Abstract

Polysemy and homonymy are semantic phenomena that are part of our everyday language. Polysemous words possess two or more related senses; homonyms possess two or more unrelated meanings. These phenomena are distinguished by dictionaries based on two criteria: first, the word’s etymology, second, the word’s core meaning. Polysemous words are given one single entry, as they are believed to have arisen from the same historical source and possess a core meaning. Each homonym receives a separate entry, based on the claim that homonyms have arisen from different historical sources and that they do not possess a shared core meaning. This paper argues for various weaknesses in this approach. Etymology, the evidence used by scholars to support it, is assessed in order to argue that the historical origin of the word cannot always be determined, therefore some words are classified as being homonyms while they are really polysemous. It is also unclear how far back in history one must go in order to determine the true origin of the word. Various theories are assessed that argue for/against the existence of a core meaning being possessed by polysemous words as opposed to homonyms, along with the experiments that support/undermine this argument. Theories, such as Sense Enumeration Lexicon (SEL) and General Lexicon Approach (GL) have been discussed, both having opposing views when dealing with polysemy and homonymy. The paper concludes that the theories and research aimed at distinguishing between polysemy and homonymy are conflicting—therefore that the approach used by dictionaries in distinguishing between polysemy and homonymy is arbitrary.
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1. Introduction

Language is a fundamental part of our lives, we speak it, write in it and think in it. The words we use are combined in order to create utterances that convey meaning. As explained by Ullman (1962), meaning is the most ambiguous term in the theory of language as well as being the most controversial one. Language itself is ambiguous and words often possess more than one meaning; it is up to the language user to decide which meaning to choose based on the context of utterances.

Polysemy and homonymy are two representatives of ambiguity in language and are part of everyday language. The way people understand words spoken by others reflects their understanding of the senses expressed by these words. This paper will provide an overview of the approach used by dictionaries in order to determine whether a word represents an example of polysemy or homonymy, based on shared/different etymology as well as shared/different core meaning. As well as providing an overview this paper will argue against divisions based upon these two criteria and argue that polysemy and homonymy cannot be separated based on their etymology and possession of central or core meaning as this approach is arbitrary, and it is impossible to draw clear boundaries between these two semantic items.

Firstly, background information will be provided, where the approaches towards polysemy and homonymy will be given, along with a broader definition of these semantic terms. Secondly, the validity of etymology as criteria for distinguishing between polysemous and homonymous words will be assessed. Thirdly, the notion of polysemous words possessing core meaning, as opposed to homonyms, will be explained along with various research results on the subject. Fourthly, the two semantic phenomena—polysemy and homonymy will be compared, their similarities and differences explained, in order to argue that clear boundaries cannot be drawn between these two semantic phenomena.

2. Polysemy and Homonymy: Background Information

As explained by Crossley, Salsbury and McNamara (2010) polysemous words have more than one related sense, for example, the word *class* has six related senses or possibly more, including: socioeconomic class, a body of students, a course of study, a collection of things with similar qualities, a sports league ranked by quality, and elegance in dress or behaviour. Crossley, Salsbury and McNamara (2010) argue that homonyms, polysemous words and vague words form a continuum. Homonyms (words with one or two unrelated meanings) are
located in one end of continuum, and vague words (one meaning and one sense which can be applied over a number of different cases) are located in the other end. However, polysemous words (one core meaning with distinct related senses) is located somewhere in the middle. Falkum and Vincente (2015) explain that polysemy is widespread in natural languages, affecting both function and content words, and the intended sense is easily identifiable by the speaker; however, it is being proven to be very difficult to treat theoretically and empirically. Polysemy presents researchers with inherent problems, such as the difficulty of recognising whether a word is polysemous or not as well as identifying the number of senses a given word possesses. Another problem is to identify the primary meaning which represents the direct sense, therefore known as the dominant meaning of the word as well as telling it apart from other phenomena, for example, telling monosemy (words with only one meaning) apart from homonymy. An example of polysemy is given by Lyons and Cruse (1977; 1986, as cited in Klepousniotou, 2002), where a single lexical item represents several but different senses, such as mouth meaning both ‘organ of body’ and ‘entrance of cave’.

Another phenomenon in lexical ambiguity is homonymy, which unlike polysemy has a more concrete definition and boundaries. Klepousniotou (2012) explains that homonymy refers to words that have the same pronunciation and written forms, but whose meaning is unrelated and distinct as shown in one of the most frequently used examples of homonymy with the word bank, where bank1 means a financial institution while bank2 means the side of the river. Another example of homonymy is described by Cruse and Lyons (1986; 1977, as cited in Klepousniotou, 2002) where two items carry two or more unrelated meanings, is the word punch, where punch1 means a blow with the fist and punch2 means a drink. Klepousniotou (2012) also explains that the processing of ambiguous words, focusing on homonymy, has received a lot of attention in multiple areas, for example, in psycholinguistic literature, and multiple studies have found evidence that the representation differs for ambiguous words depending on whether these words are homonymous or polysemous, and the speakers make their choice based on their senses and the context. However, it is not always easy to tell one phenomena apart from another, and as explained by Falkum and Vincente (2015) telling apart phenomena in lexical ambiguity, such as homonymy from polysemy still possesses difficulties across disciplines, with multiple theories having been proposed in order to tell one apart from another.

