

Book Review: *New Advances in Translation Technology: Applications and Pedagogy*, by Yuhong Peng, Huihui Huang and Defeng Li, Singapore, Springer Nature, 2024, 279 pp., \$109.99, ISBN: 9789819729586 (ebk), 9789819729579 (hbk)

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The rapid pace of technological advancement has significantly increased demands on translators (Samuelsson-Brown 2010) and with that on translation educators. In the third decade of the 21st century, translation technology has “globalized and instantized” translation (Chan 2023: xxxi). This statement is even more relevant with the transformative rise of AI, which has fundamentally reshaped the translation landscape and the interplay between translators, translation, and technology. The emergence of ChatGPT exemplifies this shift and intensifies concerns around “automation anxiety” (Vieira 2020:1) while underscoring the pressing need to integrate generative AI and relevant technologies into Translation Studies systematically. This integration is critical to understanding the professional, practical, and pedagogical transformations new technologies have triggered. In this context, *New Advances in Translation Technology: Applications and Pedagogy* provides a timely exploration of cutting-edge translation technologies and their pedagogical potential. Published by Springer Nature and edited by Yuhong Peng, Huihui Huang, and Defeng Li, the volume contains 12 chapters organized in two parts offering “a holistic overview of translation technologies” (p.1), focusing on both practical applications and their educational impact.

Part 1 (Chapters 1 to 7) charts the rise of translation technology and its role in the “digital revolution” in translation. In Chapter 1, Burcin Kagan Mustafa situates early Machine Translation (MT) endeavors within a broader socio-cultural context, exploring the ideological

drivers behind its early developments in the U.S. The author places particular emphasis on the Georgetown experiment during the Cold War, presenting MT as a power-projection tool motivated more by ideology than technology. The chapter also connects MT's cultural representation to post-9/11 control measures. Chapter 2 delves into the transformative impact of neural machine translation (NMT) and large language models (LLMs), analyzing deep learning techniques like the Transformer model. Sai Cheong Siu provides a thorough analysis of the capabilities and deficiencies of these technologies in the translation field, offering practical guidance to educators and technology developers for integrating AI in educational contexts.

Cloud-based technologies, which have profoundly revolutionized the dynamics of audiovisual translation (AVT), particularly in media localization and subtitling, are delineated in Chapters 3 and 4. In Chapter 3, Alejandro Bolaños García-Escribano examines how major media producer leverage a network of actors interconnected through cloud-based technology, referred to as cloud-based ecosystems, to distribute tasks among translation service providers. The author highlights the growing dominance, flexibility, and collaborative networks fostered by these tools, underscoring their potential for teaching media localization, subtitling, and revoicing. Chapter 4 delves into the revolutionary impact of cloud-based environments on traditional subtitling workflows, highlighting the shift towards virtual collaboration across global teams. Annalisa Sandrelli examines the integration of automatic speech recognition (ASR) and MT tools into automation in subtitling, which has given rise to new professional roles. Drawing on two pilot projects at University of the International Studies of Rome (UNINT), Sandrelli compares automation levels in subtitling workflows, emphasizing the importance of human involvement and cross-disciplinary collaboration.

Chapter 5 reviews a decade of structural changes in the language industry. Roser Sánchez-Castany underscores the essential technological skills expected of professionals in today's rapidly evolving field through a comprehensive review and thematic analysis of publications from key industry stakeholders. The findings highlight the increasing demand for advanced technological competencies while also acknowledging the uncertainty of the industry's future amid ongoing innovations. In Chapter 6, Nune Ayvazyan, Ester Torres-Simón, and Anthony Pym explore the impact of automated language processing, especially NMT and GPT-based models, on redefining translators' skill sets, and identifying areas where human expertise

surpasses automation. Drawing on the U.S. O*Net database, a key source of occupational information, the authors identify skills vulnerable to automation and offer recommendations for translator training, emphasizing spoken communication, trust-building, and strategic integration of automation into workflows. Chapter 7 shifts attention to the pivotal role of terminology in specialized translation, with Els Lefever and Ayla Rigouts Terryn offering an in-depth analysis of computational terminology. The authors start by defining the concept of terminology and its significance, then comprehensively examine the processes of automatic terminology extraction, addressing both monolingual and multilingual approaches. They explore automatic terminology extraction methods and how NMT systems manage terminological challenges through domain adaptation and terminology injection, providing a practical overview of key tools, both commercial and open source.

