

INTERDISCIPLINARY POLYSEMY AND TERMINOLOGICAL HOMONYMY

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Abstract. This article provides a comparative examination of interdisciplinary polysemy and terminological homonymy, exploring their origins, manifestations and implications for interdisciplinary collaboration. By elucidating the distinctions and commonalities between polysemy and homonymy, this study aims to foster clearer communication and deeper integration in interdisciplinary research endeavors.

Keywords: Interdisciplinary polysemy, terminological homonymy, meaning, semantic evolution, term.

SAHƏLƏRARASI POLİSEMİYA VƏ TERMINOLOJİ OMONİMLİK

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Xülasə. Məqalədə sahələrarası polisemiya və terminoloji omonimiyanın müqayisəli təhlili, onların mənşəyi, təzahürləri və elm sahələri arasında əməkdaşlıq üçün əhəmiyyəti araşdırılır. Məqalə polisemiya və omonimiya arasındakı fərqləri və oxşarlıqları aydınlaşdırmaqla, daha aydın ünsiyyəti və sahələrarası tədqiqatlarda daha dərin inteqrasiyanı təşviq etmək məqsədi daşıyır.

Açar sözlər: Sahələrarası polisemiya, terminoloji omonimiya, məna, semantik təkamül, termin.

МЕЖОТРАСЛЕВАЯ ПОЛИСЕМІЯ И ТЕРМИНОЛОГИЧЕСКАЯ ОМОНИМІЯ

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Резюме. В данной статье проводится сравнительный анализ междисциплинарной полисемии и терминологической омонимии, исследуются их происхождение, проявления и значение для междисциплинарного сотрудничества. Выясняя различия и сходства между полисемией и омонимией, данное исследование направлено на содействие более четкому общению и более глубокой интеграции в междисциплинарных исследовательских усилиях.

Ключевые слова: Междисциплинарная полисемия, терминологическая омонимия, значение, семантическая эволюция, термин.

1. Introduction

Addressing complicated problems that resist disciplinary answers has made interdisciplinary research - which incorporates ideas and methods from several fields - even more crucial. Nevertheless, the capacity to integrate different points of view is just as essential to the outcome of multidisciplinary projects as the variety of viewpoints that are presented. Divergent conceptual frameworks and terminology among disciplines provide a major obstacle to integration, resulting in what is known as interdisciplinary polysemy and terminological homonymy. While both phenomena involve variations in the meanings of terms across disciplines, they differ in their underlying mechanisms and implications for interdisciplinary collaboration.

2. Understanding Interdisciplinary Polysemy

The scholarly exploration of the relationship between homonymy and polysemy has captivated linguists since the 1920s and 1930s. Central to this inquiry is the need to precisely delineate and discern between the concepts of homonymy and polysemy. A foundational step in this endeavor entails a comprehensive understanding of the definitions and attributes associated with “polysemy” and “homonymy”

According to the lexical delineations provided in the dictionaries of linguistic terminology authored by D.E. Rosenthal and O.S. Akhmanova, polysemy is explicated as follows: “Polysemy, derived from the Greek roots poly (many) and sema (sign), denotes the phenomenon whereby a single word manifests several interconnected meanings as a result of semantic evolution and transformation”. This elucidation underscores the multiplicity of semantic nuances inherent within a singular lexical item, which emerge through historical and contextual shifts in linguistic usage [1, p.335].

A polysemous term demonstrates a cohesive semantic interconnection among its various meanings, often evidenced by the presence of semantic elements sharing similarities or semes. The attribution of polysemy to a term signifies its possession of multiple interconnected meanings. Crucially, polysemy is characterized by the existence of associative relationships among its various semantic manifestations, with the fundamental meaning of the term serving as its semantic nucleus, typically surrounded by subsidiary or metaphorical significations.

R.Z. Ginzburg's examination of polysemy underscores the centrality of the interplay and interdependence among multiple meanings within a word's semantic structure, emphasizing the dynamic nature of polysemous phenomena. R.Z. Ginzburg advocates for a dual perspective on polysemy, encompassing both synchronic and diachronic considerations. Synchronically, polysemy is viewed as a process of semantic development, encompassing the general alterations and adaptations within the semantic framework of a word. Diachronically, the evolution of polysemy entails the retention of the word's original signification alongside the acquisition of supplementary meanings over time. In this context, the primary meaning assumes primacy as the principal or foundational significance, while subsequent meanings are regarded as subsidiary, semantically derived from and etymologically linked to the core meaning. R.Z. Ginzburg's analysis underscores the role of usage-induced changes in a word's semantic configuration as a contributing factor to polysemy [9, p.33-51].

