English Perception Verbs: A Syntactico-Semantic Corpus-Based Description

Verbos de percepción en inglés: Una descripción sintáctico-semántica basada en corpus

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ABSTRACT

After a theoretical review that accounts for their study in Systemic Functional Linguistics, Lexico-Functional Grammar and Word Grammar, this dissertation presents a corpus-based description of the syntactico-semantic behaviour of the basic perception verbs associated with the sensory modalities of sight, hearing, touch, taste and smell in contemporary English. Due to the problems they usually cause among Spanish students of English, owing to their form, I will specifically focus just on those perception verbs that are homonyms in some of their functions: namely, (i) *smell* and *taste*, that have exactly the same form in their active, passive and copulative uses; (ii) *look*, identical in form in its active and copulative functions; and (iii) *feel*, with the same form in its passive and copulative uses. Their description, based on a corpus of 656 examples randomly extracted by myself from the spoken and academic sections of the *British National Corpus*, will deal with the following three issues: (i) the frequency of occurrence that these verbs exhibit in each of their functions in both linguistic registers; (ii) the clause types in which they appear, as well as the kind of complementation they take; and finally, (iii) a semantic analysis of their primary and metaphorical meanings.

***Key words*:** perception verbs, active, passive, copulative, clause type, metaphor.

RESUMEN

Tras una revisión teórica sobre su estudio en la Lingüística Sistémico-Funcional, en la Gramática Léxico-Funcional y en la Gramática de la Palabra, este trabajo presenta una descripción, basada en corpus, del comportamiento sintáctico-semántico de los verbos básicos de percepción asociados con los sentidos de la vista, el oído, el tacto, el gusto y el olfato en inglés contemporáneo. Debido a los problemas que suelen causar entre los estudiantes españoles de inglés debido a su forma, me voy a centrar específicamente sólo en los verbos de percepción que son homónimos en algunas de sus funciones: a saber, (i) *smell* y *taste*, formalmente idénticos en sus usos activo, pasivo y copulativo; (ii) *look*, con la misma forma en su función activa y copulativa; y finalmente, (iii) *feel*, exactamente igual en forma en sus usos pasivo y copulativo. Su descripción, basada en el análisis de un corpus de 656 ejemplos extraídos al azar personalmente de las secciones oral y académica del *British National Corpus*, girará en torno a las tres cuestiones siguientes: (i) el índice de frecuencia que estos verbos

presentan en cada uno de sus usos en sendos registros lingüísticos; (ii) los patrones sintácticos en los que aparecen, así como el tipo de complementación que requieren; y finalmente, (iii) un análisis semántico de sus significados primarios y metafóricos.

***Palabras claves*:** verbos de percepción, activo, pasivo, copulativo, patrón sintáctico, metáfora.

CONTENTS

I. INTRODUCTION

The *Oxford Dictionary Online* defines *perception* as (i) 'the ability to see, hear, or become aware of something through the senses'; and as (ii) 'the neurophysiological processes, including memory, in which an organism becomes aware of and interprets external stimuli'; *cognition* is defined, in turn, as 'the mental action or process of acquiring knowledge and understanding through thought, experience, and the senses'.

Both definitions are somehow integrated in the following description of perception provided by Sekuler and Blake (1994), as stated in Tashi (2010: 110): "the biological process wherein the brain derives descriptions of objects and events in the world, using information gathered by the senses". This interconnection is not surprising because, according to Tacca (2001), perception and cognition are two interrelated terms in the sense that "perceptual information guides our decisions and actions, and shapes our beliefs" and also because "at the same time our knowledge influences the way we perceive the world". Therefore, perception comprehends sensations and information from different organs of the body which allow a person to identify things and objects in the external world. Notice in this regard that in many different languages, there exist words and constructions of sensory perception, as Caballero and Paradis (2015: 2) remark, which are used to express different kinds of emotions, as when, for example, we refer to people as *being touchy* because of their sensitivity and talk about bad experiences as *leaving a bad taste in our mouths*.

This interrelationship also explains why perception has been so deeply studied in Cognitive Linguistics, one of the most important functional approaches to the study of language nowadays,[1] which defends, on the one hand, that "human thinking is ultimately motivated by our bodily configuration and sensorimotor experiences"

[1] Though there are many other important traits that differentiate between the functional and formal approaches to the study of language (cf. Werner 1999), it should be pointed out at this stage that whereas the former defend that language has functions external to the linguistic system which affect its internal organisation, the latter regard language as an autonomous and modular entity.

(Caballero and Paradis 2015: 2) and, on the other, as a consequence, that human language and mind, and human embodiment cannot be studied separately.

For the reasons previously commented upon, I firmly believe that to look at the different ways in which people express perception through the use of language is an interesting topic to research. As a consequence, in this work I am going to focus on the linguistic expression of perception in English. However, due to the limitations of time and space imposed on a work of this nature, on the one hand, and to the wideness of the topic, on the other, I will specifically base myself just on the syntactico-semantic behaviour of the basic perception verbs in English. That is, those ones that are directly related to the five sensory modalities —vision, hearing, touch, smell and taste— without entailing any extra connotations in their meaning. Therefore, I will take as my starting point Blendea's (2015: 92) classification below which, as can be seen, only comprises the 15 primary English perception verbs, divided in groups of three (passive, active and copulative) per each of the five sensory modalities distinguished:[2]

Sensory modality	**Passive**	**Active**	**Copulative**
Vision	See	Look/watch	Look
Hearing	Hear	Listen	Sound
Touch	Feel	Touch	Feel
Smell	Smell	Smell	Smell
Taste	Taste	Taste	Taste

1. Objectives and methodology

Though English perception verbs have been studied from different perspectives in many and diverse theoretical frameworks, in the first section of this work I am going to focus, specifically, on their description in two different functional approaches to the study of language because I consider that the context in which they are used in everyday language is essential to their understanding —namely, (i) Systemic Functional Grammar (SFG) (cf. Halliday 2004; Downing and Locke 1992; 2006); and (ii) Lexico-Functional Grammar (LFG) (cf. Levin 1993; Dalrymple 2001)—. However, in order to present a complete picture of the situation, I am also going to review how this particular verbal

[2] For the study of this complete verbal class, see, among others, Levin (1993: 185), where a number of 58 different English perception verbs are classified in one of the following four classes: (i) *See* Verbs; (ii) *Sight* Verbs; (iii) *Peer* Verbs; and finally, (iv) Stimulus Subject Perception Verbs.

class is analysed in one formal approach to the study of language —Word Grammar (WG) (cf. Hudson 1984, Gisborne 2010)—, which, in opposition to other formal approaches, pays some attention to the assumptions on which Cognitive Linguistics is based. As Hudson (1984) explains:

> [Word Grammar] is a theory of language structure and is based on the assumption that language, and indeed the whole of knowledge, is a network, and that virtually all of knowledge is learned. It combines the psychological insights of cognitive linguistics with the rigour of more formal theories.

