

BOOK REVIEW

Lacruz, I. (Ed.) (2023). *Translation in transition. Human and machine intelligence*. John Benjamins Publishing Company. 2023, 287 pp. ISBN 9789027213860, e-Book ISBN: 9789027249760. <https://doi.org/10.1075/ata.xx>.

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This book is the twentieth volume of the ATA Scholarly Monograph Series, published under the auspices of the American Translators Association. The series has an international scope, addressing research and professional issues in the global translation community. The case studies and aspects of specialized translation covered in this volume are relevant to translators, translator trainers, and translation researchers. It draws inspiration from the presentations and discussions of the fifth Translation in Transition conference, held virtually on October 15–17, 2020. The conference focused on the interplay of human and machine intelligence, particularly new developments in translation process research.

The volume, bearing the same name as the conference, contains twelve studies covering various topics, including the development of machine translation, post-editing, readers' reception, subtitling, note-taking techniques in interpreting, and the impact of word alignment methods, among others.

The first chapter, written by the editor, describes the evolution of the field from the early, seemingly hopeless attempts at machine translation, through rule- and corpus-based methods, to the neural machine translation breakthrough that characterizes the field today. Lacruz's introduction highlights that the rise of machine translation was made possible by a shift in quality demands from perfect or flawless translation to practicality and usability. This shift allowed the adoption of "light" and "full" post-editing frameworks to meet growing market demands. The chapter emphasizes the current interaction between human and machine intelligence and the increasing use of artificial intelligence in the translation process, highlighting the need to showcase recent advances in translation research. The editor also discusses the connections between the issues raised in the studies of this volume and the broader topic of machine translation.

The second chapter, *The Strange Attractions of Translation: Performance, Expertise, and Complexity*, by Gregory Shreve, explores the interpretability of human and machine translation as a complex, adaptive system. Rather than focusing on the specifics of machine translation, the paper examines the defining aspects of complex systems. Shreve argues that the complex-adaptive systems model is useful for understanding translation behavior, linking translation studies

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with disciplines such as economics, biology, and psychology. Using the concepts and meta-language of complexity theory, the paper rethinks the teaching of translation skills and methods of translation pedagogy. Following Donald Kiraly's work, it examines the role of boundary conditions (i.e., the external and internal factors, such as source text and bilingual memory that create a framework within which translation occurs), in shaping translation behavior patterns. Translation pedagogy should induce desirable shifts in students' translation behavior through "optimally invasive interventions," influencing subsequent performance by restricting or enabling certain decisions. Thus, translation pedagogy should increase the frequency and efficiency of activating linguistic patterns crucial for future translation decisions.

The third study, *Post-editing and a Sustainable Future for Translators*, by Masaru Yamada, examines the differences between human translation (HT) and post-editing (PE) and their impact on the social perception and remuneration of translators and post-editors. Revisiting previous studies on translation processes, Yamada argues that HT and PE require similar skills to produce high-quality translations. Several studies have confirmed that if one does not have the right translation skills, one cannot do high-quality post-editing. The paper addresses the discriminatory attitude of Language Service Providers (LSPs) who consider PE to be easier and of lower quality than HT. By analyzing the differences between the ISO 17100 and ISO 18587 standards, the author demonstrates that the standard PE process under ISO 18587 does not include a revision phase ensuring the same quality as the process defined by ISO 17100 does, where the human translator's work is checked by a "reviser" with the same qualification.

The research also discusses the development of domain-specific MT systems and their application to PE. Domain adaptation technology allows the creation of high-quality translations with minimal human intervention. The continuous data cycle between MT and PE helps improve quality and reduce PE effort. Reinterpreting previous research findings, the author suggests that the translation industry should manage the social status and remuneration of translators and post-editors, thus contributing to the sustainable development of the translation industry.

The fourth study, *An Eye-Tracking Study of Productivity and Effort in Chinese-to-English Translation and Post-Editing*, by Juan Sun, Zhi Lu, Isabel Lacruz, Lijun Ma, Lin Fan, Xiuhua Huang, and Bo Zhou, examines the effectiveness and cognitive effects of post-editing machine-translated texts between linguistically and culturally remote language pairs, such as Chinese and English. In contrast to the previous study in this volume, the authors argue that post-editing of machine translation is faster and less demanding than from-scratch translation for many language pairs. According to the cited literature, post-editing of machine translation is less tedious than human translation, with an increase in translation efficiency. However, the study also points out that the benefits are not proven for languages with significant cultural and literacy differences. Therefore, the authors investigate translation and post-editing of machine translation between Chinese and English, focusing on the translators' qualifications, the domain of the source language text, and the quality of the translated text. In this research, keystroke logging and eye movement tracking techniques were used to measure cognitive effort. The results show that the efficiency of post-editing is, indeed, better than from-scratch translation, regardless of the skill level of the translators or the domain of the source language texts. Cognitive effort measures suggest that the cognitive load after post-editing is significantly reduced. The results thus support the benefits of post-editing machine translation but also highlight the importance of linguistic and cultural differences, which may stimulate future research on this topic.