In his scholarly works, V.A. Tatarinov dedicates considerable attention to the phenomenon of terminological ambiguity. He defines polysemy as the capacity of a term to encompass two or more interconnected meanings, characterized by relationships of derivation, mutual motivation and categorization among them. In contrast to prevailing views among lexicologists and terminologists, V.A. Tatarinov does not regard terminological ambiguity as inherently negative. The linguist contends that linguistic evidence challenges the dogmatic notion advocating for term monosemy, which posits that all terms should possess a single,

unambiguous meaning. He argues that terminological ambiguity does not necessarily signify imprecision. On the contrary, V.A. Tatarinov asserts that heightened linguistic uncertainty often correlates with a deeper examination of subject matter, facilitating the elucidation of updated relationships between specialized conceptual frameworks and broader scientific paradigms. Moreover, he posits that increased ambiguity fosters a more structured delineation of the object of study. In essence, V.A. Tatarinov's perspective underscores the nuanced role of terminological ambiguity in scholarly discourse, advocating for its recognition as a facilitator of deeper exploration and refinement of conceptual frameworks within specialized domains [19].

Multidisciplinary discourse is rife with polysemy, the phenomenon where a single term encompasses many meanings [17, p.73]. Confusion and misunderstanding can be caused by polysemy, which makes it challenging to collaborate and communicate effectively [6, p.128]. Such uncertainty undermines transdisciplinary advancement and hinders the integration of information. The following examples serve as excellent examples of this complexity [10].

| Term | Definition | Science field |
|------------|--|--|
| Resilience | In environmental science refers to ecosystem stability and in psychology to psychological flexibility. | Environmental science, Psychology |
| Power | In physics, power is the rate at which work is done or energy is transferred, typically measured in watts. In social and political contexts, power often refers to the ability or capacity of individuals or groups to influence or control others, shaping social dynamics and structures. | Physics, Social Sciences and Politics |
| Culture | In anthropology, culture encompasses the shared beliefs, customs and behaviors of a particular group of people. In biology, culture may refer to the cultivation of microorganisms or cells in a laboratory setting. In sociology, culture can be understood as the shared norms, values and practices of a society. | Anthropology, Biology, Sociology |
| Memory | In neuroscience, memory refers to the processes involved in encoding, storing and retrieving information in the brain. In computer science, memory pertains to the electronic storage and retrieval of data in digital devices. In psychology, memory encompasses both the cognitive processes involved in remembering past events and experiences and the retention of information over time. | Neuroscience, Computer science, Psychology |
| Signal | In engineering and telecommunications, a signal is a physical quantity representing information transmitted through a communication channel, such as electrical voltage or electromagnetic waves. In biology and neuroscience, signaling involves the transmission of chemical or electrical impulses between cells or neurons, regulating various physiological processes. | Engineering, Biology, Neuroscience |

3. Investigating Terminological Homonymy

Homonyms are lexical units characterized by identical phonetic pronunciation and orthographic representation yet harbor distinct semantic connotations. The term "homonym" originates from the fusion of the Greek elements "om(o)-" signifying "same" and "-onimos", connoting "name". According to the definition proposed by I.V. Arnold, homonyms encompass

multiple words that share identical sound patterns and written forms while diverging in meaning, contextual usage and often etymological lineage [3, p.164].

Concerning the phenomenon of homonymy, R.Z. Ginzburg delineates homonyms as lexical units sharing akin phonetic structures yet harboring disparate semantic significations. R.Z. Ginzburg advocates for a classification system categorizing homonyms according to their lexical, lexical-grammatical and grammatical dimensions. Furthermore, R.Z. Ginzburg underscores two fundamental processes contributing to homonym formation: the subdivision of meanings within a polysemous word and the amalgamation of phonetic forms from multiple words during the historical evolution of language. R.Z. Ginzburg's classification of homonyms encompasses three primary factors: semantic meaning, graphic representation and phonetic structure. Within this framework, he distinguishes homonyms into three categories: homographs, homophones and complete homonyms [9, pp.33-51].

To visualize the classification of homonyms by R.Z. Ginzburg, we can create a simple table. Here's how we can represent it:

| Homonyms | |
|-------------------|---|
| Homographs | These are words sharing identical spelling but diverging in both meaning and phonetic pronunciation |
| Homophones | This category comprises words possessing identical phonemic representations but exhibiting distinct articulatory or acoustic realizations |
| Complete homonyms | Representing a convergence of identical spelling and phonemic structure, these terms nonetheless carry separate semantic interpretations |

R.Z. Ginzburg underscores the pivotal role of homonymy in the genesis of polysemy. Polysemy emerges as a result of language users perceiving the meanings of two homonyms as interlinked and unified semantic constructs, stemming from historical processes such as mutual analogy or the amalgamation of graphic and phonetic forms of the word. However, R.Z. Ginzburg notes that instances of such nature are exceedingly rare and often indicative of blurred conceptual boundaries [9, pp.33-51].

