

The English Verb *See* in Fiction Writing: A Cognitive Semantic Analysis

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Abstract

The study aims at unraveling the conceptual metaphor underlying the English verb of visual perception *see* in fiction writing. It has two research questions: 1) What are the conceptual metaphors underlying the linguistic expressions of the English verb of visual perception *see* in fiction writing and 2) What are the theoretical implications of MIND-AS-BODY theory on the motivation of conceptual metaphors underlying the English verb of visual perception *see*. This study adopts a qualitative approach and is situated within the field of cognitive semantics. A corpus of English fiction writing between the period of 2010 and 2017 was compiled from different sources comprising one million words. Specifically, a sample consisting of 1,000 examples of the English verb of visual perception *see* was randomly extracted from the corpus using the AntConc 3.5.0 concordancer. The Metaphor Identification Procedures (MIP) were used to identify the metaphorical linguistic expressions in the corpus, and Lakoff and Johnson's (2003) as well as Sweetser's (1990) analytical frameworks were adopted for data analysis. The data analysis revealed various conceptual metaphors underlying the English verb *see*. These conceptual metaphors are related to the domains of knowledge, intellections, and understanding which support Sweetser's claim regarding the primacy of vision in motivating metaphors of cognition in human speech and thought. Thus, this study contributes to the literature on verbs of perception, particularly verbs of visual perception, as it is the first to address the conceptual metaphors underlying the verb *see* in English using a real authentic corpus of fiction writing.

Keywords: MIND-AS-BODY conceptual metaphor, conceptual metaphor theory, verbs of perception, verbs of visual perception, vision metaphor, fiction writing

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Introduction

Verbs of perception, which have been defined in the literature as a class of verbs to express verbal expressions related to human sensory cognition, sight (visual), smell (olfactory), hearing (auditory), touch (tactile) and taste (gustatory), have received the attention of various scholars in the area of cognitive semantics (Al-Asmer, 2007, Ibarretxe-Antuñano, 2019, 2013a, 2013b). Semantically, these verbs have been classified under five different fields of perception, namely, vision, hearing, touch, taste and smell, and different verbs are linked to these perception fields, such as *see*, *hear*, *touch*, *taste*, and *feel* in English.

Amongst these verbs of perception, verbs related to vision, which are referred to as verbs of visual perception in this study, have gained a particular interest of scholars in the field as they are connected to the primary sensory organ, the vision that is used in gathering information about the external world (Lakoff & Johnson, 1999). For instance, according to Sweetser (1990), the information gathered by the sense of sight is considered more reliable and accurate compared to other senses, such as hearing, taste, and smell. In this regard, some studies have shown that the primacy of vision over the other senses is attributed to human biological construction (Blendea, 2015; Paradis, 2015a; Spence, 2009).

Studies on verbs of visual perception have also focused on cross-linguistic studies on verbs of visual perception, such as English and Vietnamese (Oanch, 2016), English and Spanish (MacArthur, Krennmayr, & Littlemore, 2015), and English and Chinese (Li, 2013). Such studies have shown that the verbs of visual perception denote two general types of meaning: physical and non-physical (Ibarretxe-Antuñano, 2013a; Essa, 2010). While the first type of verbs manifests the meaning related to “a simple activity of perceiving an object by the eye” such as ‘I can see the moon’ the second denotes the meaning of “a careful and detailed activity of perceiving an object by the eyes” (Fulk, 2018, p.147). As such, the second type is a case of metaphor, a phenomenon that has only, in recent times, been systematically investigated (Gunnarsdotir, 2013).

Similarly, the English verb of visual perception *see* also denotes a variety of metaphorical meanings connected with knowledge and intellection, such as ‘I see your point’ in which the verb *see* denote the meanings of knowing and understanding. In fact, verbs of visual perception, in particular, and the sense of vision, in general, have received special attention by cognitive-linguistic such as Sweetser (1990) in which she postulated that the sense of vision motivates metaphors of higher intellection, such as 'to know' and 'to understand' and that these metaphors are universal in human thought and speech.

Statement of the Problem

One of the major topics that have received the attention of many scholars in cognitive semantics is sense perception, which has been a focus not only in linguistics but also in other disciplines, such as psychology (Goldstein & Brockemole, 2016; Sekular & Blake, 2005) and anthropology (Pink, 2015; Serres, 2016). In cognitive linguistics, sense perception and its conceptual structure have sparked the interest of many scholars working within the area of cognitive semantics because of the productivity of its conceptual domain and its motivation of the various conceptual metaphors. In this respect, Ibarretxe-Antuñano (2013a) states that conceptual motivation is the

outcome of "our physical, sensory-motor universal experiences shifted through the complex and socially acquired particular beliefs, knowledge and worldview(s) intrinsic to...cultures" (p. 110).

The relationship between perception and other conceptual domains such as cognition has been established first by Lakoff and Johnson (1980) who proposed a general metaphor 'THINKING IS PERCEIVING' (p. 50) but emphasized the significance of vision for cognition over other senses. Based on this conceptual metaphor, Sweetser (1990) further advanced the conceptual metaphor MIND-AS-BODY and posited that there is a systematic metaphorical connection "between the vocabulary of physical perception and that of internal self and internal sensations." Accordingly, she stressed that these correspondences are not random, but highly motivated associations between comparable areas of physical and internal sensation. In a further examination of these metaphorical correspondences between the five physical senses and their abstract target domains, Sweetser (1990) found a whole systematic network of metaphorical connections between the physical domain of senses and other abstract domains of experience: vision> knowledge, hearing> head/obey, touch> feelings, taste> likes/dislikes, smell>dislikeable feelings.

Sweetser (1990) further argued that vision is the prime sense organ that motivates metaphors of higher intellect, such as 'knowing', 'understanding' and 'thinking', whereas hearing verbs, such as *hear* or *listen*, would not motivate these metaphors as they are more associated with the particular communicative aspects of understanding rather than with intellect. This claim is supported by many psychologists and psycholinguists such as Winter (2019) and Schwartz and Krantz (2017) who look at vision as an essential sense, which suggests a natural link between vision and thinking/knowledge.