In psycholinguistic theory it is believed that only the core meaning of a word has to be stored in the mental lexicon as different specific senses could be easily derived from the core meaning of the word. This theory is supported by Nunberg (1979, as cited in Klein and
Murphy, 2002), who argues for the need for separate lexical entries for different senses of a given word as all that is needed is stored in the core sense of the word, while questioning whether it is possible to determine which sense represents the core and based his argument on the common way a word sense can be extended polysemously. For example, the most frequent relations between senses include object/substance relations, as in:

1a. the cotton was dying from weevils [plant]
1b. the cotton of his sweater was warm against his skin [substance]

and object/substance relations as in:

2a. the book was unbelievably tedious [content]
2b. the book was bright yellow [object]

As explained by Klein and Murphy (2001) these senses would be derived by context as well as familiar patterns of extension, for example, new terms like movie, videotape, CD and DVD have all been derived following the same polysemic pattern as book uses in (2a-b).

Senses are represented differently in dictionaries. Different word senses are grouped and given entries based on their meaning. A dictionary might be consulted when one is in doubt whether a word is homonymous or polysemous. In dictionaries polysemic items are treated as a single entry, even if each entry represents many distinct senses (one lexeme, many senses), while homonyms have separate entries for each sense they represent (many lexemes each with one sense). Therefore, dictionaries treat homonyms as separate lexemes with separate senses while polysemous words have several senses grouped under one lexeme with each sense being derived from a dominant sense. The decision whether a word deserves a single or multiple entries is based upon two main factors.

The first is the etymology: words that are etymologically distinct are treated as separate lexemes (Palmer 1976). For example, in the case of different word forms with different origins these words are treated as homonyms and given a separate entry. On the other hand, words are treated as polysemous when they are known to be of a single origin, and therefore are given only one single entry. A second way of determining the word sense and deciding whether the word is homonymous or polysemic is the notion of a core or a central meaning. Polysemic words are believed to possess a core meaning while homonyms are believed not. According to Palmer (1976) we cannot rely on dictionaries in order to determine whether a word is representing polysemy or homonymy. The approach used by dictionaries to decide whether a word is polysemic or homonymic is arbitrary, as dividing words based on their etymology and possession of a core meaning is not always as straightforward as it might appear.
3. Etymology

Palmer (1976) explains that in dictionaries polysemous words and homonyms are grouped based on their origin: polysemic items are given one single entry based on a single historical origin, while homonyms are given separate entries for each homonym as they are believed to have different origins. At first this argument appears to be straightforward as it is logical that a semantic item with one origin should receive one entry, while an item with different origins should receive entries that correspond to the number of origins. This paragraph will review the criteria of word origin used by dictionaries in order to determine whether a word is representing a case of polysemy or homonymy in order to explain how successful this approach is when distinguishing between these two semantic items based on their etymology.

3.1 Etymology of Polysemous Words

3.1.1 Polysemy and Metaphor

Apresjan (1974, as cited in Klepousniotou, 2001) proposes dividing polysemy into two types: metaphorical polysemy, where an analogy is assumed to hold between the sense of the word and metonymic polysemy, where both basic and literal senses are the same. Therefore, it is widely believed that the meaning of polysemous words has been extended through metaphor and metonymy in order to acquire new meanings through active language users. Lakoff and Johnson (2003) explain that, although metaphor is often viewed as “a device of the poetic imagination and the rhetorical flourish – matter of extraordinary rather than ordinary language” they argue that metaphor is necessary for everyday use, in fact it is an important part of everyday life, not only in language but also in thought. They explain that we all think and act based on our conceptual system which is metaphorical in nature. However, this conceptual system is something we are not aware of, even if it governs our everyday lives, from the way we think to the way we experience the world around us through the use of language. The fact that a word with a single historical origin can have several senses (polysemy) is attributed to metaphor, as metaphorical expressions tend to extend meaning of the word and often alter it, creating a different meaning to a given word. Palmer (1976) discusses the striking example of metaphors that are found when talking about the parts of body such as the hand, foot, face, leg and tongue and explains how the speaker makes this choice based on intuition and context, as one might speak of the hands and face of a clock or
the foot of the bed or the mountain. Interestingly, only some of these meanings can be transferred to the relevant object as the clock has no legs and the bed has no hands. Therefore, in the case of polysemy a word has a literal meaning and a transferred meaning that has been extended through the use of metaphor. However, Palmer (1976) argues that metaphor is fairly haphazard as meaning is not transferred in the same way between languages and presents as an example, *an eye of a needle* which is acceptable in English but not in French, as in this language needles simply do not have eyes but in English ‘eye’ possesses various meanings attributed to phenomena such as hurricanes or a water spring that do not relate to the organ of the eye but are used metaphorically and represent metaphorical extension of a word.