In the realm of linguistic inquiry, a consensus among scholars asserts that homonym pairings denote words sharing similarities in form and sound while diverging in meaning, lacking a common semantic component or element. These entities are construed as discrete, self-contained lexical units. Upon perusal of numerous definitions, it becomes apparent that a nuanced interrelation exists between the concepts of “polysemy” and “homonymy”. Despite the various proposed classifications of criteria, none have achieved universal acceptance in delineating homonyms from polysemy.

E.M. Galkina introduces the “synonymous replacement of meanings” criterion as a widely employed method for differentiation. According to this criterion, synonymous replacements of related words must be considered. If such synonyms fail to exhibit synonymous relationships with each other, the terms in question are classified as homonyms [8].

Similar to the aforementioned criteria, Sh. Balli proposed an antonymic criterion for distinguishing between homonymy and polysemy. According to this criterion, the presence of distinct antonyms indicates homonymy. Even if one of the meanings in a sequence of meanings is lost over time, the resulting isolation of the remaining words cannot be attributed solely to this loss. Homonymy denotes the coexistence of at least two entirely distinct concepts represented in the same manner in terms of sound or spelling. The characteristic of words possessing different meanings yet sharing identical linguistic forms is regarded as indicative of homonymy [24, p.93].

Terminological homonymy, where distinct terms share identical designations across disciplines, poses further challenges in interdisciplinary dialogue. For instance, “bank” in finance refers to a financial institution where deposits are held and loans are provided, while in geography, it denotes the land alongside a body of water, such as a river or lake. “Crane” in construction refers to a large machine used to lift and move heavy objects, whereas in ornithology, it signifies a large bird with a long neck and legs, known for its graceful movements. “Java” in computer science denotes a programming language and platform developed by Sun Microsystems, while in geography, it refers to an island in Indonesia known for its volcanic terrain and coffee plantations [10].

4. Comparative Analysis: Distinguishing Between Polysemy and Homonymy

In scholarly literature, despite the distinction between homonymy and polysemy, both terms are often discussed in conjunction. Homonymy arises when a single linguistic indicator corresponds to multiple distinct concepts. For instance, examples of homonymy include the Turkish first-person pronoun “ben”, which shares its form with the word denoting a spot on the skin. Similarly, the Turkish word “boş” exemplifies homonymy, as it denotes both a type of precipitation and serves as the antonym of “full” [2, p.192].

In “States of Knowledge: The Co-production of Science and the Social Order”, Sheila Jasanoff explores the complex relationship between science and society, arguing that scientific knowledge is not produced in isolation but is shaped by social, cultural and political factors. Sh. Jasanoff's work likely delves into how polysemy and homonymy intersect with the co-production of science and social order. By examining how language and communication shape the production and dissemination of scientific knowledge, Sh. Jasanoff may highlight the importance of recognizing and navigating linguistic ambiguities and differences in order to foster more effective collaboration and understanding between scientists, policymakers and the public [11].

In scholarly discourse, the distinction between polysemy and homonymy has been extensively explored, with various criteria proposed for their differentiation. The distinction between polysemy and homonymy is of great importance to lexicographers, as they have to decide on the best way to list words in a dictionary [16, p.52]. Accordingly, the lexicographer should pay attention to the difference between polysemy and homonymy. A word to be treated

as a polysemant will be entered in the dictionary with a single heading, but this will change if the word is treated with homonymy. A new heading must be added for a homonymous word. The choice of whether to offer a term to the dictionary user as a homonym or polysemous is left up to the author. Right now, it appears that the choices made are in line with the lexicographer's desires or his own personal inclinations. Stated differently, it would not be deemed appropriate for a dictionary user to determine a word's homophone or polysemy simply by consulting the dictionary [14, p.85].

Homonyms can manifest in different forms, as noted by Ullmann [23, p.358], who categorizes them into homophones, homographs and full homonyms, indicating variations in pronunciation and spelling. Elm identifies multiple sources of homonymy, including the accrual of multiple meanings, phonetic shifts and variations in citation forms [7, pp.640-642]. Palmer [14, p.86] underscores that disparities in spelling do not necessarily signify distinct origins, highlighting the potential for homophones to stem from a common root.

The distinction between polysemy and homonymy hinges on semantic coherence. Polysemous words maintain a semantic link among their varied meanings, often based on relationships like “part-whole” or conceptual similarity. Conversely, homonymous words lack any inherent semantic connection, with their meanings having diverged or become disjointed over time.