This first theoretical part will finish with a brief description of the most common metaphors that take the perceptual domain as their basis in order to explore the meaning extensions that English perception verbs entail (cf. Ibarretxe Antuñano 1999; 2002).

This theoretical review will shed some light on the differences in the syntactico-semantic behaviour English perception verbs display since not all of them function alike. It will, basically, demonstrate that the verbs associated with the different sensory modalities identified can appear in diverse syntactic structures, as seen in (1-3), depending on the kind of perception —direct and/or indirect— they denote. Their meaning can be said, thus, to highly influence the syntactic pattern in which they occur:

(1) She listens to the radio every week.
(2) She could hear sounds on the other side.
(3) The music sounds good.

Since, as stated in Schellenberg (2008), "to perceive x directly is to be perceptually aware of x without one's awareness of x being inferred from prior awareness of anything else, and to perceive x indirectly is for one's perceptual awareness of x to be inferred from prior awareness of something else", *listen* in (1) would be said to express direct perception, and *hear* and *sound*, in (2) and (3), in turn, indirect perception.[3]

To complete this theoretical analysis, in the second part of this work I will carry out a corpus-based study of the particular syntactico-semantic behaviour of these

[3] *Listen* means "to pay attention to the sounds which come into your ears or to concentrate on them"; *hear* signifies "to be aware of or to notice sounds coming through your ears, but without paying attention to them"; and finally, *sound* means "to notice some quality that can be perceived through the ears".

English perception verbs. Nevertheless, for reasons of time and space, I will just focus on those homonym verbs —that is, *look, feel, smell* and *taste*— because I consider, as a Spanish speaker of English, that they are the most problematic ones for English students having Spanish, where they are not homonyms, as their mother tongue.

For this purpose, I will analyse a corpus of 656 examples which I myself have randomly extracted from the spoken and academic sections of the *British National Corpus* (*BNC*). The main reason that has led me to select these two specific sections of the *BNC*, instead of others, is that, since they cover two completely different mediums of communication —oral and informal *versus* written and formal—, the behaviour in them of the perception verbs analysed may provide some interesting and contrastive data about this verbal class. From the spoken section, 100 examples have been compiled for each of the four homonym verbs at issue; but from the academic section, being more limited than the spoken one, only 100 examples have been gathered for the verbs *look* and *feel*; the subcorpora concerning the verbs *smell* and *taste* are much more reduced in number: 37 and 19 examples, respectively.

The description of my corpus-based analysis will present just the major findings obtained, which concern the following issues: (i) the frequency of occurrence each verb has in spoken and academic English; (ii) the clause types in which each of these verbs appear and the kind of complementation they take in each syntactic pattern; and, finally, (iii) the different meanings these verbs may have, with special emphasis on their metaphorical extensions.

II. STATE OF THE ART.
THE STUDY OF PERCEPTION VERBS IN ENGLISH

1. Perception verbs in Systemic Functional Grammar

Systemic Functional Grammar is a descriptive approach founded by M.A.K. Halliday in the 70s, which basically regards language as a systematic resource to express meanings in context. In it language is, thus, considered a system of choices available for the speaker who, depending on the context and his intention, makes his particular election. Halliday (2004: 170) calls this system of grammatical choices, concerned with construing a particular domain of our experience as the configuration of a process, the participants involved in it, and the circumstances attendant on it, "the transitivity system".

Depending on the distinction between external and internal experience, the following processes can be identified in the transitivity system: material, mental, relational, behavioural, verbal, and existential processes. According to Matthiessen (2014: 245), "'mental' clauses are concerned with our experience of the world of our own consciousness." Therefore, mental clauses can be described as processes of sensing. Within this same theoretical framework, Downing and Locke (2006: 139) further divide mental processes into processes of cognition (*know, understand, etc.*), affection (*like, love, etc.*), desideration (*hope, want, etc.*), and perception (*feel, see, smell, etc.*). All of them are semantically different, and these differences are reflected in their grammatical behaviour.

The participants required by mental processes of the type of *like* in (4) are the "experiencer" or "senser" —*Jill*—, and the "phenomenon" —*the present*—. The experiencer is, specifically, "the participant who sees, thinks, likes, etc., and is typically human, but may also be an animal or even a personified inanimate object"; and the phenomenon is, in turn, the "second participant, that which is perceived, known, liked, etc."; as a consequence, the phenomenon can be a thing, a fact, a process or a situation (Downing and Locke 2006: 140):

(4) Jill liked the present.

Since, as stated by Downing and Locke (2006: 142), "perception is an involuntary state, which does not depend upon the agency of the perceiver, who in fact receives […] sensations non-volitionally", English perception verbs are, on the one hand, stative and incompatible, thus, with the progressive form, (5); and on the other, non-agentive and ungrammatical, as such, in the imperative mood, (6); for this same reason, they cannot be questioned with the active and agentive interrogative pattern *What did X do?*, (7):

(5) *Jill is liking the present.
(6) ??Like the present, Jill!
(7) What did Jill do with the present? *He liked it.

Nevertheless, not all English verbs of perception behave similarly. It should be noticed in this regard that the features stated above only describe the syntactico-semantic behaviour of those verbs that are classified in Blendea's (2015: 92) table above as "passive". Those that, like *look/watch, listen, touch, smell* and *taste*, are regarded as "active" have, in opposition, a dynamic meaning, which allows them to appear in any progressive tense, (8), in the imperative mood, (9), and to be questioned by means of *What did X do?*, (10):

(8) I'm watching you.
(9) Don't look at me!
(10) What did you do? I was listening to music while the TV was on.

For this reason, for Matthiessen (2014: 301), among other scholars, active perception verbs do not describe, like their passive counterparts, mental processes but behavioural ones. Since "they are processes of physiological and psychological behaviour", located in the transitivity system half way between mental and material processes (processes of 'doing'), they have no distinct features of their own. Thus, the participant that functions as the subject of the clause is the "behaver", a conscious and volitional being, quite similar to the agent of material processes, like *Jenny* and *Peter* in (11-12), quite often

referred to in the literature as an "agent experiencer"; apart from the behaver, behavioural processes entail a second participant, called "behaviour", if it is a projection of the verbal process —*a disgusting smell* in (11)—, or "phenomenon", if it is, in turn, external to the verbal process —*the soup* in (12)—:

(11) Jenny smelt a disgusting smell.
(12) Peter smelt the soup.

