
Erik Angelone et Gregory M. Shreve

This volume is the second of a two-part series dedicated to describing the state-of-the-art in cognitive explorations of translation processes. The first volume (*Looking at Eyes*) was published in 2008. In this second volume, the focus shifts from eye-tracking as a promising methodology for studying translation behavior to methods, models, and results that can be or soon will be directly applied to optimizing translator training, translation research, and computer-assisted translation tools.

Göpferich opens the volume (p. 11-37) by proposing two important models: 1) a model of translation competence based on the synthesis of several fundamental sub-competences, and 2) a model of competence acquisition. Both models are central to TransComp, a longitudinal empirical study intended to document the competence development of a cadre of students over a three-year period. The study uses a triangulated methodology of keystroke logging, screen recording, think-aloud and retrospective verbal protocols, and surveys to monitor students in the study. TransComp represents a major scientific contribution because it provides a clear template for how longitudinal skill development research should be conducted and it promises to make all of its research materials, from source texts to protocols, readily available online to the process research community. The TransComp project will track three central competences: 1) strategic competence, 2) tools and research competence, and 3) translation routine activation competence. Competency in these three areas, according to the author, distinguishes the trained translator from the untrained bilingual when it comes to language mediation.

In Chapter 2 (p. 38-59), Bayer-Hohenwarter discusses creativity as an indicator of translation competence. Creativity in all skill domains, including translation, is relatively difficult to define. Creative translation behavior is notoriously hard to identify in both translation process and product and is therefore resistant to quantitative methods. The author proposes three primary indicators for establishing an empirical framework for exploring creativity: 1) novelty (uniqueness based on frequency of occurrence in the TransComp corpus), 2) fluency and spontaneity (indicated by the duration of intervals between reading an ST segment and producing a corresponding TT segment), and 3) flexibility. Flexibility is regarded as a hallmark indicator of creativity and is evidenced by the translator's application of strategic actions: abstraction, modification (modulation), and concretization through explicitation. The use of these strategies in pursuit of novelty is presumed to correlate with increased cognitive effort. Reproduction, the term used for non-creative translation, is assumed to require less cognitive effort. Bayer-Hohenwarter found that professionals often deliberately start out with reproduction and then quickly transition to more creative strategies as they generate multiple intermediate target text options. First year students, on the other hand, often stop at reproduction. They fail to apply any creative strategies and therefore generate fewer intermediate solutions. The result is a lack of novelty and little evidence of flexibility. This article is particularly noteworthy because it is one of the first attempts to apply the creativity literature of cognitive science to translation studies.

In Chapter 3 (p. 61-78), Jensen discusses the feasibility of using readability index scores, word frequency, and the density of non-literal language as predictors of not only complexity, but also difficulty in translation. These three indicators have traditionally been incorporated in gauging the complexity of monolingual texts in terms of reading comprehension. The author emphasizes that complexity, an objective measure, is not to be equated with difficulty, a more subjective measure. Nonetheless, the two measures often overlap in that the level of the former has been shown to predict the level of the latter. The critical question is whether complexity indicators rooted solely in monolingual reading comprehension research can be applied to the study of tasks (such as translation) that involve both text comprehension and text production. Jensen discusses some of the problems associated with employing these three indicators to predict translation difficulty. For example, word frequency scores do not take the variable of word familiarity into consideration. Readability indices are entirely based on countable surface structures, such as syllables and words, and generally neglect meaning-related properties of the text. The author suggests a more holistic and accurate assessment of a source text's complexity can be obtained by combining the three indicators, and the author promises follow-up studies exploring these issues.

