

Book review

Lore Vandevoorde, Joke Daems, and Bart Defrancq (eds.): *New Empirical Perspectives on Translation and Interpreting*

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Summary

The book *New Empirical Perspectives on Translation and Interpreting*, edited by Lore Vandevoorde, Joke Daems, and Bart Defrancq, presents methodological approaches in Translation and Interpreting with a view to strengthening the theoretical and empirical links between the two disciplines. Following the introduction, the volume brings together eleven research papers (coherently divided into three thematic units) and two theoretical papers. Contributors include both early-career and established scholars from Translation Studies and Interpreting Studies. In the introduction, the editors do an excellent job at highlighting theoretical and methodological ties among chapters on Translation and Interpreting. Furthermore, the contributions include experimental research and corpus-based methods that cut across Translation and Interpreting and bring the disciplines closer. If studies relying on different (e.g. qualitative) methodological approaches had also been included, additional commonalities between Translation and Interpreting might have emerged.

With regard to the individual research papers, they differ considerably in their consideration of the ties between the disciplines. There is also variability among research papers in their inclusion of relevant (interdisciplinary) research, descriptions of study setups, and discussion of high-level (practical or theoretical) implications. As far as the theoretical chapters at the end of the volume are concerned, they do not include efforts to provide a unified theoretical framework for Translation and Interpreting Studies. They do, however, help contextualise the findings reported in the research papers. That said, one way of increasing the overall coherence of the book would have been if the editors had established a stronger dialogue among the chapters (e.g. through cross-references). Furthermore, if most chapters had addressed or considered a technology component, the connection with the technologies discussed by the editors in Chapter 1 would have been stronger.

Despite limitations such as this, this edited book is noteworthy for its overview of how theories and methodologies for Translation and Interpreting have evolved (sometimes overlapping and sometimes diverging) over the years. It also provides valuable guidance on how to address methodological and theoretical challenges in future research. Students and scholars from Translation Studies, Interpreting Studies, and interdisciplinary research are likely

to find the book inspirational. This volume will also be of interest to the machine translation (MT) community as it discusses some of the practical implications of MT research (e.g. in terms of training) and provides suggestions for future avenues in MT research.

Chapter 1. Reuniting the Sister Disciplines of Translation and Interpreting Studies (Bart Defrancq, Joke Daems and Lore Vandevoorde)

In this introduction, Defrancq, Daems and Vandevoorde set the scene by reviewing theories, methodologies, and technologies traditionally adopted in Translation and Interpreting with the aim of highlighting differences and common ground between the two disciplines. The editors start by discussing the theoretical evolutions in Translation and Interpreting, as well as the influence of other disciplines, such as Psycholinguistics and Cognitive Psychology. They argue that, while Translation scholars have rarely drawn upon cognitive models of Interpreting, theories of Interpreting have included pragmatic and functionalist perspectives from Translation research. From a methodological point of view, the editors identify a range of methods that are increasingly common in Translation and Interpreting for process-oriented and product-oriented research, such as keystroke logging, eye tracking, and corpus-based methods. Again, the editors highlight gaps and similarities as they point out that, while experimental methods are common in Interpreting Studies, corpus-based research occupies a more prominent position in Translation Studies. The gap between disciplines seems to widen further when it comes to the technologies that support the profession. While Translation research and practice have revolved around the development and evaluation of technologies such as computer-assisted translation tools and MT, similar efforts are still relatively new in Interpreting.

After pointing to this lack of coordinated progress and differing targets in Translation and Interpreting, Defrancq, Daems and Vandevoorde explain that the goal of this book is to identify and exploit opportunities for convergence and cross-fertilisation between the two disciplines. To this end, they include a combination of research papers and theoretical papers. The research papers are appropriately divided into three thematic units depending on their objects of study, i.e. (i) target text; (ii) source text; and (iii) the translator/interpreter. This division helps the target audience of this edited volume (mainly scholars and students of Translation and Interpreting) to easily identify chapters that might be of interest. Furthermore, studies that are similar in terms of methodology or research questions appear in close proximity in the volume, and their commonalities are highlighted by the editors in this introduction. Nonetheless, as will be discussed throughout this review, the links between chapters could have been teased out further, which would have been beneficial for the overall coherence of the book. Within each thematic unit, the editors also attempt to reach a balance between Translation and Interpreting research.