The last set of perception verbs in Blendea's (2015: 92) classification —*look, sound, feel, smell* and *taste*—, which denote some kind of indirect perception process, are described as "copulative", since they "somehow transmit the idea of somebody or something being visually/auditorily/tactilely/olfactorily/gustatorily perceived by a speaker" (Blendea 2015: 93). Due to the relational meaning they all entail, Dixon (1991: 202) considers that the use of the copulative perception verbs *look, sound* and *feel* is grammatically and semantically very similar to that of the prototypical attributive verb *seem*, up to the point that they can be interchanged, without implying an enormous semantic difference, (13-15):

(13) John looks/seems likely to be sacked.
(14) It sounds/seems strange that John gave his car away.
(15) It feels/seems strange that we may never see him again.

Since they indicate a clear attributive relationship between two participants, they belong to the relational processes within Halliday's (2004) transitivity system and involve, as a consequence, the following two participants: a "carrier" —the entity to which the attribute is ascribed— and an "attribute" —the quality or a characteristic ascribed to the carrier— (cf. Matthiessen 2014: 267):

(16) She looks beautiful.
(17) It sounds good.
(18) The bread smells wonderful.
(19) The food tastes delicious.

(20) The child feels hot.[4]

Although the attribute participant in copulative perception processes usually takes the form of an adjective phrase, (16-20), it can also adopt some other formal realizations, like, for instance, *like/as if*-clauses, (21-25):

(21) John looks like/as if he's seen a ghost.
(22) It sounds like/as if Jack has found the perfect job!
(23) They often feel like/as if they could die for sinners.
(24) The food smells like/as if it's rotten meat.
(25) Vegetables taste like/as if they were sweet.

As has been explained in this section, the primary and basic perception verbs in English exhibit, in sum, a quite varied syntactico-semantic behaviour. As Downing and Locke (2006: 142) perfectly summarize, English verbs of perceptions "encode different ways of experiencing these sensations: one stative and non-volitional, a second dynamic and volitional, and the third as a relational process":

(26) I can smell gas. (stative/non-volitional)
(27) Just smell these roses! (dynamic/volitional)
(28) The fish smells bad. (relational)

2. Perception verbs in Lexico-Functional Grammar

Within the theoretical framework known as Lexico-Functional Grammar, founded by Bresnan and Kaplan in the 70s (cf. Bresnan 1982), Levin's (1993) work outstands among the rest for offering a classification of thousand English verbs, grouped according to the semantic classes they belong to and to the alternations they are compatible with. Contrary to the previously described functional studies, however, in Levin's (1993) work the group of English perception verbs is only subject to a two-fold classification: (i) the passive and stative class; and (ii) the copulative type.

[4] The use of the verb *feel* in (20) is, as Downing and Locke (1992: 133) observe, highly ambiguous: it can be understood as a copulative perception verb ("someone feels the heat of the child") or as a passive perception verb ("the child feels the heat").

According to Levin (1993: 186), the basic passive verbs of perception in English describe the sensory awareness of an entity and require a perceiver participant as the subject of the clause —*I* in (29)— and a perceived entity as the clausal object, which can be realised by a nominal constituent, such as the noun phrase *the play* in (29), but not by a prepositional one, like *at the play* in (30):

(29) I saw the play.
(30) *I saw at the play.

If the perceived participant is not an entity, but a situation, then a nominal clause would be the form of the clausal object. In this regard, Levin (1993) specifies that the situation can be depicted by means of a bare infinitive nominal clause, (31a), as complete and finished, or as in the middle of its development and, thus, incomplete, if expressed through an *–ing* nominal clause, (32a). As Levin (1993) states, only the latter can undergo passivization; hence, the grammaticality contrasts between (31b-32b):

(31a) I saw Jane run down the street.
(32a) I see someone running down the street.
(31b) *Jane was seen run down the street.
(32b) Someone was seen running down the street.

Although Levin (1993) acknowledges their stative nature and, thus, their oddity to appear in the progressive tense, she considers that English passive verbs of perception can be conjugated in the present progressive tense if they refer to some near future arrangement which has already been decided on, (33). However, if the perception process described in the clause is intended to refer to the moment of speaking, the present progressive tense has to be replaced by the modal verb *can*, (34):

(33) I am seeing Sylvia tonight.
(34) I can see that you are feeling great.

As regards the alternations English passive verbs of perception can enter, Levin (1993: 25) shows their incompatibility with the Middle Alternation, (35b), and the Possessor Object Possessor-Attribute Factoring Alternation, (36b):

(35a) I saw the Mona Lisa. →

(35b) *The Mona Lisa sees easily.

(36a) I sensed his eagerness. →

(36b) *I sensed him for his eagerness.

According to Levin (1993: 26), their exclusion from the Middle Alternation has to do with the kind of objects this verbal class takes, which, like *the Mona Lisa* in (35a), are clearly not affected by the verbal process described in the clause. Notice in this regard that for Levin (1993) only those verbs, like *cut* in (37a), complemented by affected objects, such as *the meat* in (37a), undergo this particular alternation in English. To my view, however, there is a second reason that explains the incompatibility of passive perception verbs with the Middle Alternation in English. Despite their transitivity, they describe mental states that are perceived involuntarily by an experiencer and, as such, they lack an agent participant to perform the verbal action, like *the butcher* in (37a), that, according to Levin (1993), is essential for this particular English alternation to take place:[5]

(37a) The butcher cuts the meat.

(37b) The meat cuts easily.

Defined formally as involving "transitive verbs that allow the possessor and attribute to be expressed either as a single noun phrase functioning as the direct object of the verb or as two distinct constituents: the possessor as direct object and the attribute via a prepositional phrase headed by *for*" (Levin 1993: 74), the Possessor Object Possessor-Attribute Factoring Alternation implies, semantically, that somebody directs his attention towards some entity. As such, it requires an agent participant, like *they* in (38a-38b), as the clausal subject, and, as explained before, this is not the kind of semantic subjects passive perception processes are predicated of; hence, their exclusion from this alternation, (39a-39b):[6]

[5] Apart from these two features, the lack of specific time reference and the presence of some adverbial or modal element are the other distinguishing traits of the Middle Alternation in English.

[6] According to Levin (1993), only the following six verbal classes allow this alternation in English: (i) Positive *Admire*-Type Psych-Verbs; (ii) Negative *Admire*-Type Psych-Verbs; (iii) Negative Judgment Verbs; (iv) Positive Judgment Verbs; (v) *Want* Verbs; and (vi) Verbs of Assessment.

(38a) They praised the volunteers' dedication.

(38b) They praised the volunteers for their dedication.

(39a) I saw his eagerness.

(39b) *I saw him for his eagerness.

