific American and its two Chinese translations.

The book consists of seven chapters, each containing a plethora of insights presented in concise sections. Chapter One, 'Introduction', explains the foundational concepts of metaphors in communication that emphasize their cognitive significance and role in understanding complex scientific ideas. The author provides three conversations to elucidate three interrelated features of cognitive metaphor that are highly significant to human communication. The author also emphasizes the importance of investigating metaphor translation in popular scientific discourses and how it is dissimilated across different cultural and linguistic communities. Additionally, this introductory chapter provides key features of the book, enabling readers to have a general overview of the content of the book.

Chapter Two, 'Mind the Language: Metaphor in Translation', offers an overarching theoretical framework used in this monograph, an overview of existing literature, a discussion of methodological approaches, and a critical analysis of metaphor translation practices. In this chapter, Sui He begins by describing the historical development of translation studies, including Descriptive Translation Studies (DTS) and its evolution, signifying the significant intersection of cognitive in metaphor translation. However, the author overlooks the "Skopos" theory and the "functionalist theory of translation," which focus on achieving the communicative purpose of the translation in the target text rather than just following the source text (Pym, 2016). The omission of these two theories presents a notable gap in the discussion of translation evolution, leading to the failure to provide a more holistic understanding to the readers about translation.

Importantly, this chapter provides a critical review of previous research on metaphor translation, noting that while conceptual metaphor theory has been widely recognized, there remains a lack of integration of contextual elements in metaphor analysis. For this reason, the author is inspired to integrate both "Conceptual Blending Theory" and "Conceptual Metaphor Theory" as a unified parameter to fill gaps in the existing framework of metaphor translation research. She argues that "the two theories can be lined up for analyzing translation at both cognitive and linguistic levels" (p. 49). This combination of theories addresses the curiosity raised in previous research (Grady et

al., 1999; Hong & Rossi, 2021) by demonstrating the potential of integrating cognitive theories with translation studies. By bridging cognitive metaphor theory with translation frameworks, this approach provides a more rounded understanding of how metaphors function across languages, highlighting both conceptual structures and their translational implications.

While the preceding chapters discuss the theoretical foundation for the monograph, Chapter Three, 'Setting the scene: Metaphor in popular science translation', sheds light on the discourse of the case studies by explaining the crucial role of metaphor in science communication, specifically in the context of popular science translation. This chapter begins with a discussion of the correlation between culture and science and how the understanding of science has evolved over time. Initially, science was perceived as a value-free activity, but it has evolved into an understanding that science is influenced by cultural and social contexts (p. 59). The author points out that science is often regarded as an objective pursuit of truth about the universe when in reality, it is a cultural construct intertwined with human values. Science is inseparable from cultural values and consistently plays a role in shaping how humans understand and interact with one another (Zagaria, 2021).

This chapter further identifies metaphor as a key element in bridging the understanding of abstract and complex scientific concepts (p. 61). The author highlights the role of metaphor in facilitating the comprehension of scientific knowledge by linking it to everyday experiences. Additionally, the concept of scientific metaphor translation is introduced to emphasize the importance of preserving the accuracy of scientific information when transferred into another language.

As a response to the theoretical and methodological gaps mentioned in the previous chapter, Chapter Four, 'Towards cagno-textual descriptive method' focuses on the development of a methodology for exploring metaphor translation by integrating two major theories in cognitive linguistics: Conceptual Metaphor Theory (CMT) and Conceptual Blending Theory (CBT) (p. 74). The author introduces a novel methodological approach combining these two theories within a unified analytical framework, aiming to determine whether this method is more effective than an approach relying solely on CMT and to explore how these two theories contribute to translation in popular science by considering cognitive and contextual aspects.

Most importantly, the author highlights the importance of two key parameters: projection (content of metaphors) and provenance (types of metaphors) in understanding conceptual and linguistic metaphors translated from English into Chinese. Data were analyzed based on 18 cosmology articles published in Scientific American and their translations in *Huanqiukexue* and *Kexueren.* The discussion in this chapter explores how these two parameters work in analyzing translation shifts. The pilot study results indicate that this dual parametric method effectively analyzes the correlation between metaphor parameters and translation solutions. Based on the findings of this pilot study, the author in this chapter uses the combination of established metaphor identification procedures (MIP) and the relevancy filter of predetermined classifications of scientific metaphors as the data collection methods to better understand how cultural and scientific contexts can influence metaphor translations. Conceptual metaphors thus play an important role in creating reality as a discursive mode and strategy that is indispensable for publicizing concepts and ideas (Wang & Chen, 2022).

Chapter Five and Chapter Six shift the focus on presenting the findings and discussion on the two parameters. Chapter Five 'Provenance: categorising metaphors' explains the distribution of translation solutions across different provenance categories. In detail, this chapter discusses the correlation between translation solutions and metaphor types on the same datasets through an overview of translation strategies identified in *Huanqiukexue* for the three source categories within CMT. The author argues that retention is most commonly used in *Huanqiukexue*, while the omission of image-schematic metaphors is more prevalent in *Kexueren* (p.100). At the same time, the chapter identifies the shifts in the weight of metaphor categories before and after translation, speculating on the role of source language characteristics and power relations in translation decisions. This finding strengthens the notion that metaphorical expressions function in a logical framework in which image-schematic and proposition-based metaphors tend to form similar categories in translation (Nguyen & Hien, 2022).

