

“Who’s afraid of ... what?” – in English and Portuguese

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Abstract

Fear is generally accepted as a primary emotion in studies on the relationship between cognition and emotion. In this paper we shall use corpora to explore ways in which the English and Portuguese languages reflect the use of language to express this emotion and its relation to cognitive processes.

The paper starts by positioning this study of emotion as an area that can be observed from a viewpoint between the extremes of linguistic universals and relativism. This is followed by a short description of the aspects studied in both languages, and our attempt to identify meta-patterns of the FEAR lexicon and its usage in context.

Building upon Maia (1994), which contrasted the emotion lexicon in context using comparable corpora of fiction in the two languages, we investigate the subject as follows:

1. A brief reference to the insights gathered in 1994;
2. An examination of the patterns for English in the British National Corpus (BNC) and other publicly available corpora, using the major items of the FEAR lexicon and part-of-speech clues;
3. An examination of the patterns for Portuguese in the Linguateca AC/DC corpora, using the same clues, but with the added benefit of automatic annotation of a much wider lexicon of FEAR.

The results from the corpora are not easily comparable because the corpora and the tools available to analyse them are different. We accept that this somewhat limits the contrastive analysis of the two languages, but we feel that it is still possible to demonstrate some interesting points and indicate where the differences can point to further research.

1. Introduction

The research by Eckman (1982) and others in philosophy, psychology and neurology, indicates that FEAR is generally accepted as a primary emotion, essential for survival, and the physical reactions, both external – facial expression, and internal – blood pressure, release of adrenalin, and associated physical reactions, are classified as universal in human beings and other animals. Eckman’s research, best known today through the popular television series *Lie to me*, pioneered the mapping of human emotional facial expression. He drew attention to the universality and involuntary nature of human emotional responses, albeit with certain cultural differences when the subjects were aware of being observed, and the more serious research resulting from this has led to lie-detection technology that observes facial expression and body language. It follows that, if FEAR is a universal of the human condition, it is an excellent testing ground for the nature-nurture debate from a linguistic point of view.

In the 21st century, the extreme views in the nature-nurture debate in linguistics are becoming more moderate. Pinker (2007) suggests that one should aim for a balanced analysis somewhere between the Extreme Nativism proposed by Fodor (1998), the Linguistic Determinism of Whorf (1956) and the Radical Pragmatics of such as Sperber & Wilson (1986). Coming from the opposite side of the spectrum, Deutscher (2005 and 2010) both draws attention to similarities between languages, and argues convincingly for a more scientific, but moderate, view of the Whorfian hypothesis. Our work here aims, too, for a consideration of both sides of the argument.

Maia’s interest in the 90s was inspired by the nature-nurture arguments of that time, but also by the

debate on the relationship between Mind and Brain and the role of emotion in our cognitive processes. The best-known work of this period is perhaps Damasio's *Descartes' Error* (1994), although this book was the synthesis of much of what had gone before in the 80s and 90s. The general idea emerging from this kind of research was that emotion, far from being an irrational aspect of human behaviour, was intimately involved in most of our cognitive processes. This aspect also needs to be considered by those studying the use of the FEAR lexicon, and it would appear to be similar in both English and Portuguese.

Another aspect that needs to be taken into account is that the FEAR lexicon is not always used for its primary purpose of expressing fear. It is also used in context in areas that are contingent, rather than central, to FEAR, such as the relationship between fear and regret, two types of emotion, and fear and courage, where the emotion is related to a moral judgment. This is an aspect of the lexicon that needs to be examined in greater depth than is possible here, but an analysis of the kind applied by Deutscher (2005) to the relationship between time and space implicit in actual language usage could also be applied to the close relationship between emotion, cognition and other semantic areas to be found in many of the examples in corpora.

As we shall see, English and Portuguese have a lot in common in relation to the underlying situational and semantic conditions in which we express emotion, and we shall start by pointing to the aspects that can be considered part of the general human condition. However, we shall also draw attention to the finer points of difference that a corpus-based study can provide. As bilinguals with a strong interest in translation, we are particularly aware of the relativity of language, and the way in which it is a window into the way we see the world through our language and its culture. [1] More pragmatically, an intercultural analysis of the attitudes and "common sense" in different languages may help prevent or solve conflicts or misunderstandings when communicating with people of different cultures or languages.

