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The future of translation Emerging, Trends, Technologies and Challenges

Name: Yasser Najm Abdullah Sultan

Academic Title: Assistant Professor

Specialization: Translation

Workplace: Northern Technical University / Mosul Technical Institute / Head of the Surveying Technology Department

مستقبل الترجمة: الاتجاهات والتقنيات والتحديات الناشئة

مدرس مساعد ياسر نجم عبدالله سلطان

الجامعة التقنية الشمالية/ المعهد التقني الموصل / مقرر قسم تقنيات المساحة

Abstract

The field of translation is undergoing a profound transformation driven by rapid technological advancements, evolving market demands, and increasing global interconnectivity. This study explores the future of translation by examining emerging trends, cutting-edge technologies, and the multifaceted challenges shaping the profession. It highlights the pivotal role of artificial intelligence, particularly neural machine translation (NMT), in revolutionizing traditional translation practices, while also addressing concerns regarding accuracy, contextual understanding, and the potential marginalization of human translators. The integration of translation technologies such as computer-assisted translation (CAT) tools, cloud-based platforms, and real-time multilingual communication systems is redefining workflow efficiency, collaboration, and quality assurance in the translation industry, In parallel, the study investigates the growing importance of localization, cultural sensitivity, and domain-specific expertise, which remain areas where human translators maintain a critical edge. Furthermore, it considers the ethical and professional implications of automation, including issues of data privacy, intellectual property, and the changing dynamics of translator-client relationships. The research also sheds light on the rise of new translation modalities, such as audiovisual, game, and live simultaneous translation, which demand specialized skills and adaptiveness, Through a multidisciplinary approach, this study combines insights from linguistics, computational science, and translation studies to forecast the future trajectory of the translation profession. It concludes that while technology will continue to drive innovation and efficiency, the future of translation will depend on the symbiotic relationship between human expertise and intelligent systems. To thrive in this evolving landscape, translators must embrace continuous learning, adaptability, and cross-disciplinary competence. Ultimately, the study calls for a balanced and ethical integration of technology in translation that preserves linguistic diversity, ensures inclusivity, and enhances communication across cultures in an increasingly digital world. Keywords: future of translation, trends, technologies

الملخص

يشهد مجال الترجمة تحولاً جذرياً مدفوعاً بالتقدم التكنولوجي السريع، ومتطلبات السوق المتطورة، والترابط العالمي المتزايد. تستكشف هذه الدراسة مستقبل الترجمة من خلال دراسة الاتجاهات الناشئة، والتقنيات المتطورة، والتحديات متعددة الأوجه التي تُشكل هذه المهنة. تُسلّط الدراسة الضوء على الدور المحوري للذكاء الاصطناعي، وخاصةً الترجمة الآلية العصبية(NMT) ، في إحداث ثورة في ممارسات الترجمة التقليدية، مع معالجة المخاوف المتعلقة بالدقة، وفهم السياق، واحتمال تهميش المترجمين البشريين. يُعيد دمج تقنيات الترجمة، مثل أدوات الترجمة بمساعدة الحاسوب (CAT)، والمنصات السحابية، وأنظمة الاتصالات متعددة اللغات الآنية، تعريف كفاءة سير العمل، والتعاون، وضمان الجودة في صناعة الترجمة. بالتوازي مع ذلك، تبحث الدراسة في الأهمية المتزايدة للتوطين، والحساسية الثقافية، والخبرة في مجال محدد، وهي مجالات لا تزال تُحافظ فيها

