A corpus-based contrastive study of mental verbs

Isabel Verdaguer
University of Barcelona
i.verdaguer@ub.edu

1. Introduction[1]

In contrastive linguistics, the development of bilingual and multilingual corpora have provided new empirical data and has allowed linguists to focus attention on the syntagmatic axis and on the analysis of word co-occurrence patterns. Corpus linguistics has given new emphasis to the importance of the context in word meaning. When syntagmatic associations are taken into consideration together with paradigmatic ones, a finer-grained linguistic analysis and new insights into the comparison of languages can be obtained. The study presented here, in line with the current trend towards lexically oriented theories, approaches the interrelation between grammar and lexis, taking into account the interdependence between lexical choice and contextual patterns. The meaning of polysemous verbs is clearly related to their complementation patterns (Levin 1993, Poch and Verdaguer 1996, Faber and Mairal 1999) and the interface between syntax and semantics allows a coherent and systematic account of the differences in word meaning.

In addition to the lexis-grammar interface, this analysis will also address the importance of the collocational patterns in the identification of word meaning. Firth's well-known words "You shall know a word by the company it keeps" (Firth 1957), stating the close relationship of lexis and linguistic context, have been confirmed by corpus studies, which have provided large ample evidence for word co-occur-

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rence and for the frequent recurrence of repeated combinations of words.

One of the consequences of the corpus revolution is that it has allowed us to become aware of the phraseological nature of language (Sinclair 1991, Wray 2002). To what extent do we need to focus not only on the word but on the context or the phrase to identify the units of meaning? Sinclair (1996), in his search for the units of meaning, has stated the central role of the phrase: "the normal primary carrier of meaning is the phrase, not the word", he said at the Phraseology 2005 Conference (quoted in Meunier and Granger 2008: 249).

The study of large collections of real texts has proved that speakers do not produce entirely new combinations of words, but they frequently rely on chunks which are memorised and retrieved from memory as wholes. These are multi-word expressions which can be semantically transparent (Sinclair 1991, Biber et al 1999, Erman and Warren 2000, Wray 2002) and have been labelled in various ways: prefabricated expressions, lexical bundles, clusters or 'routine formulae'.

Lexical items that are considered translation equivalents may have a low degree of mutual correspondence (Altenberg & Granger 1999), especially when the different forms are considered together with contextual factors. The difference between lexical equivalents in different languages can be found in their word combinations (Stende 2000). It may well be the case that a semantic difference conveyed in one language by different lexical items may be conveyed in another by means of different syntactic or combinatorial patterns.

The aim of this paper is to analyse the semantic divergences in two basic mental verbs in Spanish and English, which present a complex pattern of polysemy; in particular to find out to what extent the polysemy of *think* corresponds to the polysemy of *pensar*, taking into account its contextual patterns and pragmatic functions. The starting point is the polysemous English verb *think*, the prototypical mental verb in English, which will be compared against the protoypical mental verb in Spanish, *pensar*. A look at a parallel corpus, however, quickly reveals that *creer* is a much more frequent equivalent of English *think*. Taking as a starting point *think*, which has a wider range of uses and meanings than *pensar*, I will analyse what Spanish verbs correspond to the various meanings of *think*, by taking into account

syntactic, collocational and pragmatic clues to identify and delimit the different meanings, and also exploring the meaning extensions they take on in specific forms and contexts. Further attention will be drawn on the ways both *think* and *pensar* systematically cluster into combinations of words or chunks.

The analysis of *think* will show how particular lexical and syntactic patterns are associated with semantic and pragmatic functions. Does the prototypical Spanish verb *pensar* have the same meaning extensions? Can it be used in similar pattterns with the same or a similar function? Are *think* and *pensar* used in equivalent lexical bundles? These are the issues which I will address in this paper.

2. Methodology

In order to describe and compare two near equivalents in two different languages I have relied on corpus data, which are now essential in contrastive studies (Johansson 2007), combining the analysis of comparable and parallel corpora (Teubert 1996, Johansson 2007). The data used in this study come from two comparable corpora, the *British National Corpus (BNC)* and the *Corpus de Referencia del Español Actual (CREA*) and one parallel corpus, the *CLUVI* corpus of English-Spanish literary texts, which consists of 122.251 words. In addition, and for comparison purposes, a sample of the *ACTRES* parallel corpus available on the Internet has also been used.