Accordingly, the majority of Sweetser's research relies on the meaning change in reconstructed Indo-European languages, and her theory is derived from the fields of cognitive, historical, and semantic linguistics. Sweetser further hypothesizes that the metaphors of verbs of perception are cross-cultural, and universal in human thought and speech. In this regard, some cross-linguistic studies in Indo European languages seem to support Sweetser's hypothesis regarding the systematic mappings between the physical domain of perception and abstract domain of the mind and universality of visual perception in motivating metaphors of the intellect. However, such studies tended to rely on frozen data such as those extracted from dictionaries and electronic corpora. For example, in a study utilizing a cognitive semantic analysis of English, Spanish and Basque verbs of perception taken from monolingual and bilingual dictionaries and two electronic corpora, Ibarretxe-Antuñano (1999) showed that the semantic field of verbs of perception is highly metaphorical and these metaphors are not specific to one language only but are shared by the three languages used in the study.

Additionally, the findings of Gunnarsdottir's comparative study (2013) of English and Icelandic metaphoric uses of verbs of perception, which relied on selected examples from dictionaries, revealed a clear association between the physical domain of perception and the abstract domains of the mind and internal sensations. Gunnarsdottir explained that since the two languages are closely related, the huge number of metaphorical correspondences signifies that the association is not whimsical, which thus provides support for Sweetser's theory of a systematic, semantic development within verbs of perception.

In the same vein, a study by Neagu (2013) examined the polysemy of verbs of perception in English, French, and Romanian, which were extracted from dictionaries. showed that the verbs of perception in the three languages also seem to convey similar metaphorical meanings from different domains of experience, such as 'to understand' (*I see your point of view*), 'to obey' (*Listen to your father*), 'to affect emotionally' (*Patrick touched me very deeply*), 'to guess' (*Jill can smell trouble a mile off*), and 'to experience' (*He has tasted the sweetness of success*). Such a similarity in metaphorical meanings across different languages is also evident in a study by Rylina (2013).

On a slightly different stance with a focus on the syntactic and semantic features of the English verb *feel* and its Russian counterpart and depending on examples taken from dictionaries and thesaurus, Rylina (2013) provided a contrastive semantic map of the verbs *feel* and *čuvstvovat'* and explained the similarities and differences between the two verbs. Findings of her study indicated that the two verbs in both languages seem to denote sensory and cognitive meanings, albeit the sensory meanings being varied in Russian because *čuvstvovat'* signifies not only the perception by the sense of *touch*, but also the senses of *smell* and *taste*.

The tendency of the aforementioned studies on verbs of perception to rely on frozen unsystematic data, recent studies have taken a different methodological approach, that is using a corpus-based approach to investigate the use of English verbs of perception in naturally occurring data. For instance, De Grado (2016) conducted a syntactic-semantic study based on a corpus of 656 examples manually extracted from the spoken and academic sections of the British National Corpus. However, the sample was considered small and unreliable to examine four verbs of perception (Deignan, 2017), and its method of manual extraction of citations might be subject to bias.

These reviewed studies on Western languages seem to indicate a similar tendency in their findings, that is they are in support of Sweetser's (1990) hypothesis regarding the systematic mappings between the physical domain of perception and the abstract domain of the mind and the notion of the universality of visual perception as the main sensory organ in motivating metaphors of knowledge and intellection. However, to date, the review of the literature shows that there is a lack of systematic studies that have examined the conceptual metaphors related to the use of the English verbs of visual perception in fiction writing. Specifically, the reviewed studies on the verbs of perception seem to lack in providing systematic comprehensive research in English that focused on Sweetser's hypothesis regarding the MIND-AS-BODY conceptual metaphor and the primacy of visual perception in motivating metaphors of knowledge and thought.

Considering the inadequacies of the aforementioned studies such as basing their evidence on intuitively made-up examples by the researchers themselves and from dictionaries, the present study, therefore, aims fills in the gap in the literature by focusing on the conceptual metaphors underlying the English verb of visual perception *see* using authentic naturally occurring data produced by a variety of writers in fiction writing.

Objectives of the Study

The study has two specific objectives as follows:

- 1- To unravel and discuss the conceptual metaphors underlying the metaphorical expressions related to the English verb of visual perception *see* in fiction writing.
- 2- To examine the theoretical implications of the findings related to the MIND-AS-BODY theory as posited by Sweetser.

Theoretical Framework

The study adopts the framework of cognitive semantics, namely, the Conceptual Metaphor Theory for data analysis, (Lakoff & Johnson, 2003) which regards metaphor as "understanding and experiencing one kind of thing in terms of another" (Lakoff & Johnson, 2003, p. 5). Specifically, a conceptual metaphor involves mappings of certain elements from a source domain to a target domain: TARGET IS SOURCE whereby the source domain is usually concrete. In contrast, "the target domain is usually more abstract, and it is understood through the metaphor (Kövecses, 2002).

In essence, metaphor is a basic imaginative cognitive mechanism. It is the "means by which it is possible to ground our conceptual systems experientially and to reason in a constrained but creative fashion" (Johnson, 1992, p. 351). As Barcelona (1997) puts it, this mechanism is a "complex mental mapping of our knowledge of one domain of experience (the source domain) to structure our knowledge of a different domain of experience (the target domain)" (p. 12). In brief, conceptual metaphor is perceived as an association between two conceptual domains by which the abstract is understood in terms of the familiar knowledge of the concrete and easy one (Alshunnag, 2016; Kövecses, 2002).