The rule of transference has been observed by Leech (1971): irregular forms are derived from irregular senses, representing new cases of polysemy. He discusses Orwell’s oxymorons, ‘War is peace’, ‘freedom is slavery’, and ‘ignorance is strength’ and explains that literal interpretations are blocked by semantic violation or in this case contradiction, and this assigns a special interpretation by the invocation of an unorthodox rule of expression. He remarks that the rules of transference are a very powerful tool in language that helps to extend the meaning of a word as well as encourage the creative factor of a language. However, these rules apply only under certain items, circumstances as well as interpretations of a given language user. Therefore, the meaning of a word, as well as the senses it represents, varies across languages and cannot be based on one language, but has to be looked at separately in order to determine whether the metaphorical meaning of a word is a representation of polysemy and whether the word’s etymology can be traced to metaphor.

Another interesting proposal was made by Apresjan (1974, as cited in Klepousniotou, 2001) who argued that some types of metaphorically motivated polysemy are closer to homonymy, which distorts the notion of asserting whether a word is polysemous or simply a homonym based on this criterion.

### 3.1.2 Polysemy and Metonymy

The second type of polysemy as proposed by Apresjan (1974, as cited in Klepousniotou, 2001) is metonymic polysemy. Metonymy is explained by Lakoff and Johnson (2003) as a case where one word or a phrase is used as referential device, one entity is used to stand for another with its primary function being providing an understanding. For example: “We need a couple of strong bodies for our team (strong people)” is one of the examples provided by Lakoff and Johnson (2003). Apresjan (1974) argued the relation that is assumed to hold
between the senses of a word to be of contiguity or connectedness, therefore metonymically motivated polysemy respects the usual notion of polysemy. He continues and explains that in metonymically motivated polysemy both of the basic senses are the same. For example, the word *chicken* possesses the basic sense that refers to the animal and a secondary sense that refers to the meat of that animal. Further changes were observed by Nunberg (1979) who argued the changes of meaning in metonymically motivated polysemy not to be accidental (as in the case of homonymy) but more regular, and proposed to explain these changes of meaning by the function called by him the referring function (RF) with the general interpretation of x for y.

RF makes it possible to refer to distinct categories of things by using the same expression and as explained by Nunberg (1979, as cited in Klepousniotou 2001) gives us the option of identifying the referent by pointing at something called the demonstratum when we cannot point to the referent itself and therefore identify what the speaker is referring to. Klepousniotou (2001) provides an example of RF: ‘Washington voted for Bill Clinton’ and explains that the listener is able to identify that the speaker means ‘the inhabitants of Washington’ by using the RF general interpretation of x for y.

Another interesting argument provided by Apresjan (1974 as cited in Klepousniotou, 2001) is that metonymically motivated polysemy appears to be at the other end of the continuum from homonymy, which makes metonymically motivated polysemy differ quite substantially when compared to metaphorically motivated polysemy.

### 3.1.3 Polysemy Arising Through Foreign Influence and Semantic Borrowing

Polysemy can also arise through foreign influence as well as semantic borrowing (homonyms can also arise in this way as will be discussed in section 2.2).

Foreign influence is explained by Ullmann (1962) as one of the ways one language can influence another language is by changing the meaning of the words represented by that language. Therefore, sometimes the borrowed sense will succeed the old one. He presents an example of the French word *parlement* (from the verb *parler* ‘to speak’) which originally meant ‘speaking’, later began to mean ‘judicial’ court under the influence of the English word *parliament*, with the contemporary meaning ‘legislative assembly’ becoming the only meaning it is used for at the moment. Ullmann (1962) notes that often the old sense would survive alongside the new, therefore allowing it to rise to the state of polysemy.

Semantic borrowing is another way polysemy can arise, which is similar to the way homonyms can arise. Ullmann (1962) explains this to be especially frequent in the cases
when there is a close contact between languages, with one language serving as the model for another one. This was the case in the early Christian church where Hebrew had a powerful influence on Greek, and the latter had a powerful influence on Latin. He explains how many important concepts in Christianity developed through semantic borrowings either from Hebrew or Greek. For example, in the Bible for the sense, ‘angel’ the Hebrew word ml’k ‘messenger’ was often used. In Greek there was no word for angel, therefore the translators of the Bible copied the polysemy of the Hebrew term, and used the Greek ἄγγελος ‘messenger’ in the meaning of ‘angel’. Later from Greek this word was passed on into Latin, eventually becoming an international term: English ‘angel’, French ange, German Engel, Russian anez, Hungarian angyal, etc. Another interesting way polysemy occurred through semantic borrowing as discussed by Ullmann (1962) that Hebrew has influenced, is the case of the Greek κύριος, Latin Dominus, English Lord, French Seigneur and German Herr, all words meaning ‘master’ and ‘God’. Jewish people were not allowed to use the name of God, therefore they used ‘master’ instead. Through the translation of the Bible the word master as in Greek κύριος acquired an additional meaning ‘God’. This in the form of polysemy spread to the modern languages in Europe through Latin.

3.2 Etymology of Homonyms
Homonyms are believed to arise by a historical accident, when one form of a word has acquired two distinct meanings, therefore these words have kept the same spelling even if their meaning is completely different and unrelated. This approach, however, does not always prove easy to use, as some origins of words can be difficult to trace back in history and it is not always easy to decide how far in history one has to go in order to retrieve the original word form from which the given homonym has arisen.