There is, nevertheless, one alternation, quite similar in form to the one just described, known as the Attribute Object Possessor-Attribute Factoring Alternation, that, according to Levin (1993: 75), English passive verbs of perception can enter. As the previous one, it also applies to "transitive verbs that allow the possessor and attribute to be expressed either as a single noun phrase functioning as the direct object of the verb or as two distinct constituents: the attribute as direct object and the possessor via a prepositional *in* phrase", (40a-41b):

(40a) I admired him for his honesty.

(40b) I admired the honesty in him.

(41a) I saw his eagerness.

(41b) I saw the eagerness in him

In opposition to the previous one, however, this alternation does not require any agent to display the syntactic function of subject, but a passive participant, as illustrated in the set of examples above, like, for example, the experiencer subject of passive perception verbs, (41a-41b).

Finally, Blendea's (2015) copulative perception verbs are included in Levin's (1993: 188) work within the verbal class called "stimulus subject perception verbs". Contrary to the previous group, this latter class is composed of intransitive verbs which usually take an adjective phrase —*delicious* in (42)— as the complement of the stimulus participant which syntactically functions as the subject of the clause —*the pea soup* in (42)—:

(42) That pea soup tasted delicious.

As regards the verbs in this group, Levin (1993) establishes a direct connection between them and the class of *Appeal* Verbs, included within the broad group of verbs that

denote a psychological state,[7] basing herself on the following two facts: first, this kind of psychological verbs are also intransitive and have as grammatical subject a stimulus participant —*the outcome* in (43)—; and secondly, they require as their second participant a prepositional phrase experiencer headed by *to*, instead of an attribute, that, like *to Malinda* in (43), occupies an oblique position and which, as illustrated in (44), can optionally appear as the third participant in copulative perception processes —*to me*—:

(43) This painting appeals to Malinda.
(44) That pea soup tasted delicious (to me).

Furthermore, as Levin (1993: 193) remarks, both verbal classes are excluded from passivization, as the ungrammatical examples (45-46) show:

(45) *Malinda is appealed to (by this painting).
(46) *I was tasted delicious (by the pea soup).

3. Perception verbs in Word Grammar

The formal approach known as Word Grammar was founded by Hudson in the 80s, and further developed by Creider (1999), Camdzic (2002), and Gisborne (2010), among other scholars. Within this particular formal approach, Gisborne (2010) offers a detailed study of English perception verbs, basing himself on the assumption that "word meaning is a window onto general cognition […] and the meaning of perception verbs is constrained by our folk-science account of sensory experience" (Gisborne 2010: 2). Specifically, Gisborne's (2010) deals with the following three issues: (i) how the semantics of verbs predicts their syntactic behaviour, especially the kind of complementation they take; (ii) the sub-parts found in the meaning of verbs; and finally, (iii) the phenomenon of verbal polysemy.

Gisborne (2010) starts classifying English perception verbs in three different groups, which he names "*listen*-class verbs" (agentive or active), "*hear*-class verbs" (experiencer or passive), and "*sound*-class verbs" (percept or copulative). As described

[7] Besides this group, English psych-verbs also include in Levin's (1993) work three more verbal classes: (i) *Admire* Verbs; (ii) *Amuse* Verbs; and (iii) *Marvel* verbs.

so far, he states that the former class can appear in the progressive tense due to their volitional nature, whereas those belonging to the *hear*-class cannot because they are non-volitional. In order to differentiate them, Gisborne proposes a test which consists of inserting the adverbial *deliberately* in their predicates. As the grammaticality contrasts in the examples below show, this insertion does not cause any problem if the predicate contains a *listen*-class verb, (47); however, if the predicate is built around a *hear*-class verb, the resulting sentence is, at least, dubious, (48):

(47) He was deliberately listening to the music.
(48) ?He deliberately heard the flat note.

As regards their complementation, Gisborne (2010) finds significant differences among the three classes of perception verbs identified. While those comprised in the *listen*-class, like *look* in (49), take what he calls a directional prepositional phrase —*at the painting*—, those of the type of *see* in (50), that belong, in turn, to the *hear*-class, take a direct object —*the painter's signature*—. Finally, the verbs included in the *sound*-class, like *look* in (51), take an adjectival subject complement —*damaged*—:[8]

(49) I looked at the painting.
(50) I saw the painter's signature.
(51) The painting looked damaged.

Apart from the contrasts just described, Gisborne's (2010) analysis of the kind of complementation that the verbs of the *listen*-class take in English is particularly interesting since, as he observes, it is not regular at all, varying a great deal, both syntactically and semantically, as illustrated in the following series of examples with the verbs *look* and *listen*, (52-55):

(52) I look into a darkened room.
(53) I look over a proposal.
(54) I listen to an aria.
(55) I listen over a humming sound.

[8] For the complementation of perception verbs and its semantic implications, see also Schüle (2000).

As Gisborne (2010) further explains, both verbs can take a directional, but unspecific phrase, headed by the prepositions *at, over, into,* and many others, on which their meaning is going to depend: if *(in)to* is the head of the prepositional phrase —*into a darkened room*, (52), and *to an aria*, (54)—, the object has to be interpreted as the percept of the process; however, if the preposition that heads the directional phrase is *over* —*over a proposal*, (53), and *over a humming sound*, (55)—, the object is to be understood as a barrier.

As regards the complementation taken by the *hear*-class verbs, Gisborne (2010) also finds some variability. He observes, in fact, that the form of their complements is closely related to the way how the percept that functions as direct object is perceived: if it is realized by means of a noun phrase, like *the flowers* in (56), the entity it refers to is considered to be directly perceived by the experiencer; however, if it takes the form of a *that*-clause, as in (57), the event it describes has to be interpreted as perceived by the experiencer in an indirect way:

(56) I saw the flowers.
(57) I saw that the flowers had grown.

Finally, Gisborne (2010) studies in some detail the meaning components in the semantics of the "*listen*-class" and "*hear*-class" verbs. As regards de former set, Gisborne (2010) focuses mainly on the pair of verbs *look* and *watch*, regarded as clear synonyms in Blendea's (2015: 92) classification. For Gisborne (2010), nevertheless, they are not so, since *watch,* together with other verbs in this group, such as *squint* or *stare*, for instance, entails the volitional sense implicit in *look*, which, in turn, does not cover all the meaning components in the semantics of *watch*. Thus, the author concludes that *look,* being semantically neutral, has to be considered the appropriate member in the pair to name the class of active verbs associated with the sensory modality of sight.

By using the *deliberately* test explained before, Gisborne (2010) includes within the stative and passive "*hear*-class" verbs the following ones: *perceive, observe, notice, glimpse* and *spot*, (58-59):

(58) ?Peter deliberately perceived the situation.

(59) ?Jane deliberately glimpsed the enemy flag.