A wider study would observe the expression and objects of fear in different cultures and different languages. Such an empirical study may uncover the fact that different cultures usually fear different things, or rank differently the same fears, in terms of intensity and social acceptance. For example, it is often mentioned that fear of losing face is a typical Asian (cultural) trait and it would be interesting to see if European languages reflect similar or different values.

2. The Language of FEAR – emotion and cognition

The classifications of the emotion verbs proposed by linguists following Vendler (1957) and those responsible for English grammars, usually include them under the "state" or "stative" label, which also includes several more "cognitive" verbs. The arguments for "stative" verbs are that what we shall call the *Senser-as-subject* verbs do not "like" the imperative or progressive forms in English. However, the imperative, especially with negation, of some emotion verbs is possible, or can be expressed, as with *Don't be afraid*, *Fear not* and *Não tenha medo* or *Coragem!*. Besides, as we shall see below, there are two kinds of verbs working with FEAR, and the *Phenomenon-as-subject* verbs *frighten* or *assustar* can use the progressive in both languages.

One of Maias original objectives was to test how far the aspectual classification was actually verifiable in corpora, and the study of the verbs inevitably led to the analysis of other parts of speech as well. Santos (2004) in independent work has pointed out the English specificity of Vendler's classes and proposed a novel one for Portuguese, keeping the methodology but applying it to Portuguese grammar. She classifies *assustar* and *aterrorizar* as OBRAS, while *ter medo* or *temer* are ESTADOS TEMPORÁRIOS.

The language of emotion is considered important enough to justify projects such as the [Languages of Emotions](#) at the University of Berlin and journals such as [Cognition and Emotion](#), published by Taylor and Francis. Lakoff and Johnson's (1980) emphasis on what could be deduced about human emotions based on metaphorical usage and physical description popularized the study of expressions of FEAR like *his hair stood on end*, *she screamed*, *they trembled*, *the colour drained from her face*, *his heart pounding against his ribs* and *his mouth suddenly dry...*, and this type of

research has been more popular than actually looking at the use of the emotion lexicon. It is also an area that would probably render some interesting contrasts between languages, but it is far more difficult to study this area using a corpus than that based on the lexicon.

However, not everyone has ignored the emotion lexicon, and Ortony et al (1990) in *The Cognitive structure of the Emotions*, created a semantic structure for the emotions that could be supposed to exist, and which were lexicalized in several, if not all, languages. This classification has been the basis of several studies of emotion. The authors explained each area as neutrally as possible, and FEAR was described as being [DISPLEASED ABOUT THE PROSPECT OF AN UNDESIRABLE EVENT], and the variables affecting the intensity of the emotion were 'the degree to which the event is undesirable', and 'the likelihood of the event'.

The relationship between emotion, cognition and the language of FEAR is complex but, however irrational a particular fear may seem, the fact that it is usually projected on to some future situation, even immediate ones, demonstrates that cognition is involved. As with the other emotions, Ortony et al's variables account for a gradient from clearly immediate situations, such as terror on meeting a tiger, through a variety of less frightening situations. FEAR can be a latent tendency and only activated in certain circumstances, such as a fear of snakes or thunder. Wittgenstein (1953: 135e) distinguishes between the object of fear, or a property inherent to an individual as in *fear of darkness* and *medo do escuro*, and the cause of fear, which causes a temporary psychological event, such as *fear on entering a dark room* and *medo por entrar no quarto escuro*. [2]

FEAR can be caused by easily understood circumstances, like a fire, and highly complex ones like the financial situation of the Euro today. Lexically weaker expressions such as *anxiety*, *worry*, *timidity* and *shyness* represent concepts related to FEAR, as anyone in a difficult situation or suffering from social inadequacy knows too well. At the lowest end of this gradient, but important quantitatively, is the use of the FEAR lexicon in polite expressions of regret such as *I am afraid I can't meet you today*.

The syntax of FEAR verbs is, generally speaking, typical of the "state" verbs mentioned above and, for the semantics of case, Halliday (1994) provides possibly the most perceptive designation with *Senser* for the person who feels emotion and *Phenomenon* for its cause. The *Senser* is essentially a human being, possibly an animal, or something perceived as such using metonymy, or a collection of such beings, such as the people, the government or the state. The *Phenomenon* can be anything that leads to an emotional response. In this way psychology is reflected in linguistic theory, because FEAR is "internal" to the *Senser* and the *Phenomenon* has no real "active" role. Spiders do not act as agents to frighten you, and even if someone deliberately tries to frighten you, their success depends on you – not them.

