

## Vector-Based Analysis in Cognitive Linguistics

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**Abstract :** This paper presents the dynamic, psycho-cognitive approach to study of human verbal thinking on the basis of typologically different languages /as a Mongolian, English and Russian/. Topological equivalence in verbal communication serves as a basis of Universality of mental structures and therefore deep structures. Mechanism of verbal thinking consisted at the deep level of basic concepts, rules for integration and classification, neural networks of vocabulary. In neuro cognitive study of language, neural architecture and neuro psychological mechanism of verbal cognition are basis of a vector-based modeling. Verbal perception and interpretation of the infinite set of meanings and propositions in mental continuum can be modeled by applying tensor methods. Euclidean and non-Euclidean spaces are applied for a description of human semantic vocabulary and high order structures.

**Keywords :** Euclidean spaces, isomorphism and homomorphism, mental lexicon, mental mapping, semantic memory, verbal cognition, vector space

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