Part 2 (Chapters 8 to 12) focuses on pedagogy and student feedback on translation technology. In Chapter 8, Lynne Bowker offers her insights with a communicative twist. She discusses the importance of plain language writing and NMT in professional communication. By comparing two types of guidelines—plain language guidelines and guidelines for writing for machine translation—she illustrates how they can be harmonized into a unified set of best practices, which is equally operable for both readers and NMT systems. She also emphasizes integrating plain language training into translation curricula to enhance students' digital literacy. In Chapter 9, Gloria Corpas Pastor and Marta Alcaide-Martínez explore gamification in translation training, presenting a pioneering corpus-based gamification method to help students master AI-related terminology. Their pilot study at the University of Malaga highlights the innovative potential of this approach in addressing the demand for skilled translators. Introducing a technology-assisted gamification methodology in the translation classroom represents a pioneering advancement in the field.

What can educators still do in translation classes transformed by technology? In Chapter 10, The authors answer this question by presenting several student-led strategies to address the pedagogical challenges posed by rapid advancements in translation technologies, especially generative AI. They introduce 18 group activities that foster critical thinking, core skills, and digital literacy, such as comparing human and AI-generated translations, pre-editing, and exploring diverse workflows, and highlight the importance of developing core skills and digital literacy. The challenges professional translators face in integrating MT into traditional

workflows are discussed in Chapter 11. Joke Daems reviews four years of postgraduate student feedback on using Lilt, an interactive and adaptive MT tool, highlighting its user-friendly interface and adaptability. By evaluating Lilt's performance through the translation of texts with both generic and customized MT systems, the author recommends it for translation technology curricula, especially for beginners. In Chapter 12, Yu Hao, Ke Hu, and Pym explore the suitability of post-editing for literary translation through an experiment with 141 students working on Agatha Christie's texts. The comparison of post-editing and human translation reveals nuanced trade-offs between the two: post-editing can lead to errors due to over-reliance on MT, while human translation, though more accurate, can sometimes deviate due to risk-taking decisions. The chapter concludes that increasing human agency is essential for improving literary translation outcomes.

This volume addresses key trends and offers actionable insights in an era when practitioners, researchers, educators, and students must adapt to technologies to navigate a rapidly evolving technological environment. Particularly noteworthy is the practical advice for developing automation-resistant translation literacy, applying plain language to enhance NMT performance, and integrating gamified teaching methods, which give teachers innovative ways to engage students. Meanwhile, it is also suggested that student-led strategies, feedback, and perspectives be incorporated in coping with the challenges posed by AI, which are becoming increasingly important for pedagogical adjustments. In addition, this volume touches upon the potential socio-cultural implications of MT, marking an initial scholarly effort to address a current research gap.

One of the greatest strengths of the volume is its fine balance between theory and practice, particularly evident in exploring cloud technologies and AVT workflows, which are effectively implemented in real-world settings. In Chapter 11, in particular, the use of empirical data and student feedback enriches pedagogical insights, offering practical guidance to educators regarding how students can engage with adaptive technologies. Furthermore, Chapters 5 and 6 depict a clear road map to bring translator training closer to industry expectations. By bridging the knowledge gap between academic inquiry and real-world application, this volume serves as an essential resource for scholars, educators, and industry professionals tackling the challenges posed by AI-driven translation technologies for human-machine collaboration.

Nevertheless, there are several areas that may be considered for further improvement, which should, in no way, overshadow the contribution of this volume. Firstly, there seems to be an uneven distribution of content coverage across chapters in this volume, as most chapters predominantly focus on the instrumental, methodological, and pedagogical aspects of AI, with less attention given to the cultural, sociological, and ethical dimensions of technological progress. Further investigation could focus on the ethical ramifications of translation technology, such as data privacy and the diminishing role of human translators. Secondly, a geographical limitation is felt in this volume, as most of the case studies are based on Western contexts. A wider range of examples from underrepresented areas would offer deeper insights into how translation technologies affect diverse linguistic and cultural contexts. Thirdly, the majority of the contributions rely on knowledge sharing and intuition, with approximately one-third of the chapters adopting empirical research designs. Although this makes sense given the novelty of the topic, the theme would benefit from a more rigorously designed methodology.

Overall, this volume skillfully combines theoretical insights with empirical research to offer a well-rounded perspective on how technology is reshaping the translation profession. It goes beyond analysis by providing actionable strategies that translation educators can use to equip students for the fast-changing landscape. By showcasing various approaches to technology-driven translation practice and teaching, this volume serves as a useful resource for relevant stakeholders, such as practitioners, researchers, educators, students, and technology developers, providing an opportune toolkit to enrich their “technological repertoire”.

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