He concludes, notwithstanding, that they cannot be considered central members of the group for two semantic reasons. First, because they denote perception but are not related to one specific sensory modality; in fact, as can be seen in (60-63), these verbs, except for *glimpse*, can express both visual and olfactory perceptions:

(60) Jane perceived/observed/noticed/spotted the garlicky odour/salty flavour/gritty texture of the soup.

(61) Jane perceived/observed/noticed/glimpsed/spotted Peter crossing the road.

(62) Peter glimpsed The Scream as the thieves were running off with it.

(63) ?Jane glimpsed the smell of garlic as she ate the soup.

And secondly, because, in opposition to *see*, the prototypical passive verb of perception which allows both kinds of complementation, (64-65), these other verbs can only be complemented by *–ing* nominal clauses of the type of *Peter crossing the road* in (61) above, but not by bare infinitive ones, like *Peter cross the road*, (66):

(64) I saw the dog cross the road.

(65) I saw the dog crossing the road.

(66) *Jane perceived/observed/noticed/glimpsed/spotter Peter cross the road.

These differences in complementation have important semantic consequences, mainly concerning the temporariness of the event described in the clause, which can be summarised as follows: whereas the basic stative and passive verbs of perception like *see* and *hear*, for example, can denote the perception of both a complete and finished event, (64), regarded by Gisborne (2010) as "punctual", and of a durative event that is portrayed in the middle of its development, (65), those verbs that are not the basic and central ones in the class (i.e. *perceive, observe, notice, glimpse* and *spot*) can only convey the perception of durative events, (61). The ungrammaticality of (66) shows, in fact, that the perception of punctual events is not compatible with these verbs.

To finish, Gisborne (2010) focuses on the use of the modal verb *can* to establish one more difference between the central and the peripheral passive perception verbs comprised in the *hear*-class: while the former make use of *can* to denote an event that is taking place at the present time, (67), the latter require the presence of an adverbial of

the type of *from here*, (68a), for instance, if *can* is used. Without such an adverbial, the sentence would not result completely acceptable, (68b):

(67) I can see you are having a great time.
(68a) Jane can observe/perceive/glimpse/spot Peter from here.
(68b) ?Jane can observe/perceive/notice/glimpse/spot Peter.

4. Polysemy and metaphors in the perception domain

Defined as "the term used in semantic analysis to describe the situation in which a word has two or more related meanings" (Ibarretxe Antuñano 1999: 14), polysemy has to be studied when analysing English perception verbs because, apart from their primary meaning associated with physical perception, they convey a great variety of different meanings. In his analysis of the verb *see*, for instance, Gisborne (2010: 13) states that it is clearly a polysemous word since, as illustrated in the following set of examples, "it can mean to perceive visually; to date (someone); to understand (something); and to ensure that something happens":

(69) Jane saw Guernica.
(70) Jane was seeing Peter all last summer.
(71) Peter suddenly saw why Jane dumped him.
(72) I'll see him hang.

In order to explain and account for the relationship that exists between the different senses of a single word, Johnson and Lakoff (1980) resort to the traditional trope known as "conceptual metaphor", defined, among others, by Engberg-Pedersen (1995) as "cross-domain mappings in the conceptual system". Put it differently, abstract concepts of reasoning and emotion are explained through the use of concepts and vocabulary related to the physical and social world.

As regards perception verbs, Sweetser (1990) proposes the "MIND-AS-BODY metaphor", which, according to Ibarretxe Antuñano (2002: 94), "involves our conceptualising one whole area of experience (i.e. mind) in terms of another (i.e. body)". Therefore, the vocabulary related to the field of physical perception would be the source domain in the metaphor, whereas the vocabulary conveying internal sensations would be the target domain, as can be seen in the following chart, where

Ibarretxe Antuñano (2002: 118) summarizes the most common English metaphors attested in the perceptual realm:

METAPHORS IN THE PERCEPTUAL DOMAIN	
VISION	Understanding is seeing
	Foreseeing is seeing
	Imagining is seeing
	Considering is seeing
	Studying / Examining is seeing
	Finding out is seeing
	Making sure is seeing
	Takin care is seeing / Looking after
	Witnessing is seeing
HEARING	Paying attention is hearing
	Obeying is hearing
	Being told / knowing is hearing
	Understanding is hearing
TOUCH	Affecting is touching
	Dealing with is touching
SMELL	Suspecting is smelling
	Sensing / guessing is smelling
	Investigating is sniffing around
	Showing contempt is sniffing
TASTE	Experiencing something is tasting
	Producing a feeling is tasting (enjoying/disliking)

According to Ibarretxe Antuñano (2002: 96), sight is the most reliable sense for gathering information; that is the reason why in the domain of visual perception, Ibarretxe Antuñano (2002: 96) distinguishes 9 different metaphors that he classifies in four distinct groups, all of which, except for the second group, are to be considered examples of the MIND-AS-BODY metaphor: (i) 'seeing' is an intellectual and mental activity; (ii) 'seeing' is some kind of social relationship; (iii) 'seeing' is reliability and assurance; and finally, (iv) 'seeing' is a miscellaneous group of activities.

As an intellectual and mental activity, 'seeing' is *understanding* (73), *foreseeing* (74), *imagining* (75), *considering* (76), and *studying* or *examining* (77):

(73) I explained the problem but he could not see it.

(74) I can see what will happen if you don't help.

(75) Do all your people see themselves as having a selling role?

(76) She thinks it is soft of him to see them as belonging to a universal latent hostility.

(77) I have to see how I fix it.

As a sign of reliability and assurance —group three—, 'seeing' implies *finding out*, (78), *making sure,* (79), and *taking care of something* (80):

(78) Please see who's knocking.

(79) See that it gets done right away.

(80) He looked after his younger brother.

And finally, 'seeing' can entail a wide range of miscellaneous activities, among which, *witnessing*, (81), for example, is a case in point:

(81) He has seen much unhappiness in this life.

In relation to 'hearing', the meaning of the most basic metaphor is that of *paying attention*, (82), since 'hearing' is understood as a process of linguistic communication which requires, as such, two participants: the speaker, who sends a message, and the hearer, a known or unknown participant, who has to pay some attention to understand the message which has been transmitted. According to Ibarretxe Antuñano (2002), however, there are some extended senses of this basic metaphorical meaning since on some occasions, apart from demanding his attention, the speaker also wants the hearer to do what he says; it is in this context where 'hearing' implies *obeying*, (83):

(82) Do not listen to the tempting voices.

(83) He said: "They hadn't organised themselves and didn't listen to advice and instruction".

Moreover, as Ibarretxe Antuñano (2002) shows in (84-85), 'hearing' also means *being told* or *knowing*, and *understanding*, respectively:

(84) I heard you are in catering these days.

(85) If I have heard well, you want to say that there is no solution.

