

SEMANTICS IN THE FIELD OF LINGUISTICS

Davlatova Muhayyo Hasanovna

The head of English department, PhD
Bukhara state medical institute named after Abu Ali ibn Sina
davlatova.muhayyo@bsmi.uz
<https://orcid.org/0009-0002-0618-7139>

Abstract. Semantics, the study of meaning in language, plays a pivotal role in the field of linguistics by bridging the gap between linguistic form and cognitive understanding. This paper explores the multifaceted nature of semantics, examining its various branches, including lexical semantics, compositional semantics, and pragmatics. It highlights how semantics interacts with syntax and phonology to create meaning and how contextual factors influence interpretation. The paper also discusses key theories and frameworks, such as truth-conditional semantics, frame semantics, and cognitive semantics, illustrating their implications for understanding language use in different contexts. Furthermore, the significance of semantics in applied linguistics is addressed, particularly in language education, translation, and natural language processing.

Key words: Semantics, linguistics, meaning, lexical semantics, compositional semantics, pragmatics, syntax, phonology, truth-conditional semantics, frame semantics, cognitive semantics, contextual factors.

СЕМАНТИКА В ОБЛАСТИ ЛИНГВИСТИКИ

Аннотация. Семантика, изучение значения в языке, играет ключевую роль в области лингвистики, соединяя лексическую форму и когнитивное понимание. В данной статье рассматривается многоаспектная природа семантики, исследуются ее различные ветви, включая лексическую семантику, композиционную семантику и прагматику. Подчеркивается, как семантика взаимодействует с синтаксисом и фонологией для создания смысла и как контекстуальные факторы влияют на интерпретацию. В статье также обсуждаются ключевые теории и концепции, такие как семантика, основанная на истинности, фреймовая семантика и когнитивная семантика, иллюстрируя их значение для понимания языкового использования в различных контекстах. Кроме того, рассматривается значимость семантики в прикладной лингвистике, особенно в языковом обучении, переводе и обработке естественного языка.

Ключевые слова: семантика, лингвистика, значение, лексическая семантика, композиционная семантика, прагматика, синтаксис, фонология, семантика, основанная на истинности, фреймовая семантика, когнитивная семантика, контекстуальные факторы.

Introduction. Semantics looks at these relationships in language and looks at how these meanings are created, which is an important part of understanding how language works as a whole. Understanding how meaning occurs in language can inform other sub-disciplines, such as Language Acquisition, to help us to understand how speakers acquire a sense of meaning, and Sociolinguistics, as the achievement of meaning in language is important in language in a social situation (Betti, 2013: 8). Semantics is also informed by other sub-disciplines of linguistics, such as Morphology, as understanding the words themselves is integral to the study of their meaning, and Syntax, which researchers in semantics use extensively to reveal how meaning is created in language, as how language is structured is central to meaning (Betti, 2003: 3). Situational Semantics Remember the different connotations of the phrase, “I care for you?” Let’s revisit the