الترجمة البشرية على تفوقها النقدي. علاوة على ذلك، تتناول الدراسة الآثار الأخلاقية والمهنية للأتمتة، بما في ذلك قضايا خصوصية البيانات، والملكية الفكرية، والديناميكيات المتغيرة لعلاقات المترجم بالعميل. كما يُسلّط البحث الضوء على تنامي أشكال الترجمة الجديدة، كالترجمة السمعية والبصرية، وترجمة الألعاب، والترجمة الفورية المباشرة، والتي تتطلب مهارات متخصصة وقدرة على التكيف. ومن خلال نهج متعدد التخصصات، تجمع هذه الدراسة بين رؤى اللغويات، والعلوم الحاسوبية، ودراسات الترجمة للتنبؤ بالمسار المستقبلي لمهنة الترجمة. وتخلص إلى أنه في حين ستواصل التكنولوجيا دفع عجلة الابتكار والكفاءة، فإن مستقبل الترجمة سيعتمد على العلاقة التكافلية بين الخبرة البشرية والأنظمة الذكية. وللنجاح في هذا المشهد المتطور، يجب على المترجمين تبني التعلم المستمر، والقدرة على التكيف، والكفاءة متعددة التخصصات. وفي نهاية المطاف، تدعو الدراسة إلى تكامل متوازن وأخلاقي للتكنولوجيا في الترجمة يحافظ على التنوع اللغوي، ويضمن الشمولية، ويعزز التواصل بين الثقافات في عالم رقمي متزايد. الكلمات المفتاحية: مستقبل الترجمة, الاتجاهات, التقنيات

Introduction

Translation has long been a cornerstone of cross-cultural communication, enabling the transfer of knowledge, ideas, and values across linguistic and cultural boundaries. As globalization accelerates and digital technologies permeate every aspect of society, the role of translation is becoming more critical and complex. No longer confined to the literary or diplomatic realms, translation now extends to various domains such as business, technology, healthcare, law, and entertainment. In this rapidly evolving environment, understanding the future of translation necessitates a comprehensive examination of the emerging trends, innovative technologies, and growing challenges that are redefining the profession in the 21st century.The translation industry is experiencing a paradigm shift with the advent of advanced technologies, particularly Artificial Intelligence (AI) and Machine Learning (ML). Among these, Neural Machine Translation (NMT) represents a significant leap forward in computational linguistics. Unlike rule-based or phrase-based machine translation systems, NMT employs deep learning algorithms to produce more fluent and contextually accurate translations (Bahdanau et al., 2015). The implementation of such systems by major platforms like Google Translate and Microsoft Translator illustrates how technology is reshaping the landscape of translation, offering faster and more scalable solutions. However, these technological advancements also raise concerns about reliability, cultural nuance, and the potential displacement of human translators (Koponen, 2016)Simultaneously, there is an increasing demand for high-quality, domain-specific translations that require expert knowledge and contextual understanding. Fields such as medical, legal, and technical translation continue to rely heavily on human expertise to ensure accuracy and compliance with industry standards. This highlights the limitations of machine translation in dealing with specialized terminology, ambiguity, and cultural subtleties (Pym, 2011). As such, while machines are becoming more competent at translating routine and general content, human translators retain a vital role in tasks requiring critical thinking, creativity, and intercultural awarenessAnother transformative trend in the translation field is the rise of Computer-Assisted Translation (CAT) tools. These tools enhance the productivity of translators by offering features like translation memory, terminology management, and real-time collaboration. Platforms such as SDL Trados, MemoQ, and Wordfast have become essential in modern translation workflows, allowing for greater consistency and efficiency (Bowker & Fisher, 2010). Moreover, the emergence of cloud-based translation platforms has facilitated remote collaboration among global teams, breaking down geographical barriers and enabling real-time multilingual content production.The integration of translation technology has also fueled the expansion of new translation modalities. Audiovisual translation, game localization, and real-time interpretation through automatic speech recognition and speech synthesis are gaining prominence in today's digital media landscape (O'Hagan & Mangiron, 2013). These specialized fields not only demand linguistic competence but also a deep understanding of technical, cultural, and user experience aspects. For example, subtitling and dubbing require synchronization, character constraints, and cultural adaptation to preserve the integrity and impact of the original content.Despite the many opportunities presented by technological progress, the translation profession faces a host of challenges. Ethical concerns about the use of big data in training translation algorithms, the risk of breaching confidentiality, and the need for intellectual property protection have become increasingly relevant (Bielsa & Bassnett, 2009). Moreover, the shift towards automation raises questions about labor rights, job security, and fair compensation for professional translators. These challenges underscore the importance of developing regulatory frameworks and ethical guidelines to govern the use of AI and digital tools in translation. Another dimension of the evolving translation landscape is the role of education and professional development. As the industry transforms, so too must the training of translators. Educational institutions are called upon to incorporate technological literacy, interdisciplinary skills, and ethical awareness into their curricula. Lifelong