The research papers showcase the range of methodologies discussed by the editors (i.e. keystroke logging, eye tracking, and corpus-based methods). In line with the title *New Empirical Perspectives on Translation and Interpreting*, the editors have included Interpreting research that adopts methods far more common in Translation (e.g. corpus-based analysis), and Translation research relying on experimental methods usually applied to the study of Interpreting. Nonetheless, the volume also displays corpus analysis of translations (see e.g. Chapter 2) and experimental research on interpreting tasks (see e.g. Chapter 8), so the element of novelty implied in the title is only partially addressed. Furthermore, the volume—which is geared toward quantitative and experimental research—would have benefited from the inclusion of mixed-methods and qualitative empirical investigations. For instance, inclusion of

survey-based and interview-based research on interpreters' and translators' job satisfaction and perceived occupational status (see e.g. Dam and Zethsen 2013; Koskinen 2009; Lee 2017) would have further highlighted commonalities between the two disciplines.

The volume concludes with two theoretical papers (one on Interpreting and one on Translation), which assist the reader in the contextualisation of the research findings presented in the book, while also identifying avenues for future investigations. However, the theoretical papers fall short of building a coherent empirical theory of Translation and Interpreting studies, as promised by the editors in the prologue of this volume. In other words, in each of the theoretical papers, references to the sister discipline remain rare and peripheral.

Chapter 2. Grammatical Optionality in Translations: A Multifactorial Corpus Analysis of *That/Zero* Alternation in English Using the MuPDAR Approach (Gert de Sutter and Eline Vermeire)

The thematic unit on the target text begins with this chapter by De Sutter and Vermeire, which aims at understanding the reasons behind the tendency to explicitation in translated texts. The three reasons for explicitation investigated by the authors are source-language transfer, risk aversion, and cognitive complexity. Specifically, the authors test the impact of these explanations on explicit and implicit *that* in the translation direction Dutch-to-English, using corpus analysis on the Dutch Parallel Corpus.¹ At the beginning of the chapter, the authors delve into each of the three explanations for explicitation in translation, and discuss supporting literature from within and from outside the discipline (e.g. by drawing upon studies in Variationist Linguistics and Psycholinguistics). Their clear and detailed discussion of the three explanations is likely to prove of interest also for scholars and students who do not have a Translation background, in line with the goal of this edited volume. The authors, however, miss several opportunities to draw a link with Interpreting, for instance when reviewing literature on the cognitive complexity involved in bilingual language production. Furthermore, a brief discussion on explicitation observed in machine-translated texts (see e.g. Lapshinova-Koltunski 2013) would have strengthened the link with the technologies mentioned by the editors in Chapter 1. In the methodology and the results section, De Sutter and Vermeire guide the reader step by step from the selection of the independent variables regarded as proxies for the three explanations under investigation, to the three phases of the MuPDAR (Multifactorial Prediction and Deviance Analysis with Regression) approach. Overall, their findings point to large similarities between translated and non-translated English. In the cases of deviations of translated English from non-translated English, the differences are attributed to at least two of the explanations under investigation, i.e. source-language transfer and risk aversion. A discussion of the high-level implications of this study is missing. For example, what are the implications for translator training? Can students be trained to manage risk in translation by considering text register when choosing between explicit and implicit variants?