Lyons (1977, as cited in Klepousniotou, 2012) proposed that homonyms differ etymologically based on their historical background, explaining that historically homonyms unlike polysemy are derived from distinct lexical items. Palmer (1976) gives an example of the word “ear” which represents the body part as well as being used to refer to an ear of corn. At first this appears to be an example of metaphor, and therefore polysemy, however, etymologists claim these two items are not related historically, therefore representing homonymy, even if these appear to be examples of polysemy. Other examples presented by Palmer (1976) are corn (grain) and corn on the foot, meal (repast) and meal (flour) all of these examples possess different etymologies. Palmer explains that history can be misleading
as it does not always reflect the present state of the language. He presents an example of words that historically are from the same source, and therefore would be considered polysemous: *pupil* (student) and *pupil of the eye or the sole* of a shoe with the fish *sole.* However, in today’s language these words are representing unrelated word pairs, and are considered to be homonyms. Therefore, it is not as easy as it appears at first to separate these two semantic phenomena as well as to claim that one item is a homonym based on its historical background. His argument continues with a question: does a different spelling indicate a different word origin? For example, words that are known to us today as homophones could be derived from the same original form as is seen in *metal* and *mettle,* flour and flower which poses a problem. In this case relying on a historic knowledge of these words would be to consider them as the same word even if spelled differently, therefore difference of spelling does not necessary guarantee difference in origin.

Ullman (1962) proposes three ways in which homonyms can arise. The first one and the most common one is phonetic convergence when two or more words with different forms to begin with coincide in spoken language as well as sometimes in writing which is most common in English and French. The second way homonyms arise is semantic divergence, which arises when two or more meanings of a word drift apart to such an extent that the connection between them is lost, consequently the unity of the word being lost, for example, *pupil* - ward and scholar, and apple of the eye and explains that the language is full of these so called secondary homonyms. The third way homonyms arise as proposed by Ullman (1962) is foreign influence which occurs when words introduced from other languages swell to the rank of homonyms in English as well as other languages. However, this third way has led to many conflicts as can be seen in these pairs: *gate* ‘entrance’ (from Old English *geat*) – *gate* ‘road, street’ (from Old Norse *gata*), and *straight* (from Middle English *streigt*) – *strait* (from Old French *estreit*, Latin *strictus*) which is eventually resolved when the loan word has been adapted to the local phonetic system. The fourth way homonyms can arise, is through semantic borrowing, which occurs through the influence of a foreign language. Ullmann (1962) bases his example on German homonym *Scholss* ‘castle’ and *Scholl* ‘lock’ and explains that the Czech and Polish words for a ‘lock’ *zamek* to also be used in the sense of ‘castle’. He continues, and explains that similar ‘loan-homonymy’ also occurs in Russian, also the dialect differences make it possible to distinguish one from another: *za* ‘mok’ ‘lock’- *zamok* ‘castle’. Ullmann (1962) explains the semantic borrowing to be a very rare process, therefore limiting the number of examples presented.
Ullman (1962) also explains that the speaker might not be aware of the historical origin of homonyms as they are not normally aware of etymologies and would establish the link between homonyms based on purely psycholinguistic grounds, therefore basing his decision only on the way they feel about the word rather than its origin. Interestingly, Palmer (1976) explains that these words are usually grouped in dictionaries based on their spelling difference rather than origin as their alphabetic position must be kept. The historical word origin is often not enough to determine whether a word is homonym or not as the historical derivation of many words is often unknown as well as it is unknown how far in history it must be investigated in order to be able to trace the history of the word in question.

4. Shared or a Core Word Meaning

As argued by Palmer (1976) a second criterion used by dictionaries in order to determine whether a word represents the case of polysemy rather than homonymy is an attempt to look for a central or a core meaning of a word. He argues that this is possible if one looks at an example of metaphor or a transferred meaning but generally it is a difficult task to determine the core or a central meaning of a word. For example, the noun ‘key’ is used not only as a key to unlock doors but also for a translation of a keystone, where the first word locks and the second unlocks which is an obvious interpretation to any reader, however it is not as easy to understand why it is used for the keys of piano and this makes it difficult to determine whether this is a case of polysemy. This problem appears to be much more complex in the use of verbs. The verb ‘charge’ can be used to represent electricity, a financial expense, cavalry attack or an accusation, therefore he questions how easy it is to determine the central or core meaning of a word.

This section will look at the various research conducted in order to discover whether polysemous words really do possess a central or core meaning that sets them apart from other semantic phenomena such as homonymy. The possibility of homonyms containing a core meaning will also be discussed in order to assess whether these two semantic items can be separated based on them possessing/ not possessing the core meaning. Research on the topic will be discussed as well and it will be argued that the notion of a core meaning in a word is not easy to determine as various research presents conflicting evidence, and this issue still divides researchers into those that believe that polysemous words possess a core meaning and those who do not.
4.1 Central or Core Meaning in Polysemy

