

Theory and Evidence in Semantics

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ABSTRACT

Semantics is the study of meaning involved in human language. To clearly demonstrate the relationship between semantics and language, we can picture it out like transportation. In this context, language is the vehicle that carries the semantics (meaning, thoughts and ideas) to the hearer. However, unlike the components of language (i.e.syntax, phonemes etc), semantics are abstract and is more closely related to one's logical and cognitive experience. Considering this peculiar nature of semantics, various theories were developed in the purpose of determining how such "meanings" are derived. Because of the complexity, the study of semantics does not only limit on the linguistic field alone but encompasses other fields such as philosophy, physiology, neurology and even statistics. In this study, the theories involved in semantics are investigated and how each theory, although seems valid, yet were deficient to explain the true origin and nature of meanings. The theories are generally subdivided into two main categories: the conceptual and referential theories. The conceptual theory focuses primarily on the cognitive representations of meaning. On the other hand, referential theory defines meaning as reference to facts or objects that can be observed in the outside world. Furthermore, this paper also explores the evidences in meanings and how the process is explained in scientifically and empirical way.

1. INTRODUCTION

Semantics is primarily a branch of linguistics which focuses on the study of meaning. Its main goal is to describe the meaning of linguistic elements and at the same time, to investigate the principle behind the assignment of meaning to these elements.

Language is used to convey meanings yet, meanings can also exist in one's mind and is expressed through language and communication. In other words, language is a vehicle in transporting meanings and thoughts from the speaker to the hearer. These meanings and thoughts are expressed in appropriate sound patterns (Phonology), then to corresponding word structures (Morphology) and eventually to their accurate sentence structures (Syntax). Needless to say, we are all interested in meanings, we find a joke really appealing though it depends its humor

on double meanings of words. Moreover, various commercial organizations spend a lot of money just making sure that their products and slogans conveyed the important meanings and thoughts among consumers and to the public (Kreidler, 2002, p.2). Meanings or semantics have deeper origin far from the established formal lexicons and syntax. Many authors even considered semantics as an abstract primarily, because it cannot be seen nor heard. It reflects closely to human capacity to think logically and understand (Bagha, 2011, p 1411). From the past thousands of years (from middle ages to modern era) of linguistic development, there are still arguments and speculations in semantics among linguists that are not answered nor solved yet. This is because each hypothesis and theories have their own basis and gives logical sense and values. Thus, giving rise to challenges in establishing a solid and universal semantic guidelines. Another problem faced by linguists in finding the precise approach to

semantic is that no two languages can consist the same words with the same meanings at the same time.

1.1 History of Semantics

The earliest foray of lexical semantics began with the glossaries of literary works which gave meanings to word list similar to modern day dictionary. Allan further provided a couple of earliest literary works which catered the development and practice of Lexeis (Allan, 2016, p. 50). These include the glossaries of poets and dramatists by Aristophanes of Byzantium (c. 257-180 BCE) and the Renaissance dictionary of Ambrogio Calepino's (c. 1450-1510) "Cornucopiæ". However, the modern use of semantics roots from an article by Michael Breal (1832-1915) as he defined it as "a science of significations" (Allan, 2016, p. 51). Eventually, the term gained popularity with his publication of *Essai de sèmatique: Science de significations* (translated as *Semantics: Studies in the Science of Meaning*). Furthermore, he stressed that it is an essential yet most neglected part of the linguistic study. This is because, a hearer directly scrutinizes the thought of word conveyed, eventually decontextualizing the meaning in the process.

2. SEMANTIC FEATURE AND ASPECTS

The essence of conceptual meaning in the study of linguistic are emphasized in the "oddness" (Bagha, 2011, p. 1415) we often encounter when we read the following example of sentences:

The rat chases the cat.
The tree fell from the child.
The caterpillar eats the bird.