Pavlović discusses the pros and cons of collaborative translation protocols (CTPs) in Chapter 4 (p. 81-105). Collaborative translation protocols extend the idea of introspective think-aloud protocols (TAP), with the difference being that translators articulate their thoughts not in isolation, but rather in collaboration with fellow translators working on the same task. The advantage of using
CTPs is that they can potentially address some of the shortcomings cited in connection with TAPs (e.g., failure to verbalize). In her studies, Pavlović found that when working in groups, students are inclined to talk more than they would if thinking aloud on their own, particularly when discussing problems and reporting decisions. On the other hand, what groups articulate about their cognitive processing may not accurately reflect the discrete cognitive processes of the individual translator. How much of the group's articulation of its member’s underlying translation processes is a compromise, a negotiation, entailed by social interaction during the collaboration? As the author duly notes, CTPs are not particularly ecologically valid in that translators very rarely will be asked to translate the same source text together. She suggests that the methodology might have value in assessing certain “real world” group activities where translators, terminologists, and project managers are involved in a common translation-oriented activity.

In Chapter 5 (p. 107-124), Faber and Hjort-Pederson examine correlations between mental explicitation and implication and their respective linguistic manifestations in translated legal texts. The linguistic encoding of mental explicitation in the target text may be a result of the translator inadvertently documenting his or her own understanding of the ST in the TT, or it may be a deliberate and strategic attempt to facilitate the target reader’s understanding. In this study, linguistic explicitation involves addition (simply including additional lexical elements) and specification (making the text semantically more informative). Linguistic implication involves reduction (simply leaving out lexical elements) and generalization (using TT elements that are less specific than those in the ST). In their study, the authors examine frequencies of linguistic explicitation generated by professionals and students. Whereas the frequencies of addition and reduction were similar for both professionals and students, only the students made use of specification. This could be seen as linguistically encoded residue of mental explicitation that helped the students comprehend the text, but which would not appear in expert-to-expert communication. According to the authors, these findings indicate a tendency for professionals to translate for others (the designated readership) and for students to translate for “themselves.”

In Chapter 6 (p. 125-147), Denver presents the results of a process and product-oriented study that examines explicitation using a connector word. In some contexts, the connector serves an adverbial function in establishing a semantic relation between two sentences. In other contexts, the connector is adverbal- concessive and takes on a pragmatic function, namely, emphasizing the speaker’s opinion. In Danish, the connector appears quite commonly in the first of these contexts and seldom in the second. This creates an interesting situation enabling a direct comparison of the explicitation hypothesis, as manifested in the first context, and the unique item hypothesis, as manifested in the second context. However, perhaps the most interesting observation gleaned from this study is that both students and professionals apparently gave little conscious thought to explicitation during the translation process. Explicitation did not co-occur with pauses in keyboard activity and was not accompanied by verbalizations or evidence of strategic decision-making from TAPs. Denver believes this may indicate translators are not apprehending and dealing with certain logical semantic relations across sentence boundaries.

In Chapter 7 (p. 149-166), Mackiel discusses the results of a study documenting patterns in student self-correction using Translog. Several studies suggest students engage in self-correction behavior more frequently than professionals for a number of reasons, ranging from their general lack of translation experience to specific ST comprehension problems. In keystroke log data, self-corrections are indicated by deletions and cursor repositioning. In Mackiel’s study, first-year students were asked to translate a text containing numerous false cognates, lexicalizable strings, and culturally-bound expressions, all potential triggers of self-correction behavior. Self-corrections were classified as 1) grammar-based, 2) meaning-based, and 3) re-typing verbatim. Additionally, all self-corrections were classified as 1) correcting an error in the TT or 2) simply fine-tuning the TT. The majority of self-corrections involved fine-tuning the TT, as opposed to correcting errors. This could suggest a certain lack of awareness that errors have even occurred during translation (a finding which corresponds with what many in expertise studies have also noted about novices in a variety of domains). The most frequent type of correction involved inserting an omitted element. Interestingly, whereas many of the self-corrections had to do with lexicalizable strings and false cognates, not a single one involved culture-bound terms. The author attributes this finding to students’ underdeveloped understanding of the interrelationship between translation and culture and the necessity to modify texts according to target reader cultural and textual expectations.