Chapter 3. The Mechanisms behind Increased Explicitness in Translations: A Multifactorial Corpus Investigation of the *Om-* Alternation in Translated and Original Dutch (Van Beveren, De Sutter, and Coleman)

Similar to the investigation in Chapter 2, this study conducted by Van Beveren, De Sutter, and Coleman focuses on the causes for explicitation in translated texts. Applying, again, the MuPDAR approach to a data set extracted from the Dutch Parallel Corpus, the authors seek to

¹ A description of the Dutch Parallel Corpus is available at: shorturl.at/fhDP3 (Accessed 9 June 2020).

understand if and how source-language transfer, risk aversion, and cognitive complexity influence the choice between implicit and explicit *om* in Dutch translations from French and English. The three hypotheses behind explicitation are clearly discussed and summarised in this chapter too, but their naming is inconsistent across chapters, which readers might find confusing, especially if new to the field. For instance, the cognitive-complexity hypothesis of Chapter 2 is called *processing-strain hypothesis* in this chapter. In discussing the methodology, the authors delve into each phase of study setup and analysis. Their detailed description of the MuPDAR procedure and the criteria for statistical significance show that the authors have in mind both experienced and less experienced researchers who might want to follow the same procedure in future studies. Similar to findings from the previous chapter, data from this study also point to source-language transfer and risk aversion as plausible causes for explicitation. It would be interesting to test if these causes for explicitation are also observable in a corpus of post-edited texts. In this chapter as well, the authors fail to zoom out and to discuss potential practical applications of this study, e.g. for translator training or for the translation profession.

Chapter 4. Collocations in Non-Interpreted and Simultaneously Interpreted English: A Corpus Study (Daria Dayter)

This chapter by Daria Dayter reports on a corpus study whose goal is to compare non-interpreted English with English simultaneously interpreted from Russian in terms of degree of collocativity, and with reference to Shlesinger's (1989) theory on the shifts along the orality-literacy continuum (i.e. equalising hypothesis). To this end, the author builds the SIREN corpus, while also using the general-purpose ukWaC corpus² as a reference. In the introduction and in the review of previous research, the author's ability to draw upon relevant findings and theories from both Translation and Interpreting is noteworthy and in line with the overarching aim of the volume. In the methodology section, the author describes the building of the SIREN corpus and the procedure used to measure collocativity. The clear explanations ensure the replicability of this study. However, a discussion on the level of orality and literateness of the speeches that are included in the SIREN corpus is not presented until later in the chapter. Results support Shlesinger's equalising hypothesis. In other words, collocations that are more typical of orality/spoken English increase as a result of simultaneous interpreting, while collocations on the literate side of the continuum decrease following interpretation. In discussing the results, the author builds again on Translation research, while also highlighting the need to consider universals that are specific to interpreting (i.e. interpretese vs. translationese). In relation to this point, it is worth mentioning that recent studies have also shed light on differences between translationese and post-editease (Castilho et al. 2019). This chapter concludes by discussing the high-level implications of this investigation for the understanding of language use.

Chapter 5. An Approach for Identifying Problem-Solving Activities in Post-Editing and Translation from Scratch (Jean Nitzke)

This chapter by Jean Nitzke describes an approach to identify problem-solving activity in translation process data—specifically post-editing and translation from scratch—with key-logging and eye tracking. This chapter is a follow-up of Nitzke (2019), and the translation

² A description of the ukWaC corpus is available at: shorturl.at/acdQ8 (Accessed 9 June 2020).

process data for this study are extracted from the CRITT Translation Process Database.³ The review of previous research appropriately delves into the concepts of *problem*, *problem solving*, and *decision making* in translation, also drawing upon the field of Psychology. However, there are several relevant topics that are not covered in this literature review. For instance, the author does not discuss the concept of *translation solution* (see e.g. Pym 2018), nor the impact that translation technologies have on the translation process (see e.g. O'Brien 2012). Furthermore, a cross-reference to Chapter 9 in this volume—which also addresses translation problems—would have been beneficial for the coherence of the book.