After extracting a random selection of instances of 500 occurrences of *think* and *pensar* in the two monolingual corpora, I have analysed their meanings and patterns manually, although in the study of *think* I could start with an automatic analysis of the British National Corpus using *Sketch Engine*, a corpus query system which provides a summary of a word's grammatical and collocational behaviour, which I have subsequently refined manually.

In order to proceed systematically in the extraction of information about the two verbs, I have started having the following characteristics of the verbs in mind: form; transitivity; clause type; type of subject; complementation patterns; syntactic and semantic restrictions; combinatorial preferences; phraseological patterns and attitudinal

meaning. The analysis of the syntactic and semantic combinatory possibilities of the verbs has been based on frame semantics.

Following the classical procedure in contrastive linguistics, after the analysis of the lemmas in both languages, I have proceeded to their juxtaposition and the description of the differences. Taking translation equivalence as the best *tertium comparationis* or basis of comparison (James 1980, Johansson 1998), therefore, I have used the parallel corpora to see how *think* is rendered by translators and analysed its equivalents in Spanish. We must be aware, however, that in addition to the problems which are encountered when dealing with parallel corpora (to what extent translations represent ordinary language use or reflect the influence of individual translators' choices or general characteristics of translated texts (see Teubert 1996)), the range of texts is much more restricted than that of the *BNC* or *CREA*. A combination of both analyses is more convenient (Rabadán 2004, Johansson 2007) and provides more accurate results. In order not to be repetitive, however, the results obtained in the analysis of *pensar* in the Spanish monolingual corpus will not be discussed separately, but will be reported in the discussion of the Spanish correspondences of *think*. This analysis will inform about their properties and behavioural profile and will reveal the main properties along which the English and Spanish verbs differ.

3. Description of *think*

THINK is one of the six primitive mental predicates in the Natural Semantic metalanguage theory (Goddard and Wierzbicka 1994, 2002) and *thinking* is a basic mental concept (Fortescue 2001, Viberg 2004): "All the world's languages would appear to have at least one word referring to general mental activity unavailable to external observation, such as English *think*" (Fortescue 2001: 15). *Think* is the most generally used mental verb and the mental verb with the most general meaning (Rips and Conrad 1989). Verbs which refer to mental processes usually involve a human participant, which is the "Cognizer" (Halliday 1985), and the object of the mental process, the "Phenomenon" or "Topic". As it is usually the case with verbs of cognition, the

first person subject cognizer is also the speaker (García Miguel and Comesaña 2003).

Although the first meaning of *think* that comes to mind is that of mental activity or cogitation, English *think* has a broad semantic coverage with different subsenses which are not always easy to delimit, since they have fuzzy boundaries. Corpus data easily show the polysemy of *think*. Its different senses may need to be identified by means of contextual cues or extralinguistic knowledge. A difference in the construction or even in the verbal form may go together with a semantic difference, but it may be the case that, because of the fuzzy boundaries between the meanings of polysemous items, meanings cannot be clearly distinguished and ambiguity or vagueness results.

Think is a highly polysemous verb and dictionaries usually provide several sense distinctions, but after the analysis of 500 random occurrences of *think* in the *BNC,* I have classified its various senses into two main groups, within which differentiations and meaning extensions can be established: (i) Cogitation, mental process (ii) Opinion.

3.1. Cogitation, mental activity

This use, in which "a Cognizer thinks about a topic over a period of time" (FrameNet), is the first meaning of *think* that comes to a speaker's mind. However, this is not, statistically, the most frequent use of *think*, since only 24,28% of the occurrences analysed correspond to this use.