The conceptual metaphor theory has been used by Sweetser (1990) in order to examine the metaphorical and polysemic meanings of verbs of perception in Indo-European languages, from a diachronic and cognitive perspective. She argues that there are systematic metaphorical relations between verbs of perception and meanings associated with internal sensations. In fact, Sweetser (1990) took up the interface between perception and other conceptual domains and expands it further into the so-called 'MIND-AS-BODY' metaphor. She applied this metaphor to English verbs of perception and demonstrated that the relation between the body and the mind is not limited to just one sole metaphor such as UNDERSTANDING/KNOWING IS SEEING. In fact, there is an entire organized and consistent group of metaphoric mappings that utilizes the body as the source domain and the mind as the target domain. According to Ibarretxe-Antuñano (2019), the MIND-AS-BODY conceptual metaphor is structured when the mind is conceptualized in a bodily sense. i.e., the mind is regarded as a distinct entity that has certain functions and needs. One of these bodily functions is perception, which is a biological operation whereby the brain draws interpretations of events and objects in the external world, utilizing data collected via the senses. These two aforementioned theories, the CMT and MIND-AS-BODY theory (Lakoff & Johnson, 2003; Sweetser, 1990) were applied to unravel the conceptual metaphors underlying the English verb of visual perception *see* as illustrated in Figure one as shown in the diagram, the mapping of the conceptual metaphors underlying the verbs of visual perception takes place between the physical source domain of sight and abstract target domain.

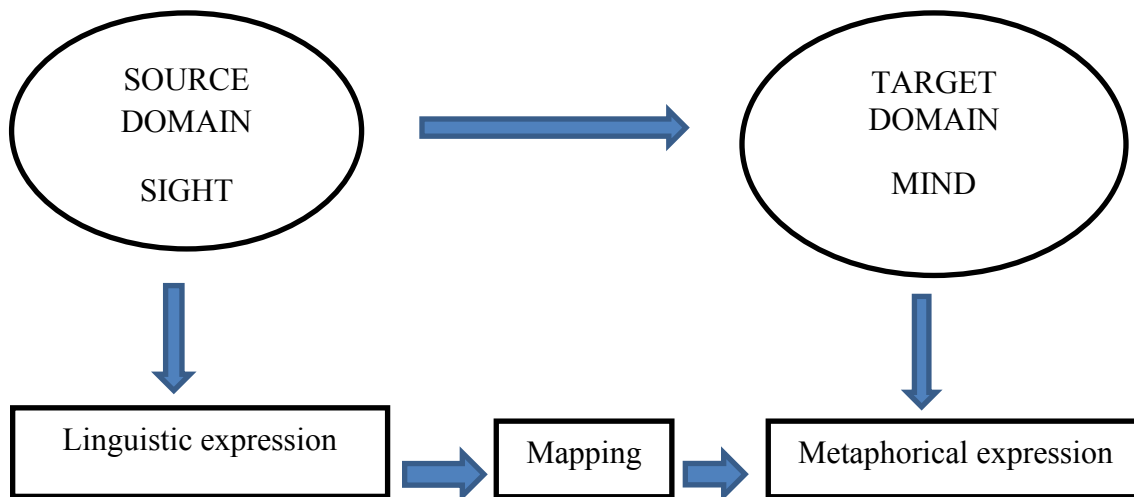


Figure 1 Theoretical framework

Literature Review

Verbs of visual perception have been the main core of Sweetser's (1990) etymological study on English verbs of perception and other Indo-European languages. Sweetser claimed that the relationship between the physical domain of sight and the cognitive domain of knowledge is universal in all Indo-European languages because vision is "our primary source of objective data about the world" (1990, p. 39). Sweetser also referred to the importance of the sense of hearing in the domain of intellection and communication. She, however, disregarded the other senses of taste, touch, and smell as they are connected with personal, subjective experience and their contribution to the cognitive domain is rather small in comparison with the senses of seeing and hearing.

It seems that the supremacy of vision over the other senses is attributed to human biological construction. As Paradis (2015b) aptly pointed out "humans, like other primates, display considerable visual specialization including high visual acuity, stereoscopic vision, trichromacy, and large visual cortices" (p.140). Some experimental studies on the biological system of human senses provide support for the dominance of vision over the sense of hearing. Their findings suggest that 50% of the cortex is utilized in the visual operations (Carello & Turvey, 2019; Franchak, 2019)

Sweetser's (1990) universal hypothesis of the primacy of vision was also applied to non-Indo European languages in two studies on Chinese (Li, 2013) and Vietnamese (Oanch, 2016). The first study by Li (2013) in which he carried out a comparative analysis of the metaphors of visual perception in Chinese and English within the framework of the conceptual metaphor theory (Lakoff & Johnson, 1980). The data of the study were extracted from the online corpus database: *Sketch Engine* www.sketchengine.co.uk. The data consisted of 400 sentences carrying metaphors of visual perception (200 sentences for each language). The data contained 48 conceptual metaphors underlying terms of visual perception (25 in Chinese and 23 in English). The comparative analysis of the data has shown that despite the data displayed some commonly shared metaphors of visual perception in both languages, the differences between the two languages

cannot be escaped. The data showed some instances of language-specific metaphors that can only be found in one language rather than the other. Such diversity is rooted in the differences between the values and living conditions that English and Chinese people experience. The differences in the Chinese and English metaphors of visual perception are related to differences between the Eastern and the Western culture that each language belongs to.

Li (2013) concluded his study by stating that culture affects people's experience and cognitive schemas and ultimately leads to the convergent conceptualization of terms related to visual perception. Therefore, language diversity is, in fact, a representation of cultural conflict. Moreover, the different living conditions that people encounter may generate different experiences, which in turn, influence the conceptualization process of structuring metaphors to understand the world. Moreover, Li (2013) stated that the metaphor of visual perception "is the main mechanism through which human beings comprehend abstract concepts and perform abstract reasoning. These conceptual metaphors are grounded in our basic human experiences that may be universalities to all human beings" (p.1241). However, Li admitted that his research was not exhaustive and not all-inclusive and that the studies presented in his article are still very limited in scope (Li, 2013).

However, Li's (2013) corpus-based study on the metaphor of visual perception seems to be limited in scope because selecting 200 citations only for the visual perception terms is far from being sufficient. According to Tissari (2017), to order to conduct a thorough analysis of highly polysemous lexemes, one needs at least 1000 citations. Choosing any less than 1000 citations may put the researcher in danger of missing important information about the various senses of the given lexeme. Putting this in mind, the previous studies show lack of comprehensive and systematized corpus-based study about English verbs of perception specifically the verb *see* since it never stopped from causing controversy and conflicting claims starting from Viberg typological study (1983) and Sweetser's (1990) universal claims of the primacy of vision over other senses.