The perceptual domain of 'touching' has been, in turn, traditionally related to the field of emotions. That is why the first metaphorical meaning of 'touching' is that of *affecting*, which, as seen in (86), is to be interpreted as "changing somebody's feelings". There is, furthermore, a second metaphorical meaning of 'touching' which Ibarretxe Antuñano (2002) paraphrases as *dealing with something*, (87). This last meaning has to be, however, understood as *dealing with something*, but *superficially*, if the adverbial *barely* modifies the perception verb *touch*, (88):

(86) An appeal that touches us deeply.

(87) I wouldn't touch that business.

(88) He barely touched on the incident in his speech.

As regards 'smelling', Ibarretxe Antuñano (2002) demonstrates that it does not have a wide range of metaphorical meanings since it can only be metaphorically understood as *suspecting*, (89),[9] and *guessing* or *sensing intuitively*, (90):

(89) Things… wouldn't always get past the sharp-eyed QC. If a case smelt, he would smell it.

(90) Mary can smell money.

It should be noticed at this point, however, that there are some other metaphorical meanings attested in this particular perceptual domain, though not directly associated with the verb *smell*. As shown in the following pair of examples, it is the verb *sniff* the one that exhibits two different metaphorical interpretations; in (91) it means *investigating* and in (92) *showing contempt*:

(91) The police have been sniffing around here again.

(92) The critics sniffed at the adaptation of the novel to film.

[9] This particular meaning is associated with the second *smell* in the clause; the first one implies "having negative characteristics".

To finish, Ibarretxe Antuñano (2002) analyses the metaphorical dimension of the sense of taste, traditionally associated with people's likes and dislikes. Thus, it is not surprising to find *experiencing something*, (93), and *producing a feeling*, either positive —*enjoying*, (94)— or negative —*disliking*, (95)—, as the two potential metaphorical meanings of 'tasting':

(93) He has tasted the frustration of defeat.

(94) I savour the sweet taste of revenge.

(95) The Romans tasted defeat at the hands of a Barbarian army.

III. CORPUS ANALYSIS

1. *Look*

The verb *look,* entailing the sense of sight, is very frequent in the corpus since, as stated in the theoretical section of this work, it has, on the one hand, an active use related to direct perception and, on the other, a copulative use that establishes a relationship between two different terms.

In both the spoken and the academic sections of the corpus, its active use, (96), is the most common one, attested in the 78% and 73%, respectively, of the total. Its copulative use, (97), presents, however, a more reduced frequency of occurrence, being found just in the remaining 22% and 27% of the spoken and academic subcorpora:

(96) The natural place for a person to look for information about an unknown word is a dictionary.

(97) It looks beautiful and it looks innocent.

As a copulative perception verb, in both sections of the corpus *look* has only been attested in the intensive pattern SVC. As illustrated in the following series of examples, however, the form of the complement can be either adjectival, (98-99), nominal, (100-101), or prepositional, (102-103). In this latter case, the only preposition attested in the corpus introducing the prepositional phrase is *like*:

(98) Oh it looks quite good.

(99) Semaria doesn’t look very attractive with its cannibalism.

(100) Indeed, at first glance this does not look a very compelling book.

(101) So this indeed looks a very exciting new development for us.

(102) This looks like a linguistic form that has pragmatic rather than semantic content.

(103) Ha, it looks like being a wet day tomorrow.

Apart from the types of complements just pointed out, in the academic subcorpus *look* has also been attested with clausal complements introduced by *as if*, (104):

(104) In the third place peasant correspondents in particular looked as if they would be a useful source of information.

As deduced from the previous examples, in its copulative function *look* usually means *seem/appear to be* or *have the appearance of.*

As an active verb, however, *look* has been attested in the corpus, usually followed by a wide array of prepositions (75% of the total) that will determine its meaning, in two different clause types: (i) the monotransitive scheme (SVO); and (ii) the intensive pattern of the type SVA.

Both in the spoken and academic sections, the preposition most recurrently attested in the SVO pattern is *at*, which, as seen in the following series of examples, introduces objects formally realized either by noun phrases, (105), *-ing* clauses, (106), or *wh-* clauses, (107):

(105) Next thing you look at your watch and it's 4 o'clock.
(106) We looked at developing a more sensitive policy.
(107) We looked at how we could get round that legal procedure.

Semantically speaking, the combination *look at* has many different meanings: among others, *consider,* (108); *observe/view,* (109) and *examine,* (110), which are the most common ones, but also *read,* as seen in (111):

(108) Look, for example, at the web of relations surrounding the sale of an automobile.
(109) Secondly, it is obviously impossible to look at endomembrane channels using this technique.
(110) A astronomer looks at the stars, a doctor looks at the human body.
(111) Oh well I'll give you one to look at. It's just a little article about recycling.

Less frequent verb-prepositional combinations found in the corpus are *look forward to* that means "await something with excitement", *look for* that signifies "seek/search for", *look into* meaning "investigate", *look to* signifying "hope to" or "turn for guidance" and *look upon*, whose meaning is "see". As seen below, all these combinations also take a nominal constituent as object: either a noun phrase, (112-117), or a *to*-infinitive nominal clause, (118):

(112) He looked forward to the development of the country by a central Government of the Protectorate.
(113) I was looking for, for some other folk.
(114) No action was taken until the Communist Party had time to look into the question.
(115) They look to that serpent of brass.
(116) We won't look up the reference.
(117) They are ashamed to see him, they don't want to look upon him.
(118) Lewis is looking for a catalyst to recapture some of its original vigour and purpose.

Apart from the combinations listed above, which are present in the two different sections of the corpus analysed, some others have been found but only in the spoken or academic subcorpus. In the former, *look* has also been attested followed by *after*, (119), and in the latter, in combination with the complex preposition *out for*, (120). In both cases the meaning underlying the verb-prepositional combination is that of "take care of":

(119) I'll look after you.
(120) See, when I go out, I'm looking out for me and my mate.

As regards the intensive pattern SVA in which *look* has been attested, the most important findings derived from my corpus-based analysis concern, on the hand, the form of the final compulsory adverbial —either a prepositional phrase like *back on her life, out of the window, outside the civil service and down the table* in (121-124), or an adverb phrase like *inwards* and *around* in (125-126)— and, on the other, its semantic nature —usually an adverbial of place—:

(121) She looked back on her life.

(122) Sanger duty is particularly boring because there is nothing else to do but look out of the window.

(123) She has been willing to look outside the civil service for advice on policy.

(124) So if you look down your table you've got your concentrations here.

(125) They will feel compelled to look inwards as the competition on international markets appears unequal.

(126) I think you need people looking around to see how the Council's affected.

Concerning the semantics of these specific combinations, it should be noticed that *look back* means "reminisce" or "come back", *look out* "observe from indoors", *look down* "lower one's gaze"; and *look around* "inspect/examine the surrounding area".