The "oddness" of the above statements is not attributed by the syntactic component as they are syntactically accurate and syntactically acceptable. However, these sentences are semantically questionable. On the first sentence "*The rat chases the cat*", we have the conceptual meaning of the nouns "cat" and "rat" as well as the

verb "chase". We may find it odd to think that a small rodent will chase after a cat which is bigger in size. Likewise, it is impossible for a cat to get scared and frightened by a small rodent. By having such conceptual background of the nouns involved, we might conclude that it is quite impossible for a "rat" to "chase" after the "cat". On the other hand, if we observe the following commands:

You carry wine
You jump tree
Jane make cake

Although such fragments are not syntactically correct, we can comprehend what the speaker wants to say, thus, make them semantically precise. According to Weinreich (Weinrich, 1996: Paducheva, 1991 ,pp.194-195) conception of semantic feature has the following main purposes:

- It is being considered as basis of semantic agreement (such as examples above)
- It gives explanation on untypical and metaphorical phrases.

You are an angel.
Knowledge is the key to success.

- It gives temporary semantic contents to some ambiguous word in order to achieve semantic agreement.

She bears their harsh judgments.
The printer got a paper jam.

Furthermore, Kreidler (Kreidler, 2002) added the following aspects in which speakers demonstrate their semantic knowledge.

- The recognition when two words have essentially similar meaning in a given context. Thus, they can be used interchangeably without compromising the thought of the phrase (p.10).

Sheila is smart.
The dog is clever.

- The speaker can be aware when the meaning of the sentence contradicts another sentence. See the example below (p.10).

The lion is the king of the jungle.

The lion has very sharp teeth and claws.

The lion frightens many animals in the jungle.

The lion is chased by the deer.

- The speaker can recognize if the two statements are related and that one statement is probably true if the other statement is true (the pairs of statement as such is called “entailment” (p.12).

There are elephants, deer, crocodiles and tigers in the zoo.

There are animals in the zoo.

- The speaker can identify that messages relayed from one sentence may provide other pieces of knowledge. For example:

Allan will join a competition today.

Allan is a swimmer.

There will be a swimming competition today.

Allan will be joining a swimming competition today.

3. SEMANTIC THEORIES/THEORIES OF MEANING

Most of the theories acknowledged the role of conceptual and referential approach in learning semantics. However, problems and flaws were inevitable as each author tries to bridge the gap between human mind and its capability to create and understand the message of word/words uttered. Furthermore, in spite of this seemingly unending quest, which had apparently started since the time immemorial until up to date, many linguists fail to create their own solid standpoint on this matter.

3.1. Behavioristic Theory of Meaning

Behavioristic semantics is a product of the “scientific” approach in investigating the theory of

meaning. As Quine (Quine’s “*Indeterminacy of Translation Again*”) had described it, “*linguistic behaviorism*” can be defined as “the idea that semantic facts must be construed in behavioral terms; semantic reality is behavioral reality” (Baron, 1992, p.235). According to its foundation “Behaviorism”, it is a human or animal behavior which can be explained in terms of conditioning without considering the thoughts or feelings. If we will analyze it in the context of linguistic, semantics in particular, the meaning of a word conveyed to the receiver will depend on the receiver’s conditioned thoughts towards the object referred to that specific word. For example, if someone uttered the word *snake!* everyone will have the instinct to run as the snake is associated with a carnivorous and a venomous reptile. However, the response to the utterance *snake!* might be different for a veterinarian who was conditioned to care for all animals: including snake. In this illustration, we can define that people can have different understanding to a certain utterance (word) base on their conditioned thoughts, thus, eventually reflects on their behavior towards it.

However, the behavioristic approach has been a subject too for criticism. First, it completely disregards human thoughts and feelings. In other words, it treats humans as passive creatures like animals. Humans are active being and have a free will which is greatly influenced by his thoughts and feelings. If a child was conditioned by his parents not to draw close to a dog because it will bite him, yet he observed from his neighbor that dog can be a friend. He will eventually respond differently towards dogs and the utterance “*dog*” will not scare him. This will then lead us to the theory’s second weakness: conditioned thoughts are not something static. It can be subjected to change and modification. It can be learned and at the same way can be unlearned too

3.1.1. Ideational Semantics

John Locke, who is the father of classical liberalism made a ground breaking approach to human understanding. His essay entitled “*An*

Essay Concerning Human Understanding” became the principal source of empiricism. In this masterpiece, he described the mind as a blank slate at birth but is later filled through experience. Semantics as *empirical science* in this context, Locke described the relation between words and ideas as “Words in their primary and immediate signification, stand for nothing, but the ideas in the mind of him that uses them” (Locke, 1996: Chitsaz & Hodjati, 2011, p. 2). Hence, had given rise to the ideational theory of meaning that words are signs of subjective ideas rather than objects in the external world. Furthermore, Locke’s argument emphasizes that to consider a “communication” successful, it requires a hearer to accurately decode the speaker’s words into their associated ideas.

