
Cognitive linguistics as a part of cognitive science

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Annotation *This study explores the role of cognitive linguistics within the wider scope of cognitive science. It examines how this discipline developed in history through the works of Humboldt, Potebnya, Baudouin de Courtenay, Vygotsky, and Luria, to its recognition as an interdisciplinary field of study. This article also highlights the theoretical frameworks proposed by Lakoff and Johnson, Langacker, Fillmore, and Goldberg, which shaped the modern trajectory of the discipline. The article also traces the methodology of cognitive research, the outcomes of linguistic analysis, and the practical applications of cognitive linguistics in education, artificial intelligence, neurorehabilitation, and cross-cultural studies.*

Keywords *Cognitive linguistics, cognitive science, language and thought, metaphor, mental representation, embodied cognition, interdisciplinary research*

Когнитивная лингвистика как часть когнитивной науки

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Аннотация *В данной статье рассматривается место когнитивной лингвистики в широкой парадигме когнитивной науки. Статья изучает как эта дисциплина развивалась в истории через работы Гумбольдта, Потебни, Бодуэна де Куртенэ, Выготского и Лурии до признания ее междисциплинарной областью исследования. Особое внимание в статье также уделяется теориям Дж. Лакоффа и М. Джонсона, Р. Лангакера, Ч. Филлмора и А. Голдберг, определившим современную траекторию дисциплины. Также обсуждаются методология когнитивных исследований, результаты лингвистического анализа и практическое применение когнитивной лингвистики в образовании, искусственном интеллекте, нейрореабилитации и межкультурных исследованиях.*

Ключевые слова *Когнитивная лингвистика, когнитивная наука, язык и мышление, метафора, ментальная репрезентация, воплощенное познание, междисциплинарность*

Kognitiv fanlarning bir qismi sifatida kognitiv lingvistika

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Annotatsiya *Mazkur maqolada kognitiv lingvistikaning kognitiv fan paradigmasidagi o'rni yoritiladi. Disiplinaning rivojlanishi Gumboldt, Potebnya, Boduen de Kurtene,*

Vygotskiy va Luriya ishlari asosida boshlangan va keyinchalik interdisiplinar tadqiqot yo'nalishiga aylangani ko'rsatiladi. Shuningdek, Lakoff va Johnson, Langacker, Fillmore hamda Goldberg tomonidan ilgari surilgan nazariyalar zamonaviy kognitiv lingvistikaning shakllanishida muhim rol o'ynagani ta'kidlanadi. Maqolada kognitiv tadqiqot metodologiyasi, tilshunoslik tahlili natijalari va kognitiv lingvistikaning amaliy qo'llanishi – ta'lim, sun'iy intellekt, neyrorabilitatsiya va madaniyatlararo tadqiqotlarda – keng muhokama qilinadi.

Kalit so'zlar *Kognitiv lingvistika, kognitiv fan, til va tafakkur, metafora, mental reprezentatsiya, embodied cognition, interdisiplinarlik*

Introduction

Cognitive linguistics takes place in the paradigm of contemporary linguistics. Its rapid growth at the turn of the 20th and 21st centuries is a distinctive feature of modern scholarship. As highlighted by Demyankov and Kubryakova, cognitive linguistics explores language as a cognitive mechanism that encodes and changes information (Demyankov, 1996).

The second half of the 20th century became the time when many new scientific disciplines emerged, arising from the interdisciplinary interaction of two traditional sciences with longer histories. When describing such new scientific formations, the metaphor "at the intersection of sciences" is often used, emphasizing the interdisciplinary nature of the integration in question. The process of creating sciences "at the intersection" also affected the cognitive sciences, which study cognition – neuroscience, psychology, philosophy, linguistics, cybernetics, and anthropology – giving rise to many new fields of research. In this paper, we will be interested in the interaction between two cognitive sciences – linguistics and psychology – which gave birth to two new disciplines at once: psycholinguistics and cognitive linguistics. The birth of the former is usually dated to the early 1950s, while the latter appeared about 20 years later, in the early 1970s. The key question of this article is how these two scientific disciplines are

similar to one another and how they differ. At the very end of the 20th century, in an article published in the journal *Voprosy Jazykoznanija* (*Questions of Linguistics*), P. B. Parshin was rather categorical: "The former [psycholinguistics] represents the clarification of the psychological reality of linguistic hypotheses, their psychological justification; in other words, it is the application of psychological methodology to linguistic theory, for which, however, the theoretical responsibility lies with the science of language.

Unlike structuralist or purely generative approaches, cognitive linguistics regards language as part of the general cognitive system of humans. It is concerned with the conceptual processes underlying linguistic forms, showing that grammar, semantics, and discourse are intertwined with human perception, categorization, and reasoning.