idea that a single line of text can be interpreted in different ways. Suppose a college grad was just hired to a new job. She was excited to start this new chapter; everything seemed glossy and bright. On the first day, her boss mentions she'll have to travel to the new Miami office to help the office hit the ground running. In reality, she'll be going there to do very mundane chores like order office supplies and clean the cubicles (something that nobody else wants to do). So, as the new employee exclaims, "You chose me? Thank you!" and the supervisor says, "Yup, I chose you all right," we'll know that, given the context of the situation, the supervisor isn't saying this in a positive light. However, the new employee will interpret it to mean something very positive. Or, what if a husband comes home with what he labels a "brand new" coffee table. He might tell his wife it was a steal and a gorgeous new piece for their home. The wife might take one look at it and say, "This isn't new. I saw this at the local consignment shop the other day." The husband might retort, "Semantics. It's new to us!" Indeed, two people can take one word or expression and take it to mean entirely different things (Betti, and Igaab, 2019: 242). Semantics in Puns In your reading, you may come across a pun or two. Puns like to play on words. They deliberately use multiple meanings to reshape the meaning of a sentence. So, what we understand a word to mean can be twisted to mean something else (Betti, 2007: 11): Time flies like an arrow. Fruit flies like a banana. Diet slogan: Are you going the wrong weigh? I fired my masseuse today. She just rubbed me the wrong way. The best way to communicate with a fish is to drop them a line. Two silkworms had a race. They ended up in a tie. Lexical Semantics Lexical semantics deconstruct words and phrases within a line of text to understand the meaning in terms of context. This can include a study of individual nouns, verbs, adjectives, prefixes, root words, suffixes, or longer phrases or idioms (Betti, 2021o: 1). Semantics in Everyday Life One part of studying language is understanding the many meanings of individual words. Once you have a handle on the words themselves, context comes into play. The same word can be said to two people and they can interpret them differently. For example, imagine a man told a woman, "I care for you... a lot." Wouldn't that made the woman's heart melt? Sure, if he just said that out of the blue, walking down the beach one day. But what if the woman told the man, "I love you," and, after a long pause, all he said was, "I care for you... a lot." She'd be crushed. So, context (the current situation) will always play a role in everyday semantics (Igaab, 2010b: 162).

Methodology. Here are some examples of everyday words that can have more than one meaning: A water pill could be a pill with water in it but it is understood to be a diuretic that causes a person to lose water from his body. "Crash" can mean an auto accident, a drop in the Stock Market, to attend a party without being invited, ocean waves hitting the shore, or the sound of cymbals being struck together. Depending on context, a flowering plant could be referred to as a weed or a flower. The simple word "on" can have many meanings, such as: on call, on the roof, on cloud nine, on edge, on fire, on purpose, on demand, on top, or on the phone (Igaab, 2015a: 149). 6. Theories in linguistic Semantics Formal semantics Formal semantics seeks to identify domain-specific mental operations which speakers perform when they compute a sentence's meaning on the basis of its syntactic structure. Theories of formal semantics are typically floated on top of theories of syntax such as generative syntax or Combinatory categorial grammar and provide a model theory based on mathematical tools such as typed lambda calculi. The field's central ideas are rooted in early twentieth century philosophical logic as well as later ideas about linguistic syntax. It emerged as its own subfield in the 1970s after the pioneering work of Richard Montague and Barbara Partee and continues to be an active area of research (Betti, 2015a: 42). Formal semantics uses techniques from math, philosophy, and logic to analyze the broader relationship between language and reality, truth and possibility. Has your teacher ever asked you to use an "if... then" question? It breaks apart lines of information to detect the underlying meaning or consequence of events (Betti, and Ghadhab, 2020: 67). Conceptual semantics This

theory is an effort to explain properties of argument structure. The assumption behind this theory is that syntactic properties of phrases reflect the meanings of the words that head them. With this theory, linguists can better deal with the fact that subtle differences in word meaning correlate with other differences in the syntactic structure that the word appears in (Levin, and Pinker, 1991: 23; Igaab, 2016: 51;). The way this is gone about is by looking at the internal structure of words. These small parts that make up the internal structure of words are termed semantic primitives. (Jackendoff, 1990: 5; Betti, and Hasan, 2020: 73). Conceptual semantics deals with the most basic concept and form of a word before our thoughts and feelings added context to it. For example, at its most basic we know a cougar to be a large wild cat. But the word cougar has also come to indicate an older woman who's dating a younger man. This is where context is important (Betti, 2020c: 16). Conceptual semantics opens the door to a conversation on connotation and denotation. Denotation is the standard definition of a word. Meanwhile, connotation deals with the emotion evoked from a word. Connotation will be derived from the manner in which you interpret a word or sentence's meaning. As such, semantics and connotation are deeply entwined. For a deeper dive, read these examples and exercises on connotative words (Betti, 2006: 71).