The theory could have been finessed if not for the shortcomings pointed out by some authors and linguists. Holm & Karlgen (Holm & Karlgen, 1995, p.3) argued that the theory has two flaws.

- First, there is no one-to-one or “exclusive” correspondence between image (idea) and word. They further provided an illustration where an image of the word “dog” could mean some varieties. These could mean a sleeping dog, an animal, a beagle or a hound (p.3).
- Second, we do not settle about meaning by searching for ideas (p.4). The establishment of public consensus of word meaning implies that meaning is a function of publicly observed linguistic norms. Hence, it gives no account for personal ideas and thoughts rather to the established, public and recognized meanings.

3.2. Referential Semantics

Referential theory has its origin in the philosophy of language, logic and mathematics. Among the influential entities in this theory are Gottlob Frege (1892), Bertrand Russell (1905), Alfred Tarski (1933, 1944), Peter Strawson (1950) and Richard Montague (1970). In this theory, meanings are described as “labels”. It can be explained by the logic that “a word has meanings because they stand of refer for things or in other words, they mean

what they refer to. Thus, the term “referential” in semantic theory came to be. The theory has its roots from Gottlob Frege’s attempt to formulate logic for the formalization of mathematical inferences (Speaks, 2018). To illustrate the concept, let us say, “*John Smith saw a heron*”. In this context we know that “*John Smith*” refers to a person whose name is John Smith. This is then followed by the verb “*saw*” or simply refers to the act of seeing. Lastly “*a heron*”, which we know, refers to a kind of bird. Therefore, since we have a reference of each word we can understand if someone tells us that “*John Smith saw a heron*”.

The theory seems simple to understand but like ideational semantics, referential semantics have its gaps too. The following are the lapses that the theory failed to consider:

- There are terms or words that do not refer to actual thing. For example the words anybody, nobody and Santa Claus. Such words do not directly denote to something or to a specific *persona* however, they cannot be considered “meaningless”.
- A single word can have various meanings. Let us take for example the word bear. This can mean a “*large mammal with coarse and thick fur*” or “*the act of holding up or support*” or can be “*the act of assuming responsibility*” and the list goes on. Other words which have multiple meanings are jam, nails, pool, bark etc.
- There are words that refer to abstract things or are sometimes called “abstract nouns”. Due to their abstract nature, they can mean different things for different people using them. We can use the word “*responsible*” for example. If we say “*Clara is a responsible mother*”, we can get the gist that “*Clara is a mother*” since they are all concrete nouns. However, the word “*responsible*” may not appear clear to us. That is, this word can imply various meanings. For one, being a responsible mother may mean “*a mother who can send their children to a good school*”. For others, it may mean “*a mother who can give their children everything they want*”. If the two mentioned examples are the only “standards” of a responsible mother, then, will it be impossible for a poor woman (who cannot send her children to a good

school and cannot give their children everything they want) to be called a “*responsible*” mother?

3.3. Traditional Semantics

The traditional theory originally started in Greek philosophy. This theory is neither focuses on conceptual nor referential but rather provides the distinction of meaning and referent. Both aspects significantly contribute to the interpretation and recognition of the thoughts and ideas referred to. According to the “traditional” theory, “meaning” is the expressed expression and “referent” is what that expression refers to (Holm and Karlgen, 1995, p.3). Thereby, supporting the statement that meaning is something an abstract that can only be understood by our intellect while referent is something concrete which may stand for actual things or object such as cat, bird, tree, house, etc.

3.4. Truth-conditional Semantics

Another theory which opposes to the idea of “meanings as entities” is Davidson’s truth-conditional Theory. Donald Davidson asserted that semantic theory should take into the account the theory of truth which was illustrated by Alfred Tarski in his prior works (Speaks, 2018). The theory can be illustrated by the following example:

Jane laughs
Jason dances
Dan climbs

According to the theory, the sentence is true if and only if the object to which “Jane” (example 1) refers is a member of the set of things that can satisfy the verb “laughs”. So we can think of it as “Jane” is one of the set of the things which can laugh.

