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# LACUS FORUM XXXVII

**COMMUNICATION AND COGNITION:  
MULTIDISCIPLINARY PERSPECTIVES**

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IX



Meaning &  
Translation





# WHAT CAN COGNITIVE TRANSLATION TELL US ABOUT THE RELATIONSHIP BETWEEN LANGUAGE AND THOUGHT

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**Abstract.** New cognitive models of translation are the result of a departure from the treatment of translation studies as mere comparisons of target and source texts. However, there is no consensus in the literature on what the cognitive approach to translation is. There are at least three understandings of this term: approaches that are based on cognitive linguistics, ones that use new research methods to investigate the translation process, and ones that use a psycholinguistic perspective. It is proposed that combining all these approaches into one interdisciplinary methodology may be the most appropriate (if not the only) instrument to investigate how meaning is created and then verbalized in the process of translation. The application of this approach is illustrated with translation problems based on differences between English and Polish.

**Keywords:** Translation, Translation Problems, Translation Models, Cognitive Linguistics, Gender, Polish, English

**Languages:** Polish, English

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DESPITE THE EXTENSIVE LITERATURE AND research on translation or translation theory, not much is really known about what happens in the translator's mind. The cognitive approaches to translation, however, appear to concentrate on the process, not the product. It appears that applying a cognitive approach is crucial to the answers of some basic, but at the same time, most important, questions about translation.

The present article aims at defining a cognitive approach to translation as well as presenting its potential applications. In the first section, the traditional approach to translation is briefly described. Next, different understandings of the word *cognitive* as used in reference to translation are presented. Elements of existing approaches are incorporated into a new interdisciplinary approach. In the last part of the paper possible experiments applying this approach are presented.

I. THE TRADITIONAL APPROACH TO TRANSLATION.<sup>1</sup> In order to discuss translation from a cognitive point of view, we first need to discuss translation in its traditional understanding. The oversimplified summary of traditional translation theory is that translation involves producing a target text (henceforth TT) on the basis of a source text (henceforth ST). When one reads what is considered a classic translation theory, it becomes clear that often the whole approach was constructed around one particular type of text (e.g. poetry) or even one text (e.g. the Bible).

<sup>1</sup> What is meant by translation here is any act of rendering ST from one language into another (whether oral or written). Despite the claim that oral and written translation may involve different cognitive processes (De Groot 1997, 2000), I will not distinguish between (oral) interpreting and (written) translation in this general discussion.

The key word in these theories is equivalence. The debates, since at least Cicero's time, seem to revolve around the dilemma of literal versus faithful or free rendition. Even if the purpose (*skopos*) of translation was taken into consideration (cf. Vermeer's *skopos* theory, which says that the strategies used to produce the Target Text are determined not by the Source Text, but by the aim of translation) or the relevance of translation was the centre of attention (cf. Gutt 2000), everything concentrated on the comparison of two texts or their functions in two languages and cultures (cf. House 2001).

The existing theories offer a number of ways of dealing with problematic items, usually words or (idiomatic) phrases. What is common to all these approaches is that they investigate the products, not the process of translation. As for the role of the translator, he or she is supposed to find the perfect (whatever this perfect means) equivalent for the source text item. It means that he or she "understands the work in its complexity and [that he or she] approves of all the emotional and philosophical content included in a text" (Krzeczkowski 1975:143). As Shortliffe (1969:23) claimed, "the ideal translator would need to be not only cultural historian, literary critic, philologist, phonetician, semanticist, structural linguist, but also sociologist, anthropologist, psychologist and psychoanalyst." As mentioned before, the function of the TT was investigated while what happened during the task of translation was not considered in the theories.

Obviously, it would be an exaggeration to say that theoreticians completely ignored the process of translation. Even in the early approaches one may find direct references to what happens during the production of the TT. To give just one classic example, Levy (1969) sees translation as a process composed of consecutive moves. He even uses decision trees to illustrate the process of translation as a sequence of different moves and choices.

Moreover, traditional theoreticians, being translators themselves, acknowledged that translation was not a simple input-output procedure and that it required decision-making. However, what was the centre of attention in the translation studies literature was the text that was produced and its relation to the meaning, form or function of the original, not the process *per se*.