Polysemous words are believed to share a core meaning that is similar across different senses, and this factor is supposed to set this semantic item apart from homonymy. Polysemous words are believed to possess primary and secondary meaning. It has been argued that the primary meaning of a word is derived or related to the core meaning and the secondary meaning is connected to the core either historically or psychologically. This notion can be linked to the early cognitive semantic account of polysemous words based on prototype theory, as noted by Dobric (2014). Prototype theory suggested the meaning of lexical items to be organized and grouped around a prototypical representative. Filmore (1982, as cited in Dobric 2014) proposed that the meaning that was grouped closer to the core meaning was more prototypical than others that were grouped further apart. However, the notion of polysemy possessing a core to which other meanings of a word relate and/or are derived from is still questioned by researchers in various fields, from linguistics to psychology. Various research has been conducted and various theories proposed in order to determine whether polysemy really possesses a central or core meaning and how it is represented in the minds of actual language users. If the notion of polysemous words possessing a core meaning is true, one could retrieve this core meaning when encountering a polysemous word and have an idea of what a speaker is talking about (Foraker and Murphy 2012). They continue and explain that the notion of polysemous words sharing a common meaning has been highly criticized in the linguistic field and explain that many experiments have actually found senses of polysemous words to have very few features in common, for example, the word ‘church’, when read in a neutral context does not allow a reader to access a core meaning of the word encompassing both a building and the religious organization as both of these concepts have few if any common features. For example, research by Klein and Murphy (2001) was aimed at investigating the amount of overlap of different senses by using a priming technique, where the use of one word was followed by another, which represented the same or a different sense, in order to discover whether the notion of polysemous words sharing a core meaning is true.

The research consisted of five experiments where each of the experiments was aimed at discovering a different aspect of the way polysemous words are represented and recognized by the participants. Experiment 1 was aimed at investigating if participants were better at recognizing a word used in the same or different sense than its original representation. The
participants read and were asked to memorize phrases consisting of polysemous words, biased in interpretation towards one of two senses. Later the same participants viewed similar phrases where one or two words were capitalized, in order to decide, whether they have seen the capitalized word before. Experiment 2 focused on the representation as well as processing of polysemous words, and participants were asked to make sense/ nonsense judgment on phrases similar to ones represented in Experiment 1. Experiment 3 was used in order to replicate Experiment 2 as well as assess the size of consistency effect which arises because different semantic properties are involved in different word uses. Experiment 4 was a control experiment which tested if priming of the modifiers might be responsible for the consistency effects, that were obtained in previous experiments. Experiment 5 aimed at investigating whether priming of polysemous word senses occur because of inhibitory or facilitory processes.

Interesting results were obtained. Firstly, they concluded that the senses of polysemous words are not very similar, therefore supporting the previous experiment by Klein and Murphy (2001) where lack of priming between polysemic senses was found. Secondly, no evidence was found to support the view of a core meaning being accessed when encountering a polysemous word, based on the low rate of different senses of the same word being categorized together by the participants, which shows that different senses of polysemous words are even less related than previously believed. Weak nature of induction across various senses was also observed that supporting the previous claim. They give an example for the representation of the word *paper* which is not possible by the access to a single semantic description every time the word is used such as ‘flat sheet made of pulp’. The evidence arguing against polysemous words possessing a core meaning involved. Interestingly, no qualitative difference between polysemy (core meaning) and homonymy (no core meaning) was found, which should be the case if the notion of one possessing core meaning and another not possessing core meaning is expected. Another research by Klein and Murphy (2002) found similar results and concluded that even if there is a core meaning present in polysemous words it has minimal content. They also concluded that more research should be done as polysemy is a complicated semantic item and it is difficult to draw clear boundaries in order to determine the nature of its representation.

However, other research has found evidence for polysemy possessing core meaning, for example research by Klepousniotou (2012) found that polysemous words (metonymous words) were processed faster in the brain than homonyms and showed a greater priming effect that corresponds with the generative lexicon approach and the theory of a single
semantic representation that allows the processing of the word to be faster as a single core meaning has to be accessed. The generative lexicon approach is the new way of viewing decomposition proposed by Pustejovsky (1996) which differs from the two distinct approaches of the word meaning: primitive based theory which assumes the word meaning to be defined in the terms of fixed primitive elements, and relation based theory which proposes decomposition of the words not to be necessary if these words are associated through a network of explicitly defined links. Pustejovsky’s (1996) generative lexical approach proposes to examine more generative or compositional aspects of lexical semantics and defines his approach as a system involving at least four levels of semantic representation with a set of generative devices connecting those levels.

Interestingly, it was also found that polysemous words were processed differently, metonymous words were processed faster and received more priming than metaphors. If it is assumed that polysemy and homonymy appear at different ends of lexical ambiguity, metonymous words should be placed somewhere in the middle.

4.2 Shared or Core Meaning in Homonymy
As explained by Palmer (1976) a second way established by dictionaries to separate polysemy from homonymy is looking for the central core meaning possessed by the word. He explains it to be a complicated task, as it is not easy to determine whether a word possesses any central meaning. He argues it to be possible in the cases of metaphors, or ‘transferred’ meanings for polysemous words, however admitting that often it is difficult to decide whether the word has any core meaning at all. Even if it is believed for homonymy not to possess core meaning, evidence of the presence of core meaning in polysemy are conflicting. For example, some research found no core meaning in polysemous words (Klein 2001, Klein and Murphy 2002), while other research found polysemous words to be processed faster than homonyms, therefore arguing for the presence of the core meaning (Klepousniteoe 2012). This is conflicting evidence; therefore, it is not possible to claim for homonyms not to possess the core meaning as opposed to polysemy.
5. Sense Enumeration Lexicon and Generative Lexicon Approach

Sense Enumeration Lexicon (SEL) and General Lexicon Approach (GL) are two approaches that greatly vary in the treatment of polysemy and homonymy, and their representation in the mental lexicon. This section will briefly discuss both of these approaches, as well as discussing two main theories relating to these approaches, sense enumeration lexicon hypothesis and one representation hypothesis. The representation of polysemy and homonymy, as claimed by these two opposing theories will also be discussed, along with their opposing views of the way homonymy and polysemy are represented in the mental lexicon.