2. *Feel*

The verb *feel* is also a very frequent verb in the corpus. It should be noticed at this stage, however, that it presents a high frequency of occurrence either as a copulative, (127) or passive, (128), mental verb that denotes the perception of inner sensations and mental activities:

(127) You know, I always feel desperate.

(128) I feel a sadness that's hard to bear.

Since this verb is not the one I am interested in in this work, I am going to exclude from my analysis all those instances of *feel* denoting the perception of inner sensations.

In contrast, as a verb denoting the perception of physical sensations and related, as such, to the sensory modality of *touch*, it has hardly been attested in the corpus of examples analysed, being only found in the 2% of the total of the spoken section of the corpus. In the only two instances located with this kind of *feel*, examples (129-130) below, this verb exhibits a passive and stative use, having an experiencer or senser as grammatical subject —*I* and *We*— and a noun phrase, like *the pain* and *the air*, that displays the syntactic function of object in the monotransitive clause type SVO, embodying the phenomenon participant:

(129) I feel the pain.

(130) We felt the air.

The reason why I believe that the frequency of occurrence of this verb *feel* is so constricted in the corpus has to do with its meaning, which denotes just the perception of physical sensations. In contrast, the verb *feel* that expresses the awareness of any kind of inner sensation entails a wide array of meanings, what explains its abundant presence in the corpus: among others, "to experience an emotion", (131), "to experience a condition", (132), and "to perceive oneself as", (133) as a copulative verb; and "to think or believe", (134), as an stative and passive verb:

(131) I feel very angry you know what I mean.

(132) Oboe felt strong enough to break his alliance with the kabaka.

(133) They were totally hones they didn't feel made to do anything else.

(134) Do you feel that's fair?

3. *Smell*

The frequency of occurrence of the perception verb *smell* cannot be considered very high, if compared with that of *look*: whereas it is somehow recurrent in the spoken section of the corpus, having been attested in 100 examples, the academic section has only provided 37 instances of this verb. Apart from this contrast, the analysis of *smell* in both sections of the corpus has also shown some differences related to frequency of occurrence of this particular verb in its three different uses: namely, (i) as an active verb, denoting direct perception; (ii) as a passive verb, denoting, in turn, indirect perception; and finally, (iii) as a copulative verb, establishing a relationship between two terms.

In the spoken section, for example, the most common function of *smell* is the copulative one, (135), attested in the 47% of the total number of examples analysed, which, however, presents a lower frequency of occurrence (namely, 41.18%) in the academic section, (136). The passive use of the verb *smell* appears, in turn, with a frequency of occurrence of the 43% of the total in the spoken section of the corpus, (137), whereas in the academic section it is its most recurrent use, (138), found in the 55.88% of the total. Finally, the active and dynamic function of *smell* is not very

frequent in any section of the corpus, appearing just in the 10% of the total of the spoken corpus, (139), and in the 2.94% of the academic part, (140):

(135) Oh! It smells so nice.
(136) The Wards' house was always shining and smelled fresh, of lemon oil and soup.
(137) When the wind blows you can smell a tandoori.
(138) The salmon, for example, smells its home stream.
(139) Smell it Samantha.
(140) Does every man kiss, coax, hint smuttily, then talk bawdily, snatch a feel, smell his fingers, assault and win, exactly as I have done?

As a copulative verb, *smell* has been found in two different clause types: (i) the intensive pattern of the type SVC; and (ii) the intransitive scheme SV. As regard the former pattern, it has been observed that the final complement in the structure also presents here, as well as with *look*, some formal variation. Apart from the prototypical adjective phrase, like *so nice* and *fresh* in the previous examples (135-136), it has been attested both in the spoken and academic sections of the corpus as a prepositional phrase, headed by the prepositions *like*, (141-142), and *of*, (143):

(141) Your mum smells like prawns as well.
(142) You smell like you haven't washed your feet.
(143) Oh, it smells of erm spilt larger to me.

Although not quite frequently, this intensive pattern can include a third function, syntactically optional and realized by an oblique prepositional phrase introduced by *to*, like *to me* in (143), which corresponds semantically to the experiencer participant of the process.

In semantic terms, the most typical meaning that the copulative perception verb *smell* conveys is that of *emit and odor*, as illustrated in the previous examples. However, one example, (144), has been found in which this copulative perception verb presents a more specialized meaning; namely, that of "appear to be (dishonest or corrupt)":

(144) Coming from an insider will smell of blasphemy.

Since the intransitive pattern SV lacks the final complement function that is a distinguishing feature of the intensive pattern SVC explained above, the presence of the copulative verb *smell* in this particular syntactic structure could seem surprising at first sight. Notice in this regard that the intransitive use of this verb has just been attested in the 5% of the total number of examples analysed and with a higher frequency of occurrence in the spoken register than in the academic one. However, after a careful look at the examples attested in the corpus, one realizes that the phenomenon participant that embodies the final complement function in the intensive pattern is inherent to the meaning of this intransitive use of the verb *smell*, which is no other than "emit a bad odor", (145-146):

(145) Polluted water often smells.
(146) It smells though.

Notice in this regard that these two intransitive instances with the verb *smell* could be easily converted into intensive patterns just with the addition of an attribute participant with negative connotations, similar to *bad* in the SVC scheme illustrated in (147), to display the syntactic function of complement:

(147) Does it smell bad?

As an active and dynamic verb, whose meaning is just that of "sniff", as deduced from the examples below, *smell* has been attested, in turn, only in the monotransitive clause type SVO. Furthermore, in both sections of the corpus the object function, fulfilled by the perceived entity, always presents the form of a noun phrase, like *the lovely flower* and *my hand* in (148-149):

(148) Smell the lovely flower.
(149) Smell my hand!

One example has been found in the corpus, however, in which this active perception verb, though maintaining the same meaning as the one described before, combines with the preposition *out*:

(150) They would I suggest be able to smell out very quickly any malpractice.

Finally, the passive and stative function of the verb *smell*, whose most common meaning is that of *perceive an odor involuntarily*, has also been attested in both sections of the corpus just in the monotransitive pattern SVO. As seen in the following series of examples, the object function, displayed by the phenomenon participant, is always a nominal constituent: either a noun phrase, like *strange scents* in (151), or a nominal clause, like *what they are after* in (152):

(151) She smelled strange scents.
(152) They may see or smell what they are after.

With the same kind of complementation, the passive perception verb *smell* has also been found in the corpus with an additional general meaning: namely, ‘‘to detect, sense or perceive sensations different from olfactory ones”, (153-154):

(153) They can smell the money printed out.
(154) They smell death on him.