Chapter Five also discusses the CBT Model in relation to translation solutions, where the provenance parameters are classified into four categories of integration networks. Most examples tend to maintain their original integration structure rather than shifting to a different category. Albeit there is an overlapping concept between CMT and CBT categories, both models provide insight into understanding the choice of translation solutions based on their respective

categorization systems. The highest retention is found in image metaphors in CMT and dual-scope network metaphors in CBT. The author underscores that translation solutions can be dynamic and creative by varying the choices depending on language conventions and contextual factors (p. 125)

Chapter Six 'Projection: dismantling metaphors' highlights how Conceptual Metaphor Theory (CMT) Projection represents the mapping of conceptual metaphors derived from linguistic metaphorical expressions. This section explores the mapping process between the target domain (topical domain) and the source domain, where the A IS B structure illustrates metaphorical relationships that facilitate the understanding of abstract scientific concepts. For example, target domains such as BLACK HOLES and STARS are often mapped onto source domains like HUMANS and ANIMALS to explain cosmic entities in popular science discourse. Metaphorical mappings such as "A BLACK HOLE IS AN ANIMAL" or "A STAR IS A HUMAN" demonstrate how cosmic phenomena are conceptualized through comparisons with the human and living world (p. 129). Metaphor mapping helps simplify complex scientific concepts to make them easier for readers to understand. The authors explore the application of CMT and CBT projections in analyzing metaphorical expressions in popular scientific texts to show that both frameworks help preserve meaning in translation and organize scientific information in more understandable ways.

The way metaphor-based conceptual frameworks are constructed in communication and the process of translation is also highlighted in this chapter. The examples of metaphorical expressions are displayed in cosmic entities and scientific knowledge. The intersection of CMT and CBT provides a complete analytical framework for analyzing metaphor translation by revealing dynamic patterns of translation solutions. The use of CBT makes projections represent the mental space that stores contextual information of linguistic metaphors. This analysis signifies how concept blending in metaphor projection occurs in various stages that are difficult to reveal fully. This theory is highly pivotal to apply, especially with the advancement of machine translation technology. Machine translation facilitates cross-language communication but contextually faces difficulties in achieving accuracy, especially in capturing contextual information and also cultural nuances to maintain grammatical correctness and syntactic coherence (Naveen & Trojovský, 2024).

Finally, the summary of the previous chapter and a conclusion to this research are provided in the last chapter, 'Conclusion'. The author also presents the answer to the research questions as well as the critical reflection on the current project and future research possibilities.

Overall, a key contribution of this book lies in its methodological approach, which combines CMT and CBT to analyze shifts in metaphor translation, underlining the need for broader empirical research to understand the challenges and dynamics of translating scientific metaphors across languages and cultures. The new analytical framework proposed in this book provides a more holistic understanding of scientific metaphor translation. CMT focuses on the mapping between target and source domains, i.e., metaphors are used to relate complex scientific concepts to everyday experiences, while CBT emphasizes the understanding of combining different sources of knowledge to create new meanings in the translator's mind. The framework also highlights the dynamics of translation, suggesting that the translator should not only retain the metaphor in its original form, but also make necessary adjustments to ensure that the metaphor remains relevant and understandable in the cultural and linguistic context of the target language.

One of the key strengths of this book is its use of empirical data from a *Scientific American* article translated into Chinese. The author adopts a descriptive approach to identify metaphors and analyze their translation using the Conceptual Metaphor Theory (CMT) and the Cognitive Blending Theory (CBT) frameworks. These findings provide concrete insights into how these theories are applied in the practice of scientific metaphor translation. This book is particularly relevant to students and scholars in translation studies, metaphor studies, and discourse analysis and for those interested in exploring the intersection of language, culture, and science. However, some limitations exist, particularly in the practical implementation of the methods by translators. Translators unfamiliar with CMT and CBT may struggle to apply these theories in their work. Additionally, this book narrows the scope of the study to data drawn from two translated editions of *Scientific American* in Chinese, resulting in the lack of generalizability of the findings. Further research incorporating data from multiple languages and cultural contexts would offer a more comprehensive understanding of the challenges in translating scientific metaphors.

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References:

Grady, J., Oakley, T., & Coulson, S. (1999). Blending and metaphor. In *Metaphor in cognitive linguistics* (p. 101). Philadelphia: John Benjamins.

He, S., Shuttleworth, M., & Wang, C. (2022). Translating Cognitive and Linguistic Metaphors in Popular Science: A Case Study of Scientific Discoveries. *transLogos Translation Studies Journal*, *5*(2), 1-26. https://dx.doi.org/10.29228/transLogos.45

Naveen, P., & Trojovský, P. (2024). Overview and challenges of machine translation for contextually appropriate translations. *Iscience*, *27*(10). https://doi.org/10.1016/j.isci.2024.110878

Nguyen, T. V., & Hien, N. T. T. (2022). Conceptual Metaphor of Different Conventionality Levels from the Perspectives of Translatability Assessment and Translation Strategies. *k@ta: A Biannual Publication on the Study of Language and Literature*, *24*(2), 49-60. https://doi.org/10.9744/kata.24.2.49-60

Pym, A. (2023). *Exploring translation theories*. Routledge

Wang, X., & Chen, R. (2022). Translation of Conceptual Metaphor in Chinese Diplomatic Discourse: Based on CRP Model. *Theory & Practice in Language Studies (TPLS)*, *12*(10).

Hong, W., & Rossi, C. (2021). The cognitive turn in metaphor translation studies: A critical overview. *Journal of Translation Studies*, 5(2), 83-115.

Zagaria, A. (2021). What do we talk about when we talk about culture? There is a missing link between the natural and the social sciences. *Integrative Psychological and Behavioral Science*, *55*(4), 850-857. https://doi.org/10.1007/s12124-021-09644-6