3. The lexicon and syntax of FEAR

Maia (1994) used Ortony et al's (1990) classification and confirmed that it was very useful for the study of the lexicon of emotion in a corpus of literary texts in English and Portuguese. An analysis of 25,000 examples using the emotion lexicon at textual, syntactic and lexical level provided an insight into the way emotion is expressed in language, and a methodology that can be used with other corpora and for further research. She found that at a textual level the same gradient of intuitive > reasoned explanation > politeness is very similar in both languages. However, there are interesting differences at a syntactic level, and the lexical level presents the usual problems of translation in context. One should also note that the central lexemes like *fear* use different syntax to those on the periphery, like *worry*.

Both languages have central nouns in the FEAR lexicon, for example *fear*, *dread*, *foreboding*, *panic* and *medo*, *pavor*, *receio*, *temor*, *pânico*. The interesting point is that, even when a verb form of these words exists, the noun form is more commonly used. For *fear*, for example, the BNC registers 9,006 noun forms and 5,117 verb forms, and the Linguateca corpora record 10,262 examples of *receio* as a noun form and 4,848 of the verb *recear*. In most of the noun form cases, the *Phenomenon* is clearly defined in the context. The Portuguese *medo*, for reasons we shall

discuss later, is also used very frequently, but it has no verb form.

Halliday's distinction between Senser and Phenomenon proved to be crucial to analysis at all levels, but particularly as the starting point of analysing the lexicon at verb and adjective level. The verbs in the lexicon can be divided into two types. In the first the Subject of the active form is the Senser, like *fear* and *dread*, and *recear* and *temer*. These verbs occur quite often but, in both Portuguese and English, the usage rarely refers to immediate real fear. The most frequent usage reflects varying degrees of regret and disappointment, as in *I fear the result will be boring, defensive cricket* (BNC). A further point is that the examples found with *fear* and *receio / recear* are usually followed by a cognitively analysed explanation of what is feared. The use of both the central nouns and verbs with the Senser as Subject would suggest that this usage is a more cognitive than emotional usage, as Maia's (1994) results suggested and is confirmed by analysis of contemporary corpora. This would make sense psychologically because the speaker / writer needs to process the situation mentally in order to be able to name an emotion so clearly.

The verbs with Phenomenon as Subject are those like *frighten* and *terrify* and *alarmar* and *assustar*. The interesting point about these verbs is that the active use is rare, particularly in English where the vast majority of examples are represented by a past participle after the verb *be*. However, it is here that the usage in English and Portuguese begins to differ, because Portuguese can use the usual Phenomenon-as-Subject verbs like *alarmar* with what some call the *se* passive or reflexive passive. In this situation *o João assustou-se* is literally translatable as **John frightened himself*. This structure is quite common in European languages and it reflects the sense that the emotion is internal to the Senser.

Another obvious difference is shown up by the fact that *be afraid* is the major expression of this emotion in English, whether it is *afraid of tigers / thunder / spiders* or the more reasoned *afraid that she will not come tonight*. *Afraid* is classified as an adjective but it is never used before a noun and has an odd etymology. [3] And there are other adjectives in the FEAR lexicon – *anxious, nervous, timid*, and *ansioso, nervoso* and *tímido*, which can be analysed on a gradient from temporary condition – *anxious* or *nervous*, to character trait – *nervous* or *timid*.

Except for *afraid*, most of these adjectives, like *anxious*, or past participles, like *frightened*, may precede the Senser syntactically in English, or follow *be*. In Portuguese, words like *ansioso* and *assustado* can be part of the noun phrase, but the situation is more complex with copula verbs as the sense changes according to whether these adjectives / past participles follow *ser*, which will imply a certain permanent characteristic of the Senser, *estar*, which refers to a temporary state, and *ficar*, which refers to a resulting state.

For example, see:

- (1) Quando a atriz Roberta Indio do Brasil, 21, deparou-se com a sinopse de “A Viagem”, que previa uma gravidez e em seguida um aborto para sua personagem, **ficou assustada**.
‘When the actress Roberta Indio, 21, from Brazil, noticed that the script of “the Journey” included a pregnancy and an abortion for her character, she was frightened.’
- (2) Os portugueses **estão assustados** com o desemprego e acham que a economia irá de mal a pior.
‘The Portuguese are frightened and think that economy is going to become worse’

The other Portuguese structure that reflects this internal sense of the emotion is the very frequent use of the verb *ter*, literally *to have*, + the nouns of FEAR, *medo, pavor, temor* and *susto*. It is possible to use *have* with some words in the English lexicon as in *I was surprised to hear you have a fear of drowning* (BNC), but the examples are rare. Quantitatively, *to be afraid of* is most normally translated by *ter medo de*, but *to be afraid that* prefers the expressions that convey a greater sense

of cognitive processing, or *ter receio / recear*.