5.1 Sense Enumeration Lexicon

According to Asher (2011) the sense enumeration model is monomorphic (single form) and argues for all possible meanings of the lexical item to be represented in lexicon as part of that item’s entry. According to him this is the simplest model conceptually, and is used by dictionaries in order to group words, and explains that according to this theory most of the words are ambiguous. Although, considered simple, this theory still provides researchers with certain difficulties, for example, it fails to distinguish why some senses are intuitively related by the language user, while others are not.

Pustojevsky (1996) discusses this theory, and explains the nature of sense extensions, claiming that many words have more than one meaning. He discusses two types of these sense extensions that can be distinguished in lexical ambiguity, firstly, *contrastive ambiguity*, when a lexical item accidentally carries two distinct meanings (homonymy), and *complementary polysemy* which involves lexical senses that manifest the same, basic meaning. Pustojevsky (1996) explains that sense enumeration treats *complementary polysemy* as ‘a subspecies of contrastive senses’, as most work in SELs has dealt with *contrastive ambiguity*. Pustojevsky (1996) defines SEL in this way:

A lexicon L is a **Sense Enumeration Lexicon** if and only if for every word w in L, having multiple senses S₁,…Sₙ associated with that word, then the lexical entries expressing these senses are stored as \{wₛ₁,…,wₛₙ\}.

5.1.1 The Sense Enumeration Lexicon Hypothesis Arguing for Similar Representation of Polysemy and Homonymy

Various theories have been proposed, that claim a similar representation of polysemy and homonymy in the mental lexicon. For example, the sense enumeration lexicon hypothesis,
first proposed by Katz (1972, as cited in Falkum and Vincente 2015) proposes that each of a polysemous word’s senses, as well as the senses of homonyms are stored separately, therefore each sense and meaning is believed to have a distinct representation in the mental lexicon. Distinction in storage, and processing is believed to be similar for both semantic items, polysemy and homonymy. Polysemy resolution as well as homonymy resolution are both consistent in selecting a sense or meaning that is associated with the word form as explained by Vincente and Falkum (2015). This theory is explained to be one of the simplest ways to deal with such a complicated semantic phenomenon, and therefore encounters many problems, both on empirical grounds as well as theoretical. From the theoretical point of view difficulties presented by this theory have to do with storage of word senses and meanings. Storing each sense and meaning separately in the mental lexicon would require an enormous storage capacity, as many words represent many different senses. For example, Brugman (1988, as cited in Falkum and Vincente) has identified the English preposition *over* to be associated with almost a hundred different senses. However, the problem is not purely based on the storage capacity, it is also based on the ‘polysemy fallacy’ (Sandra, 1998, as cited in Falkum and Vincente 2015) which is the failure to distinguish between the word meaning that results from the interaction with the context, and the meaning which is the part of the word.

Another theoretical problem faced by the sense enumeration lexicon hypothesis as discussed by Falkum and Vincente (2015) is the pervasive nature of polysemy. For example, one sentence might contain more than one polysemous item. Therefore, the language user would have to access all possible sense combinations, when encountering each polysemous word, as selection of one sense would depend on the selection for the rest of the senses, which would prove to be complicated, and a resource consuming process.

Empirical problems encountered by the sense enumeration lexicon hypothesis are based on it not distinguishing between polysemy and homonymy. Various research in psycholinguistics has argued against this claim, for example research by Klepousniotou (2008, as cited in Falkum and Vincente 2015) has discovered for different senses of polysemous words to prime each other, meaning, that by one senses activation other senses are activated as well. While homonymy resolution, instead of priming, involves competition. Other research by Azuma and Orden (1997, as cited in Falkum and Vincente 2015) as well as Klepousnitou and Baum (2007, as cited by Falkum and Vincente 2015) has discovered the processing advantages in polysemous words with many closely related senses, words with more senses were processed faster as opposed to the words with fewer senses.
However, recent research by psycholinguists has succeeded in resolving some of the empirical problems encountered by the sense enumeration lexicon hypothesis (Foraker and Murphey 2012, Klein and Murphey 2001 and Pylkkänen et al., 2006, as cited in Falkum and Vincente 2015). The research by Klein and Murphy (2001) sought to investigate the representation of the polysemous words by using behavioural tasks. Their research concluded that polysemy and homonymy should be represented in a similar way, because of the lack of priming effect found for the senses of polysemous words. Another study by Foraker and Murphy (2012) used the eye-tracking technique and concluded that some polysemous senses do behave like homonyms, however not all polysemous senses behave in the same way, and for them a different approach might be required.