The fifth paper, *Recent Claims of Human-Machine Parity in Translation Highlight Core Issues Surrounding the Human Evaluation of Machine Translation*, by Devin Gilbert, explores the issue of human-machine parity, which was first raised at the 2018 WMT18 (Conference on Machine Translation). The paper presents the evolution of human evaluation of machine translation and the evaluation criteria compiled from recent literature. Many Americans first encounter the idea of human-machine parity as children through the story of John Henry,¹ which symbolizes human effort in competition with machines. Professional translators often feel similarly about machine translation, while large corporations see the potential for cost savings in its proliferation. For certain language pairs and domains, researchers believe that machine translation can be competitive with human translation, similar to the story of John Henry. Three successive WMT conferences (WMT18, WMT19, WMT20) have addressed the issue of human-machine parity. The first such claims in 2018 concerned the translation of English-Czech and Chinese-English news. However, researchers cautioned against overestimating the capabilities of machine translation and argued that human-machine parity is achieved when bilingual evaluators judge the quality of machine translation to be equivalent to that of human translation. Criticisms of the different evaluation methods point to problems of data selection, the profile of the raters, and the evaluation of segments taken out of context. The main lessons for human evaluation of machine translation include that automatic metrics cannot be used to prove human-machine parity and that it is important to involve professional translators in the evaluation process. Recent research shows that access to context improves the quality and reliability of evaluations.

The sixth study, *In the Eye of the Beholder: A Sentiment Analysis Approach to Readers' Reception of Translated Metaphors in Fortress Besieged*, by Kairong Xiao and Wanyu Li, examines readers' reception of metaphors translated from Chinese into English, comparing it with source language readers' opinions about metaphors. Chinese author Qian Zhongshu's novel "Weicheng" (Fortress Besieged) is known for its frequent use of metaphors. One of the challenges of translation is the proper rendering of culturally loaded metaphors into the target language, which often comes at the expense of the metaphors' comprehensibility. The English translation by Jeanne Kelly and Nathan K. Mao has been well received in the English-speaking world. This study uses a large data set to investigate readers' reactions and the reception of metaphors between source language (Chinese) and target language (English) readers using sentiment analysis. The authors examined comments from Chinese and English readers of the works, collected from Douban Books, Twitter, Goodreads, and Amazon, and then conducted sentiment analysis using TextBlob and SnowNLP tools. The analysis showed that Chinese readers have a positive attitude to the use of metaphors, which contributes to the popularity of the novel. English readers show an interest in translated Chinese metaphors, but their opinions are more mixed. Some have difficulty understanding metaphors, mainly due to a lack of cultural context. The authors conclude that finding a balance between translation strategies that consider the cultural background and expectations of readers is key to successful translation. However, they suggest that further research is needed to gain a deeper understanding of the links between readers' reception and translators' decisions.

¹<https://www.nps.gov/neri/planyourvisit/the-legend-of-john-henry-talcott-wv.htm>.



The seventh study, called *Subtitling in Transition: The Case of TED Talks*, was co-authored by Alina Karakanta and David Orrego-Carmona – analyses more than 3,000 talks in 115 languages, subtitled by volunteers through the TED Talk Translators program. The TED Talk Translators program is continuously adapting to the growing popularity of TED Talks with quality assurance procedures, training materials, and new tools. These changes have enabled the quality of captioning to improve and adapt to technological developments. The authors of this paper examine caption quality diachronically, particularly in terms of limitations in caption length and reading speed, highlighting the changes that have occurred after the technological platform updates. The analysis shows that the transition between transcripts and subtitles has improved with the introduction of more rigorous quality assurance processes and technological tools, especially after 2012. The relevance of this research lies in the fact that TED Talks have long been the basis for parallel corpora used to teach and evaluate machine translation (MT) systems. The evolution of speech translation technology has largely been based on the linguistic materials of TED Talks. Understanding the properties of TED Talks can provide insights for the successful development of these systems. For example, MT systems, despite the increased performance of recent neural solutions, often translate literally and fail to reproduce the omissions and reductions required in subtitling.

The eighth study, *Economy and Efficiency of Note-Taking in Consecutive Interpreting from English to Chinese: A Study on Ear-Pen Span, Note-Taking Duration, Units, and Quality*, by Shengyi Xu, Jun Pan, and Michael Carl, examines the economy and efficiency of note-taking based on empirical data and proposes a new classification scheme. Note-taking plays an important role in supporting memory in consecutive interpreting, facilitating the reproduction of messages in other languages. Previous research has mainly focused on the relationship between note-taking and interpreting performance but has not reached a consensus on how the form and language of note-taking affect interpreting performance. The lack of consistency in note-taking and the distraction it causes can make it difficult to annotate and reproduce source language information in the target language. This research develops a classification of note-taking units (NTUs) and note-taking patterns by analysing data collected using digital tools. The research questions investigated include the relationships between EPS (Ear-Pen Span), NTD (Note-Taking Duration), and NTUs (Note-Taking Units). Eleven student interpreters participated in the study, engaging in English-to-Chinese interpreting tasks. Data analysis showed that EPS and NTD were negatively correlated, indicating the effectiveness of the note-taking process. The use of symbols may be faster but less accurate, while full words are more accurate but more time-consuming. NTD significantly affects NTQ (Note-Taking Quality).

