REVIEW

Fabio Alves & Arnt Lykke Jakobsen:
The Routledge Handbook of Translation and Cognition

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ONOMÁZEIN 61 (September 2023): 236 - 242
Xuechang Hou
Fabio Alves & Arnt Lykke Jakobsen: *The Routledge Handbook of Translation and Cognition*

237

1. Introduction

With decades of history, cognitive research in translation and interpreting has been paving the way to reaching maturity and is moving towards several innovative lines (Jääskeläinen & Lacruz, 2018). This trend is witnessed by the spectacular growth of publications of various kinds. This being said, cognitive translation studies (CTS), the study of translation and cognition, is a sub-discipline still in the making. The Routledge handbook of translation and cognition edited by Fabio Alves and Arnt Lykke Jakobsen offers a perceptive and well-timed critical overview of different innovative aspects of translation in relation to cognition to date, not least the possibilities of delving into the interface between translation and neighboring disciplines from a cognitive angle.

By showing multiple ways of epistemologically, ontologically, and methodologically grounding CTS, this volume can contribute to a more holistic understanding of the cognitive nature of the complex yet fascinating communicative activity of translation. In addition, this volume can offer promising avenues for machine translation (MT), human-computer interaction, translator training and education.

2. Overview of the book

Written by most renowned scholars in their respective specializations, the edited volume subsumes 30 chapters under 4 parts in addition to the introductory part, with an overall focus on written translation while giving some considerations to interpreting at the same time. In their introduction, the editors briefly give a comprehensive overview of the critical considerations of CTS, including meaning representation and construal, cognitive process, multimodal communication, etc.

The four chapters in part I are dedicated to "foundational aspects of translation and cognition", which tackles questions of the epistemological and ontological ground on which CTS is based. The opening chapter by Andrew Chesterman raises concerns about the epistemological basis of our knowledge about translation and cognition. He is of the fallibilistic position that our knowledge about cognitive translation process today may have a different status tomorrow. But he rejects nihilistic relativism as it is still worth striving towards more truthlikeness.

The following two chapters concern the ontological nature of translation by asking: is translation primarily a language operation or an operation based on meaning? Chapter 2, by Sandra Halverson, undertakes to call for grounding CTS in a linguistic commitment. Halverson argues for the centrality of language to our ontology in all cognitive translational research programmes. While chapter 3, by Ricardo Muñoz Martín and Celia Martín de León, holds that translating is a matter of meaning or communication. The authors trace the historical roots and revolution of cognitive science and survey the advances in TS that give us insight into CTS.

The foundational chapters end in chapter 4, by Gregory Shreve, who proposes viewing translation as a complex adaptive system (CAS), which, he holds, is a more coherent framework for uniting cognitive theories of translation in that it looks at translation as multiscale and can be studied at all levels.

Part II, "Translation and cognition at interdisciplinary interfaces", from chapter 5 to chapter 13, surveys notions and methods in neighbouring disciplines embraced by TS as the sources of interdisciplinarity. Specifically, this part focuses on dialogue between CTS and anthropology, ergonomics, ontologies, linguistics, contact linguistics, pragmatics, corpus linguistics, psycholinguistics and neuroscience as they share similar epistemological and ontological assumptions.

In chapter 5, Kathleen Macdonald draws inspiration from Worlf's research and hypothesis, and shows an expansive approach to the "mind-language-culture" tripartite, that is, inspirations from anthropology, which can help deal with translation, cognition, and culture.

Reminding us that the cognitive process is subject to language contact and sufficient cognitive entrenchment, Haidee Kotze in chapter 6 focuses on "the socio-cognitive dimensions of translation and language contact" (113), specifically on two cognitive processes that constitute all translation events: cross-linguictis influence on translation and contact-induced language change via translation.

Aiming to shed light on how pragmatics relate to translation and cognition, Fabio Alves in chapter 7 concentrates on the relevance-theoretic approach to translation. He looks into such notions as processing effort and cognitive effect, explicitation and explicitness, meta-representation and higher-order representation in translation.

In chapter 8, Maureen Ehrensberger-Dow illustrates how ergonomics is an interface discipline between translation and cognition, which can help understand the effect of external factors on translators. As a result, an ergonomics perspective does justice to understanding human cognition as embodied and embedded, notions that will be elaborated in chapter 27.