5.2 Pustejovsky’s Criticism of Sense Enumeration Lexicon

Pustejovsky (1996) is highly critical of the sense enumeration lexicon, and claims it to be, ‘inadequate to account for the description of natural language semantics’. He argues that SE (sense enumeration) is sufficient for contrastive ambiguity, however this conventional approach is unable to account for ‘the real nature of polysemy’. Three arguments are presented by him against SEL. Firstly, the creative use of words that is concerned with the way words assume new senses in a novel context. Secondly, the permeability of word senses overlapping, therefore referencing other senses of the word. Thirdly, the expression of multiple syntactic forms, when multiple syntactic realizations can be realised by a single word sense.

5.3 Generative Lexicon Approach as Alternative to Sense Enumeration Lexicon

Pustejovsky (1996) proposes a new way as an alternative to sense enumeration. Asher (2011) explains the Generative Lexicon (GL) to be motivated by coercion and logical polysemy, its main goal as outlined by Pustejovsky (1995, as cited in Asher 2011) is to preserve compositionality while accounting of these two semantic phenomena. Pustejovsky (1995, as cited in Asher 2011) claims for lexical meanings to be generated in the meaning composition process, which occurs through interactions of types constraints, general meaning for all uses of the word, which can be specified through prediction.

Pustejovsky (1996) describes GL as a computational system along with proposing to define four levels of representation. The first level involves argument structure, specifying number and type of logical arguments along with their syntactical realization. The second level involves event structure, which defines the event type of lexical item, for example, state,
process, and transition. The third level involves qualia structure which are modes of explanation, consisting of various semantic roles, such as formal, constitutive, telic and agentive. The fourth level of representation proposed by Pustejovsky (1996) involves lexical inheritance structure which identifies lexical structure’s relation to other structures as well as exploring this structure’s contribution to the global lexicon’s organization. He proposes all of these four levels to be connected by a set of generative devices, which consequently provides interpretation of the words in context.

Pustejovsky(1995) explains that theoretical and computational semantics encounter problem of defining the representational interface between linguistic and non-linguistic knowledge. Therefore, GL was developed to deal with these problems as a: “theoretical framework for encoding selection knowledge in natural languages” (Pustejovsky 1995).

5.3.1 Alternative Theories to the Sense Enumeration Lexicon Hypothesis

There are various theories arguing against sense enumeration lexical hypothesis. However, the one representation hypothesis is seen as the main alternative (Falkum and Vincente 2015). They explain this theory to propose for the senses of polysemous words either to depend or belong to the single representation in the mental lexicon. When polysemous expressions are interpreted by the language user the semantic representation is accessed which acts as a gateway to the different senses. This theory does not claim for polysemous words to possess a core meaning, therefore it’s claim is more moderate. This theory is supported by various researchers, for example, Pustejovsky (1995, as cited in Falkum and Vincente 2015) proposes for the senses to be generated based on rich lexical representation.

Anderson and Otorney(1975, as cited in Klein and Murphy 20015) claimed the context as well as actual word meaning to be involved in derivation of the representation of polysemous words. Even if there is a core meaning present, it has to be activated within the context of the sentence.

Falkum and Vincente (2015) also mention two other proposals that fall under one representation hypothesis that have been recently proposed by psycholinguists such as ‘the core meaning hypothesis’ and ‘underspecified hypothesis’ while arguing that this still needs further research, as no division between the two hypotheses can be made at this point.
6. Is Polysemy and Homonymy Really So Different?

Polysemy and homonymy are representatives of lexical ambiguity. Ullmann (1962) explains it to be the most important type of ambiguity due to lexical factors, as the same word can be connected by countless senses. Lexical ambiguity according to him can take two different forms. The first form is when the same word can have one or more different meanings which is known as polysemy. For example, the noun board could mean either a thin plank or tablet or a table or food served at the table, as well as various other things. The language user would usually feel instinctively which form to use, however Ullmann (1962) explains it can sometimes cause a confusion, for example in the case of Oliver Twist, who was told by Bumble to bow to the board, fortunately bowed to the table as he saw no board.

The second form according to Ullmann is when two or more words are identical in pronunciation which represents the case of homonymy. For example, mean can either represent ‘middle’ or ‘inferior’; seal can represent either the name of the animal, or a ‘piece of wax sealed on a letter’. Ullmann (1962) also explains that words that sound the same, but are spelt differently are representing homonymy, for example, root-route and site-sight-cite. Ullmann (1962) explains the border-line between polysemy to sometimes be fluid, and proposes these two semantic items to be considered differently. However, often they can prove to be difficult to tell apart. The fluidity of these two semantic items, two representatives of lexical ambiguity still poses many problems for the researchers, as the evidence is conflicting, as well as the factors used to tell them apart. This section will discuss various tests used by linguists in order to tell polysemy apart from homonymy, as well as discussing how successful is each of these approaches.