Etymological analysis serves as a valuable tool for disentangling the development of meanings and establishing derivational relations. It enables scholars to trace the evolution of word meanings, identify semantic shifts and discern potential connections or disparities in origins. Accessing a variety of reference materials, including etymological dictionaries and other scholarly works, is crucial for a comprehensive understanding of the structural dynamics underlying polysemy and homonymy.

A.A. Reformatsky called polysemantic terms belonging to different terminological fields interdisciplinary terminological homonyms [15]. When talking about the relationship between the concepts of interdisciplinary polysemy and interdisciplinary terminological homonymy, it is necessary to consider some factors that distinguish these phenomena. Interdisciplinary terminological homonymy is the overlap of unsystematic words in terms of sound and form. Interdisciplinary polysemantic meanings, on the other hand, represent a system in which the hierarchy and interaction of elements can be traced. Thus, homonym formation is a complex multiphase process with the word passing through phonetic, morphological and a number of other aspects, which occurs under the influence of both lexical units and the historical development of the language as a whole. In other words, two different words gradually approach each other independently. At the same time, the meanings of these lexical units may remain unchanged.

While both interdisciplinary polysemy and terminological homonymy involve variations in the meanings of terms across disciplines, they differ in their underlying

mechanisms and implications for interdisciplinary collaboration [5, p.76]. Polysemy arises from the evolution and diversification of meanings within a single term, reflecting the multifaceted nature of concepts and phenomena [13, p.34]. In contrast, homonymy stems from the coexistence of separate terms with similar labels, highlighting the diversity of conceptual vocabularies across disciplines [18, p.112]. While polysemy may foster richer semantic networks and nuanced understandings of complex phenomena, homonymy can hinder communication and integration by introducing confusion and ambiguity [22, p.56].

5. Strategies for Navigating Linguistic Challenges

Effective navigation of interdisciplinary polysemy and terminological homonymy requires awareness, clarity and collaboration among researchers [21, p.198]. Strategies for mitigating the impact of these linguistic phenomena include explicit definition of terms, promotion of dialogical engagement, cultivation of interdisciplinary literacy and utilization of interdisciplinary boundary objects [25, p.123]. Effective knowledge exchange is hampered by terminological polysemy and homonymy, which increase ambiguity and misunderstanding [12, p.91]. These differences make multidisciplinary communication more difficult and make it more complicated to synthesize different points of view. Various tactics can be employed by interdisciplinary scholars to address the issues raised by polysemy and homonymy. **Explicit Definition:** To promote clarity and understanding among researchers, terminology should be defined within disciplinary contexts.

Interdisciplinary Dialogue: Facilitating open discourse and collaboration enables the identification and resolution of terminological discrepancies [6, p.132].

Development of Shared Lexicons: Creating interdisciplinary lexicons promotes consistency and facilitates effective communication across disciplines [4, p.60].

Breakdown of polysemy and the formation of semantically unrelated words as a result.

By fostering mutual understanding and alignment of interpretations, these strategies can facilitate clearer communication and deeper integration in interdisciplinary research endeavors [19, p.167].

Conclusion. The study has highlighted that while both phenomena involve variations in the meanings of terms across disciplines, they differ in their underlying mechanisms and implications. Polysemy arises from the evolution and diversification of meanings within a single term, reflecting the multifaceted nature of concepts and phenomena. In contrast, homonymy stems from the coexistence of separate terms with similar labels, which can hinder communication and integration by introducing confusion and ambiguity.

Strategies for navigating the challenges posed by interdisciplinary polysemy and terminological homonymy have been discussed, emphasizing the importance of awareness, clarity and collaboration among researchers. Explicit definition of terms, facilitation of interdisciplinary dialogue, development of shared lexicons and consideration of etymological analysis have been proposed as effective tactics for addressing these linguistic phenomena.

Moreover, the paper has underscored the necessity of distinguishing between interdisciplinary polysemy and terminological homonymy, as they represent distinct phenomena with different implications for interdisciplinary collaboration. While polysemy involves a systematic evolution of meanings within a single term, terminological homonymy denotes the overlap of unrelated words in terms of sound and form. Recognizing these distinctions is essential for promoting clarity, understanding and effective communication across disciplinary boundaries.

In essence, by elucidating the complexities of interdisciplinary polysemy and terminological homonymy, this study contributes to the advancement of interdisciplinary research and fosters greater collaboration among scholars from diverse fields. Through continued exploration and dialogue, researchers can navigate linguistic challenges more effectively, leading to deeper integration and innovative interdisciplinary insights.

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