The basic constructions are the following:

Table 1. Patterns of *think*. Cogitation

Predicate	**Cognizer**	**Topic**	**Examples (**BNC**)**
Vintr.	NP-Human		I couldn't think
Vtr.		NP	Her stomach, thinking thoughts of its own, rumbled in disagreement
		PP-*of/about*…	We have thought so far mainly about verbal descriptions
		wh-clause	Try and think how you would feel if that happened
		that-clause	It hurt me to think that you hated me

The Subject is a human participant in all the senses of *think*. Complementation patterns are, however, different. In this sense, although the verb can appear intransitively with no explicit object,

(1) I couldn't think (BNC)

or can be followed by a Noun Phrase,

(2) Her stomach, thinking thoughts of its own, rumbled in disagreement (BNC)

it is usually followed by a Prepositional Phrase introduced by various particles which introduce different nuances, but mainly by *about* or *of*:

(3) We have thought so far mainly about verbal descriptions (BNC)

or a *wh*-clause

(4) Try and think how you would feel if that happened (BNC).

A *that*-clause is also possible in this sense, but it is not common:

(5) It hurt me to think that you hated me.

As it is the case with verbs of cognition, a first person subject referring to his own thoughts or a third person subject when there is a narrator are the most frequent ones. Second person subjects are used in the imperative or in questions. As for the verbal forms, there are a few characteristics worth noticing. Although mental processes are not bounded in time (Halliday 1985), and so are primarily associated with the simple tenses, the common use of the progressive or *–ing* forms can be interpreted as involving an active agent or cognizer controlling the process of thought (Biber et al 1999):

(6) Sometimes he was thinking of his model (BNC)

Another fact that can be observed is the high percentage of imperative forms (13.72%). Although the verbal forms with first and third person subjects, conveying the thoughts of the speaker or of a third person, are logically overall more frequent, imperative forms in the second person or *think* with the modal auxiliary *should* or other constructions expressing obligation, suggestion or proposal are often found.

(7) Think of a piece of paper (BNC)
(8) We strongly advise you to think about another career (BNC)
(9) I think you should give us another try (BNC)

Adverbials indicating periods of time (*so far*) or adverbs of time such as *ahead, back* (*thinking ahead, thinking back*) also collocate with this use of *think,* in reference to the time of the mental activity.

3.2. Intention

A nuance of intention is added in a particular construction, when *think* is used in the progressive and followed by *of + V-ing.* This same con-

struction can be found in the protypical sense of *think*, so it has be disambiguated pragmatically by means of the extralinguistic context.

(10) I was thinking of Robin's house (BNC)
(11) I was thinking of offering her a job (BNC)

While example (10) clearly reflects a mental process, which takes place for a period of time, (11) adds an intentional use to the mental activity.

3.3. Reported speech

As the most general verb of thinking, *think* can be used to report one's thoughts, presented as inner speech:

(12) Mendel falls silent, thinking: 'Not only us…' (BNC)

This close relationship between verbs of thinking and saying is also reflected in the lexical bundles '*you'd think*', *you would think*, *you might think,* which correspond to verbs of saying in other languages (Spanish *dirías que, debes pensar que*)

(13) You would think she has been operating all her life (BNC)

While one's thoughts can be presented paratactically as a quotation, they can also be presented hypotactically by means of a *that*-clause, and this leads us to one of the most frequent uses of the verb *think*, to report the cognizer's opinion.

3. 4. Opinion

In FrameNet's definition, "A Cognizer has a particular opinion or belief about something or somebody". A distinction has to be made, however, between a belief based on some kind of evidence, and the speaker's evaluation or opinion, which Ajmer (1998) distinguishes as 'belief evidential' and 'subjective evaluation', and Simon-Vandenbergen (1998) as 'probability-based opinion' and 'subjective opinion', respectively.

3.4.1. Belief evidential.

In its most frequent use (65.18% of the occurrences), *think* introduces an assumption which can be verified, and shows the subject's attitude and his lack of certainty with respect to the truth of the proposition. The following concordance lines (British National Corpus in Sketch Engine) show the frequency of this use (lines 1-4, 5, 6-8, 9-11) , which can be found in the patterns shown in Table II:

A01	Tom has infected at least 6 people --	thought	he has never even met Jane, Mark and Alan
A01	for meaning to life…' Some people	think	drugs can help you find God, or discover
A01	're in a dazed state, drugs may make you	think	you understand it all. But some drugs cause
A01	you. You're always free to say NO! 'I	think	I'm in love…' 'How do I know if
A01	facts about AIDS and by encouraging them to	think	about their future. So far we have visited
A03	arrested between February and May 1989 are	thought	to be among those set free. Others
A03	it's a prize in an Amnesty raffle.	Thinking	ahead to our Christmas raffle and prizes
A03	about a coup in an imaginary country widely	thought	to be based on Equatorial Guinea.
A03	next. He recalls, `When I was sentenced I	thought	I'd be killed straight away. Even when
A03	passenger lacking such documentation. It is	thought	that the Government may soon double this
A03	to do, I know how I would feel. Try and	think	how you would feel if that happened to
A04	contain criticism; but their writers may	think	of themselves as art historians, philosophers
A04	who feel that there should be no border,	thinking	back nostalgically to days when there was
A04	Raphael is the first. But if, as Longinus	thinks	, the sublime, being the highest excellence
A04	originality which attends the Painter who	thinks	for himself. He knew and practised all
A04	of his mind and being. Sometimes he was	thinking	of his model, sometimes of the mixing of
A04	and Neo-classicism. An unwary reader might	think	that the book is a history of the changes
A04	Leonardo, Rembrandt or Picasso. It might be	thought	that this was a natural consequence of
A04	their tribal deity, and their totem.' Fry	thought	that in Cézanne's mature work: The
A04	from their work. `Art is a rum business',	thought	Turner, and the attentive reader of a book

Table 2 Patterns of *think*. Belief evidential

Cognition	Cognizer	Topic	Examples **(BNC)**
V	NP-Human	that-clause	I think that's your husband coming in now
V		so	Do you think we can win our lease back from old Menzies? Do you think so, Angus?
Vpass.		to-inf	The two poems could be thought to occupy a common ground

The complementation of *think* distinguishes this sense from that of mental process. The highest percentage of *think* in this sense (64,15%) corresponds to a *that*-clause, which, although possible, is rarely found in the previous sense. It is remarkable too that *think* is one of the most frequent verbs in English with this type of complementation (Biber et al.1999), for which the pro-form *so* can be used as a substitute. A *to*-infinitive clause with the verb *think* in the passive, with the cognizer not explicit, or impersonal constructions referring to a general belief, which were not possible when *think* refers to a mental process, are here also common (33,96% of the occurrences).

In this sense, *think* is usually found in the present and past tense, with a first or third person subject to mark epistemic stance and the degree of certainty with reference to a fact

(14) I think he is blind (BNC)

or an event

(15) I think she bought it as an investment (BNC)

or to report one's or somebody else's opinion.

The form with a first person subject, the lexical bundle 'I *think',* has to be considered in greater detail because it is very frequent (41312 occurrences in the *BNC*), especially in conversations. Due to its frequency and its range of uses, it has been analysed from several points of view and in different registers (Biber et al. 1999, Viberg 2004, Ajmer 1998, Simon-Vandenbergen 1998 in parliamentary debates, Fortanet 2004 in academic register). As it can be used in different ways, as an utterance launcher to mark the speaker's stance, as a hedging device, or to give the speaker's viewpoint, it can be ambiguous and may have to be interpreted by means of pragmatic and contextual cues, although they may be missing and vagueness results.

One of the functions of *I think* is to convey doubt and lack of certainty about the truth of the proposition conveyed by the *that*-clause, and in this use it has been grammaticalized as a hedge. The form *I believe,* which can also be used as a belief evidential, indicates stronger conviction than *I think*. The initial and, therefore thematic, position marks the speaker's point of departure. The omission of *that*

and especially the placement of the lexical bundle in medial and final position are considered markers of greater tentativeness and hesitation, and thus of hedge (Simon-Vandenbergen 1998, Ajmer 1998).

(16) He is referring to his parents, I think (BNC)

Negative *I don't think that,* on the other hand*,* is always placed in initial position. The lexical bundle *Do you think…?* is frequently found in interrogative clauses, asking for the hearer's opinion. *Think* is also very common in impersonal constructions followed by an infinitive or in passive constructions as impersonal stance devices. Thus, *I think (that)…, Do you think (that)…, It is thought(that)…, is/are thought to…* are common prefabricated expressions used in this sense.

Epistemic modal auxiliaries, reinforcing the speaker's uncertainty, frequently collocate with this use of *think*. *May / might think that; may/ might be thought to…* are frequent lexical bundles. Adverbials which indicate the extent of the belief, either in time (*often*) or in space (*widely, generally*) also often co-occur with this use of *think*.