The comparative quality of the metaphor of visual perception in Vietnamese and English was also examined by Oanch (2016). Similar to Li's (2013), differences were detected in the sample of analysis in terms of conceptualization of metaphors of visual perception, which can also be attributed to different cultural values and living conditions. However, this study seemed rather fuzzy and lacked a clear description in terms of data and methodology. This thing strongly emphasizes the need for serious studies in non-western languages to reach more conclusive results about the universality claim of metaphors of visual perception.

Viberg (2015) investigated the semantic extensions of Swedish and English verbs of perception from a cross-linguistic perspective by employing data from translation corpora. Viberg focused on verbs of visual perception which he described as 'nuclear verbs' as they have dominated in the data with respect to their syntactic constructions and meaning extensions. Viberg attempted to establish a typological profile of Swedish verbs of perception as he found that unique characteristics are present only in this language. For example, it is possible to use both verbs *see* and *hear* to express activities, while such thing is not possible in English as it uses two different words *look* and *listen* instead to indicate active and passive perception. Moreover, the Swedish verb *känna* 'feel' can be extended to cover cognitive meanings. In contrast, the English verb *feel* covers only the internal

feelings related to emotions and sentiments. Finally, the association between vision and knowing is present in Swedish, although it is not as prominent as in the case of English.

Employing a corpus-based discourse approach, MacArthur, Krennmayr, & Littlemore (2015) explored the usage of the conceptual metaphor UNDERSTANDING/KNOWING IS SEEING in academic discourse. The data of the study consisted of 27 samples of academic conversations in English between teachers and students at five European universities. The size of the corpus consisted of 62,792 words, of which 42,183 were uttered by teachers and 20,609 by undergraduate students. The study included only three verbs: *see*, *look*, and *focus*. The findings of the study show that the metaphorical linguistic expressions underlying UNDERSTANDING/KNOWING IS SEEING as expected were used to a great extent by all participants in the process of seeking and giving advice about academic matters. More specifically, it was revealed that lecturers who used English as a means of giving instruction employed the verbs of visual perception as a way of describing the academic challenges faced by undergraduate students. As for the metaphorical uses of the terms of visual perception, the analysis showed that using expressions of visual perception to talk about knowledge and learning is firmly established discourse practices by the English speaking academics (McArthur et al, 2015). However, these discourse conventions are not reflected in the same way in Spanish academia as the analysis has demonstrated underuse of metaphors of visual perception by Spanish students (and one lecturer) in their talk.

To explain the reasons behind the differences in discourse conventions of different communities of speakers, it would be essential to investigate other discourses that deal with topics such as knowledge and understanding. Such topics are more likely to occur in the analysis of academic discourse in universities or other educational centers, instead of general corpora. The analysis of face-to-face interaction between teachers and students in different countries, conducted in different languages, may provide a deeper understanding of the relative primacy of visual metaphors across different cultures.

It has been postulated that the connection between mental processes and visual perception is considered 'primary metaphors' (Sweetser, 1990). However, if this claim is indeed true, then one would expect that both English and Spanish academics to use the metaphorical expressions underlying UNDERSTANDING/KNOWING IS SEEING in the same way. The analysis clearly indicated that such a claim did not hold true for Spanish academics as they remarkably underused the visual terms and with different meanings. In contrast, English speaking academics used visual terms to a great extent to refer to knowledge, learning, and understanding. Finally, it was concluded that despite the fact that the conceptual metaphor UNDERSTANDING/KNOWING IS SEEING "might be available as a way of reasoning about learning and knowledge to people from different cultures, discourse practices influence how salient it is for different groups of speakers" (McArthur et al, 2015, p.41).

Using the same corpus-based approach, San Roque et al. (2015) investigated the usage of verbs of perception in face-to-face conversations, which are a major medium for manipulating and negotiating the experience of perception via language. Data derived from ordinary conversations provides new substantiation to the continuous discussions related to the way universal elements

structure the lexicon of perception. San Roque et al.'s study contributed to the branch of quantitative comparative studies on neglected languages by employing conversational corpora.

The major aim of San Roque et al.'s study was to measure the frequency of verbs of perception and see whether they correspond with the assumed universality of vision. The strong version of the primacy of the vision hypothesis predicts that speakers in all languages will use expressions referring to vision more than hearing, touch, taste, or smell (Sweetser, 1990). Data of the study comprised 13 samples of video recordings; each video is about 60- minutes in length. The data were drawn from 13 languages which are: Avatime, Cha'palaa, Chintang, Duna, English, Italian, Lao, Mandarin, Semai, Siwu, Spanish, Tzeltal, and Whitesands. The findings of the study have shown that the forms of the verbs of visual perception constituted the highest number in terms of frequency in all languages, excluding Tzeltal language whereby the multi-sense verb *a'y* was notably higher (San Roque et al., 2015).

Depending on general corpora, Kuboto (2016) attempted to investigate the possible literal and figurative meanings and usages of the verb *see* and *look* in Modern Standard American. The theoretical framework of the study was set within the framework of cognitive linguistics depending heavily on Langacker's (2015) theory of mental images. The data were extracted from the Corpus of Contemporary American English (COCA). However, despite the fact that this study is a doctoral dissertation, it did not contain a clear description of the methodology nor of the size of the corpus used. Moreover, the study did not employ corpus linguistic techniques to analyze the data nor any metaphor identification procedures to unravel the figurative meanings of the verb *see* and *look*. This study proposed that the figurative quality of the verb depended on the type of object that follows. If the verbs *see* and *look* are followed by concrete objects, they carry literal meanings. In contrast, if they are followed by abstract objects, then, they carry figurative meanings.

Having reviewed the major studies that dealt with verbs of visual perception, the next section explains the method and data collection procedures that underwent the present study.

Methodology

This study is non-experimental and descriptive in nature. It focuses on unraveling the conceptual metaphors underlying the metaphorical linguistic expressions of the English verb of visual perception *see* which necessitates the use of an interpretive qualitative approach. The nature of the study requires a description of the conceptual mappings of the physical domain of vision onto the different domains of experience.