In the methodology section, the author describes the dataset used and the approach adopted for identifying problem-solving activities. The description of the approach is very detailed and facilitates potential replications of this study, but important details are missing with regard to how the dataset was developed. For example, how did the researchers distinguish between professional and semi-professional translators? What was the task duration, the text length, and the language background of the participants? A summary of these aspects—or a reference to Nitzke's (2019) previous work, where some of this information is discussed—would have helped the reader. In presenting the results, the author combines quantitative data with an in-depth qualitative analysis of selected examples, which is beneficial for the interpretation of the findings. Overall, verb bases yield the most interesting results. The reasons why these part-of-speech categories represent problematic translation units seems to vary depending on the task (i.e. post-editing vs. translation from scratch). The implications of this finding are not fully addressed by the author. For instance, should a separate approach be used for identifying problem-solving activities in each task? The author does, however, discuss the implications of this research for translation training, while also highlighting interesting areas for future research.

Chapter 6. Linking Words in Inter- and Intralingual Translation—Combining Corpus Linguistics and Key-Logging Data (Marta Kajzer-Wietrzny)

This chapter by Kajzer-Wietrzny describes a study of linking words in interlingual (English to Polish) and intralingual translation (paraphrased Polish) carried out by both professional translators and translation trainees. Since linking words are associated with explicitation, the author's overarching goal is to investigate this aspect in the products of these translation tasks, by also considering the potential effect of expertise and the stage at which linking words are inserted. To gather data, she combines corpus linguistics with key-logging. Cross-references to Chapters 2 and 3 of this book—also dealing with explicitation—would have increased the coherence of this edited volume. The author provides a comprehensive review of previous literature, and divides it into four sections, each dealing with the main components of this study, namely linking words, phases of the translation process, role of expertise, and inter- and intralingual translation. Furthermore, her literature review contains some references to Interpreting research, in line with the goal of the book. Considering the historical links between Translation and Psycholinguistics—as outlined by the editors in Chapter 1 of this volume—the literature review would have benefited from the inclusion of relevant research from Psycholinguistics on coherence and text simplification (see e.g. Crossley et al. 2011).

The research questions, the design of the study, and the methods are clearly explained. Specifically, data were collected from participants who translated or paraphrased hotel

³ A description of the CRITT Translation Process Database is available at: shorturl.at/dHUW6 (Accessed 9 June 2020).

descriptions for travel catalogues. However, there are two important aspects that are not discussed, namely: (i) whether translators (in particular trainees) were familiar with travel catalogues as a text type; and (ii) whether, in the intralingual translation task, paraphrasing involved writing the text from scratch or revising the existing one. Results regarding the frequency of linking words in translations are not conclusive, especially in the case of intralingual translations, but some interesting trends emerge. Regarding the effect of expertise, professional translators show a more consistent tendency to explicitation regardless of the tasks. Furthermore, most linking words are introduced at the drafting phase of the translation tasks. Focusing on just one participant, the author also concludes that most linking words are introduced in an automated manner, i.e. without any text deletion. The assumption that linking words that remain unchanged are introduced automatically—i.e. in a subconscious way—is questionable. Eye tracking data or retrospective interviews could have shed light on the underlying effort. Finally, despite the numerous findings reported in this chapter, none of their high-level implications is discussed. Considering the use of MT for intralingual/monolingual translation as well (Wubben et al. 2012), a follow-up study of linking words in machine-translated texts would be interesting.

Chapter 7. Quality According to Language Service Providers: The Case of Post-Edited Machine Translation (Gys-Walt van Egdom and Mark Pluymaekers)

This chapter by Van Egdom and Pluymaekers reports on an experimental study of the impact of different post-editing levels on quality perceptions among language service providers (LSPs), specifically staff of translation agencies and freelance translators. The review of previous literature clarifies the need for such an investigation, but is somewhat incomplete as relevant research on user-centred translation and usability of post-edited texts is not included (e.g. Castilho et al. 2014). The procedure, the preparation of the experimental materials, the questions used, and the operationalisation of the post-editing levels, are outlined in detail. Appendix 1 also provides helpful examples of the text manipulations associated with the different post-editing levels. However, the authors do not specify whether the participants who evaluated the post-edited texts (in Dutch) had access to the source texts in English. Furthermore, the level of familiarity of the participants with the domains of the texts used (i.e. phishing and software) is not clear. Both these aspects are likely to have influenced the scores given. Results show that full post-editing is not always associated with the highest quality and, surprisingly, can also lead to lower scores, in contrast to previous work (see e.g. Garcia 2011). The ensuing discussion is interesting, as the authors compare these results with findings from their previous study involving end users, where full post-editing did not lead to a decrease in quality (Van Egdom and Pluymaekers 2019). The authors acknowledge the need for qualitative data to guide the interpretation of these findings. However, they do not discuss the potential implications of recruiting freelance vs. in-house/salaried translators as evaluators despite the fact that the attitudes of these two cohorts towards MT might vary (Cadwell et al. 2018). Finally, since this study relied on statistical MT, follow up research with a neural engine is warranted. For instance, studies on quality perceptions associated with neural MT are already being conducted (see e.g. Sánchez-Gijón et al. 2019).