2. COGNITIVE APPROACHES TO TRANSLATION. As mentioned above, a cognitive approach to translation promises to offer more insights into the process or processes involved in the rendition of the ST. However, there is no consensus in the literature on what the cognitive approach to translation implies. In Baker & Saldanha (2009:242), the term cognitive approach is used as synonymous with the psycholinguistic approach. It concentrates on cognitive processes that take place during translation with the assumption that the "translation process ... inevitably replicates all the characteristics of a general model of human communication" (244). A closer search of the literature reveals at least two more interpretations apart from the psycholinguistic one. In some sources, cognitive translation constitutes a combination of translation theory and cognitive linguistics (e.g. Tabakowska 1993). Cognitive linguistics rede-



defines what meaning is and this allows one to redefine the notion of equivalency. In the cognitive translation type of approach, cognitive processes taking place during translation are investigated using new research methods (e.g. EEG or eye-trackers), traditionally associated with other scientific disciplines, such as neurolinguistics or psychology. Not only is this a new application for already known research methods, but also there are new techniques that are designed especially to investigate the translation process. In order to understand the process of written translation, screen-loggers and key-loggers are used to keep a record of the sequence of moves the translator makes in the process of rendering the ST. Key-trackers make it possible to analyse exactly how the TT was produced, while a screen-logger shows what translation aids (such as on-line dictionaries or the Internet) were used and when by storing a series of screenshots. All things considered, it has to be mentioned that the three cognitive approaches described above are not entirely separate or mutually exclusive. However, each brings something new or offers a slightly different perspective on the process of ST rendition.

In the rest of section 2 of the paper, these three approaches are briefly summarized to give a better picture of how they differ. Moreover, at the end of each section the usefulness of each approach in the understanding of the translation process is discussed.

**2.1. THE COGNITIVE PERSPECTIVE.** The first approach treats the cognitive and psycholinguistic views as synonymous. As mentioned above, this approach assumes that a model of translation should be based on the current knowledge about human language processing and it should take “monolingual communication as a starting point while recognizing that translation and interpreting are special instances of bilingual communication” (Baker & Saladanha 2009: 242).

The translation process was investigated from this point of view by, among others, DeGroot (1997). This investigation resulted in the construction of a model of translation that recognized two interpreting strategies used in analysing the rendition of a text: the first was meaning based, and the second was described as transcoding. Alternatively, they are referred to as vertical and horizontal translation, respectively (DeGroot 1997, 2000).

In the meaning based (vertical) translation, the translator has to fully understand the ST in order to render it. The search for equivalents occurs at the level of conceptualizations, not words. On the other hand, in transcoding (also known as word-based or the word-for-word technique), “the interpreter supposedly translates the smallest possible meaningful units of the source language that have an equivalent in the target language” (Christoffels & DeGroot 2005:459). This model includes also the proposal made by Paradis (1994), who suggests that translation takes place at different linguistic levels (phonology, morphology, syntax and semantics) and that units from these separate levels may be translated independently. Contrary to the vertical translation technique, this strategy does not assume full comprehension of the ST.

These two processes – horizontal and vertical translation – are not mutually exclusive, and they often take place at the same time. This may, in fact, be the biggest criticism of this approach. On the one hand, the model tries to help us understand and isolate the sub-processes involved in the translation process. On the other hand, it seems impossible to distinguish between the two techniques in practice and it is difficult to investigate applications and possible advantages of each strategy. Because of these issues, the usefulness of this approach in the understanding of the translation process is limited.

To conclude, the basic assumption that translation constitutes a bilingual task of a bilingual brain constitutes a good starting point in gaining understanding of what happens during translation. It would seem to be common sense that all translation research should be based on what is already known about the operation of a bilingual brain. However, applying this approach exclusively seems to be insufficient, as it concentrates on the insights offered by psycholinguistics while ignoring the knowledge about equivalency offered by translation studies.

2.2. COGNITIVE LINGUISTICS AND TRANSLATION THEORY. The second understanding of the concept of cognitive translation is based on the principles of cognitive linguistics (henceforth CL).

Langacker's (2008) division of semantics into two types – the dictionary view of linguistic semantics and the encyclopaedic view – is useful for re-defining the notion of equivalency. In the dictionary view, meaning can be represented as a small box in the circle representing the total knowledge about a particular item. In encyclopaedic semantics, the circle of knowledge is full of overlapping circles and “in this approach, a lexical meaning resides in a particular way of accessing an open-ended body of knowledge pertaining to a certain type of entity” (Langacker 2008:39). The more central the circle, the more prototypical a specification it represents.

Equivalency, in the CL approach to translation, implies that two conceptualizations in two different languages are comparable. CL “rejects the existence of a clear demarcation line dividing semantics from pragmatics (Tabakowska 1993:15). Moreover, the text is no longer seen as being related to some given “system,” but rather it is seen in the context of other texts. It is not the dictionary, but the encyclopaedic semantics that is useful in the process of translation. Equivalents found by the translator are said to be based on experience and conceptualization, not just on dictionary meanings. Finally, the search for equivalents involves a comparison of the linguistic resources of the TT and ST. What is also important in this approach is that every translation is recognized as a complex process in which the presence of the translator is overtly acknowledged.

