

(RE)COGNIZING AND COMPUTERIZING THE MEANING: APPLICATION PERSPECTIVE

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Purpose of the study – to outline the theoretical and methodological canvas as a way of understanding the *meaning (sense)* of a literary text from the perspective of cognitive translation studies with regard to the possibilities of computerization of the relevant meaning.

Methods. It is emphasized that the attention of cognitive translation studies is focused on various methodological developments that seek to solve the problem in two prevailing ways: 1) learning translational language as a means of research and cognition of mental processes (mind); 2) extrapolation of observations on the behavior of the body and mind / brain activity (body or brain). What these approaches have in common is the involvement of the mental processes of the author, the translator and the reader, who have their own interpretation of meaning and sense, respectively; each of them (author, translator, and reader) also has peculiar cognitive environment that shapes their cognition.

Results. It is stressed that the main achievement of the interpretive theory of translation, which gave impetus to cognitive translation studies, is the use and distinction of the terms meaning of texts or their parts and the significance of words. The current argument is that consciousness perceives meaning not by a sequential transition directed down-top, i. e. from understanding the meaning of individual words to putting them together, but rather top-down trajectory, thus expressing the interaction of language and thinking. In this sense, we do not regard translation as a linear transcoding operation, but rather as a dynamic process of comprehension and re-expression of ideas. Understanding of the meaning as a process in relation to mental operations and contexts leads us to believe that translation is not the prerogative of language, but rather the question (perception, comprehension, creation, addition) of meaning and communication through this meaning. Successful translation will require creative efforts to represent meaning. From a cognitive point of view, meaning cannot be exhaustively represented in language or any other representative system (for example, computerized). Instead, through recontextualization, the translator strives for an interpretive resemblance of the content of the original text.

Conclusions. It has been established that, despite the limitations, computer capabilities make it possible to process the original and translated literary text with attention to the meaning expressed in the text.

Key words: translation, cognitive translation studies, artistic prose text, computational translatology, sense.

(РОЗ)ПІЗНАННЯ ТА КОМП'ЮТЕРИЗУВАННЯ СМISЛУ: ПЕРСПЕКТИВА ЗАСТОСУНКУ

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Мета дослідження – окреслити теоретико-методологічні орієнтири для збагнення *сми­с­лу* (значення) художнього тексту з перспективи когнітивного перекладознавства з увагою до можливостей комп'ютеризації відповідного значення.

Методи. Наголошено на тому, що увагу когнітивного перекладознавства прикуто до різних методологічних напрацювань, які прагнуть розв'язати проблему у двох найяскравіших виявах: 1) вивчення мови перекладу (translational language) як засобу дослідження й пізнання розумових процесів (mind); 2) екстраполяція спостережень за поведінкою тіла та розуму / мозкової діяльності (body or brain). Спільним у цих підходах є задіяння ментальних процесів автора, перекладача та читача. Їм притаманне своє трактування *значення* (meaning) та *сми­с­лу* (sense), відповідно, і когнітивного середовища (cognitive environment), яке їх творить.

Результати. Акцентовано, що основним здобутком інтерпретативної теорії перекладу, яка дала поштовх когнітивному перекладознавству, стало вживання та розрізнення *сми­с­лу* (sense) текстів або їхніх частин та *вагомості* (signification) слів. Актуальним є міркування, що свідомість сприймає смисл не шляхом послідовного переходу знизу нагору, тобто від розуміння значення окремих слів до складання їх разом, а, радше, навпаки – згори донизу, у такий спосіб увиразнюючи взаємодію мови й мислення. У цьому ключі переклад розцінюємо не як лінійну операцію транскодування, а як динамічний процес сприйняття (comprehension) та перевираження (re-expression) ідей. Розуміння *сми­с­лу* (значення) як процесу у зв'язності з ментальними операціями й контекстами підводить нас до думки, що перекладання – це не прерогатива мови, а більше питання (сприйняття, збагнення, творення, доповнення) значення та спілкування посередництвом цього значення. Успішний переклад потребуватиме творчих зусиль репрезентації значення. З когнітивного погляду значення (смысл) неможливо вичерпно репрезентувати в мові чи будь-якій іншій репрезентативній системі (наприклад, комп'ютеризованій). Натомість через реконтекстуалізацію перекладач прагне до інтерпретативної схожості змісту оригінального тексту.

Висновки. Встановлено, що, попри обмеження, комп'ютерні можливості дають змогу опрацювати оригінальний та перекладений художній текст з увагою до оприявленого в тексті смислу.

Ключові слова: переклад, когнітивне перекладознавство, художній прозовий текст, комп'ютерна транслатологія, значення.