Chapter 8. Transitional Probability Effects on Predictive Processing in an SI Task Created in the Lab (Ena Hodzik)

This chapter marks the beginning of the thematic unit dealing with the source text. The author Ena Hodzik investigates the effect of transitional probability—namely, the statistical likelihood with which words co-appear in a language—on prediction in language processing during simultaneous interpreting from German into English and for symmetrical and asymmetrical sentence structures. In addition to transitional probability, this study also reports on the effects of literalness—i.e. the extent to which a phrase/expression can be decomposed—so it is surprising that this aspect is not mentioned in the title. The review of previous literature is thorough as it introduces all the concepts underlying the study. It also draws parallels between Translation Studies, Interpreting Studies, and research on reading, particularly when discussing the measurement of cognitive load. These efforts to identify links with other disciplines are helpful reminders of the rationale behind the book. However, it would have been interesting if the author had also cited work on cognitive load in post-editing as a result of different error types (including structure issues) (e.g. Daems et al. 2015).

The methodology section discussing participants, materials, and design is clear, and the author gives appropriate consideration to the homogeneity of her cohorts of participants. However, the selection of bilingual students rather than interpreters calls into question the ecological validity of this study. When reporting the results for simultaneous interpreting, the author does not specify whether data for both correct and incorrect translations have been included. The results show an effect of transitional probability on latency during simultaneous interpreting of symmetrical sentences, which is indicative of predictive processing. Furthermore, the author finds an effect of literalness across tasks. The discussion of the findings is noteworthy for the links that it establishes with Translation research, especially literal translation and translation universals. Similar to other chapters in this book, this study also lacks a discussion of its implications, for instance for the training of interpreters.

Chapter 9. Automatization in Translation Behavior: Evidence from a Translation Experiment for the Language Pair German-English (Jonas Freiwald, Arndt Heilmann, Tatiana Serbina and Stella Neumann)

This chapter by Freiwald, Heilmann, Serbina and Neumann describes a study on automatic processes during translation from German to English using keystroke logging and eye tracking. Specifically, the authors focus on subject heaviness—namely the length of the unit—and the adjunct-verb-subject (AVS) sentence structure. This paper shares features with Chapters 5, 6 and 8 (e.g. in terms of methodology, objects of study, and translation direction). However, these similarities are not flagged. The review of previous literature clearly shows how this study builds upon previous ones, particularly on models of automaticity in Translation Studies, Cognitive Psychology, and Cognitive Linguistics. The discussion of the differences and similarities in subject heaviness and sentence structure between German and English—along with the examples—are also helpful for the reader. The link between this chapter and the aim of the book could have been strengthened further if the authors had briefly discussed literature on cognitive effort in interpreting (see e.g. Seeber 2013).

Moving on to methods and results, the authors combine these into one section, which might be confusing, especially because the methodology is not divided into design, procedure, and materials. Nonetheless, each aspect of the study and of the analysis is described in detail, and the authors report gathering data on several background and demographic characteristics of their participants, such as their translation experience and their level of proficiency in German (i.e. the source language). Overall, results indicate that translation can never be

completely automatic, and that controlled and automatic processes are better understood as part of a continuum. Specifically, the authors find that higher proficiency in the source language results in deviations from the expected translation structures, and that some translation strategies (e.g. the introduction of a new subject) require more cognitive effort than the inversion of the subject-verb order. This chapter concludes by outlining implications for future research and for the modelling of the translation process. However, the authors do not discuss potential implications for the understanding of the post-editing process, despite ongoing work on the relation between edits and cognitive/temporal effort in post-editing (e.g. Popović et al. 2014).