Chapter 9 by Adriana Pagano draws on ontology that models domain as meaning construal categories, conceiving of translation as one among various modes of multilingual text production. The ontological approach to translation has a strong potential in offering resources to assist both human and machine translation.

Stella Neumann and Tatiana Serbina discuss the interplay between corpus-based TS and cognition in chapter 10. They stress that corpus studies are "useful for generating or testing assumptions about cognitive processes during translating" (192). They show that corpus data provide evidence of aggregate patterns, while experimental research provides direct evidence of online cognitive processes, therefore asking for the complement of corpus results with experimental methods.

Kirsten Malmkjær introduces rationalist, empiricist, and descriptivist thinking in linguistics and their respective influence on TS in chapter 11. She holds that the contemporary cognitivist approach and the relevance theoretic approach to translation are the continuation of the rationalist tradition. But she appears to suggest that the three approaches should be considered together to have a clearer picture of language.

Chapter 12 by Agnieszka Chmiel presents a survey of the psychological aspects of comprehension and production involved in translation and interpreting, such as lexical and syntactic processing, memory and executive functions, reading patterns and directionality. This chapter ends by briefly reviewing several psycholinguistically oriented models of translation and interpreting.

In chapter 13, Adolfo García and Edinson Muñoz provide a comprehensive survey of the neuroscience perspective on interlingual reformulation (IR), that is, "translation and interpreting in their various modalities" (239), recapitulating its main methods, findings on the neural basis of IR reported by researchers from within and outside TS.

Part III, "Translation and types of cognitive processing", consist of 12 chapters that center around types of cognitive processes in translation, internal and external factors that trigger them, as well as their measuring methods. In chapter 14, Daniel Gile and Victoria Lei, writing about the increased visibility of the concept of cognitive effort in research into translation and interpreting, examine the relevance of effort in translation performance, and list methods and main indicators employed in researches to quantify cognitive effort.

Like the immediately above chapter, behavioral and physiological measurements are also major sources of data in studies reviewed in chapter 15 by Kristian Hvelplund. This chapter outlines experimental research methodologies to measure attention as a type of cognitive process necessary in translation, followed by a discussion of attention processes, i.e. attentional focus, division, switching, and coordination in relation to translation and interpreting.

Insisting that TS "should not be reduced to its rational dimensions only" (294), chapter 16, by Caroline Lehr, gives due attention to the significance of emotion in translation activity and presents an overview of relevant interface researches that treat translation as an emotion episode from a componential perspective.

Gerrit Bayer-Hohenwarter and Paul Kußmaul highlight the role of creativity in CTS in chapter 17. With skopos theory as the overall framework for creative translation, they examine how creativity is manifested in translation process and products. To end this chapter, the authors illustrate crowd knowledge as a source of creative translation via a social media case study.

In chapter 18, Christina Schäffner and Paul Chilton take up the theme of how metaphor is analyzed in translation process and product from a cognitive linguistics perspective.

ONOMÁZEIN 61 (September 2023): 236 - 242
Xuechang Hou
Fabio Alves & Arnt Lykke Jakobsen: *The Routledge Handbook of Translation and Cognition*

240

They discuss some core arguments of conceptual metaphor theory in relation to language, cognition, and culture involved in translation and review recent studies that adopted multimethod approaches to the relationship between metaphor in translation and cognition.

Erich Steiner reviews equivalence in models of cognition in translation in chapter 19, with some arguments relying on concepts from systemic functional linguistics (SFL). He discusses the place of equivalence along the dimensions of textuality, potential vs. instance, explicitness vs. implicitness of meaning, models of translation and cognition, as well as its potential implications for cognition.

Rooted in information theory, chapter 20, by Elke Teich, José Martínez, and Alina Karakanta, sketches a formal probabilistic approach to modelling human translation and linguistic traces left by making translation choices. The authors show that an information-theoretic approach provides a link to cognition and has the potential to optimize the quality of MT based on insights from models of human translation.

In chapter 21, Sharon O'Brien characterizes translation as a form of human-computer interaction, and focuses on enunciating the benefits and challenges that the interaction between translation, translator, and the computer present. She ends the chapter by calling for more research into the impact of technology on the translation processes form a cognitive perspective.

In chapter 22, Amparo Hurtado Albir distinguishes two major periods in the evolution of research into translation competence and reviews the few models proposed for translation competence acquisition. Alongside this, she summarizes the key features of studies on translation competence and its acquisition.