4. Taste

The syntactico-semantic behaviour of *taste* in the corpus of examples analysed is quite similar to that of *smell*. Though potentially having the three syntactic functions previously commented upon —namely, as a volitional and active, stative and passive and copulative verb— *taste* has not been attested in the corpus with a high frequency of occurrence. Notice in this regard that whereas 100 instances of *taste* have been compiled from the spoken section of the *BNC*, the academic section has only provided 19 examples.

As a consequence, each of the functions and uses aforementioned is going to have a very different frequency of occurrence in both sections of the corpus. In fact, in the spoken section the most common use the perception verb *taste* exhibits is the

copulative one, attested in the 57% of the total corpus; this same function is, however, the less frequent one in the academic section of the corpus, found just in the 15.78% of the total. In this particular use, the verb *taste*, meaning "have the savour of", has only been attested, as expected, in the intensive clause type SVC:

(155) Forbidden fruits always taste the sweetest.
(156) It tastes salty though.
(157) That tasted like orange.
(158) It doesn't taste like that at all.
(159) Otherwise everything will be tasting of soup.
(160) They don't taste of nothing if they're capsules.
(161) It looked and tasted exactly the same as the previous day's meal.

Again here, as previously exemplified, the complement function that puts an end to the syntactic scheme also presents here some formal variation. So, besides the prototypical adjectival complement, (155-156), some prepositional phrases headed either by *like*, (157-158), or *of*, (159-160), and some noun phrases like *the same as that*, (161), have been found as complements of *taste*.

The active and dynamic use of *taste* presents, in turn, a somehow similar frequency of occurrence in both sections of the corpus, being attested in the 40% of total of the spoken section and in 54.64% of the total of the academic part. With the dynamic, volitional and active meaning of "trying either food, (162), or beverage, (163)", *taste* has only been attested in both sections of the corpus in the monotransitive clause type SVO:

(162) He's tasted your marmalade.
(163) Could you taste the rum?

Although the nominal form that the object of *taste* takes can be varied, all the instances attested in the corpus have as object a noun phrase that, like *your marmalade* or *the rum* in the examples above, have as head a noun, or a pronoun, like *it* and *one of them*, (164-165):

(164) Has anybody tasted it?

(165) I've never tasted one of them before.

Finally, the reverse situation applies to the stative and passive use of the verb *taste*, hardly found in the spoken register of the corpus (only in the 3% of the total), but with a relatively high frequency of occurrence (31.85%) in the academic section. In all its attestations, the passive verb *taste* is the clausal head of a monotransitive pattern SVO which has, as illustrated below, an experiencer subject and a nominal object representing the phenomenon of the process:

(166) You can taste the plasticy sort of chemical taste.
(167) It's erm, is it a butter and erm whatsit one but you could taste the difference.
(168) A new generation of nobles who were not to taste the sweetness of military success.
(169) A personal power which the makers of the settlements of 1648, 1713 or 1814-15 had never tasted.

Apart from its primary meaning of "detecting involuntarily the flavour of something", (166-167), the meaning of the passive taste can be understood in more general terms as a synonym of "perceiving, noticing and experiencing", (168-169).

IV. CONCLUSION

Defined as the act of receiving, interpreting and understanding external stimuli of the world through the five senses of sight, touch, hearing, smell and taste, perception is expressed in English by means of several syntactico-semantic resources. One of them, probably the most common one, is perception verbs which, as demonstrated throughout this dissertation, have a wide use in contemporary English as a consequence of the three different syntactico-semantic functions they display: (i) an active and dynamic function; (ii) a passive and stative one; and finally, (iii) a copulative and relational function.

Since they are a common source of errors and problems for students of English having Spanish, where they are not homonyms, as their mother tongue, I have specifically analysed only the syntactico-semantic behaviour of those perception verbs that present exactly the same form in at least two of the aforementioned functions. That is, (i) *smell* and *taste*, that have exactly the same form in their active, passive and copulative uses; (ii) *look*, identical in form in its active and copulative functions; and (iii) *feel*, with the same form in its passive and copulative uses. In my analysis I have mainly focused on the following three issues: (i) the frequency of occurrence that these verbs exhibit in each of their functions in both linguistic registers; (ii) the clause types in which they appear, as well as the kind of complementation they take; and finally, (iii) a semantic analysis of their primary and metaphorical meanings.

To carry out my study, I have compiled and analysed a corpus of 656 examples, randomly extracted by myself from the spoken and academic sections of the *British National Corpus* (*BNC*). The first conclusion that can be drawn from my preliminary corpus-based study is that the English perception verbs analysed seem to be much more frequent in the spoken register than in the academic one; not a surprising fact if we take into account that, as human beings, we constantly express in our daily communication what we perceive from the world. Notice in this regard that 400 examples out of the 656

sentences analysed belong to the spoken register and that the 256 remaining examples belong, in turn, to the academic section of the corpus.

As regards their syntactic behaviour, it has been demonstrated that in their copulative function these four verbs have only been attested in the intensive clause type SVC, where the complement function exhibits some kind of formal variation. It can, in fact, be displayed by adjectival, nominal and prepositional phrases introduced by the prepositions *of* and *like*. As has been shown, *smell* is somehow exceptional in its copulative use because it can also appear in the intransitive SV clause type with the specialised meaning of "having a bad odour". This is so because here the complement function is inherent to the semantics of the intransitive use of *smell*.

In relation to their active use, however, the behaviour of *look* and that of *smell* and *taste* is somehow different since the former verb is complemented by a directional prepositional phrase headed by a wide array of prepositions and *taste* and *smell*, in turn, are complemented by a final nominal constituent that displays the syntactic function of object in the monotransitive pattern SVO. Furthermore, *look* has also been attested in intensive SVA patterns, where the adverbial function is displayed by either prepositional phrases or adverb phrases.

Finally, the stative and passive use of *feel*, *smell* and *taste* has also been attested in the monotransitive clause type SVO, where the object function is displayed by different formal kinds of nominal complements (noun phrases and clauses).

From a semantic perspective, it has finally been shown that these homonym verbs do not only convey their basic and primary sensorial meanings, but also some others considered to be metaphorical extensions from them. As has been illustrated, *look* is the most versatile verb in semantic terms, with diverse and different meanings associated to it, since, as according to Ibarretxe Antuñano (2002: 96), sight is the most reliable sense for gathering information; *smell* and *taste*, on the other hand, have few extended meanings, apart from their basic sensorial meaning. That is also the reason why, despite having an active, passive and copulative uses, they both are the least frequent verbs in the corpus. In the semantic analysis carried out the verb *feel* has proven to be the most interesting because it is more frequently used with one of its many extended uses, associated with the perception of inner sensations and emotions, than with its primary meaning related to physical perception and to the sensory modality of touch.

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