However this theory has its own set of loopholes too. First, it denies the flexibility and creativity of language. Not to mention the wonders of metaphors (i.e. *Allan broke Jenny’s heart.*). Second, it does not account the speaker’s personal choice of words to relay his own meaning, as according to the theory’s rule, for it to be true, it

has to be “publicly recognized” as true. Thus, you have to use that “publicly recognized” truth for your sentence to be true. It will not even account the shared references at the subconscious level. Ultimately, it limits the meaning, intentions and choice of words in asserting the truth.

3.5. Use-Theory

Ludwig Wittgenstein had established another perspective in language and meaning. With this theory, he highlighted that it is the way an expression is used that identifies its meaning (Holm and Karlgen, 1995, p.4). Since meaning of an expression can be determine with its use, therefore, meaning cannot be taken out or rely from neither any particular object (referent) nor a mental idea. Analysis in meaning, according to this theory, is not directly concerned either with the word or the sentence per se rather; it considers that meaning can be found in the whole context of use. Utterance is defined in terms of speech act which has three definitive criteria (Whihaki, 2004, p.128):

- *Locutionary Act*

This process involves the choice and articulation of linguistic forms such as phonemes, syllables, words and phrases in accordance to an accurate grammatical rule and in order to create a certain linguistic meaning.

- *Illocutionary Force*

The illocutionary force can be explained by the purpose of the speaker in communication. The speaker has their own motives and this can include various motives such as persuasion, command or to simply inquire.

- *Perlocutionary Event*

This event reflects the response, reaction or consequence of the hearer upon receiving the communicated meaning from the speaker.

Moreover, Holm and Karlgen also clarified that this holistic approach on meaning should not be confused with the term “semantic holism”. While the latter asserts that “in order to comprehend an

expression, one need to understand a whole language”, the “use-theory” maintains that “in order to understand an expression, one need to master a set of practical activities in which such expression is used”. Furthermore, Wittgenstein pointed out that language is not only use to communicate or relay ideas but he also emphasized that speaking is “doing” something. These could include asking, joking, begging, requesting and convincing.

However, the nature of the theory that “*use* does not only play a role in meaning – the *use* is the meaning” was subjected to various criticisms. As implied in the theory, it denies that words have denotations or simply “denotations” do not exist. This theory completely overlooks the capacity of human mind to think and create meanings. Furthermore, it does not account the names which refer to things nor if the sentences can be true or false.

4. EMPIRICAL EVIDENCE OF SEMANTICS

According to Krifka (Krifka, 2011, p.4), Empirical evidence for meaning can come in various forms.

- The first evidence he pointed out is related to the observation on the external behavior or gestures of the participants in, before and after the act of communication (Krifka, 2011, p. 4). Furthermore, he added that most of the behavior can be more directly related to linguistic meaning than other factors. For example, a command or simply relaying your ideas to other person often gives off a visible non-linguistic response from the hearer. If the meanings of the utterances were successfully relayed by the speaker to the hearer, the latter might show some gestures reflecting their cognitive responses. These gestures may include smiling frequently and nodding of head (which shows agreement) or stroking of chin (thinking of their response after careful evaluation) or even raising of an eyebrow (which may imply disapproval). On the other hand, the hearer can also elicit verbal response by simply saying “yes” or “no” which are easily decodable.

- The second empirical evidence, Krifka had asserted is the measuring aspects of the external behavior in detail such as the speed in which passages of text are read. In an experiment investigating the psychology of reading (Garrod, 2003, p.4), the moving window experiment shows that words are identified and analyzed first before the eye moves on to the next word in a text (*immediacy hypothesis*). On the other hand, Garrod also mentioned that there is evidence too that semantic processing happens after the reader completes the whole clause or sentence before he proceeds to next sentence (*sentence wrap-up*). Either way, if one has difficulty in identifying the correct meaning or thought behind each word, it will eventually slows down the speed of reading passages of the text.