Chapter 10. Exploring Linguistic Differences between Novice and Professional Translators with Text Classification Methods (Ekaterina Lapshinova-Koltunshi)

This chapter marks the beginning of the thematic unit on the translator and the interpreter. The author Ekaterina Lapshinova-Koltunshi uses data mining on a subset of the English-German translation corpus VARTRA-SMALL⁴ to understand how translated texts vary as a result of the translator's experience. Concretely, the author seeks to identify linguistic features that are specific to novice or professional translators. The set of features selected for analysis are drawn from studies on translationese and from the theoretical framework of Systemic Functional Linguistics, but references to more recent studies of translationese, such as its impact on MT quality (Stymne 2017; Zhang and Toral 2019) and its difference from interpretese (He et al. 2016), are missing. The high-level implications of this investigation are discussed in the very first section, where the author explains how the results could inform translator training (e.g. the potential problems faced by novice translators), Contrastive Linguistics, and Register Analysis, among others. It would have been interesting if the author had also considered the implications for interpreting and interpreter training. The literature review mainly revolves around variation in translation as a result of experience, and as observed in product- and in process-oriented research. However, the paper does not contain an operationalisation of professionalism, nor does it discuss its problematisation (see e.g. Pérez-González and Susam-Saraeva 2012).

The author walks the reader through the features under analysis and the gathering of the data for the corpus. Specifically, when discussing the translations produced by novice (i.e. student) translators, Lapshinova-Koltunshi explains that all students used a translation memory (TM), but no details are provided on the texts with which the TM was populated, and it is not clear if all students used the same TM. Both these aspects might have influenced the final translation product. Furthermore, as acknowledged by the author herself, information on the professional translators involved is limited. The description of the analysis is worthy of mention. Specifically, the author explains how precision and recall scores are calculated and interpreted, which might prove helpful for scholars interested in applying the same methodology. The author also combines quantitative and qualitative analysis, which facilitates the interpretation of the results and allows for a direct comparison of the features in novice and professional translations. The results show that the method used by Lapshinova-Koltunshi can identify translation features specific to each level of experience. The chapter concludes with a discussion of limitations, implications, and future research directions.

⁴ A description of the VARTRA corpus is available at: shorturl.at/aMQRY (Accessed 9 June 2020).

Chapter 11. Language Conflict Resolution and Behavioural Executive Control Measures in Simultaneous Interpreting (Laura Keller, Alexis Hervais-Adelman, and Kilian G. Seeber)

In this chapter, Keller, Hervais-Adelman, and Seeber present a longitudinal study—with data gathered at the beginning and at the end of an academic year—aiming at a better understanding of the cognitive control mechanisms that are involved in simultaneous interpreting. To this end, the authors compare the verbal and non-verbal cognitive control of trainee interpreters and trainee translators (control group) using a series of experimental tasks, namely Task Set Competition Resolution, Bilingual Stroop, and Trilingual Number Naming.⁵ Considering the shared focus on trainees, a cross-reference to the previous chapter would have helped readers of the book to easily identify research on the impact of expertise on translation and interpreting. By virtue of this comparison with translation, this chapter aligns well with the overarching goal of the book. The literature review, for example, also includes references to Multilingualism and Translation, while also highlighting their differences and similarities with Interpreting. The methodology section is clearly divided into participants, tasks, and experiments, and each of these aspects is discussed in detail. As far as the participants are concerned, for example, the authors report data on language proficiency for all the languages known by the participants. What the authors do not specify is whether the participants took part in warm-ups to familiarise themselves with the experimental tasks prior to data collection.