This approach constitutes a slight shift from the traditional approach to translation, mainly in the understanding of the concept of equivalency. However, by applying the CL-based theory one still ends up with a comparison of two texts and an analysis of the linguistic resources available in both the SL and TL. As aptly observed by Tabakowska (1993:20), CL “offers a theoretical framework for a more adequate definition

of translation equivalence, and thus makes it possible to formulate some normative principles for translation assessment.” It also allows us to “distinguish between untranslatability and mistranslation” (Tabakowska 2000:95), but, in the end, it does not add anything substantially new to the understanding of the translation process.

2.3. THE EXPERIMENTAL RESEARCH PERSPECTIVE. This understanding of the cognitive approach to translation is focused on the investigation of the process of translation with the help of new technologies such as eye-trackers, keyboard logging, or EEG). Before these new research techniques became available, the only way of investigating the process of translation was think-aloud protocols (TAPs), and these methods have proven to be faulty. The development of new research possibilities allows one to look at the process more closely and in ways that were not possible before. However, the literature is still limited (cf. Shreve & Angelone 2010), because translation was usually studied as a means of gaining an understanding of bilingualism and, so far, the translation process itself has not been the centre of attention. This approach seems to offer the best tools to gain insights into what happens in the brain of a bilingual person during the process of translation.

2.4. A COMBINATION COGNITIVE APPROACH TO TRANSLATION. It seems that none of these three approaches by itself can answer basic questions about the translation process. Nevertheless, I believe that by combining these approaches we could gain some real cognitive insights. In section 3, I present a number of potential translation problems and suggest some possible applications of the combined cognitive approach to translation through experiments that will show how these questions can be addressed.

3.0. APPLICATION OF THE COMBINATION COGNITIVE APPROACH TO TRANSLATION.

3.1. GENDER. A very interesting question of equivalency is posed by the problem of gender differences between languages. Let us consider the concept of *death* (cf. Strońska 2007). From the point of view of the traditional approach to translation, the concept is not particularly problematic. It is among the most basic and universally recognized concepts and all of the languages under consideration have a dictionary equivalent of the word. However, if we put this concept in context, the rendition becomes more complicated.

In Terry Pratchett’s *Reaper Man*, the protagonist is Death. At the beginning of the story:

“Death put down the timer, and then picked it up again. The sands of time were already pouring through. He turned it over experimentally, just in case. The sand went on pouring, only now it was going upwards. He hadn’t really expected anything else.” (Pratchett 1991:10)

The problem arises when Death, who has chosen the name Bill Door, has to be referred to as feminine in Polish or Russian. In the existing translations of Pratchett’s novel, translators decided to use a masculine verb following the semantic rather than the morphological agreement pattern. This means that a male referent of a morphologically feminine noun triggers a masculine verb form:

Śmierć odstawił ... ('Death<sub>FEM</sub> put down<sub>[MASC]</sub>'),  
 Śmierć nie oczekiwał ... ('Death<sub>FEM</sub> did not expect<sub>[MASC]</sub>').

In the published Polish translations of *Reaper Man*, the meaning of the original seems to be preserved; what is lost is the natural flow of the text. *Śmierć* sounds like a proper noun here, not a common noun. One way to deal with the gender problem would be to use a related concept from the network of conceptualizations – e.g. *Szkielet* 'skeleton' or even *Kosiarz* 'reaper man', capitalized in order to signal that they function here as the character's name. It would be in agreement with the plot of the book and it would read well. However, the meaning of the name and the cultural associations it triggers would have been narrowed down.

When one thinks about a CL approach to translation, the tools that are proposed there may help to gain some understanding of the translator's decision. First of all, the resources in both source language (SL) and target language (TL) may be compared. This analysis shows that both Polish and English have at their disposal three grammatical genders (feminine, masculine and neuter). In Polish, gender agreement is represented by different suffixes added to nouns, adjectives, pronouns, and some verb forms, while in English only pronouns are marked for gender, normally reflecting the biological gender of their referents. From this point of view, translation should be easy as both languages have the instruments needed. Secondly, conceptualization as a way of finding equivalents and putting the problematic concept into the network may be useful when the translator considers the alternatives. Finally, in the light of the CL alternative, translations may be assessed.

In addition, the experimental method could offer further insights into the process of translation. How does the brain react to the difference in gender? Are sentences (1), (2) and (3) processed differently in English?

- (1) Death put down the timer. He turned it over experimentally, just in case.
- (2) Death put down the timer. She turned it over experimentally, just in case.
- (3) Death put down the timer. It turned it over experimentally, just in case.

Eye-tracker may be used to gain understanding in how the reading process of the source text occurs. What are the tokens that the translator spends more time staring at? Is (2) more problematic for the translator than (1)? Taking into account gaze behavior, does the translator spend relatively more time on the gender-problematic item? What translation decisions do translators make? Do they decide to translate *death* as *śmierć* and then use incorrect gender agreement?