Although -*ing* forms in this sense are rare, they do occur, once again illustrating the fuzzy boundaries that exist between the different meanings. This can be seen in sentences where characteristic patterns of the two meanings co-occur. In the following sentence, the progressive, which is a characteristic feature of the sense cogitation is used with a *that*-clause, which typically follows *think* when it expresses belief or opinion:

(17) 'I am thinking' Sven Hjerson said 'that Lady Woodleigh is meaning someone else…(BNC)

3.4.2. Subjective evaluation

The speaker can also give an opinion based not on the evidence available, but on their own subjective judgement. A purely personal evaluation of an evaluee is made on the basis of personal experience, which cannot be verified by objective evidence. The cognizer's opinion cannot be considered correct or incorrect along the true/false dimension, since it depends on their point of view.

This use of *think*, in addition to the patterns which are also possible with belief evidential

(18) I think that the garden is the best feature (BNC)

and from which are usually distinguished from a pragmatic point of view, is also found in the following frames and constructions:

Table 3. Patterns of *think*. Subjective evaluation

Cognition	Cognizer	Evaluee	Judgment	Examples (BNC)
V	NP-human	NP	AdjP	The high clergy thought it necessary
		PP-*of*	*as* Adj P	I think of him as an artist

A *that*-clause can then express subjective opinion, as well as belief evidential, so these two meanings of *think* may have to be distinguished pragmatically by the type of proposition conveyed in the clause rather than by the complementation they take. However, only 20% of the occurrences of *think* followed by a *that*-clause belong to this use, since there are other constructions which have the same function.

(19) The Government didn't think it necessary (BNC)

Think, in this case, is followed by a NP with an AdjP as complement. The adjectives used in this construction are those which indicate possibility or need (*possible, impossible, necessary, likely, unlikely*) or evaluative adjectives (*proper, good, wise, desirable, better, fabulous, easier*...). The adjective frequently takes a *to*-infinitive or a *that*-clause as a complement.

The same structure (SVOC) can also be used with the verb *find* to give an evaluation, but in this case it is commonly restricted to evaluative adjectives (*easy, interesting, hard*). When it is used with an adjective indicating possibility, it is a negative adjective (*impossible*) and it takes a *to*-infinitive clause as complement:

(20) I find it impossible to explain (BNC)

Again, most occurrences of this use of *think* are in the first or third person, but the NP Subject can be left unspecified and the verb used in the passive. In questions the verb is in the second person and the evaluee has to be specified by an oblique complement

(21) What do you think of my painting? (BNC)

The lexical bundle *I think*, also common in this use, can collocate with the modal auxiliary *should* or with *had better* to introduce a speaker's suggestion or a reference to what the speaker thinks should be done:

(22) I think you should give us another try (BNC)

Closely related to this evaluative sense, there is another subsense of *think* which, through a Prepositional Phrase introduced by *as,* indicates in what capacity the speaker judges the evaluee.[2]

(23) What do you think of this? Is it all right? (BNC)
(24) I think of myself as a pretty good businesswoman (BNC)

(23) is asking for the audience's subjective judgement or opinion and (24) reports the mental image the speaker has about herself. The fact that different uses share some patterns contributes to the vagueness and ambiguity that one may find in the verb *think*.

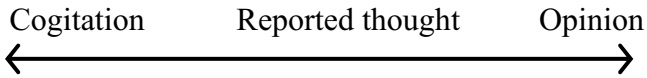
3.4.3. Summary

All the uses of *think* can be grouped into two main meanings: cogitation and opinion, which can be explained by its origins. Present-day English *think* is the result of the merging in the Middle English period of two verbs, Old English *þyncan* 'seem' and *þencan* 'think'. These two main meanings prototypically occur in different contextual and collocational patterns, but they can also share some of them, so that ambiguity may result. In the sense opinion, two subclasses have been established, belief evidential and subjective evaluation, the latter with some complementation of its own, but also sharing other complements

[2] FrameNet classifies this use of *think* in the frame 'regard'

with belief evidential, so that they need to be distinguished by the content of the proposition.