The dependent variables under investigation are response accuracy and reaction time, but the presentation of the results focuses exclusively on reaction time since no significant between-group or between-run differences are found for response accuracy. It is surprising that the authors do not discuss the potential reasons behind this lack of difference in response accuracy. With regard to reaction time, results are presented separately for each of the three tasks. The authors find no beneficial effect of simultaneous interpreting expertise on executive control abilities. In the final section, the authors provide an interesting discussion of the study limitations and the need for future research, for example with measures that tap into the neurophysiological changes resulting from the acquisition of interpreting expertise. Similar measures could also be applied to the investigation of translation and post-editing expertise (Alves and Hurtado Albir 2017). The implications for the understanding of the cognitive control mechanisms in simultaneous interpreting are also outlined.

Chapter 12. Disfluencies in Simultaneous Interpreting, a Corpus-Based Study with Special Reference to Sex (Collard Camille and Bart Defrancq)

Similar to Chapter 11, this chapter by Camille and Defrancq also deals with simultaneous interpreting, and specifically the influence of the interpreter's biological sex—along with other contextual variables—on the production of disfluencies, such as filled and silent pauses, or restarted sentences. The authors adopt a parallel acoustic sub-corpus of the European Parliament Interpreting Corpus Ghent,⁶ which contains source speeches with their interpretations into six language pairs. The practical implications of this study are outlined in

⁵ The Task Set Competition Resolution is a non-verbal task which requires participants to respond differently depending on the stimuli in each task set. The Bilingual Stroop involves naming the colour in which a word is written (in two languages) while ignoring the meaning of the word. The Trilingual Number Naming Task is based on a stimulus that can trigger three different responses depending on the cued response language.

⁶ A description of the European Parliament Interpreting Corpus Ghent is available at: shorturl.at/owGI9 (Accessed 9 June 2020).

the very introduction, where the authors argue that investigations of cognitive biological differences might assist interpreting trainers in finding more effective solutions to the challenges faced by female and male students, while also highlighting cognitive strengths that can guide career choices. The review of related research is thorough and clearly divided into the three topics that inform this study, namely: disfluencies and cognitive load; cognitive load in simultaneous interpreting; and sex differences in cognitive skills. An inclusion of studies of pauses and cognitive load in translation and MT post-editing (e.g. Lacruz and Shreve 2014; Lacruz et al. 2012; Nunes Vieira 2014; O'Brien 2013), along with references to similar research on cognitive effort in this volume (e.g. Chapter 9), would have reminded the reader of the common thread of the book. In the methodology section, Camille and Defrancq provide a detailed description of their corpus-based approach (especially the selection of speeches for their analysis), as well as the identification and measurement of disfluencies, and the contextual variables used besides the interpreter's sex, such as source/target languages and delivery rate. Their results show that male interpreters produce more lengthenings and longer silent pauses, but the number of silent pauses is higher in female interpreters. Furthermore, several contextual variables seem to increase the production of disfluencies, such as the Ear-Voice Span and the source speaker's delivery rate. Finally, it is worth mentioning that the authors manage to discuss the controversial topic of sex differences in cognitive skills with sensitivity and care.

Chapter 13. Converging Evidence in Empirical Interpreting Studies: Peculiarities, Paradigms and Prospects (Junying Liang and Qianxi Lv)

This chapter marks the start of the last unit of the volume—titled *Prospects*—whose goal is to provide theoretical frameworks and to introduce an outlook for the future of Translation and Interpreting. This chapter by Liang and Lv focuses on Interpreting. The authors begin by briefly discussing the relationship between Interpreting Studies and Translation Studies, while arguing that the former has often been regarded as a sub-domain of the latter. They then go on to introduce the two main research strands in Interpreting, namely the cognitive aspects of interpreting and the features of interpreting activities in their socio-cultural environment (e.g. as part of doctor-patient communication). In doing so, Liang and Lv stress the interdisciplinarity that has been informing research questions, methodologies, and theories in Interpreting Studies. One of the authors' points is that the interdisciplinary nature of Interpreting strengthens its disciplinary status as separate from Translation.