6.1 Distinguishing Between Polysemy and Homonymy

According to Falkum and Vincente (2015) researchers have been mostly concerned from telling apart polysemy from monosemy (only one meaning represented by the word), and various tests have been proposed to tell these semantic phenomena apart. They explain that distinguishing between polysemy and homonymy has been of little interest to the researchers, however, recently, based on psycholinguistic research, it has increased, because the research has shown polysemy and homonymy to possibly be associated with different storage profiles.
6.1.1 Tests to Distinguish Between Logical Polysemy and Accidental Polysemy
As explained by Asher (2011) words that have closely related senses are considered to be *logically polysemous*, while words that do not fulfil this criterion are considered to be *accidentally polysemous* or simply homonyms. Cruse (1986, as cited in Asher 2011) has proposed copredication in order to distinguish between *logical polysemy* and *accidental polysemy*, and defines it as:

‘if two different predicates, each requiring a different sense, predicate properties of different sense of a given word felicitously, then the word is logically polysemous with respect to at least to those two senses’.

The second test discussed by Asher (2011) is pronominalization or ellipsis. He explains that the word is considered to be *logically polysemous* if:

‘you can pronominalize an occurrence of a possibly ambiguous word felicitously in a context where the pronoun is an argument of a predicated requiring one sense, while its antecedent is an argument of a predicate requiring a different sense’.

This can be seen in the example, provided by Asher, when contrasting (3a-b) and (3b-c):

3) a.* The bank specializes in IPOs. It is steep and muddy and thus slippery.
   b. *The bank specializes in IPOs and is steep muddy and thus slippery.
   c. Lunch was delicious but took forever.
   d. He paid the bill and threw it away.
   e. The city has 500,000 inhabitants and outlawed smoking in bars last year.

As explained by Asher (2011) the word *bank* (3a-3b) is a classic representation of *accidental polysemy*, which is proven by the use of pronominalization. However, words *lunch*, *bill*, and *city* (3c-3e) are the representatives of *logical polysemy*, as the pronominalization and copredication test is passed by them. However, the distinction between *logical polysemy* and *accidental polysemy* is not always concrete, as degree of relatedness is revealed by felicity of both of these tests (copredication and pronominalization) by an example provided by Asher (2011) when contrasting (3d-e) with (4ab):

4) a.? My janitor uses a brush and so did Velazquez.
   b.? The city outlawed smoking in bars last year and has 500,000 inhabitants.

Asher (2011) explains that (4a,b) are zeugmatic and are not as good as (3c-e). He proposes for copredications to be a subject of a discourse effect, as suggested by (4b) when it is contrasted with (3e), as in these examples two lexical senses are involved, both occurring in a different order. Therefore, Asher (2011) concludes the distinction between *accidental polysemy* and *logical polysemy* not to be absolute, as can be seen by the results of these tests.
7. Conclusion

In conclusion, the aim of this paper was to criticize the general approach used by dictionaries to distinguish between polysemy and homonymy. The definitions of these two semantic items appear quite simple: polysemous words possess more than one related sense, while homonymous words possess more than one unrelated meanings. However, distinguishing one from another is not as easy as it might appear. The approach used by lexicographers to decide how many entries in the dictionary the word should have depends on whether the word in question is polysemous or a homonym. Polysemous words receive one single entry even if they possess many related senses, while each of homonyms receive a separate entry as their meanings are unrelated. This appears straightforward as well. Then the problem arises: how to separate these two semantic phenomena? The general dictionary approach uses two criteria in order to distinguish between the two: etymology and possession of a core meaning.

Etymologically polysemous words are believed to have arisen from a related source, while homonyms are believed to have arisen from unrelated sources. This again appears to be clear. But as this paper has argued it is not always easy to determine historical origin of a given word. In fact, if this criterion is used some words would be considered to be polysemous instead of homonymous. This can be seen in Palmer’s (1976) example where he discusses the word *ear* which can be referred to the body part as well as to an ear of corn, therefore appearing to be an example of metaphor, and therefore polysemy, as polysemous senses are extended through metaphors. Etymologists claim these items to be homonyms as they have arisen from a different historical origin. This is just one example how etymology can be misleading as the historical origin of the word does not reflect its present state, the way the word is used can changed overtime, and therefore this criterion cannot be used to determine whether word is polysemous or homonymous.

The second criterion used by the dictionaries in order to determine whether a word is polysemous or homonymous is possession of a core meaning. The notion of words possessing a core meaning is dividing researchers into those who believe that words possess a core meaning, and the ones who do not. The hypotheses vary as well, for example, the sense enumeration lexicon hypothesis argues against the notion of words possessing a core meaning, and proposes that each sense of polysemous item as well as meanings of homonyms are stored separately in the mental lexicon. Some researchers have supported this hypothesis
finding no great difference between the way polysemous words and homonyms are represented in the mental lexicon (Klein and Murphy 2001, Klein and Murphy 2002).

On the other hand, some researchers have found the evidence of polysemous words possessing a core meaning, based on the fact that these words were processed faster in the brain than homonyms, and concluded that this must be due a core meaning that is being accessed (Klepousniotou 2012). One representation hypothesis also claims for the senses of polysemous words either to depend on or to be a part of the single representation (a core meaning) in the mental lexicon and corresponds to the general lexicon approach proposed by Pustejovsky (1995).

This paper clearly shows that distinguishing between polysemous words and homonyms cannot be made based on a words etymology and possession of core meaning as evidence in both cases are conflicting. A Common approach used by dictionaries to distinguish between polysemy and homonymy based on these two criterion is arbitrary.
References


