ORIGINAL ARTICLE

INTERNATIONAL JOURNAL OF ARTIFICIAL INTELLIGENCE

ISSN: 2692-5206, Impact Factor: 12,23

American Academic publishers, volume 05, issue 05, 2025

Journal: https://www.academicpublishers.org/journals/index.php/ijai

COGNITIVE FEATURES OF ORTHONYMS

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Annotation: This article explores the cognitive characteristics of orthonyms, focusing on their role in language comprehension and processing. Orthonyms, words that are spelled and pronounced the same but have different meanings, present unique challenges and opportunities in cognitive linguistics. The study analyzes how the human mind distinguishes and interprets these words in various contexts, contributing to a deeper understanding of semantic ambiguity and mental lexicon organization. The findings have implications for language teaching, translation, and artificial intelligence applications.

Keywords: orthonyms, cognitive features, semantic ambiguity, language comprehension, mental lexicon, polysemy, context, linguistic processing

Introduction.

Language is a complex system that enables humans to communicate ideas, emotions, and information effectively. One of the fascinating aspects of language is how words can carry multiple meanings depending on context, which often challenges both language users and researchers. Orthonyms—words that share the same spelling and pronunciation but differ in meaning—are a prime example of such linguistic phenomena. These words require careful cognitive processing to correctly interpret their intended meaning in spoken and written communication. Understanding the cognitive features of orthonyms is crucial for several reasons. First, it sheds light on how the brain organizes and accesses the mental lexicon, the mental dictionary where word meanings and related information are stored. Second, it highlights the role of context in semantic disambiguation, demonstrating how listeners and readers use surrounding cues to resolve ambiguity. Third, it contributes to the fields of psycholinguistics, language teaching, and natural language processing by providing insights into how meaning is constructed and interpreted. This article aims to explore the cognitive characteristics of orthonyms, focusing on how individuals recognize and differentiate these words during language comprehension. Through an analysis of linguistic and cognitive perspectives, the study seeks to enhance our understanding of semantic ambiguity and mental processing mechanisms involved in dealing with orthonyms. Ultimately, this knowledge can improve language education methods and support the development of more sophisticated language technologies.

Main Body.

Orthonyms represent a unique linguistic category characterized by identical spelling and pronunciation but distinct meanings. This phenomenon poses intriguing questions about the nature of language processing and mental representation of words. From a cognitive perspective, understanding orthonyms involves examining how the brain distinguishes between these multiple meanings and selects the appropriate interpretation in real-time communication:

1. Nature and Classification of Orthonyms. Orthonyms can be considered a subset of homonyms, which include homographs (same spelling) and homophones (same pronunciation). However, orthonyms specifically combine both features—they are spelled and pronounced the same but differ semantically. For example, the word “bark” can mean the sound a dog makes or the outer layer of a tree. Such dual meanings highlight the need for contextual cues to resolve ambiguity.

2. Cognitive Processing of Orthonyms. Cognitive linguistics suggests that word meanings are stored in a dynamic mental lexicon, where semantic networks link related concepts. When

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encountering an orthonym, the brain activates multiple possible meanings simultaneously. The selection of the correct meaning depends heavily on contextual information such as syntax, semantics, and pragmatics. Neuroscientific studies using methods like functional MRI (fMRI) have shown that processing ambiguous words like orthonyms activates brain regions associated with semantic control and executive functions, including the left inferior frontal gyrus and the temporal lobes. These areas work together to inhibit irrelevant meanings and focus on contextually appropriate interpretations.

3. Role of Context in Semantic Disambiguation. Context plays a vital role in understanding orthonyms. Without sufficient contextual information, ambiguity remains unresolved, leading to confusion or misinterpretation. For example, in the sentence “The bark was rough to touch,” the meaning related to a tree’s outer layer is clear. In contrast, “The dog’s bark was loud” points to the sound meaning. Linguistic context includes syntactic structure and surrounding words, while extralinguistic context involves the speaker’s intention, the situation, and cultural knowledge. Effective communication relies on the integration of these contextual layers to disambiguate meanings.

4. Psycholinguistic Implications. The study of orthonyms provides insights into how humans process language efficiently despite ambiguity. Research indicates that skilled readers and listeners use predictive mechanisms and probabilistic reasoning to anticipate the intended meaning before fully hearing or reading the word. This predictive processing reduces cognitive load and speeds up comprehension. Moreover, orthonyms illustrate the flexibility of the mental lexicon, where meanings are not stored rigidly but are activated depending on contextual demands. This dynamic access supports language creativity and adaptability.

5. Practical Applications. Understanding the cognitive features of orthonyms has practical implications in several fields. In language education, teaching strategies can emphasize contextual awareness to help learners navigate semantic ambiguity. In translation studies, recognizing orthonyms helps translators choose accurate equivalents. In artificial intelligence and natural language processing, modeling the cognitive mechanisms involved in orthonym comprehension can improve machine understanding and generation of human language. For example, context-sensitive algorithms can better handle ambiguous words in text analysis and speech recognition systems.

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