Data of the study comprised a corpus of English fiction writings gathered from large numbers of computerized corpora which enabled the researcher to identify patterns of uses more quickly than relying on individual texts or intuition. The corpus-based approach used in this study offered a more objective analysis of language because the researcher approaches his/her data without having any pre-conceived judgments about their semantic/pragmatic content (Deignan, 1997).

Corpus of English Fiction Writing

The description of the corpus of English fiction writing used in the present study is summarised in Table one.

Table 1 *Information on the comparable corpora of English and Arabic fiction writing*

Description of the corpus	
Corpus name	Corpus of fiction writing
Language	English
Size in words	one million
No. of texts	5000 texts
Mode	Written
Texts type	Fiction writing (novels and short stories)
Time frame	2010 - 2017

Table one shows that the size of the corpora is one-million words. Also, the present corpus includes samples of fiction novels and short stories of the five major fiction categories, namely, fantasy, romance, mystery, thriller, and science fiction (Peterson, 2016) as shown in Tables two. Every effort was exerted to compile fiction writing from balanced categories of fiction. Notably, the present corpora contain 60% of novels and 40% of short stories. The English fiction corpus contains an equal proportion of the five categories mentioned above as they are all widely available online and easily obtained. The following table shows the categories and their distribution in the corpus.

Table 2: *Fiction categories in the English corpus*

Fiction category	No. of texts	Type of texts	Tokens	%.
Mystery	100 texts	Short stories and novels	200,040	20%
Romance	100 texts	Short stories and novels	200,022	20%
Fantasy	100 texts	Short stories and novels	200,080	20%
Science Fiction	102 texts	Short stories and novels	204,032	20.40%
Thriller/action	98 texts	Short stories and novels	19,6007	19.60%
Total	500 texts		1,000,181	100%

Data Collection Procedures

The data collection procedures involved three steps. The first step was to retrieve the files of the corpus of English fiction writing using a concordance program. The use of the concordance enabled the examination of the verb *see* by studying its numerous occurrences in their contextual environment (Weisser, 2016). The English corpus of fiction writing was processed using AntConc as it is considered an excellent tool for analyzing English corpora (Alfaifi & Atwell, 2016). After data retrieval, the second step was to search for the keywords in the concordance software. The search process of the English keyword *see* and its different morphological forms resulted in 3023 occurrences.

Finally, the third process involved extracting a sample from the total number of occurrences of the keyword *see*. A sample of 1000 examples of the keyword *see* was extracted from the corpus of English fiction writing. The sample was extracted randomly by using a research randomizer (<https://www.randomizer.org/>) which generated random numbers after the required information was entered. A set of 1000, sorted number with a range from 1- 3023 was generated for the verb

see. The 1000 example identified was saved in a Microsoft word file in order to be prepared for analysis. The number of 1000 examples was proposed by Deignan (1997) who stated that a large sample of 1000 examples is considered sufficient and satisfactory to examine the different senses of any lexical item.

Data Analysis

The Metaphor Identification Procedures (MIP) (Pragglejaz Group, 2007) was adopted to identify the metaphorical linguistic expressions of the English verb *see*. The entire procedure comprised four steps which include the following points: 1) reading the entire text, 2) determining the contextual meaning of each verb in the text, 3) finding out if the verb has a basic meaning in another context, 4) if there is a contrast between the contextual meaning and the basic meaning of the verb, then it is a metaphor. To achieve accuracy in the identification of the metaphorical meaning, English dictionaries were used to decipher the basic meaning of the verb *see* such as Oxford Advanced Learner's Dictionary (Hornby, 2015), Macmillan English Dictionary for Advanced Learners (Rundell, 2007) and Cambridge Advanced Learner's Dictionary (Walter, 2008). After the stage of identifying the metaphorical linguistic expressions related to the verb *see*, the next step was inferring the underlying conceptual structure from the linguistic expressions using the CMT (Lakoff & Johnson, 2003) as the framework of analysis. As explained earlier, a conceptual shift is stimulated by conceptual similarities between two domains: source domain and target domain, in a way that certain elements of the former are mapped into the latter. In this case, the two domains must be properly interpreted and then categorized.

Results and Discussion

This section answers research questions one and two regarding the conceptual metaphors underlying the English verb of visual perception *see* and the theoretical implications of the MIND-AS-BODY theory proposed by Sweetser (1990) with regard to the conceptual metaphors underlying verbs of visual perception in English.

Conceptual Metaphors Underlying the English Verb of Visual Perception See

This section first reports the frequency of the conceptual metaphors of the English verb *see* followed by subsections that discuss each conceptual metaphor. The metaphor identification procedure (Pragglejaz Group, 2007) revealed that the verb *see* has a vast number of metaphorical meanings comprises, which is 390 metaphorical linguistic expressions out of the total sample of 1000 examples. The analysis in this section includes the most salient conceptual metaphors that underlie the identified metaphorical linguistic expressions manifested by the verb *see* as shown in Table three.

Table 1 *Frequency and percentage of conceptual metaphors underlying the verb see in English*

Conceptual Metaphors	Freq.	%
UNDERSTANDING/KNOWING IS SEEING	234	62%
FINDING OUT IS SEEING	69	19%

CONSIDERING/THINKING IS SEEING	35	7%
Others	52	12%
Total	390	100%

As Table three shows, the most frequent conceptual metaphor in English is UNDERSTANDING/KNOWING IS SEEING which constitutes 62% of the corpus, followed by FINDING OUT IS SEEING (19%) and then CONSIDERING/THINKING IS SEEING (7%). The analysis also unraveled other conceptual metaphors. However, these are not reported in this study as they are considered less salient. The conceptual metaphors shown in Table 1.1 are explained in detail in the upcoming subsections.