This research has led me to conclude that the two main meanings of *think*, although different, could be considered the two ends of a continuum with fuzzy boundaries, and with the sense extensions between the nuclear meanings. In particular, the reported thought shows this transition between one meaning and the other:



(25) I was thinking about you and Father and this house (BNC)
(26) I just thought: 'That's it, I've had enough' (BNC)
(27) I thought that this was it (BNC)

In (25) the complementation of *think* reports the cognizer's thoughts; (26) reports a thought in the actual words, and (27) reports the thought indirectly and, in consequence, conveys the speaker's judgement or opinion.

4. Contrast with Spanish[3]

Pensar is the prototypical verb of thinking in Spanish and the obvious closest equivalent of *think*, but it does not have its broad semantic coverage. The *Diccionario de la Lengua Española* de la Real Academia española *(DRAE)* gives three meanings: "1. Imaginar, considerar, discurrir 2. Reflexionar, examinar con cuidado para formar dictamen. 3. Intentar o formar ánimo para hacer alguna cosa". From Latin *pensare*, originally 'weigh', it has undergone the usual metaphoric transfer by which a concrete meaning evolves into an abstract one (Sweetser 1990).

A quick look at the Spanish translations of English *think* in the *CLUVI* corpus, however, reveals that *pensar* is not the usual translation of *think*. The mutual translatability of *think* and *pensar* is relative-

[3] As mentioned, in order not to be repetitive, I have included in this section the analysis of Spanish *pensar* in the monolingual *CREA* corpus.

ly low. English *think* has been translated into Spanish in the following ways:

English	Spanish	
think	*creer*	61.01%
	pensar	30.50%
	other verbs (*imaginar*, *meditar, considerar, parecer ...)*	8.47%

In a sample of the parallel ACTRES corpus, available on the Internet, similar results were obtained. *Think* was translated as *pensar* only in a relatively small percentage of occurrences (28.94%). Again, *creer* is the most frequent translation of *think*. Although *creer* is a more obvious translation equivalent of *believe*, it is, by far, the most frequent translation of English *think*. Following at a considerable distance are *imaginar, meditar, considerar, parecer* or *suponer*.

A thorough analysis of the translation equivalents will show and explain the correspondences. Since English *think* has a broad semantic coverage, it has to be seen which Spanish verbs correspond to the different meanings in English and if there are systematic correspondences.

4.1. Cogitation

A high percentage (80%) of the occurrences of *think* as a verb indicating mental activity or cogitation are translated as *pensar*:

(28) The ruddy sunset set me thinking of the sunset of mankind
El ocaso rojizo me hizo pensar en el ocaso de la humanidad (CLUVI)

In this use, there is a close correspondence between *think* and *pensar*. This sense of *pensar* and the patterns associated with it are very similar to those of the prototypical sense of English *think.*

Table 4. Patterns of *pensar*. Cogitation

Cognition	Cognizer	Topic	Examples **(CREA)**
Vintr.	NP-Human		Siguió pensando y escribiendo
Vtr.		NP	Deja un tiempo prudencial para pensar la respuesta adecuada
		PP-*en/sobre*	No pensaba en otra cosa
		finite clause	Pensando cómo podríamos conseguir una

Here again, the human Cognizer is the Subject and the Topic or what is thought can be left implicit or is expressed by a Noun Phrase, a Prepositional Phrase or a finite clause. In its most frequent occurrences, the verb is followed by an oblique complement *en, sobre* (corresponding to English *of, about*), although English can take a wider range of prepositions and particles (*up, over*…). As far as verbal forms are concerned, there is also a correspondence with those of English, since, even though it can occur with all of them, the gerund is particularly associated with it. The collocates and lexical bundles associated with this sense are similar to those of English, too. They indicate obligation: *hay que/ deber / tener que pensar en*; or any moment in the process of thought or the process itself (*quedarse pensando, ponerse a pensar, detenerse a pensar, ir pensando en*).