Literature review

Classical foundations

The origins of cognitive science can be traced to early studies in neurophysiology and psychology. The idea that various types of linguistic activity are related to specific regions of our brain was established by researchers such as Broca, Wernicke, Sechenov, Bekhterev, and Pavlov. Based on these findings, Vygotsky and Luria developed neurolinguistics, emphasizing the role of the brain in speech production and comprehension (Kubryakova, 2004).

Potebnya argued that language is central to processes of perception, association, and apperception. He showed how new knowledge is formed by combining existing concepts. Humboldt proposed the idea of the "inner form of language" and saw language as a manifestation of national spirit. Baudouin de Courtenay described linguistic thought as containing unique knowledge about all aspects of human experience.

Modern theories

The modern era of cognitive linguistics was formed by several influential theories:

- **Conceptual Metaphor Theory (Lakoff & Johnson, 1980):** Abstract domains are understood through metaphorical mappings from concrete experience.
- **Cognitive Grammar (Langacker, 1987):** Grammar is a reflection of cognitive processes, not an autonomous rule system.
- **Frame Semantics (Fillmore, 1982):** Meanings are structured by frames, or mental schemas, representing everyday situations.
- **Construction Grammar (Goldberg, 1995):** Grammar consists of constructions –conventionalized form-meaning pairings.

Cognitive semantics and Embodied cognition

Cognitive semantics argues that meaning is not arbitrary but grounded in human experience. Embodied cognition emphasizes that linguistic categories arise from bodily interaction with the environment, showing that language cannot be separated from perception and action.

Research Methodology

This paper applies an interdisciplinary methodology that combines:

1. **Historical-comparative analysis** of classical works (Potebnya, Humboldt, Baudouin de Courtenay).
2. **Cognitive analysis** of linguistic phenomena such as metaphor, categorization, and prototypicality.

3. **Corpus-based methods**, examining authentic usage of cognitive structures in language.
4. **Experimental psycholinguistics**, including reaction-time studies and neurocognitive experiments.
5. **Cross-cultural comparison**, investigating how different societies conceptualize abstract domains.

This methodological diversity connects theoretical linguistics and empirical cognitive science.

Analysis and Results

The analysis demonstrates that:

- *Cognitive linguistics* developed as a discipline in the late 20th century, though its roots go back to earlier theories.
- *Cognitive grammar* reveals that syntax and semantics are inseparable, both reflecting conceptual organization.
- *Conceptual metaphor theory* explains abstract reasoning (e.g., "TIME IS MONEY") as structured by concrete experiences (Lakoff, 1980).
- *Prototype theory* shows that categories are not defined by strict boundaries but by prototypical members.
- *Frame semantics* illustrates how meaning is structured through schemas such as the "restaurant script" (Goldberg, 1995).
- *Construction grammar* highlights the role of conventionalized constructions in shaping meaning.

Discussion

Cognitive linguistics has far-reaching applications:

- **Artificial Intelligence:** Concepts from metaphor theory, frame semantics, and construction grammar are applied in natural language processing.
- **Medicine and Neurorehabilitation:** Research on language processing informs therapies for aphasia and other speech disorders (Caplan, 2011).
- **Language Education:** Cognitive linguistics helps explain abstract vocabulary and grammar through

conceptual metaphors, aiding second-language acquisition.

- **Cross-cultural Communication:** Different cultures conceptualize reality differently; cognitive linguistics uncovers cultural models and prevents misunderstandings (Sharifian, F2011).
- **Philosophy and Semiotics:** Cognitive linguistics provides insights into meaning, reference, and conceptual structures.

As Kubryakova notes, cognitive science is an umbrella term that encompasses psychology, linguistics, philosophy, artificial intelligence, anthropology, and even cognitive literary studies (Kubryakova, 2004).

Conclusion

Cognitive linguistics is a young but already mature discipline. It evolved from reflections on language and thought into a

dynamic interdisciplinary science. The field demonstrates how language reflects and shapes cognition, offering insights into perception, categorization, and reasoning. This research work made use of different tools to trace the development of cognitive science, such as works of Gumboldt, Lakoff, AI, corpus-based tools, and so on.

Future research should focus on:

- Developing multilingual corpora for comparative cognitive analysis.
- Expanding experimental studies with brain imaging (EEG, fMRI).
- Applying cognitive frameworks to translation, law, and media studies.
- Integrating linguistic research into AI for more human-like understanding of language.

Designing interdisciplinary education programs that combine linguistics, psychology, and technology.

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