In Chapter 8 (p. 167-189), Muñoz Martín discusses how typographic error patterns correlate with differences among translation-related tasks, namely, translation, self-editing, and editing of someone else’s translation. Because translation tasks are complex, translators tend to engage in...
what the author refers to as alternating attention, constantly adjusting and re-allocating cognitive effort in line with various underlying sub-tasks. Typographic errors may coincide with such switches in effort allocation. The author describes a study which examined occurrences and distributions of interventions, defined as interruptions in the flow of typing followed by any keyboard activity not adding to the rightmost boundary of the text, and missed phenomena, or anomalies that should have prompted the translator to intervene. Subjects tended to intervene more frequently regarding typographic errors when translating than when revising. This suggests that the translator forms interpretations during the act of translating, followed by more shallow interpretations after the task completes. This shallowness results in typographic errors being overlooked in one’s own work. Interestingly, many of the typographic errors found in subjects’ translations seem to involve inadvertently typing the letters of words which actually appear in subsequent words in the same text passage. This seems to corroborate the translator’s tendency to fixate on problematic words well in advance of their actual production in the target text.

In Chapter 9 (p. 191-218), Alves and Liparini Campos examine how the internal and external support tendencies of professional translators are impacted by time pressure and the presence of a terminology management system (TMS). Internal support involves tapping into world knowledge and refraining from using external resources. External support involves turning to such resources instead of relying on one’s own encyclopedic knowledge. Both forms of support are utilized in situations involving orientation, the time span from when the ST is first viewed to the time when the first character is produced in the TT, drafting, defined as the time from when the first character is entered in the TT until the last character is entered, and revision, or the time from when drafting ends to the time the translator feels he or she is finished with the task. The study reports that professionals spent very little time on orientation as a separate stage of translation. Both orientation and revision behavior were marked by the utilization of simple internal support. All subjects exhibited fewer revision pauses under time pressure. When the translators had access to a TMS, there was an increase in the occurrence of dominant internal support for orientation. In other words, support was predominately internal for all tasks. These findings further confirm the tendency for professionals, unlike students, to rely more on internal support before turning to online resources when encountering problems.

In the volume’s concluding chapter (p. 219-251), Stamenov outlines the optimal structure of a prompting dictionary for the translation of cognates. Weaknesses of current dictionary resources can be traced back to a fundamental mismatch between the way information is presented to the user in the dictionary and the way the bilingual retrieves cognates from the mental lexicon. Most dictionaries do not consider formal similarities, despite the fact that psycholinguistic research points towards a tendency for the bilingual to recognize cognates as such based on matches in form. Stamenov takes a “less is more” approach in presenting a dictionary entry model with three interrelated levels of prompting that correlates directly with the manner in which the bilingual accesses lexical items. The first prompt level provides the translator with two or three target language equivalents if problems with a ST word are indicated by gaze data in the form of extended fixations. If the first level prompt does not suffice, a second level prompt provides the translator with a series of senses associated with the word, along with their equivalents in the target language. Finally, if required, a third level prompt provides the translator with phraseological information for the cognate. This chapter shows the promise of well thought out efforts to integrate the findings of psycholinguistic research into the design of computer-assisted translation tools.

In summary, this volume provides the reader with a number of novel models and methodologies for tapping into the “black box” of translation. TAPS, keystroke logging, and eye-tracking are utilized in novel ways to study a wide range of translation phenomena and activities. Behind the Mind is a true showcase for innovative approaches to translation and cognition.

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Efforts and Models in Interpreting and Translation Research is a collection of fourteen articles written in honour of Daniel Gile, interpreting and translation researcher and teacher, conference interpreter and technical translator, and “former mathematician,” as Gile puts it. The contributions to this Festschrift, by eminent colleagues and collaborators of Gile, genuinely honour him by responding more or less directly to his ideas, methodologies