- The next evidence is related to the physiological response of a specific region in the brain: the cortex (meaning in neurolinguistics). Although other subcortical structures like thalamus and cerebellum contributes to language, the most complex computation happens in the cerebral cortex. The structure has a massive interactive information processing matrix attributed by approximately 30 billion neurons, each of which makes contact with at least 1,000 other cells: designed for high-level mental functions (Kemmerer, 2014, p.1). Different neuro-physiological processes are involved in different ways of communication such as speech (which are initially encoded in cochlea: a part of the inner ear) (p.4) and reading (input extends from retina: part of the eye on the inside) (p.7). During the mental process, electric signals are being transmitted in the neurons. To record the firing of the cells during this process, electrodes are placed directly in the brain as electric signals unfold on a matter of millisecond timescale (p.3).

5. CONCLUSION

Many challenges and uncertainties surround in determining the ultimate nature and origin of semantics. On how it sprung from one’s mental intellect and eventually, on how it is interpreted in one’s brain. Discovering the full potential and

capacity of human cognitive skills may seem impossible to happen because of the complexities and flexibility of human mind, time will come, it will be unfolded and revealed. Nevertheless, we learned that the various theories in semantics, although had some loopholes, but continuously gives rise to new contemporary theories which may soon fill the gap in understanding this crucial branch of linguistic. Perhaps, we need to continue the development by correcting the flaws of the past theories, perhaps we need to establish a new theory

accounting the present linguistic condition. Either way, we can conclude that there is so much more to work on and that empirical evidences would play a significant role in unveiling the mystery behind semantic context. Furthermore, although we learned that semantics can be of something independent and can be relayed with minimum utterances, we still have to put it in a very good condition vehicle (with proper and accurate phonemes, morphology and syntax) to make the transport of meaning successful.

REFERENCES

- Allan Keith. 2016. A History of Semantics. In N. Riemer (Ed). The Routledge Handbook of Semantics. Routledge, Abindon Oxon UK. pp. 48-68
- Bagha, Karim N. 2011. A Short Introduction to Semantics. Journal of Language Teaching and Research. 2(6). pp. 1411-1419
- Bar-on, Dorit. 2002. Semantic Verificationism, Linguistic Behaviorism and Translation. Philosophical Studies. 66. pp. 235-259
- Chitsaz M and Hodjati, Seyyed Mohammad A. 2012. Conceptualization in Ideational Theory of Meaning: Cognitive Theories and Semantic Modeling. Procedia-Social and Behavioral Sciences. 32. pp. 450-455
- Garrod, Simmon and Daneman, Merydeth. 2003. Reading, Psychology of. Retrieved from https://www.researchgate.net/publication/228050841_Reading_Psychology_of. Accessed on April 2019
- Holm, P and Karlgren, K. 1995. Theories of Meaning and Different Perspectives on Information Systems. In Proceedings of ISCO 3- International Conference on Information System Concepts – Towards a Consolidation of Views. Marburg.
- Kremmer, David. 2014. Neurolinguistics: Mind, Brain and Language. Researchgate. Retrieved from https://www.researchgate.net/publication/262284156_Neurolinguistics_Mind_brain_and_language.. Accessed on April 2019
- Kreidler, Charles W. 2002. Introducing English Semantics. Routledge London and New York
- Krifka, Manfred. 2011. Varieties of Semantic Evidence. An International Handbook. (Maienborn et al., eds.). Volume 1
- Locke, J. 1996. An Essay Concerning Human Understanding. Oxford: Oxford University Press
- Mwihaki, Alice. 2004. Meaning as Use: A Functional View of Semantics and Pragmatics. Swahili Forum 11. pp. 127-139
- Paducheva, Elena. 1991. Semantic Features and Selection Restrictions. Institute of Scientific and Technical Information Academy of Sciences of the USSR. Moscow. pp. 194-197

Speaks, Jeff. 2018. Theories of Meaning. The Stanford Encyclopedia of Philosophy. URL<<https://plato.stanford.edu/archives/win2018/entries/meaning/>>

Weinrich, U. 1996. Explorations in Semantics Theory. In T.A. Sebeok (ed). Current Trends in Linguistics, III. The Hague: Mouton. pp. 395-477