UNDERSTANDING/KNOWING IS SEEING

The conceptual metaphor UNDERSTANDING/KNOWING IS SEEING is salient in the English corpus. The saliency of the conceptual metaphor UNDERSTANDING/KNOWING IS SEEING is pervasive in English and is in line with MacArthur, Krennmayr, & Littlemore's (2015) study on the usage of the conceptual metaphor UNDERSTANDING/KNOWING IS SEEING in academic discourse. Their study showed that this conceptual metaphor, as expected, was used to a great extent by all participants in the process of seeking and giving advice about academic matters. More specifically, their study revealed that the lecturers who used English as a means of giving instruction employed the verbs of visual perception as a way of describing the academic challenges faced by undergraduate students. As for the metaphorical uses of the verbs of visual perception, the analysis showed that using expressions of visual perception to talk about knowledge and learning is a firmly established discourse practice by the English speaking academics.

The conceptual metaphor UNDERSTANDING/KNOWING IS SEEING involves a mapping between several elements of the source domain of physical vision and the target domain of the mental process of understanding and knowing. Such systematic correspondences are in line with Sweetser's (1990) proposed MIND-AS-BODY metaphor as a conceptual one because this metaphor is motivated by interrelations between people's external experiences and their internal cognitive and emotional experiences. Such correspondences involve the conceptualization of bodily physical experiences in terms of perceptual experiences of the mind.

Specifically, the conceptual metaphor UNDERSTANDING/KNOWING IS SEEING is instantiated in certain linguistic expressions, such as 'see no point' which means 'to realize that there is no use or no benefit in doing something' as in example one:-

- (1) *"and there is no worthy adversary, I see no point in expending energy and spending time."*

The linguistic expression 'see no point' in the example has a metaphorical meaning because of its abstract concept. According to Collins Cobuild Advanced Learner's Dictionary (Cobuild, 2018), the word 'point' means "a detail, aspect, or quality of something or someone" (p.661).

Generally, any details or aspects denote abstract and immaterialistic concepts that are not perceived directly by the physical eye but perceived by the mind.

The conceptual metaphor UNDERSTANDING/ KNOWING IS SEEING is also realized in the linguistic expressions 'See something/anything wrong', which is illustrated in the following examples:

- (2) *He looked at the data closely and could see nothing wrong. But then, he probably wouldn't recognize a problem if he did see it.*

The linguistic expressions 'see nothing wrong' in example two means 'understanding or realizing that there is no harm in doing a certain action'. The word 'wrong' in the expression 'see nothing wrong' represents an abstract idea or thought that cannot be detected directly by the eye but perceived and identified by the mind. It means something that is incorrect and not in accordance with the facts. For this reason, the linguistic expression 'see something/anything wrong' is regarded as metaphorical. In sentence two, the perceiver is described as someone who would not be able to recognize anything wrong even if he did see it. This suggests that the possession of a pair of eyes is not enough for one to detect a problem. The expression that follows 'wouldn't recognize a problem if he did see it' suggests that the process of detecting problems relies on a human's mental ability to grasp and fully understand abstract things.

Another linguistic expression that manifests the conceptual metaphor UNDERSTANDING/KNOWING IS SEEING is 'see things in a particular way' which means 'to realize or understand things /situations or events in a particular way according to one's own perspective' as shown in the following example:

- (3) *"You have to understand; we're trained to see things as logically as possible,"*

The verb *see* in example three above means 'to understand and analyze situations in a particular way'. The verb *see* is followed by the word 'things' which refers to ideas or concepts. These ideas or concepts are "mental representations, abstract objects or abilities that make up the fundamental building blocks of thoughts and beliefs and they play an important role in all aspects of cognition" (Mather, 2016, p. 256). In the given example three, it can be seen that the linguistic expressions 'see things as logically as possible' refers to the perceptual ability that is performed by the mind's eye and not the physical eyes, which explains the metaphorical meanings of the verb *see*.

In other metaphorical linguistic expressions, the eyes are considered as a means to penetrate the human mind. They are regarded as a window into people's real thoughts and souls, which are illustrated by the following example from the English corpus:

- (4) *"I couldn't see any hints of remorse in his eyes. He was as cold as ice."*

In example four, the verb of visual perception *see* does not refer to a physical act of seeing because abstract concepts such as remorse, love, and fear cannot be seen by the physical eye, rather

they are realized by the mind based on certain clues in the physical environment. In example four, the verb *see* is used metaphorically denoting the meaning 'to realize or understand'. In this case, the perceiver realized that the other person described in the sentence did not show any sign of remorse as indicated by the looks of his eyes. Generally, the eyes are regarded as a window into the human soul and mind. In the mind, there are specific areas that are occupied by feelings, emotions, and thoughts. This mental aspect is subtler than the physical body and concerns people's awareness of inner feelings and the ability to relate to events from the outside world. At this level, the eyes could transmit the reaction of the soul, whether showing discontent, rebel, happiness, love, as well as enmity and sorrow.

Moreover, understanding people's feelings can also be achieved by looking at people's facial features. This meaning is realized in the English corpus through the following linguistic expressions: 'see the expression of concern on his face', 'see the expression of love on her face', 'see expressions of pain on his face', 'see the expression of contempt on his face'. Some illustrative examples are:

- (5) *Clary could see the expression of concern on both their face.*
- (6) *I see all the expressions of love on her face.*

Furthermore, the conceptual metaphor UNDERSTANDING/KNOWING IS SEEING is realized in the English corpus in the linguistic expression *see sense* (example seven). This expression seems to have a rather negative connotation, which is 'if someone tries to make people see sense or see reason, he tries to make them realize that they are wrong or are being silly', as shown below:

- (7) *“Demeter or Hestia would make the two brothers see sense. But your arrival has inflamed Zeus's.”*

The linguistic expression 'see sense' described in sentence seven designates the meaning of "the ability to make good judgments and to behave sensibly". The metaphoricity of this linguistic expression is similar to that highlighted by Deignan and Cameron (2009) in their discourse analysis of the metaphorical uses of the verb *see*. Their study showed that 'see sense' is a semi-fixed figurative expression that is associated with understanding.

Another specific-metaphor subsumed under the general UNDERSTANDING/KNOWING IS SEEING unraveled in the English corpus is ENCOURAGING SOMEONE TO UNDERSTAND IS ASKING THEM TO SEE'. This metaphor is realized in the linguistic expression 'you see' and it is used when someone is explaining something to someone, to encourage them to listen and understand his idea as shown in the example below:

- (8) *“... a new statue set. Children are so popular, you see. Everyone loves children.”*
Annabeth.”

