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An ultimate guide to MTPE

[rev. Jean Nitzke, *Problem solving activities in post-editing and translation from scratch: A multi-method study*, Berlin: Language Science Press, 2019]

Abstract: This study presents Jean Nitzke's book *Problem solving activities in post-editing and translation from scratch. A multi-method study as a valuable guide to post-editing machine translation (MTPE).* The author of the review analyses the subject work in terms of organisation and essentiality of the presented issues, clarity of content transfer and references to the literature on the subject. The result of this consideration is the conclusion that Jean Nitzke's book is worth recommending to anyone who would like to delve into the subject of MTPE both as a researcher and a practitioner.

Keywords: Jean Nitzke, review, translatology, translation studies, linguistics.

The book *Problem solving activities in post-editing and translation from scratch. A multi-method study* by Jean Nitzke, written as a doctoral thesis, despite its scientific, academic nature, is a highly intelligible work. As noted by the author herself, many of the available sources on machine translation post-editing (MTPE) are difficult to understand for a novice in this field and thus pose a challenge in acquiring and extending knowledge and skills in

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this area. Jean Nitzke's book, on the other hand, is worth recommending to anyone who would like to delve into MTPE both as a researcher and a trainee. It may be stated that this book is an excellent complement to the acclaimed *Post-editing of Machine Translation: Processes and Applications* by Sharon O'Brien, Laura Winther Balling, Michael Carl, Michel Simard and Lucia Specia (eds.), which provides an overview of contemporary studies in the field.

Jean Nitzke is a teacher and researcher at the Faculty of Translation Studies, Linguistics, and Cultural Studies at the Johannes Gutenberg University of Mainz. Apart from MTPE, she is also interested in general areas such as translation process research, cognitive processes during translation, translation technologies, post-editing per se and non-native English. Most of these broad areas of interest are reflected in *Problem solving activities in post-editing and translation from scratch. A multi-method study*, starting with the book's *raison d'être* – "to investigate different problem-solving behaviours in translation from scratch (TfS) and post-editing (PE)" (Nitzke 2019: 1f.), which combines cognitive science, translation studies, technology and psychology – to its organisation, which also considers the fields above in an appropriately balanced scope.

The author begins with a brief introductory part that explains book's aims, outlines research conducted for the purpose of the thesis and the structure. The second chapter presents the theoretical analysis of machine translation. It starts with definitions, then illustrates the development of MT, up to different approaches to MT. It also discusses the application and state of the art of MT. As the author notes, this is not an in-depth description but an outline that provides a solid basis on which the successively introduced elements of the book are built. Although this part is very informative, there is one element missing, also crucial from the point of view of a newcomer to the world of MT, namely an overview of popular machine translation tools such as Google Translate or DeepL. The part of the chapter discussing machine translation approaches should be supplemented with such an overview.

The third chapter, in turn, provides an introduction to the subject of post-editing, consistently drawing a link between this field and the MT discussed earlier. In addition to a general explanation, it shows how the subject has developed in parallel with MT, presenting PE as an MT process and thus

introducing the concept of pre-editor (an expert in the source language who prepares the text for MT) and post-editor (an expert in the field and the target language who corrects the MT output). Finally, the author recognises the effort the translator has to put into PE and its relation to the quality of the MT text, pointing out pre-editing techniques and controlled languages as tools to support the translator's work. Summarising, she illustrates the significant aspects of pre-editing and controlled languages and their impact on MT output quality. However, this latter section does not provide notice on quality indicators that can be used to assess the quality of individual MT results. The quality evaluation is an integral part of the MTPE process, influencing the translator's subsequent decisions. These decisions can include problem-solving activities, and therefore, this information is missing from the book.

The next chapter combines both of the above concepts of MTPE. It presents an analysis of the process in the context of five areas of translation: theoretical translation studies, empirical studies of the translation process, translation practice, professional translation environment and didactics with the aim of providing a thorough investigation of opinions and approaches in contemporary research and translation practice. The first perspective concerns the posting of machine translation in the theoretical approach to translation studies. In this section, the author reviews studies by authors such as Anthony Pym (2013) and Oliver Čulo (2014), concluding that most of the translators presented agree that MT is a common element not only in the working environment of translators but also in everyday life of non-translators. She also pointed out that machine translation (combined with other translation tools) can partially replace human translation. The second section of Chapter 4 presents MTPE in empirical translation process research identifying the practical need for PE and highlighting some ideas on research interests in the field. The next part – post-editing and machine translation applications in practice – aims to show that PE has already been established in various companies and organisations. These include, among others:

- Pan American Health Organization (PAHO) with a rule-based MT system – PAHOMTS,
- European Commission (EC) using SYSTRAN to ensure that every official document is available for all citizens in the official languages of the countries they live,

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- The Ford Motor Company also employing SYSTRAN and a controlled language which is a Ford-specific, restricted version of English that focuses on vehicle assembly processes,
- DARPA (Defence Advanced Research Projects Agency) engaging TransTac and MADCAT programmes.