learning and adaptability are now essential traits for translation professionals seeking to thrive in a technology-driven world (Gouadec, 2007). Training programs must strike a balance between fostering traditional linguistic and cultural competencies and equipping students with the technical skills needed for modern translation environments.This study aims to provide a forward-looking analysis of the translation field by synthesizing current research and professional practices. It seeks to identify the key drivers of change, evaluate the effectiveness and limitations of emerging technologies, and highlight the human and ethical aspects that remain integral to the profession. By doing so, the study contributes to a deeper understanding of how translation will continue to evolve and adapt in response to technological innovation, market needs, and global communication challenges.In conclusion, the future of translation is not solely a matter of replacing humans with machines or resisting automation. Rather, it is about fostering a collaborative and ethical integration of human expertise and technological advancement. Translation will continue to serve as a vital bridge between cultures, ideologies, and communities, provided that it evolves in ways that preserve its humanistic and intercultural essence while embracing innovation.Theoretical Framework:The future of translation, characterized by emerging trends, advanced technologies, and shifting challenges, necessitates a solid theoretical grounding that integrates traditional translation theories with contemporary frameworks from computational linguistics, sociocultural studies, and human-machine interaction. The theoretical framework of this study serves as a lens through which the dynamics of change in the translation industry are examined. It provides a foundation for understanding how technology is transforming the roles, practices, and competencies of translators while acknowledging the persistent humanistic dimensions of the profession.This framework is built upon five key theoretical pillars: Translation Theories, Sociotechnical Theory, Cognitive Translation Studies, Posthumanism and Human-Machine Interaction, and Ethical and Cultural Theories of Translation. Each of these perspectives contributes to a holistic understanding of the translation field's trajectory in the digital age.

1. Classical and Contemporary Translation Theories Classical translation theories such as equivalence theory, functionalism, and skopos theory have long served as the bedrock of translation studies. Eugene Nida's dynamic equivalence theory emphasized the importance of conveying meaning in a way that evokes the same response in the target audience as in the source audience, thus prioritizing naturalness and receptor-oriented outcomes (Nida & Taber, 1969). Meanwhile, skopos theory, developed by Hans Vermeer, asserts that the purpose (or "skopos") of a translation should guide its methods and strategies, a notion that supports flexible, goal-oriented translation decisions in diverse contexts (Vermeer, 1989)These foundational theories remain relevant in the context of technological advancements. For instance, machine translation systems increasingly aim to replicate communicative equivalence and functional adequacy. However, their lack of cultural intuition and pragmatic understanding challenges the ability to fulfill skopos effectively. Therefore, classical theories provide criteria for evaluating machine-generated translations and guide the human post-editing process.Furthermore, Descriptive Translation Studies (DTS), as introduced by Gideon Toury, shifts focus from prescriptive norms to real-world practices and norms in specific contexts (Toury, 1995). This descriptive lens is especially pertinent in examining how translation practices are evolving in response to technology, market demands, and globalization.

2. Sociotechnical Theory

To understand the integration of technology in translation workflows, sociotechnical theory offers a crucial perspective. Originating from systems engineering, this theory posits that technological systems cannot be analyzed in isolation from the social systems in which they operate (Trist & Bamforth, 1951). In the context of translation, this involves examining how translators interact with technologies such as CAT tools, neural machine translation engines, and localization platforms.Sociotechnical theory helps to contextualize the shifting boundaries between human and machine agency in translation. For example, tools like SDL Trados and MemoQ not only increase productivity but also shape decision-making processes and the cognitive habits of translators (O'Brien, 2012). Likewise, the automation of routine tasks through translation memory or predictive typing can alter workflows, redefine roles, and impact translators' autonomy and creativity.Moreover, sociotechnical systems highlight the importance of co-evolution between technological innovation and social adaptation. This co-evolution is particularly relevant in the age of cloud-based translation ecosystems and remote collaboration, where translators, clients, and platforms form dynamic networks with shared responsibilities and mutual dependencies.