In example eight, the linguistic expression 'you see' is used in order to invite the hearer to the conversation and appeal to him to understand the idea raised by the speaker. Generally, the linguistic expression 'you see' is used commonly in everyday conversation. Fedriani and Sansó (2017) state that the expression 'you see' is a pragmatic marker which has certain functions, such as claiming the speaker's attention, marking a transition between information or arguments in the discourse, providing an explanation for a previous claim, or negotiating with speakers to accept

their arguments. Moreover, the fact that the linguistic expression 'you see' reflects the meaning 'to understand' is in line with the findings of Deignan and Cameron (2009). In their study, the linguistic expression 'you see' denotes the meaning of understanding. It is mainly used by a speaker in order to convince the other party in a conversation to agree with him/her and understand him/her point of view. The occurrence of 'you see' functions as a persuasive element encouraging the hearer to perceive events in a particular way.

FINDING OUT IS SEEING

Another conceptual metaphor that underlies the English verb *see* is FINDING OUT IS SEEING. This conceptual metaphor is significant in the data whereby it is the second most frequent conceptual metaphor unraveled in the English corpus (19%). Within this conceptual metaphor, the source domain vision is mapped onto the act of discovering something whereby the faculty of vision enables people to study a case or a situation in order to attain information. This mapping concurs with the finding of Ibarretxe-Antunano's (2019) study on verbs of perception in English, Spanish, and Basque which highlights that human beings regard sight as the most reliable sense when it comes to gathering information about the external world. In this regard, it is plausible why verbs of visual perception convey meanings" such as 'to ascertain', 'to find out', 'to make sure', and 'to take care'. According to Ibarretxe-Antunano (2019), visual perception is an exact and objective means of uncovering the reality about the surrounding world and that it provides recordable and tangible evidence through the images captured by the eyes and transmitted to the mind. This led Ibarretxe-Antunano (2019) to hold the opinion that only what a person could see with his/her eyes is true which suggests the primacy of the sense of sight over the other senses of hearing, touch, taste, and smell.

The conceptual metaphor FINDING OUT IS SEEING is instantiated in certain metaphorical linguistic expressions as in example nine:

- (9) *I am Dr. Norman. This is a pilot program to see if we can get at some of the root causes of your difficulties.*

The verb *see* in example nine means 'to find out' whereby the perceiver 'the doctor' is trying to find out if he can use the pilot program to discover the root causes of difficulties of the patient described in the sentence. The example involves the meaning of finding out about people's activities, processes, and plans.

Moreover, other examples in the English corpus show that the verb of visual perception *see* is used to signify the meaning 'to find out about future events' as shown in the following example:

- (10) *She waved away my concern. "It'll turn out all right in the end. You'll see. As long as you did your best."*

In sentence ten, the verb *see* means 'to find out' in which the expression 'It'll turn out all right in the end. You'll see' means 'you will find out that future events will be favorable'. The fact that the verb of visual perception *see* in sentence ten denotes the meaning 'to find out about future events' is in line with Gunnarsdotir (2013) findings in his study about the perceptual metaphor in

the verbs of perception. The study revealed that the verb *see* signifies the meaning of 'seeing things that have yet to happen.'

In addition to example ten, there is another specific metaphor in English subsumed under FINDING OUT IS SEEING which shows different uses of the verb *see* which is FINDING OUT ABOUT PEOPLE'S TRUE CHARACTER. This metaphor is manifested in particular examples that signify the meaning of 'finding out about people's true character'. The following example from the English corpus shows how the verb of visual perception *see* manifests the metaphorical meaning:

- (11) *"I catch sight of Paylor, who's watching me so closely, waiting to see what I am made of..."*

For example (11), the expression 'waiting to see what I am made of' means 'to find out about my true personality'. Here, the act of seeing is metaphorical, it does not entail an actual physical act of seeing. Instead, it involves a mental process of finding out or discovering something'. The true self of people is not something that can be seen by the physical eye. The act of discovering the true self of people takes time. In order to judge the true character of people, one needs to keep an eye on them in certain situations; observe how they react and listen to what they say. Only then one will be able to judge and truly see people's real character.

CONSIDERING/THINKING IS SEEING

The conceptual metaphor CONSIDERING/THINKING IS SEEING is the third most frequent conceptual metaphor unraveled in the English corpus (7%). The conceptual metaphor involves a mapping of the physical domain of vision and the mental process of thinking and it is instantiated by the linguistic expression 'see somebody/something as' in English. This linguistic expression suggests the following meaning "if you see someone or something as a certain thing, you have the opinion that they are that thing" as seen in the following example:

- (12) *"Possibly my crippling clumsiness was seen as endearing rather than pathetic,"*

The verb *seen* in example (12) means 'to consider' in which the act of clumsiness of the person described in the sentence was considered as endearing. In this case, the linguistic expression 'clumsiness was seen as endearing' in example (12) does not reflect an immediate direct perception of the act of clumsiness but reflects a characteristic of the things that are not immediately detectable by the sense of sight. The expression is actually an evaluative opinion about the things (stimulus of perception) that presuppose some mental activity on the part of the perceiver. In this case, the verb *see* is used to describe mental perception, and the given cases of perception cannot be immediate and direct, for they are not based upon the functions of the individual's physical senses. The verb *see* in the sentence (12) is meant to convey a perception that is more inferential or intellectual rather than sensory and can have a similar meaning to the verbs of cognition such as *consider* (Ibarrexta-Antunao, 2019).

More illustrative examples (13 to 14) are given below to explain the specific metaphors JUDGING AND EVALUATING PEOPLE IS SEEING. In sentence (13) below, the perceiver produces judgments about people based on their subjective evaluation:

- (13) *Beetee nods. "So scary that he'd see her as life-threatening. That he might try to kill her."*

The example above involves an act of judging and evaluating people in a certain way whereby the verb *see* means 'to consider' in which the perceiver considers the other person as dangerous and life-threatening in such a way that he must eliminate her to remove the threat on his life. The judgment was based on his own conception of danger. The act of evaluating and judging people in the sentence above is metaphorical as the perceiver is using his eyes as a tool to send images to his mind in order to process and understand the outcome of these images. Here the human eye works as a scanner that scans all the parts of something carefully. The perceiver does not only depend on the immediate image of the person in front of him, but he/she also conjures up past memories, experiences, and events on which basis a final resolution of 'this woman is dangerous' as in sentence (13) is achieved.