It has to be noted that two of the English examples, (1) and (3), seem to be considered correct by English native speakers. Sentence (2) sounds odd in English, as death is not conceptualized as a woman, but it is still grammatically acceptable. The next step would be to ask how native speakers react to the Polish translations of the sentences (1)-(3). Consider sentences (4)-(6):

- (4) Śmierć odłożył klepsydrę. Odwrócił ją na próbę, na wszelki wypadek.  
 (5) Śmierć odłożyła klepsydrę. Odwróciła ją na próbę, na wszelki wypadek.  
 (6) Śmierć odłożyło klepsydrę. Odwróciło ją na próbę, na wszelki wypadek.

Based on gender agreement, both sentences (4) and (6) should be treated as unacceptable because the feminine noun *śmierć* must be followed by a feminine marking on the verb in the past tense. But is this confirmed by the reaction of the brain? It may be assumed that (6) will be rejected because death is here conceptualized as a person performing actions that only human beings are capable of doing and neuter gender does not agree with this mental image. An EEG may show how the Polish native speaker unconsciously reacts to these sentences and what is considered a violation.

As presented above, a combination approach to translation could answer some crucial questions about how the translation process occurs when it comes to differences in gender and conceptualizations in two languages. Eye-trackers may be found especially useful in determining tokens in the text that are problematic, thus offering particularly valuable insights to how the text is being processed. When written translation is investigated, key-logging and screen logging may show how the TT is being produced. These findings may be complemented with an EEG study that will show how strongly the concepts are conceptualized in a gender specific form. EEG may also help to assess the correctness of the translator's decisions as assessed by native speakers of the language.

3.2. ARTICLES. Another problem that is based on differences in linguistic resources available in languages is that of articles. The English-Polish translation of articles was analysed by Tabakowska (1993) using the CL approach. Using the example of Tolkien's poem *The Mewlips*, Tabakowska shows that the shift of perspectives achieved by the use of appropriate articles cannot be fully rendered in Polish, as it is a language that has no articles. Thus article translation "presents an instance of genuine linguistic untranslatability" (Tabakowska 1993:82). Some languages that lack articles, e.g., Russian or Turkish, have other ways to express the (in)definiteness of a concept,<sup>2</sup> however, what is important for this discussion is the fact that Polish lacks a lexeme to provide an easy distinction between indefiniteness and definiteness. It may be assumed that professional translators, due to time constraints, usually do not spend much time on one sentence, and consequently, it may seem that they ignore the subtleties of meaning with respect to the articles.

By applying the combination cognitive approach to translation, it would be possible to investigate whether articles really constitute a translation obstacle that is recognized right away by the translator. Eye-tracking methods in particular may show the differences in the processing of sentences when they are arranged into minimal pairs similar to (7) and (8).

- (7) John is Elvis in this film.

<sup>2</sup> I would like to express my thanks to the anonymous reviewer of my paper for pointing this out and for many other valuable comments.

(8) John is an Elvis in this film.

It may be expected that the translator will spend more time on the article in (8).

Do translators see that there is a difference in meaning, with (7) saying that John is portraying “Elvis” in the film and (8) pointing out that John is portraying one of the Elvis impersonators in the film? Do they spend more time on (8) in general? Would there be a difference depending on whether the sentences were translated into a language with articles (e.g. German) or one with no articles (e.g. Polish)? In addition to eye-trackers, the use of key-loggers and screen-loggers would make it possible to analyse the process of producing the written translation.

4.0. WHAT CAN THE COGNITIVE APPROACH tell us about the relationship between language and thought? As shown above, none of the existing approaches to translation is very useful in understanding translation as a process. The proposed combination cognitive approach to translation can help us to understand how the bilingual brain works when performing a particular translation task. First of all, psycholinguistics may contribute important insights, since translation really is a bilingual task. Secondly, experimental methods allow us to determine what constitutes a problematic item in translation and how the text is processed. Finally, the cognitive linguistic understanding of equivalence makes the assessment of translation decisions more accurate. It is undeniable that more research is needed to provide an in-depth understanding of the translation process. However, as shown here, the interdisciplinary cognitive approach offers the best tools to conduct appropriate experiments and analyses leading to a more in-depth understanding.

Furthermore, this approach has other side benefits: a better understanding of the process of translation should help to improve translation training. It is crucial to define the problems in the process of translation. Moreover, if the results show that solving the problem once results in the creation of a pattern, drilling practices may be devised and will inevitably prove beneficial in training programmes. Additionally, once the cognitive aspects of the work of the human translator are better understood, the algorithms for machine translation may also be improved. Finally, the proposed research on the activities of a bilingual brain may be useful not only in the investigation of the translation process, but it may also offer insights into some properties of the architecture of natural languages. The method may be used to study how different language systems work in the minds of the speakers and how various subsystems of language, e.g. morphology and syntax, work together in order to disambiguate linguistic problems.

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