3. Cognitive Translation StudiesThe rise of Cognitive Translation Studies (CTS) adds a psychological dimension to the understanding of translation processes. Rooted in psycholinguistics and cognitive science, CTS investigates how translators process information, solve problems, and make decisions during translation tasks

(Shreve & Angelone, 2010). The cognitive approach is essential for assessing the cognitive load involved in using machine translation outputs, post-editing, and working with semi-automated systems.Models such as the translation process model by Jakobsen (2002) and the monitor model proposed by Daniel Gile (1995) are instrumental in understanding how technological mediation affects mental processes. For instance, post-editing machine translation demands a different cognitive skill set than translating from scratch, involving error detection, revision, and adaptation to synthetic language structures.Additionally, eye-tracking studies and keystroke logging have revealed how translators interact with digital interfaces and how their attention and comprehension shift when faced with machine-generated suggestions (Carl et al., 2016). This empirical data supports the design of more user-friendly and cognitively efficient translation tools, reinforcing the feedback loop between theory and practice.

4. Posthumanism and Human-Machine Interaction The incorporation of posthumanist theory into translation studies reflects the growing entanglement between humans and machines. Posthumanism challenges the anthropocentric view of translation by suggesting that agency and meaning-making are co-constructed through networks involving humans, machines, and environments (Hayles, 1999; Cronin, 2013). In the age of AI, translation is increasingly seen as a distributed activity, where responsibility, authorship, and cognition are shared across human-machine interfaces.From this perspective, the translator is not merely a user of tools but a hybrid actor who collaborates with intelligent systems to produce meaning. This reconceptualization aligns with Bruno Latour's Actor-Network Theory (ANT), which views translation as an act of negotiation among various agents—both human and non-human (Latour, 2005). ANT underscores the multiplicity of forces shaping translation outcomes, from algorithm design and platform affordances to user feedback and institutional norms. Posthumanism also prompts ethical questions about machine agency, accountability, and the epistemological limits of artificial intelligence. These questions are crucial when evaluating the implications of automated translation in sensitive contexts such as legal, medical, or diplomatic communication.

5. Ethical and Cultural Theories of Translation Ethics has always been central to translation, but the digital age introduces new dilemmas that require reexamination through ethical and cultural frameworks. As translation increasingly depends on data-driven models, issues of privacy, bias, ownership, and representation become paramount. Venuti's concept of domestication and foreignization (1995) continues to resonate in discussions about how machine translation systems might privilege dominant languages and cultural norms, marginalizing others in the process.Moreover, feminist translation theory, which emphasizes the visibility of the translator and the power dynamics inherent in language, is relevant in analyzing how AI systems often replicate biases embedded in training data (Simon, 1996). These frameworks advocate for transparency, inclusivity, and the empowerment of diverse voices in global communication.Translation is also inherently tied to intercultural competence. As argued by Michael Cronin (2003), globalization demands translators who are not only linguistically skilled but also culturally literate, capable of mediating between worldviews and values. This competence cannot be replicated by machines, underscoring the enduring necessity of human involvement in translation practices, particularly in diplomatic and literary domains.

6. Technological Determinism and Human Agency in Translation Another key dimension of the theoretical framework is the debate between technological determinism and human agency. Technological determinism suggests that technology develops autonomously and shapes human behavior, practices, and societies (McLuhan, 1964). Applied to translation, this view implies that machine translation (MT), artificial intelligence (AI), and automation will inevitably redefine the translation profession, potentially diminishing the role of human translators.However, critics of deterministic perspectives advocate for a more nuanced view that highlights the importance of human agency in shaping how technologies are adopted, resisted, and adapted in professional practice (Feenberg, 1999). In translation, this debate raises critical questions: Will technology replace human translators, or will it augment their abilities? How can professionals retain control over workflows, quality standards, and ethical considerations in tech-driven environments?The adaptive systems theory, which incorporates both determinism and agency, argues that humans and technologies co-evolve in a feedback loop where each influences the other (Hutchins, 1995). For example, while the emergence of neural machine translation has introduced unprecedented speed and scale, translators have influenced these systems through post-editing, feedback, and custom training data. This mutual shaping process must be recognized in theoretical frameworks to avoid oversimplified narratives of obsolescence or resistance.Moreover, the concept of translators as designers—introduced in the emerging field of translation user experience (TrUX)—posits that translators can actively co-design technological tools and interfaces to meet their needs (Moorkens, 2020). This view