To answer why translation universals exist, in chapter 23, Silvia Hansen-Schirra and Jean Nitzke remind us to "integrate statistics and explanatory power" (416) by interfacing product- and process-based research. In this regard, they outline the common methods employed in translation process research and corpus linguistics approach to TS, discussing their merits and drawbacks before giving examples of successful product-process interfaces.

Jan-Louis Kruger awards attention to multimodality and cognition in TS in chapter 24. He looks at studies dealing with cognitive process in comprehension, production, and audience reception of translated audiovisual product. He also suggests online and offline triangulation measures to study the impact of multimodality on cognition.

In chapter 25, Anthony Pym places emphasis on risk management, a minor avenue of research in TS. He presents how risk is related to cognitive concepts like uncertainty and confidence in handling translation problems and shows how adopting risk management as a frame of analysis "offers a powerful instrument for interpreting and explaining the results of cognitive studies" (452).

Part IV, "Taking Cognitive Translation Studies into the future", is made up of five chapters devoting to reflections on the future direction of CTS, echoing opinions presented in part I. In chapter 26, Igor da Silva undertakes to describe translation and interpreting at the interface with expertise. He makes the point that CTS should resort to the notion of expertise and expert performance instead of that of competence and performance so as to be truly reciprocal to other disciplines and yield comparable empirical studies.

In chapter 27, Hanna Risku and Regina Rogl trace the predecessors and motivations of situated approaches (namely, situated, embodied, distributed, embedded, and extended cognition) in cognitive science and demonstrate their potential for the study of cognitive translation and interpreting studies in general, and translation and interpreting process research in particular. It echoes chapter 3 in that their commitment is to a situated view of meaning as articulated in cognitive science.

In chapter 28, Michael Carl sketches some historical aspects in the relation between artificial intelligence (AI) and cognition, and discusses how interactive machine translation (IMT) has been used as an instrument for embedded and extended cognition, notions discussed in the former chapter.

In chapter 29, Christian Matthiessen draws on SFL as a framework for engaging with and contributing to the study of translation. Along this line, translation is construed as a semiotic activity—"the recreation of meaning in context" (517), complementing the approach to translation as a cognitive phenomenon. SFL presented in this chapter serves as an alternative theoretical framework to the CAS framework discussed in chapter 4.

The concluding chapter by Fabio Alves and Arnt Lykke Jakobsen serves as an envoi. It draws on ideas raised by contributors to the handbook to reflect on the direction of CTS. The authors envisage that challenges in CTS may be responded to under a unified umbrella with better-aligned paradigmatic frameworks.

3. Final critical assessment

Overall, the volume is comprehensive as it incorporates both internal and external factors (cognitive, physical, social, and environmental) that might influence translators' decision-making process. In line with Alves' call for data triangulation in TS (Alves, 2003), a strong plea is made in the volume for triangulating data with behavioural measurements, neuroscientific methods, and qualitative techniques, so as to gain deeper insights into CTS and make research findings more conclusive. It shows that with closer collaboration to promote disciplinary cross-fertilization our understanding of the cognitive aspect of translation is bound to increase.

ONOMÁZEIN 61 (September 2023): 236 - 242
Xuechang Hou
Fabio Alves & Arnt Lykke Jakobsen: *The Routledge Handbook of Translation and Cognition*

242

The volume, however, has some shortcomings. To begin with, examples for an easier under-standing of abstract concepts are lacking when the authors try to present the core concepts of neighboring disciplines; as a result, this might cause some comprehension difficulties for student readers. Furthermore, the order of the chapter presentation in part II should be adjusted since it is more logically sound to group chapters 6 and chapters 7 closely with chapters 10-12 as they are clearly recognizable branches within linguistics. Lastly, a highly interesting research topic in CTS is the alternation between automated and strategic prob-lem-solving in translation, as argued by Englund Dimitrova (2005: 53); it would be beneficial if this topic is included in the volume.

Despite the quibbles, the handbook is highly recommended as it briefs us on the central topics, theories and implications of neighboring disciplines at the interface with CTS, serv-ing as a practical resource for students, teachers, researchers, and practitioners who wish to expand the scope of knowledge and keep abreast of the current state of the art in CTS.

4. References

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