



## Language and Translation: Interdisciplinary Effort and Synergetic Effect

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### Abstract

*Discourse oriented approach to language in translation acquires clear interdisciplinary concern that can be addressed from different focuses: cognitive science, linguistics, sociolinguistics, cognitive linguistics, pragmatics, artificial intelligence, etc. that have marked synergetic effect for mediated scientific communication. Complex interrelated problems inherent to cognitive and linguistic structuring and processing of information within mediated communication imply the need for efficient strategies of neutralization of differences arising between contacting languages, cultures, and scientific traditions viewed through the prism of communicative equivalence, inter alia, in different fields of knowledge. This article is aimed at analyzing specificities intrinsic to the interrelation between cognition, language and communication that are crucial for sign's real meaning flexibility within cognitive processing and linguistic presenting of knowledge within pragmatic presuppositions and implications, discourse inferencing encumbered by multifaceted phenomena of interdisciplinarity and translation. The methods of comparative and semantic analysis, as well as the method of translation and the questionnaire method find application in this research. The questionnaire engaged Ph.D. students from RUDN-university (n= 112) from different countries, such as Russia, Albania, Algeria, China, Colombia, Cuba, Ecuador, Jordan, Kirghizia, Vietnam, etc. We come to the conclusion that the role of an efficient tool for resolving a wide scope of problems concerning the functioning of language with respect to different areas of human knowledge in the context of mediated communication is acquired by the interdisciplinary effort that facilitates effectiveness of sense generation, perception, and interpretation within translator's activity aimed at achieving adequacy and equivalence when modelling cognitive space that ensures possibilities for the reconstruction of communication presuppositions and reinforces functional and semiotic potential of the mediated discourse in the target language. The article is of practical value for linguistics, theory and practice of translation, pragmatics, sociolinguistics, psycholinguistics, and discourse studies.*

**Keywords:** *cognition, translation, language, synergy, interdisciplinarity, cross-cultural communication;*

### Introduction

Owing to interdisciplinary nature, modern scientific paradigms offer specific instrument or tool that is viewed as a strong manifestation of the tendency that characterizes all fields of science to widen and facilitate intensive usage or application of analytical procedures and mechanisms, analytical apparatus elaborated by one scientific discipline in the way that it may be applied to make insight into the phenomena of other areas of scientific study.

Persistent necessity of arranging knowledge within scientific results, accumulated data, and information along with the need for acquired findings and facts of interdisciplinary nature derived from different fields of scientific research in what concerns one and the same object, *i.e.* language, to be correlated, predetermine respective changes in paradigms in linguistic science.

Close interconnections between language and translation, conceptually reconsidered or reviewed within the frames of cognitive discursive paradigm, have given rise to certain alterations or changes concerning the vector taken or imposed when viewing linguistic phenomena in the light of relationship thereof with scientific disciplines or a given field of study and to the new impulse of further development of the theory of translation as interdisciplinary science.

"The interdisciplinary status of translation studies, their close links with contrastive and text linguistics, socio- and psycholinguistics and semiotics, arise from the very nature of translation viewed as not only a speech act but also act of cross-cultural communication" [1:212].



## Discussion

When exploring translation/interpreting as a particularly complex type of speech communication in the course of which new texts are created, though the lens of translation theory, the analysis does not come reduced to linguistic mechanisms, for translation *per se* implies not only interaction of languages, linguistic systems thereof, but also brings the latter into mutual relation or interrelationship with cultures, branches of knowledge where reciprocal effects or influence thereof upon each other are viewed through the prism of sense generation and perception processes that take place within synergetic potential of mediated communication.

The latter acquires special relevance within the frames of a given act of mediated scientific cross-linguistic communication due to peculiarities that characterize exhibiting and presenting of scientific structures of knowledge or human experience in the source language [SL] and the target language [TL] that are crucial for semiotic and functional potential of scientific communication in what concerns communicative efficacy and adequacy of comprehension *per se*.

Continuity and succession in science is materialized or facilitated and evolution in scientific cognition within time and space in a given area of scientific research is embodied by scientific text that is created by the author and that plays the role of a channel in scientific communication. Intertextuality or intertextual links, in this connection, acquire particular relevance as they ensure sense augment of scientific text and constitute an important pragmatic prerequisite in what regards outlining and overcoming corresponding scientific problems within scientific text translation.

Thesauruses of scientific communication participants, their linguo-cognitive personalities, and social status are tacitly involved and represented in the communicative act as categories of presuppositions. Cognitive aspect of scientific communication is also viewed through the prism of equivalence of the participants' thesauruses that constitutes relevant parameter of presuppositions in what concerns scientific communication intertextuality and efficacy along with transfer adequacy and equivalence in sense perception.

## Methods and participants

Ph.D. students from RUDN-university (n= 112) from different countries, such as Russia, Albania, Algeria, China, Colombia, Cuba, Ecuador, Jordan, Kirghizia, Philippines, Syria, Vietnam, etc. that learn academic writing and translating from the English language into Russian and *vice versa* in different fields of scientific research such as Medicine, Pharmacology, Stomatology, Veterinary Medicine, Landscape Architecture, Landscape Gardening, etc. were engaged in this study. They were divided in five groups according to the models outlined in our previous article [see 2] (general structure, parameters of presuppositions, and ranking features of fundamental models that describe specificities of interaction of conceptual systems of the author, translator and the addressee within the given context of scientific communication) with special focus on the following variables:

- stage of learning: advanced and intermediate;
- type of text to be translated: scientific articles and reviews;
- type of learner: foreign language vs second language learner.