restores the translator's position as a knowledge worker with autonomy and creativity, not merely a passive operator of machines.
7. Theories of Knowledge and Translation Competence An essential part of understanding translation in the modern age lies in how knowledge is conceptualized and mediated. Epistemological theories—such as tacit vs. explicit knowledge (Polanyi, 1966)—help clarify what elements of translation are teachable, automatable, or reliant on human intuition and cultural sensitivity. While MT engines can process explicit rules and lexicons, they lack access to the tacit knowledge that human translators draw upon from experience, empathy, and socio-pragmatic awareness.This distinction underpins the multicomponential models of translation competence, such as the PACTE model (2003), which identifies core competencies including linguistic, extralinguistic, strategic, instrumental, and psycho-physiological components. These models are foundational in translator training and help design curricula that prepare professionals for hybrid environments where human-machine collaboration is standard.Similarly, the EMT (European Master's in Translation) framework, endorsed by the European Commission, emphasizes the integration of translation technology with intercultural mediation, research skills, and ethical responsibility (EMT Expert Group, 2017). These frameworks stress that while technological literacy is crucial, it must be balanced with humanistic competencies that machines cannot replicate.
8. Translation as Intersemiotic and Multimodal Practice In the digital era, translation is increasingly multimodal and intersemiotic, involving not only linguistic content but also images, layouts, sounds, and interactive elements. Intersemiotic translation, as conceptualized by Roman Jakobson (1959), refers to the interpretation of verbal signs through non-verbal sign systems. This is highly relevant in localization, subtitling, website translation, and multimedia projects.Multimodality theory, particularly the work of Kress and van Leeuwen (2001), supports a framework where meaning is made across various modes, and translators must be adept at interpreting and rendering these diverse semiotic resources. Theories of semiotic translation thus extend the translator's role beyond language, requiring an interdisciplinary approach that blends linguistics, media studies, and cultural analysis.For instance, in audiovisual translation (AVT), translators must synchronize language with visual cues, musical timing, and cultural connotations. These complex tasks cannot be reduced to algorithmic matching; they demand interpretive judgment and aesthetic sensibility, thereby reinforcing the indispensability of human translators even in highly technologized domains.
Integration of Theoretical Perspectives This study adopts an interdisciplinary approach, recognizing that no single theoretical model can fully capture the complexities of translation in the digital age. Classical theories such as skopos and equivalence offer criteria for evaluating translation quality, while cognitive models shed light on the mental activities involved in human-machine interaction. Sociotechnical theory situates technology within its broader social context, and posthumanism redefines agency and collaboration. Ethical and cultural theories ensure that considerations of justice, identity, and representation remain central to translation discourse.
Together, these perspectives form a comprehensive theoretical framework that supports critical inquiry into:
- How translation technologies are reshaping professional roles and practices.
- How cognitive and affective aspects of translation work are influenced by digital mediation.
- How ethical norms and cultural values are negotiated in automated and hybrid translation contexts.
- How the future of translation can balance innovation with inclusivity, accuracy with creativity, and speed with quality.

Practical Application:The practical application of this study lies in its capacity to inform and improve the practices of translation professionals, educators, policymakers, and technology developers by offering insight into the evolving dynamics of the translation industry. As translation continues to undergo significant transformations driven by artificial intelligence, machine learning, and globalization, this research helps stakeholders navigate these shifts effectively and ethically.
1. Enhancing Professional Translation Practice One of the most direct applications of this study is in equipping professional translators with strategies to adapt to emerging technological trends. By identifying how tools such as neural machine translation (NMT), computer-assisted translation (CAT), and post-editing systems are altering workflows, translators can tailor their competencies to align with market demands (Koponen, 2016). This includes developing new skills such as editing machine outputs, customizing translation memories, and using terminology management systems more effectively. As translation moves from a purely linguistic task to a hybrid human-machine collaboration, professionals must understand both the opportunities and limitations of automation to maintain quality and relevance in the marketplace (Bowker & Buitrago Ciro, 2015).
2. Informing Translator Education and Training