Well below it there are other verbs indicating mental processes such as *imaginar, meditar*

(29) Yet I could think of no other
Sin embargo no podía imaginar otra (CLUVI)
(30) it set me thinking and observing
me hizo meditar y observarla. (CLUVI)

4.2. Intention or purpose

Whereas there are few differences between the English verb *think* and Spanish *pensar* in their cogitation sense, a more clear distinction can

be observed in the intentional sense. In Spanish *pensar* can be used to report a decision which has been taken for the future, and this is in fact, one of the three meanings that the *DRAE* provides. Unlike English, however, this meaning only occurs with an infinitive construction, which is not shared by any other of the meanings of *pensar*, so there is no ambiguity.

(31) pienso hacer una pausa (CREA)

In addition, it can be considered to have undergone a stronger process of delexicalisation (Verdaguer & Laso 2004) than English. Whereas in English *thinking of* + V-*ing* still keeps most of the 'cogitation' sense, the verb *pensar*, when followed by an infinitive, has lost its semantic content to a greater degree and is mainly used for a reference to the future.

4.3. Reported thought.

Reported direct and indirect thoughts can also be introduced in Spanish by pensar, which in this use marks the transition in the meaning of pensar from cognition into opinion:

(32) El espectador piensa "debo emocionarme…" (CREA)
(33) "Probablemente, pensaban, todo era un simple error…" (CREA)

4.4. Opinion

It is in this sense that *think* overwhelmingly corresponds to Spanish *creer.* This fact corresponds to the main use of *think* to express the cognizer's opinion, since *creer* is the most frequent Spanish verb to introduce the speaker's opinion. *Pensar* is also possible, but much less frequent. Only 4.08% of the occurrences of *think* in this sense are translated as *pensar*, whereas in 95.91 % of the cases *think* is translated as *creer*. These percentages are in agreement with the greater number of occurrences of *creo que* than *pienso que* in the monolingual corpus *CREA* (26389 and 3458, respectively)

Since both *pensar* and *creer* can be used as equivalents of *think* in this sense, one of the obvious questions to ask is whether the use of the one or the other Spanish verb systematically corresponds to the difference between subjective evaluation and belief evidential. The analysis of the examples shows that both verbs are used in the two senses:

Subjective evaluation

(34) I still think it is the most plausible one
Aunque creo que es la más plausible (*ACTRES*)

(35) Newton's third law is telling us what we might *think* is obvious"
La tercera ley de Newton nos está diciendo algo que podríamos *pensar* que es obvio" *(ACTRES*)

Belief evidential

(36) I think the poison will attack within the hour
Creo que el veneno atacará dentro de una hora (*CLUVI*)

However, there are differences that must be noted and that concern difference in frequency of occurrence, in semantic nuance, in complementation patterns and collocational restrictions. Apart from the distinction in semantic nuance -*pensar* indicates a higher degree of certainty than *creer*- *w*hereas belief evidential is a more common use than subjective opinion, the use of *pensar* is more frequent for a subjective opinion than for belief evidential. In fact, no examples of this use have been found in the parallel corpora, although they can be found in *CREA:*

(37) "Yo no pienso que sea verdad"

In both subsenses, the usual syntactic pattern with *pensar* in this sense is a finite clause introduced by *que*, but other patterns are possible:

Table 5. Patterns of *pensar*. Opinion

Cognition	Cognizer	Topic	Examples (**CREA**)
V	NP-Human	finite clause	Pensaba que era necesario hacer algo
		NP PP–*de/sobre/acerca de*	¿Qué piensas de la OTAN?

Whereas in the cogitation sense, both *think* and *pensar* may have no explicit complement, in the sense opinion some type of complementation is necessary. In questions, the usual structure includes a Prepositional Phrase oblique complement, specifying the topic. The presence of this oblique complement distinguishes this use from mental process:

(38) ¿Qué piensas?
(39) ¿Qué piensas de la OTAN? (*CREA*)

Creer, on the other hand, can be used without the oblique complement since there cannot be ambiguity with the cogitation sense:

(40) ¿Qué crees?

This oblique complement is possible with *creer*, but is very rare. No examples have been found with the prepositional Phrases *sobre* and *acerca de* and only one with *de:*

(41) ¿Qué crees de mí?

Creer, however*,* can be used in a wider range of constructions, since, even in subjective opinion, where *pensar* is relatively more frequent, only *creer* can be used in an object + complement structure, in a similar way to the English construction (Cf. The Government didn't think it necessary). The required occurrence of this verb is, therefore, determined by syntactic factors:

(42) No lo creo necesario (*CREA*)

In belief evidential, in addition to taking a finite clause introduced by *que*, *creer* can be followed by an infinitive clause when the subject of *creer* is corefential with the subject of the infinitive.