The remainder of the chapter is divided into a review of process-oriented and product-oriented Interpreting research. With the former, the authors mainly focus on experimental studies that aim to understand the impact of interpreter training and experience on cognitive skills and on the interpreter's performance (i.e. accuracy and fluency), as well as the role played by individual differences, e.g. in terms of language proficiency and working memory capacity. In the section on product-oriented Interpreting research, Liang and Lv discuss corpus-based studies, focusing in particular on the unique features of interpreted speeches (e.g. simultaneous interpreting vs. consecutive interpreting vs. read-out translated speeches), and on how specialised meaning (e.g. in legal settings) is rendered by interpreters. This section on corpus-based Interpreting research continues with a discussion of differences and similarities between translation universals and interpreting universals. Finally, the authors conclude the chapter by advocating for the combination of experimental research and corpus-based research in Interpreting, while also arguing that the sub-discipline of Interpreting Studies has a

methodological core area of its own. They also discuss how research on interpreting might have broader implications for the understanding of language evolution.

This comprehensive and highly readable chapter represents a valuable resource for students and scholars who are new to Interpreting research, as well as for those interested in pushing the boundaries of Interpreting Studies. The chapter lacks, however, an in-depth discussion of how theories, objects of studies, and methods in Interpreting could benefit from stronger ties with Translation (and vice versa), which is the goal of the book. Instead the authors seem to mainly focus on what differentiates Interpreting from Translation. Finally, as this chapter touches upon themes and methods previously discussed in this book, highlighting the links with previous research papers would have increased the coherence of the book as a whole.

Chapter 14. Converging *What* and *How* to Find Out *Why*: An Outlook on Empirical Translation Studies (Haidee Kotze)

In this chapter—the last of this edited volume—Haidee Kotze begins with a broad discussion of empirical approaches in Translation Studies, their relationship with theorisations, and the applied questions that have been motivating Translation research. In particular, the author underlines the interconnections and interplay between the empirical-descriptive, theoretical, and applied strands of Translation Studies. She then goes on to advocate for the integration of function-, process-, and product-oriented research, within a common theoretical framework, in order to shed light on the complex nature of translation. Encouraging efforts in that direction, Kotze reviews and discusses research on translation products (corpora) and on translation processes, and their integration of cognitive and social dimensions in the development of theoretical explanations.

The two following sections deal, respectively, with corpora as reflections of cognition and context, and with the influence of cognition and context on translation processes. Specifically, the section on corpora focuses on how these resources have been used to understand the socio-cognitive factors influencing translators (e.g. cognitive effort and risk avoidance), as well as the social and cultural contexts in which translated texts are embedded, and the broader constraints typical of language contact. The investigation of the latter (i.e. translation as a type of constrained language variety) would bring Translation closer to Interpreting, as the author briefly reports on studies comparing interpreting and translation, with these two activities sharing bilingual language activation and text-production constraints. In the section on translation processes, Kotze reviews common objects of investigation and methodologies, while also highlighting issues such as the lack of adequate empirical evaluation of theoretical models, and the challenges of accounting for and measuring the relationship between cognition and context. The author also discusses efforts to develop comprehensive theories of the translation process that include a socio-cognitive dimension, but vary in their consideration of social or cognitive aspects.

This outlook on empirical Translation Studies helps the reader contextualise the findings from the research papers in this volume, but the connections between the chapters are not flagged. In the last two sections of this chapter, Kotze points to areas in which corpus-based and process-based approaches overlap in terms of methodological and theoretical challenges, and can be combined with a view to understanding the *why* of translation, by also drawing upon other disciplines such as Cognitive Sociolinguistics. Interestingly, a similar remark on the combination of approaches is made by Liang and Lv in relation to Interpreting (Chapter 13 of this book). However, similarities between Translation Studies and Interpreting Studies in terms

of theories, research goals, and methodological approaches are, again, discussed only superficially. This final chapter is a valuable resource that can guide students and scholars of Translation Studies in their choice of appropriate theoretical frameworks and methodologies.

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