In our research the English-Russian combination of languages in translation was used by Ph.D. students that are neither English nor Russian native-speakers (64%) or with mother-tongue language different from the Russian, the English, the French or the Spanish languages (36%).

## Results

We have carried out a comprehensive analysis based on such methods as comparative and semantic analysis, as well as the method of translation and the questionnaire method in what regards epistemic conditions that ensure adequate comprehension and translation of such metaphorical medical concepts as "*a la carte* treatment", etc. that are widely used in scientific discourse as neologisms emerging in medical terminology in the English language. The following example may be given:

"In addition, Bureau *et al.* explored the possibility of adjusting **medical therapy *a la carte***, by adding isosorbide mononitrate (ISMN) to patients not responding to propranolol alone, defined as a reduction in portal pressure gradient (by means of the hepatic venous pressure gradient or HVPG) below 12 mm Hg or 20% from baseline. The goal was to maximize the number of patients in whom this target reduction of HVPG could be achieved (responders). They further proposed that non-responders to combination pharmacologic therapy would benefit from being offered an alternative therapy".

(A La Carte or Menu Fixe: Improving Pharmacologic Therapy of Portal Hypertension//Hepatology. Volume 36, Issue 6, December 2002, p. 1330)

The synergetic potential thereof to model new referents' conceptual features (*i.e.*, the ones of phenomena, objects and situations) and their combinations when shaping new metaphorical entities are crucial for sign's real meaning flexibility within cognitive processing of information in a given area of knowledge, *i.e.* a branch of medicine, due account taken of pragmatic presuppositions and implications and scientific discourse inferencing.

Having strong synergetic effect, the latter are potentiated by activating implicit cultural information manifested in French adoption "*a la carte*" that only in combination with professional background knowledge acts together to accomplish the aim of adequate verbalization thereof in the target text and TL exhibiting new conceptual qualities and attributes that encode intertextual links and predetermine efficacy of scientific communication.

Moreover, when forming new complex terminological units "*a la carte* therapy", "*a la carte* medicine", etc., they evoke predictable associations within special background knowledge frames and ensure adequate perception of the subject and referential situation in the English language. Along with terminological units "personalized medicine", "targeted therapies", "person or individual-based treatment", medical concepts just referred to above get adequate pragmatic reflection in medical discourse in the SL what can be illustrated by the following example:

"Personalized Medicine: An Emerging Standard of Treatment "*a la carte*".

(Acta Scientifica. Cancer Biology 2.6 (2018): 01)

Conceptual information that is explicitly or implicitly present in cognitive experience of specialists and scientists persists in human consciences in verbal and non-verbal forms and reflects pragmatically relevant specificities that characterize functioning of conceptual world picture in different languages.

It is of special relevance that in contrast to the English, the Spanish or the French languages, the Russian language (along with the Arabic, the Chinese or the Vietnamese languages) fails to produce similar parallel knowledge structures due to the differences of linguistic and extralinguistic character that predetermine involvement of extralinguistic knowledge in the sense perception and generation along with verbalization process in translation in what concerns French adoption "*a la carte*": 69 % of Ph.D. native speakers of languages just mentioned above confronted difficulties in comprehension and translation thereof into Russian, according to our questionnaire.

Cognitive transparency and ranking features of the English metaphorical concept in the Russian language do not come facilitated and contoured by the artificial nature of combination of Roman and Cyrillic alphabets within terminological word combination – "*a la carte* - лечение" and profiled as an adequate verbalization of the special medical background knowledge, particularly within the cognitive frames of professional backgrounds.

Moreover, another French adoption "menu"- «меню» is widely used in the Russian language when similar culturally prescribed situation is referred to in such word combinations as: «по выбору из меню», «заказывать порционные блюда», etc. Our questionnaire has shown that within opposition settled out in the scientific articles referred to above, as well as the title "*A la carte* or Menu Fixed Therapy of ..." lexical unit "*carte*" is mostly associated with the Russian word «карта» or «map», *i.e.*, "chart" in the English language (71%). When compared with particular characteristics thereof in the SL the latter activates another term and totally different referential situation in what regards the encoded and pragmatically intended one in the original English medical text predetermining failure or lack of understanding within translation into the Russian language.

## Conclusions

Based on equivalence of linguo-cognitive knowledge of participants of scientific communication and communicative situation specificities including those of presuppositions that may add new implications, it is special information and cognitive equivalence thereof in SL and TL that predetermine the scientific text content and establish grounds for adequate actualization of relevant communicative and pragmatic features thereof at the level of specificities regarding modelling of cognitive space in a given scientific discourse.

On the problem of modelling cognitive space that ensures reconstruction of cross-cultural cross-linguistic communication presuppositions and that reinforces functional and semiotic potential of the mediated discourse in the TL, effectiveness of sense generation, perception, and interpretation within translator's activity, it is the interdisciplinary effort that profiles synergetic effect that acquires



the role of an efficient tool for resolving a wide scope of issues concerning the functioning of language with respect to different areas of human knowledge in the context of mediated communication.

### References

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