The ninth paper, *The Translation Ambiguity Disadvantage in Language Processing: The Influence of Proficiency*, by Natasha Tokowicz, addresses the phenomenon of the effect of translation ambiguity on lexical processing and its impact on language processing and language learning. The research examines how translation ambiguity affects bilinguals with different levels of language proficiency and reviews studies on its effects on language processing. It also highlights exciting interdisciplinary studies that link psycholinguists with machine translation researchers. Translation ambiguity is typically measured using bilingual informants, as dictionaries do not always reflect the translations used by bilinguals. Previous research has shown that translation-ambiguity disadvantage holds for beginning L2 learners as well as for lifelong bilinguals. The analysis indicates that the translation-ambiguity disadvantage can both decrease and increase with rising proficiency, depending on the task. For production accuracy,



the disadvantage can increase possibly because knowing more words makes the words seem more ambiguous, while for recognition delay, it can decrease probably because of the stronger semantic links between items.

The tenth study, titled *Impact of Word Alignment on Word Translation Entropy and Other Metrics: A Comparison of Translation Process Research Findings Derived from Different Word Alignment Methods*, conducted by Devin Gilbert, Cristina Toledo-Báez, Michael Carl, and Haydeé Espino, compares two manual and four automatic word matching methods. The Center for Research and Innovation in Translation and Translation Technology (CRITT) categorises data from translation sessions in a Translation Process Research Database (TPR-DB). The TPR-DB allows for translations to be properly aligned, answering questions such as how much effort is required to translate a given word or sentence. Word alignment is a high priority in the data processing chain. The studies analysing the structure of the TPR-DB Database of the CRITT mainly rely on the alignment of words in the source and target texts. However, little research has investigated how different word alignment methods affect these results. The importance of alignment is underlined by the metric of word translation entropy (HTra), which measures lexico-semantic variation between different translations of the same source word. The authors of the study compare the impact of manual and automatic word alignment consistency and quality on the translation process and translation effort. The research utilizes different parameters to compare alignment methods and evaluate the results. The conclusion drawn is that word alignment indeed affects translation entropy measures, but noise from inconsistent alignments does not seem to negatively impact the predictive power of translation entropy measures regarding their relationship with translation effort.

The 11th study, *Early processes in reading for translation: A micro-scale study in the CRITT TPR-DB*, by Anne Neveu and Isabel Lacruz, delves into the initial stages of the translation process. Specifically, it examines how the target language is activated during the process of translation. Translation, a multifaceted process, is typically categorized into three main phases: reading the source language text, transferring between the source and target languages, and generating the target language text. Within translation, the possible synonyms of a lexical unit in the target language can lead to ambiguity. This ambiguity can be measured using the translation entropy metric, which aids in assessing predictions related to the timing of target language activation during translation. Analysis across various language pairs and translation processes (from-scratch translation and post-editing) suggests a potential correlation between translation entropy and eye-tracking metrics. This correlation hints at the significance of early target language activation in translation tasks. The study conducted analyses of English-to-Spanish translations from the BML12 section of the CRITT database. Results indicate that different translation modalities may influence early target language activation differently. Further research could illuminate these variances and reveal overarching patterns, contributing to a deeper comprehension of the translation process.

The twelfth paper, *The Monitor Model and its Misconceptions: A Clarification*, by Michael Carl presents the evolution of the Monitor Model and its relation to automatic and monitoring processes. It discusses in detail the notion of automaticity in translation, highlights the importance of priming, and addresses misconceptions about Translation Process Research (TPR) and the Monitor Model. Horizontal (automatic) and vertical (control) processes have long been observed in translation processes, integrated into Schaeffer and Carl's Monitor Model, assuming that priming mechanisms underlie automatic processes, while conscious control mechanisms



underlie control processes. Over the last 40 years, a number of models have explained the thinking of translators in the context of TPR. Prominent among them is the computer theory of mind (CTM), which treats the mind as a computational system. According to the CTM, human intelligence and cognition can be simulated, and mental representations form the basis of thinking. According to the Monitor Model, which is ideal for studying human-machine interaction in translation, priming processes are the basis of the representationally unmediated brain-body-environment coupling, in which interaction with the environment plays a constitutive role in our thinking and meaning construction. This implies that we are not guaranteed access to the deeper facts that capture the meaning of our thoughts, i.e. we do not have complete control over our own thoughts, and the rational human mind is not always at the centre of the translating world.

In conclusion, the twentieth volume of the ATA Scholarly Monograph Series offers a comprehensive examination of the evolving landscape of a rapidly developing new field of translation studies, the dynamic interplay between human and machine translation processes. By encompassing a diverse range of studies that span theoretical foundations, empirical research, and practical applications, this volume serves as a valuable resource for translators, educators, and researchers alike. The insights presented will shed light on the evolution and challenges of the field, highlighting the requirements of a constantly evolving translation industry.

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