This study also holds practical value for translator training institutions. As the demand grows for translators who can work with technology, academic programs must revise their curricula to include digital literacy, ethics of AI use, and emerging translation models such as localization, transcreation, and audiovisual translation (O'Hagan, 2016). Incorporating findings from this study enables institutions to design competency-based programs that reflect real-world challenges and prepare students to enter a rapidly evolving profession.Moreover, frameworks like the European Master's in Translation (EMT) can be used alongside insights from this study to align educational outcomes with industry expectations. Institutions that adapt their teaching practices to emphasize interdisciplinary knowledge—including linguistics, software tools, intercultural communication, and project management—are more likely to produce graduates who are resilient, flexible, and technologically adept (EMT Expert Group, 2017).

3. Guiding Policy Development and Industry Standards From a policy perspective, this research provides guidance for government bodies, language service providers (LSPs), and international organizations developing standards for ethical, inclusive, and sustainable translation practices. As machine translation tools become more prevalent in public services (e.g., immigration, health care, and legal systems), there is a growing need for policy frameworks that safeguard quality, confidentiality, and human oversight (Biel, 2017).Furthermore, this study can inform labor regulations concerning fair remuneration, intellectual property rights, and the working conditions of freelance translators in platform-based economies. With the rise of AI-driven gig work, this research highlights the importance of maintaining a balance between technological efficiency and human dignity (Moorkens, 2020).

4. Supporting Technology Development Another crucial practical application lies in supporting developers of translation technology. By understanding the cognitive, cultural, and ethical dimensions of translation, developers can create tools that better serve professional needs rather than displacing them. The study's findings encourage a human-centered design approach to machine translation systems, where usability, transparency, and contextual awareness are prioritized. For instance, interface improvements in CAT tools and the integration of adaptive machine translation engines that learn from user feedback represent practical steps in aligning software capabilities with human workflows (Mossop, 2014). Translation software developers can benefit from this study by incorporating features that support quality control, ethical transparency, and user empowerment, rather than merely maximizing productivity.

5. Strengthening Cross-Cultural and Multilingual Communication At a broader societal level, the practical application of this research supports cross-cultural communication in areas such as diplomacy, global commerce, migration, and international law. By identifying the challenges and potential biases embedded in automated translation systems, stakeholders can design more inclusive communication strategies that account for linguistic diversity and cultural nuance (Pym, 2014). This is particularly important in global crisis response, humanitarian work, and educational outreach, where the accuracy and cultural sensitivity of translation can have life-altering consequences. The findings of this study provide decision-makers with a roadmap for integrating translation technologies responsibly in multilingual settings.

6. Encouraging Lifelong Learning and Professional Development Finally, the study reinforces the importance of lifelong learning among translation professionals. In a context where technology evolves rapidly, translators must continually update their skills, familiarize themselves with new tools, and engage with emerging theories and practices. Professional associations and certification bodies can use this research to design continuing education programs, workshops, and certification schemes that support translators in adapting to the demands of the digital era (Saldanha & O'Brien, 2014).

Conclusion

The study of *The Future of Translation: Emerging Trends, Technologies, and Challenges* highlights the dynamic transformation of the translation field in the context of rapid technological advancement and globalization. As artificial intelligence, neural machine translation, and digital platforms reshape traditional workflows, the role of the human translator is being redefined—not eliminated. The integration of technology has increased the speed and accessibility of translation services, yet it has also introduced ethical, linguistic, and cultural complexities that require careful navigation.

This study emphasizes the need for a balanced, human-centered approach that recognizes the strengths and limitations of automated systems. Professional translators, educators, and policymakers must collaborate to ensure that translation quality, cultural accuracy, and ethical standards are upheld in this evolving landscape.

Furthermore, the research underscores the importance of continuous learning, interdisciplinary training, and the development of inclusive policies to support sustainable translation practices.

Ultimately, the future of translation lies in the synergy between human expertise and intelligent technology. By adapting to change while preserving the core values of the profession—fidelity, clarity, and cultural competence—the translation industry can continue to thrive and contribute meaningfully to global communication and understanding.