1. Introduction

Scholarly awareness of the multifaceted phenomenon of the cognition of the literary text, especially its meaning, is most fully revealed at the turn of the twentieth and twenty-first centuries. The achievements of researchers have made significant changes in the scientific paradigm of translation studies, which has led to a shift in established research priorities. We trace the shift of emphasis

from linguistically-oriented translation analysis to the attempt to understand the cognitive process and the accumulation of information and knowledge that we gain by learning and experiencing. Such an understanding makes the current study *novel* and *topical*. The searches deepen the reformatting of approaches to the study of image generating of certain conditions and trajectories beyond and outside of direct perceptual (perceptual) experience and conceptual inferences. Translation analysis is now not about finding typological equivalents (of syntactic and semantic nature) to the source text, but is based on “mind theory”, the most obvious manifestation of which concerns interpretative resemblance. The process of reading, or rather, comprehending a work of art is gaining new features. Accordingly, it is not the reproduction (or reading) of literary strategies used by the author, but their understanding. An important question is how these cognitive strategies work in the translation process. So far, such mechanisms remain quite elusive, particularly in terms of possible computerization.

2. Theoretical briefcase

Researches and attempts to *parameterize* cognitive translation studies (cognitive translatology) occurred at the beginning of the XXI century (Alves, Lykke Jakobsen, 2020). Which means it is at its fetus stage, very promising though. If to put it in one sentence, Cognitive Translation Studies is used as a general term to denote the research tradition in the field of translation studies, which focuses on explaining the *cognitive foundations* of translation and other tasks of language mediation.

Logically, cognitive translatology pays close attention to 4E (embodied, embedded, enacted, extended) cognition, cognitive shift, cognitive resources of a human translator, etc. Following Marianne Lederer, we trace here the consequence of interpretative approach to Translation Studies of French school of Danica Seleskovitch and Relevance theory in terms of Ernst-August Gutt.

New vistas of modern cognitology open up space for novel understanding of a meaning (sense) which is no longer trapped in a word or little below the word level (Bruner, 1990). Cognitive translatology sees mental processes of the author, the translator and the reader. All of them have their own interpretation of meaning and sense, according to the cognitive environment that creates or shapes them. Successful translation will require a *creative* meaning-representation effort. Such a revolutionary understanding of *meaning as a process* in connection to mental operations and contexts leads us to believe that translating is not the prerogative of language, but rather the matter of cognition, perception, comprehension, creation, addition of meaning and communication of its value and relevance. From a cognitive point of view, meaning cannot be exhaustively represented in language or any other representative system (for example, computerized). Instead, it is logical to strive for interpretative resemblance as embedded within the content of the original text through recontextualization. At the core we have the cognitive principle of relevance and meaning re-making. These aspects will be determined by the cognitive strategy of the translator and his/her shared cognition with the author: this is exactly where the biggest challenge rests.

3. Prior approbation

The paradox is that cognitive shift, we would call it, appeared as a response to computer sciences revolution back in the middle of 20th century. It was originally meant to satisfy the needs of software creation (Winograd, Flores, 1986). Much has been done in this respect in Interpreting Studies (think aloud protocols, eye-tracking, etc.) and written translation error correction (mostly by modern German school of translation that focuses on cognitive semantics approach). It is also earning its space in Ukrainian philological studies (Levchenko, Dilai, 2019; Khomytska et al., 2021).

Our interest now is the possibility of researching and processing artistic pros text (original and translated) from two prevailing paradigms: cognitive translatology and computational translatology. As a starting point to try out such a possibility we have done certain work, which is so far pure *instrumental*. Thus to check if any of our tasks will work, within a group of different scholars involved at different stages, we tried something smaller (Bekhta, Hrytsiv, 2021; Hrytsiv et al., 2021a; Hrytsiv et al., 2021b; Hrytsiv et al., 2020).

We focused on:

- creating of parallel translation corpus of Donna Tartt’s “The Goldfinch”;
- compiling of bilingual electronic dictionary of neologisms of Douglas Coupland;
- creating a bilingual concordance of Erich Fromm’s “The Art of Loving”;
- creating a database and dictionary of Interpreting Studies terminology;
- applying TEI to artistic text processing in relation to marking up meaningful unit of alienation and emotional dislocation of Sylvia Plath;
- ratio and coefficient deciphering in respect to original and translated text contrast, to mention here drama of “7 Stories” by Morris Panych.

This one helps to find out stylistic peculiarities of the original and check if they are preserved in translation.

Why would we need that? Because this is the future (Hertz et al., 1991; Noh, 1998; Popović, Ljubešić, 2014). If properly digitalized, we would be able to receive a global multi-accessible data at one click. To give you an example: it is well known that in movie translation dubbing there is a limit of 40 characters per line. Let us imagine having a ready-made paradigm of choices of same meaning, – be it for practice of translation or translation studies analysis. We also need to stress here the translation studies oriented data for analysis, because multilingual corpora and database are of different nature. Our current ambition is to go further and elaborate a “negotiable platform”, so to say, within the realm of a non-dialogic system, i. e. computer software. It bears no compromise; if it is well pre-processed and coded, it will work; if the data is wrongly chosen and coded, it will fail.