Furthermore, besides judging and evaluating people as shown in the previous examples, the specific metaphor JUDGING AND EVALUATING OBJECTS/SITUATIONS IS SEEING is manifested in certain examples which suggest the meaning 'to judge and evaluate objects, situations and events in a particular way' (Deignan & Cameron, 2009) as in the following example: (14) *"Well, then. I don't see that as a problem,"*

For example (14), the verb *see* means 'to consider' whereby the perceiver contemplates about or evaluates a certain situation and then decides not to consider it as a problem. This decision made by the perceiver in the sentence cannot be achieved only by a physical act of seeing; there must be some pre-thinking and pre-contemplation that forced the perceiver to think the way he/she does. Through the mental process of thinking, people are able to manipulate information to form concepts, to solve problems, reason, and make decisions. The act of thinking produces thought, which could be an idea, a sound, an image, or even an emotional feeling that originates from the brain. As a result, the verbs *see* sentences (14) cannot possibly refer to a physical act of seeing rather it refers to the metaphorical meaning of 'to think' or 'to consider'.

Theoretical Implications Related to the MIND-AS-BODY Theory

The conceptual metaphors unraveled in this study show a systematic correspondence between the source domain of vision and the target domain of knowledge and understanding. Such systematic correspondences are in line with Sweetser's (1990) proposed MIND-AS-BODY metaphor as a conceptual one because this metaphor is motivated by interrelations between people's external experiences and their internal cognitive and emotional experiences. Such correspondences involve the conceptualization of bodily physical experiences in terms of perceptual experiences of the mind. Sweetser (1990) added that these associations between physical and cognitive domains are moving in one direction: they shift from the body-related vocabulary onto the vocabulary of mind. Specifically, the metaphorical shift in English verbs of visual perception moves from the source domain of physical visual perception to the target domain of cognition and knowledge.

Above all, Sweetser (1990) stated that this correspondence between vision and intellection is attributed to the fact that vision is the prime channel of collecting objective data about the world. It is the major source in providing humans' with the largest amount of data than any of the other senses, and it seems that children depend to a great extent on the sense of vision in their early years. Moreover, the sense of vision gives humans the ability to focus on minute details in the immediate environment as well as concentrate on one single object at a time. Also, different people can have the same point of view depending on the sense of sight. As a result, it appears to furnish a foundation for mutual public knowledge.

Moreover, Sweetser (1990) speculates that the metaphorical extensions that occur in the verbs of visual perception are not random but motivated and grounded in the perception and sensory experiences of people. Moreover, the metaphorical mappings that occur between the physical domain of visual perception and the abstract domains of knowledge and understanding are established in the humans' visual experience, that is, in the way people interact, understand, and use their perceptual visual capacity. For human beings, the sense of sight is the means to collect information about the world. Human beings are biologically restrained by the physiology of the sense of sight whereby it possesses its own receptors (eyes), a passageway to the brain, and stimuli (light).

Findings of the present study support two major aspects of Sweetser's (1990) MIND-AS-BODY hypothesis. First, the study revealed that all the conceptual metaphors unraveled in this study show systematic correspondences between the physical domain of vision and the abstract domain of the mind. In this light, these conceptual metaphors are regarded as a sub-part of the general MIND-AS-BODY conceptual metaphors proposed by Sweetser. Second, this study supports Sweetser's (1990) hypothesis regarding the universality of the primacy of vision in motivating metaphors of knowledge, understanding, and cognition. These findings provide further evidence for the claim of the primacy of sight for motivating metaphors of intellection and knowledge within the field of cognitive semantics. Currently, in the literature, there are opposing views about the claims of the primacy of sight in motivating metaphors of higher intellect. On one hand, scholars such as Sweetser (1990) and San Roque et al. (2015) emphasize the universality of the primacy of vision as the sensory modality used for metaphors of knowledge and thought. On the other hand, typological studies by Evans and Wilkins (2000) and Vanhove (2008) propose the verb *hear* as the prime verb in motivating metaphors of cognition. The findings of this study are in agreement with the views of the scholars who propose that the verbs of visual perception hold the premium position in motivating conceptual metaphors of knowledge and intellection.

Conclusion

This paper aimed at unraveling the conceptual metaphors underlying the linguistic expressions of the English verb of visual perception *see* in fiction writing and to examine the theoretical implications of MIND-AS-BODY theory on the motivation of conceptual metaphors underlying the English verb of visual perception *see*. The findings of the study indicate that there are three salient conceptual metaphors underlying the English verb of visual perception *see* in fiction writing, namely, KNOWING/UNDERSTANDING IS SEEING, FINDING OUT IS SEEING, and CONSIDERING/THINKING IS SEEING. These three conceptual metaphors are motivated by a conceptual mapping between the physical domain of sight and the abstract domain of the mind. In

this light, these conceptual metaphors are considered a sub-part of the general MIND-AS-BODY conceptual metaphors as proposed by Sweetser (1990). The findings suggest—that there are systematic correspondences between the physical domain of perception and the abstract domain of cognition and intellection. These findings support Sweetser's (1990) hypothesis regarding the universality of metaphors of visual perception in all human thought and speech., An important contribution of the present study is that it contributes to the literature on verbs of visual perception, specifically, 'see' in English, from the perspective of cognitive semantic analysis, in terms of data which were extracted from a corpus of fiction writing. This study has paved the way for further studies on metaphoric uses of verbs of visual perception in using an authentic corpus of fiction writing. The usefulness of utilizing authentic corpus as a data source is the possibility of identifying new metaphoric uses not discovered by previous studies (Sweetser, 1990) which depended on frozen data such as dictionaries or random examples.

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