Similarly, part four presents the application of MTPE in the professional translator community, specifically using the example of BDÜ, one of Germany's leading professional associations for interpreters and translators. Finally, the fifth section of Chapter 4 analyses research on MTPE training for future translators and professionals, discussing, among other things, the research of a pioneer in this field, O'Brien, who published "Teaching post-editing: A proposal for course content" as early as 2002.

Chapter five is the final part of the theoretical analysis and addresses a previously undiscussed issue signalled by the book's theme, namely problem-solving activities. First, the author provides a description of the term problem and differences between problem-solving and decision-making regarding TfS and PE. Then the concept of problem-solving is presented on a psychological level, i.e. as part of the human thought process. In turn, the next part presents the same concept on the example of translation studies, including such studies as Jiří Levỳ's (1968) describing translation as a decision-making process or, more contemporary, Paweł Kubiak's (2009) presenting a study using think-aloud protocols on problem-solving. Finally, the concluding section of Chapter 5 combines previously introduced elements by adding psychological approaches to modelling problem-solving concepts. The analysis of this part showed some knowledge gap in identifying the very problems that may arise during both the MTPE and TfS process. Consequently, the author refers to areas of her research aimed at contributing to the state of knowledge on the problem as mentioned above.

The section presenting the author's research also confirms the thesis that the book is an ultimate guide to MTPE, mainly due to the diversity and comprehensiveness of the research tools and methodology used. While delving into the study of problem-solving activities in post-editing and translation from scratch, the reader learns about the instrumentation that may be adopted in various aspects of MTPE research.

The study's section of the book opens with Chapter 6, estimating research hypotheses briefly. Nitzke assumes that MT can solve some translation prob-

lems but can also induce new ones. Consequently, depending on the type of task (MTPE or TfS), the patterns of problem-solving strategies used change, and new ones may be needed in terms of PE. Moreover, different patterns develop depending on the participant's level of expertise.

The next analytical chapter covers the data set. It begins with an introduction to methods for studying the research translation process. The author describes, based on state of the art, such methods as think-aloud protocols, questionnaires, eye tracking, neuroscientific methods and data triangulation, simultaneously supporting the adaptation of these methods to her research. She then explains the selection of participants, particularly the choice of two groups differing in the level of translation experience. Accordingly, Nitzke provides the reader with information on the procedure, location of the research and post-editing guidelines. Chapter 7 provides a thorough explanation of which area of translation process research the hypotheses stated by the author can be located and how the data sets were used in previous studies. Then Nitzke again focuses on her research results, firstly showing the analysis of the time the participants spent on each text and task, emphasising differences in MTPE and TfS. Secondly, she explains the complexity of the texts used in the research and their impact on any problems. Next, she examines the effort put into modifications and errors in the final texts overall. The final part of Chapter 7 is devoted to reflecting on the dataset from a critical perspective. At this point, it should be noted that this part of the chapter provides several valuable insights for those interested in the topic of MTPE research, as it draws attention to elements that need to be considered when designing a study. Two of these elements are, for example, the selection of an appropriate text for the research group and the implementation of the study in an environment as close as possible to the real-life situation.

Apart from Chapter 8 analysing the responses of the study participants in the pre-and post-task questionnaires, the subsequent chapters are divided according to the different approaches taken in identifying problematic translation units. Subsequently, Nitzke analyses:

- Internet information-seeking behaviour as an indicator of problematic translation units,
- syntactic structures incompatible with the rules of the target language,
- problems through parameters such as Munit, which shows how often participants created and modified one translation unit, and the inefficiency

value (InEff) of translation units, estimated as the number of tokens produced and deleted divided by the final length of the translation process,

- how the analysed parameters can be used to identify problems in the data translation process using standard keylogging data.

As one would expect from a scientific account, the book ends with a summary and a discussion, including implications for future research.

As stated at the beginning *Problem solving activities in post-editing and translation from scratch: A multi-method study* by Jean Nitzke is a book that can be called a guide to MTPE. It includes a theoretical introduction to the concept of MT and PE with an indication of the literature on the subject and authors such as Sharon O'Brien, Judith Belam, Kenny Doherty, Anthony Pym and many others. However, it is worth noting that this section lacks two crucial elements, namely a section providing an overview of MT tools such as Google Translate or DeepL and a section discussing the quality evaluation of MT outputs. Nevertheless, the variety of approaches and tools adopted by the researcher to investigate the problems occurring in the translation process both from scratch and MTPE and compare the two methods is inspiring and is undoubtedly an essential part of translation studies. The organisation of the introduction of relevant concepts and their informative yet not overloaded character is also impressive. The research part, on the other hand, or rather the conclusions, as the author herself noted, "raises more questions than it answers" (Nitzke 2019: 267). However, this does not indicate a weak point of the study, but a valuable remark, as MTPE research is still a small area of translation studies and requires observation at many levels, e.g. at the level of literary translation, which is not dealt with here. All in all, the book is a valuable contribution to the literature on the subject, worth recommending to anyone wishing to delve into the field of MTPE.

Bibliografia

Nitzke J., *Problem solving activities in post-editing and translation from scratch: A multi-method study,* Language Science Press, Berlin 2019.