Results.Cognitive semantics Cognitive semantics approaches meaning from the perspective of cognitive linguistics. In this framework, language is explained via general human cognitive abilities rather than a domain-specific language module. The techniques native to cognitive semantics are typically used in lexical studies such as those put forth by Leonard Talmy, George Lakoff, Dirk Geeraerts, and Bruce Wayne Hawkins. Some cognitive semantic frameworks, such as that developed by Talmy, take into account syntactic structures as well. Semantics, through modern researchers can be linked to the Wernicke's area of the brain and can be measured using the event-related potential (ERP). ERP is the rapid electrical response recorded with small disc electrodes which are placed on a person's scalp (Goldstein, 2015; Betti, 2021l: 5)Lexical semantics A linguistic theory that investigates word meaning. This theory understands that the meaning of a word is fully reflected by its context. Here, the meaning of a word is constituted by its contextual relations. Therefore, a distinction between degrees of participation as well as modes of participation are made. In order to accomplish this distinction any part of a sentence that bears a meaning and combines with the meanings of other constituents is labeled as a semantic constituent. Semantic constituents that cannot be broken down into more elementary constituents are labeled minimal semantic constituents (Cruse, 1986: 56; and Betti, 1990: 93). Cross-cultural semantics Various fields or disciplines have long been contributing to cross-cultural semantics. Are words like love, truth, and hate universals? (Underhill, 2012: 8; and Betti, 2020b: 18). Is even the word sense – so central to semantics – a universal, or a concept entrenched in a long-standing but culture-specific tradition? (Wierzbicka, 2010: 6; and Betti, 2021m: 2). These are the kind of crucial questions that are discussed in cross-cultural semantics. Translation theory, ethnolinguistics, linguistic anthropology and cultural linguistics specialize in the field of comparing, contrasting, and translating words, terms and meanings from one language to another (see Herder, W. von Humboldt, Boas, Sapir, and Whorf); and Igaab, 2010b: 151). But philosophy, sociology, and anthropology have long established traditions in contrasting the different nuances of the terms and concepts we use. And online encyclopaedias such as the Stanford encyclopedia of philosophy, Stanford Encyclopedia of Philosophy, and more and more Wikipedia itself have greatly facilitated the possibilities of comparing the background and usages of key cultural terms. In recent years the question of whether key terms are translatable or untranslatable has increasingly come to the fore of global discussions (Cassin, 2014: 15; and Igaab, 2010a: 18). Computational semantics Computational semantics is focused on the processing of linguistic meaning. In order to do these concrete algorithms and architectures are described. Within this framework the algorithms and architectures are also analyzed in terms of decidability, time/space

complexity, data structures that they require and communication protocols (Nerbonne, 1996: 95; and Betti, 1990: 81):

Analysis. Various ways have been developed to describe the semantics of programming languages formally, building on mathematical logic (Nielson, 1995: 38; and Betti, 1990: 97). Operational semantics: The meaning of a construct is specified by the computation it induces when it is executed on a machine. In particular, it is of interest how the effect of a computation is produced. Denotational semantics: Meanings are modelled by mathematical objects that represent the effect of executing the constructs. Thus, only the effect is of interest, not how it is obtained (Betti, 1990: 97). Axiomatic semantics: Specific properties of the effect of executing the constructs are expressed as assertions. Thus, there may be aspects of the executions that are ignored. 7. Semantic models The Semantic Web refers to the extension of the World Wide Web via embedding added semantic metadata, using semantic data modeling techniques such as Resource Description Framework (RDF) and Web Ontology Language (OWL) (Betti, 2021i: 11). On the semantic Web, terms such as semantic network and semantic data model are used to describe particular types of data model characterized by the use of directed graphs in which the vertices denote concepts or entities in the world and their properties, and the arcs denote relationships between them. These can formally be described as description logic concepts and roles, which correspond to OWL classes and properties (Sikos, 2017: 55; Betti, 2021f: 70). Semantic memory