4. A practical perspective

What we desperately intend is to try to cognize posthuman phenomena being verbalized in a prose text and find the preliminary algorithm of the possibility to instrumentalize it via digitalization. Printed text is framed. It is easily analyzed via Natural Language Processing elaborations. It is now possible to trace various features of a text via already existing tools, say Sketchengine and N-grams possibilities. Since any text or narrative is contextually framed we move from cognitive translatology to cognitive semantics. We initially base our elaboration on the Vauquois triangle. It is well known that the Vauquois triangle is a classical hierarchically organized model for depicting different machine translation approaches.

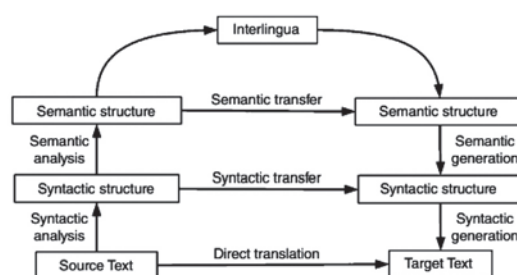


Figure 3.1 The Vauquois triangle of translation based on Vauquois (1968).

Figure 1. The Vauquois triangle

Figure 1 depicts three main approaches: *direct*, *transfer*, and *interlingua*.

The direct translation approach makes use of available bilingual dictionary with the intention to translate any (phrases or utterance) word by word resulting in word-for-word product of translation, where every word of a source language is matched to and substituted by a specific target word correspondence.

Transfer approach is much more complicated and consists of a number of operations: *parsing* the sentence of a source language to ascribe the sentence structure; *applying a set of rules to transfer*

the subsequent structure to the parse structure of the target language based on the knowledge of divergent and convergent features between the languages; *generating* the target language sentence from the obtained transformed structure.

Depending upon the context, this approach may combine syntactic transfer and semantic transfer or use them separately. Complicated translation tasks will call for a *semantic transfer*, where the source text structure must be transferred in accordance with the *meaning* and semantic roles it performs in the target sentence. It is a must for artistic translation. The next level interlingual approach begins with analyzing the SL sentence, then it represents it as an interlingua, afterwards it generates the TL sentence as based on this interlingua, being a language independent representation; any representation scheme can serve as a basis for it.

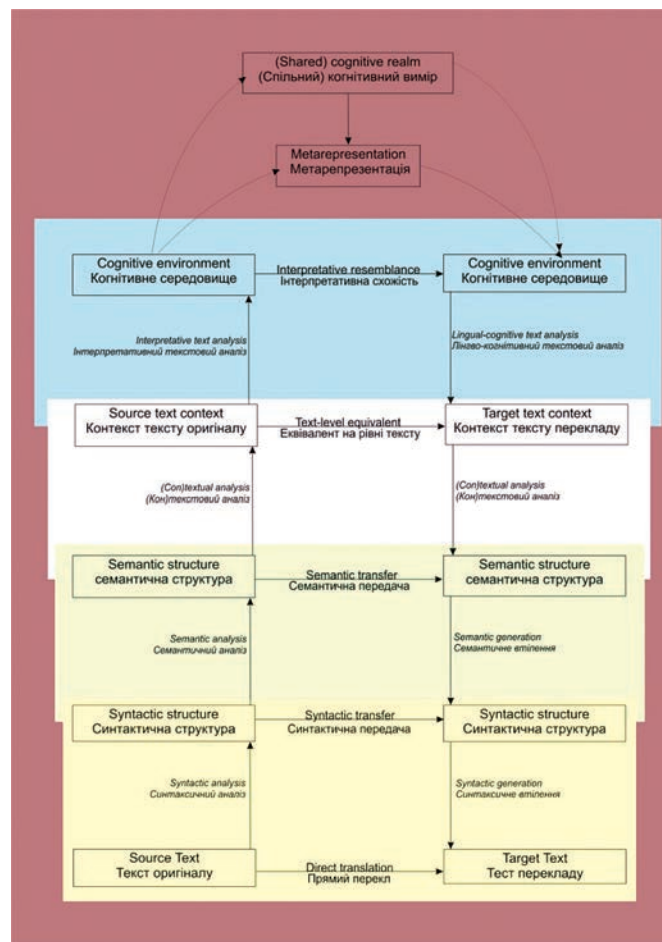


Figure 2. Cognitive metarepresentation hierarchical process

Thus, backing on the Vauquois triangle, we come up with the algorithm, which considers cognitive metarepresentation. The algorithm is being tried on the experimental novel “Lincoln in the Bardo”, written in 2017 by George Saunders and its vigorous Ukrainian translation done by Andriy Masliyk. Some results of the research are very satisfying, others – need further considerations. The results and findings of the practical application of the proposed algorithm are to be presented in the following publications of the authors.

5. Conclusions

Modern computer possibilities facilitate processing the original and translated literary text from the perspective of capturing the meaning expressed in the text via syntactic and semantic transfer and extending its realm to interpretative resemblance of a source and target texts. The current paper

presents modern understanding of meaning as being of non-linear and dynamic processual phenomenon. Based on the Vauquois triangle model, introduced for the first time is Cognitive metarepresentation hierarchical process to be further incorporated for processing original and translated texts of fiction.

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