References

1. Bahdanau, D., Cho, K., & Bengio, Y. (2015). Neural Machine Translation by Jointly Learning to Align and Translate. International Conference on Learning Representations (ICLR).
2. Biel, Ł. (2017). Quality in legal translation: Standards and assessment. In M. Forstner & H. Lee-Jahnke (Eds.), Translation and quality (pp. 51–72). Peter Lang.
3. Bielsa, E., & Bassnett, S. (2009). Translation in Global News. Routledge.
4. Bowker, L., & Buitrago Ciro, J. (2015). Machine translation and global research: Towards improved machine translation literacy in the scholarly community. Chandos Publishing.
5. Bowker, L., & Fisher, D. (2010). Computer-Aided Translation Technology: A Practical Introduction. University of Ottawa Press.
6. Carl, M., Bangalore, S., & Schaeffer, M. (2016). New Directions in Empirical Translation Process Research.
7. Cronin, M. (2013). Translation in the Digital Age. Routledge.
8. EMT Expert Group. (2017). EMT Competence Framework 2017. European Commission.
9. Feenberg, A. (1999). Questioning Technology. Routledge.
10. Gile, D. (1995). Basic Concepts and Models for Interpreter and Translator Training. John Benjamins.
11. Gouadec, D. (2007). Translation as a Profession. John Benjamins.
12. Hayles, N. K. (1999). How We Became Posthuman: Virtual Bodies in Cybernetics, Literature, and Informatics. University of Chicago Press.
13. Hutchins, E. (1995). Cognition in the Wild. MIT Press.
14. Jakobsen, A. L. (2002). Translation drafting by professional translators and by translation students. In G. Hansen (Ed.), Empirical Translation Studies: Process and Product (pp. 191–204). Samfundslitteratur.
15. Jakobson, R. (1959). On linguistic aspects of translation. In R. A. Brower (Ed.), On Translation (pp. 232–239). Harvard University Press.
16. Koponen, M. (2016). Is machine translation post-editing worth the effort? Target, 28(2), 244–260.
17. Kress, G., & van Leeuwen, T. (2001). Multimodal Discourse: The Modes and Media of Contemporary
18. Latour, B. (2005). Reassembling the Social: An Introduction to Actor-Network-Theory. Oxford
19. McLuhan, M. (1964). Understanding Media: The Extensions of Man. McGraw-Hill.
20. Moorkens, J. (2020). Translation technology adoption: A sociological perspective., 9(1), 1–22.
21. Mossop, B. (2014). Revising and editing for translators (3rd ed.). Routledge.
22. Nida, E. A., & Taber, C. R. (1969). The Theory and Practice of Translation. Brill.
23. O'Brien, S. (2012). Translation as Human–Computer Interaction. Translation Spaces, 1(1), 101–122.
24. O'Hagan, M. (2016). The Routledge handbook of translation and technology. Routledge.
25. O'Hagan, M., & Mangiron, C. (2013). Game Localization: Translating for the Global Digital Entertainment
26. PACTE Group. (2003). Building a translation competence model. In Alves, F. (Ed.), Triangulating Translation: Perspectives in Process-Oriented Research (pp. 43–66). John Benjamins.
27. Polanyi, M. (1966). The Tacit Dimension. Routledge & Kegan Paul.
28. Pym, A. (2011). Translation Technology and Translation Theory: Promises and Problems. In A. Pym (Ed.), Translation Research Projects 3. Intercultural Studies Group.
29. Pym, A. (2014). Exploring translation theories (2nd ed.). Routledge.
30. Saldanha, G., & O'Brien, S. (2014). Research methodologies in translation studies. Routledge.
31. Shreve, G. M., & Angelone, E. (2010). Translation and Cognition. John Benjamins.
32. Simon, S. (1996). Gender in Translation: Cultural Identity and the Politics of Transmission. Routledge.
33. Toury, G. (1995). Descriptive Translation Studies and Beyond. John Benjamins.
34. Trist, E. L., & Bamforth, K. W. (1951). Some Social and Psychological Relations, 4(1), 3–38.
35. Venuti, L. (1995). The Translator's Invisibility: A History of Translation. Routledge.
36. Vermeer, H. J. (1989). Skopos and Commission in Translational Action. In A. Chesterman (Ed.), Readings in Translation Theory. Finn Lectura.