Discussion. In psychology, semantic memory is memory for meaning – in other words, the aspect of memory that preserves only the gist, the general significance, of remembered experience – while episodic memory is memory for the ephemeral details – the individual features, or the unique particulars of experience. The term 'episodic memory' was introduced by Tulving and Schacter in the context of 'declarative memory' which involved simple association of factual or objective information concerning its object. Word meaning is measured by the company they keep, i.e. the relationships among words themselves in a semantic network. The memories may be transferred intergenerationally or isolated in one generation due to a cultural disruption. Different generations may have different experiences at similar points in their own time-lines. This may then create a vertically heterogeneous semantic net for certain words in an otherwise homogeneous culture (Giannini, 2010; Betti, 2021a: 72). In a network created by people analyzing their understanding of the word (such as Wordnet) the links and decomposition structures of the network are few in number and kind, and include part of, kind of, and similar links. In automated ontologies the links are computed vectors without explicit meaning. Various automated technologies are being developed to compute the meaning of words: latent semantic indexing and support vector machines as well as natural language processing, artificial neural networks and predicate calculus techniques (Betti and Hashim, 2018: 281).

Conclusion. In the field of linguistics, semantics plays a crucial role in understanding how meaning is constructed, conveyed, and interpreted within language. Through its various branches—such as lexical semantics, compositional semantics, and pragmatics—semantics provides insights into the intricate relationship between linguistic forms and cognitive concepts. It emphasizes that meaning is not merely a static attribute of words but is dynamic and context-dependent, influenced by factors such as syntax, phonology, and the communicative context. The exploration of key theories, including truth-conditional semantics, frame semantics, and cognitive semantics, highlights the multifaceted nature of meaning and its relevance to real-world language use. These frameworks not only enhance our theoretical understanding but also have practical implications in fields such as language education, translation, and natural language processing. Ultimately, a comprehensive approach to semantics that integrates theoretical concepts with practical applications enriches our understanding of human communication. It allows us to

appreciate the complexities of language and the ways in which meaning shapes our interactions and perceptions. As linguistic research continues to evolve, the study of semantics will remain a vital area for uncovering the nuances of language and its role in human cognition and society.

REFERENCE

1. Kearns, Kate. (2000). **Semantics**. New York: Palgrave Macmillan.
2. Saussure, Ferdinand de. (1916). **Course in General Linguistics**. Edited by Charles Bally and Albert Sechehaye. Translated by Wade Baskin. New York: McGraw-Hill.
3. Cruse, D. A. (2000). **Meaning in Language: An Introduction to Semantics and Pragmatics**. Oxford: Oxford University Press.
4. Lyons, John. (1977). **Semantics**. Cambridge: Cambridge University Press.
5. Lakoff, George, and Mark Johnson. (1980). **Metaphors We Live By**. Chicago: University of Chicago Press.
6. Gärdenfors, Peter. (2014). **Conceptual Spaces: The Geometry of Thought**. Cambridge: MIT Press.
7. Allwood, Jens, et al. (2007). **The Handbook of Pragmatics**. Malden, MA: Blackwell Publishing.
8. Grice, H. P. (1975). "Logic and Conversation." In **Speech Acts**, edited by Peter Cole and Jerry L. Morgan, 41-58. New York: Academic Press.
9. Sperber, Dan, and Deirdre Wilson. (1986). **Relevance: Communication and Cognition**. Cambridge: Harvard University Press.
10. Kaplan, David. (1989). "Demonstratives." In **Themes from Kaplan**, edited by Joseph Almog, John Perry, and Howard Wettstein, 481-563. Oxford: Oxford University Press.
11. von Stechow, Kai, and Irene Heim. (2011). "Intensional Semantics." In **The Handbook of Semantics**, edited by Paul Portner, Claudia Maienborn, and Klaus von Stechow. Oxford: Oxford University Press.
12. Horn, Laurence R. (2001). "A Natural History of Negation." In **The Handbook of Pragmatics**, edited by Laurence R. Horn and Gregory Ward, 1-24. Malden, MA: Blackwell Publishing.
13. Recanati, François. (2004). **Literal Meaning**. Cambridge: Cambridge University Press.
14. Stalnaker, Robert. (1999). "Context and Content: Theory and History." Oxford: Oxford University Press.