(43) I think I have told you that…
Creo haberles dicho a ustedes que… (*CLUVI*)

This is not possible with *pensar*, which has an intentional future meaning in the same structure.

Again, *creer* is much more frequent when a hedging device is necessary:

(44) Well, one very hot morning –my fourth, I think
Bien, pues una mañana muy calurosa –la cuarta, creo, de mi estancia *(CLUVI*)

Pienso can also occur, but less often, since *creo* indicates less certainty. This difference in occurrence can also be found in the lexical bundles which have the same function. Whereas there are only 3 occurrences of *según pienso* in CREA, there are 115 of *según creo*.

5. Conclusions

Whereas *think* and *pensar* are generally considered to be direct equivalents, an analysis of the parallel corpus has brought into light that only slightly over 30% of the occurrences of *think* have been translated as *pensar*. Most occurrences have been translated as *creer*. After a thorough analysis of the polysemous English *think,* which is the result of the merging of two Old English verbs, in the monolingual British National Corpus, two central meanings can be established: cogitation and opinion, with subdivisions and peripheral meaning extensions. Since *think* has two main meanings and there are two main translation equivalents into Spanish, it could be expected that each main sense corresponded to one of the translation equivalents. This is true only to a certain extent, because the network of equivalence is much more complex.

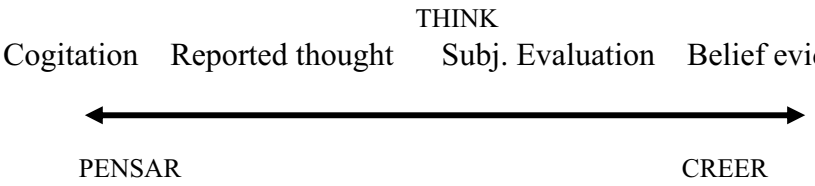
Pensar is indeed the closest translation equivalent of English *think* in its cogitation sense, with other verbs such as *meditar* or *imaginar* being used in a much lower frequency. The syntactic patterns of *think* and *pensar* are similar, since both have a subject which is necessarily human, can have no explicit object, or can take a Noun Phrase, a Prepositional Phrase or a finite clause as complements. The collocates are also similar. As for the meaning extensions, both *think* in one particular structure (*-ing + of*) and *pensar* (when followed by an infinitive) have developed a future intentional sense, and thus, have undergone a process of delexicalisation, especially in the case of Spanish, where, there has been a stronger semantic bleaching than in English, where the idea of a mental process going on is highlighted by the presence of the progressive.

Think can also be used to introduce a direct reported thought, marking the transition from one of the meanings into the other. In this use, only *pensar* is possible, but *creer* is the most frequent translation equivalent of *think* in the sense opinion.

As two main subdivisions have been established in this sense, subjective evaluation and belief evidential, the next step has been to find out if there is a systematic correspondence between these two subsenses and the two lexical items in Spanish. Again, there is a complex correspondence , since *pensar*, as well as *creer*, can be used in both senses. Here again, however, there is a difference in frequency of occurrence. Whereas the sense subjective evaluation is in absolute terms less frequent than belief evidential, *pensar* is more frequent for subjective opinion than for belief evidential. On the other hand, *creer* is the usual choice in belief evidential.

We can thus establish a continuum in the senses of *think*, with cogitation on one end and opinion –especially the meaning extension of belief evidential. In between there is subjective opinion, with reported thought, marking the transition. This continuum has fuzzy boundaries, with occurrences of *think* which do not clearly belong to one sense or another. In Spanish, there are two lexical items on both ends, *pensar* and *creer*. *Pensar* is central in cogitation and much less used in the sense opinion, with syntactic and collocational restrictions at the other end of the spectrum (belief evidential). *Creer*, on the other hand, is not used in the cogitation sense, but is heavily used in both subsenses of opinion, especially in belief evidential. Summarizing,

there is lexical differentiation at both ends, with fuzzy boundaries in between where the two items can be used.



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