Finally, there are the adjectives that describe the Phenomenon, *alarming, frightening, terrifying, and alarmante, assustador*. Although there are cases of people actively making the Phenomenon cause an emotion, the actual reaction by the Senser is not necessarily predictable, and this evaluation of the Phenomenon is always internal to the Senser.

4. Semantic roles and syntactic clues

In the early 1990s it took several months to manually extract and classify 25,000 examples of emotion words (for FEAR, 1,303 in English and 1,392 for Portuguese) from two literary corpora in English and Portuguese of about 1 million words each. The Phenomenon in each example was classified according to the following set of possible causes of emotion:

1. Unknown, or unspecified in the immediate context
2. Self, or permanent quality of SENSER
3. State or situation of SENSER
4. Emotion, perception or cognitive processes of SENSER
5. Action by SENSER
6. The Other
7. State or situation of the Other
8. Emotion, perception or cognitive processes of the Other
9. Action by the Other
10. A non-human object, concrete or abstract.
11. A complex proposition about the world

This classification reflects a certain gradient from FEAR of an unidentified Phenomenon, with words like *foreboding* or *uneasiness*, through states like *timidity*, to people, their emotions and actions, to a fully expressed and understood reason for fear.

Syntactic clues were also used to discover the identity of the Phenomenon by classifying examples according to the complementation following the verb, adjective, past participle or noun, and it was found that the following list would also help identify the cognitive appraisal of the cause of emotion:

- a = noun phrase
- b = non-finite infinitive clause (S = same as main clause)
- c = non-finite infinitive clause (S = different from main clause)
- d = non-finite -ING clause (S = same as main clause)
- e = non-finite -ING clause (S = different from main clause)
- f = finite (THAT) / QUE clause (S = same as main clause)
- g = finite (THAT) / QUE clause (S = different from main clause)
- h = finite WH-/ O QUE clause.

It is important to understand that the usage of the FEAR lexicon and related syntax varies considerably according to text type. Unlike Maia's original literary corpus, the BNC contains transcribed oral texts as well as written texts from a variety of areas. The results, therefore, will be different. Mark Davies' version of the [BNC at Brigham Young University](#) allows one to gauge usage in seven major text types, Spoken, Fiction, Magazine, Newspaper, Non-Academic, Academic and Miscellaneous, and each text type can be divided into more specific areas. If one looks at a corpus of formal texts, like the European Commission corpora, or the texts from the European Central Bank in the OPUS corpora, one will see FEAR as being well defined cognitively and related to situations affecting the many rather than the individual, and very often used as a formal expression of regret. Oral texts, perhaps surprisingly, do not yield many real examples of FEAR. Perhaps this is

partly because the identification of fear needs cognitive processing, and partly because conversational contexts avoid such identification. These factors need to be taken into consideration when discussing results from corpora, and the results for Portuguese in the Linguateca corpora (see below) demonstrate this clearly

Another factor that needs to be remembered is the psychological reality of FEAR as deduced from corpus data. Maia's (1994) original analysis, done "manually", allowed the possibility of discovering how the examples with the FEAR word functioned in context, sometimes beyond the sentence. These results are difficult to repeat with a large corpus, but we shall include the more interesting ones here, if for no other reason than to show the need to be wary of comparisons based on corpora.

Maia found that the majority of examples with FEAR, using all the lexical items studied, showed that 84.4% in English, and 78.7% in Portuguese, focused on the lexical items describing the Senser's emotion, for example *to fear / to be afraid*, rather than on those, like *frighten/ing* that focus on the Phenomenon that caused it. This would seem to demonstrate the psychological reality that emotions like these are more important from the Senser's point of view, particularly in a literary corpus.

The other point that emerged was that the Phenomenon type 1 referred to above – Unknown, or unspecified in the immediate context – accounted for 32.1% of the examples in English and 39.7% in Portuguese. This might indicate the need, in a literary corpus, for the reader to understand the reason for the emotion from the much wider context of the narrative, or perhaps it is a device for creating suspense. Phenomenon types 9 – action by the Other and 10 – a non-human object, concrete or abstract – accounted for 30.3% of the examples in English and 34.1% in Portuguese. Again, these results are probably valid for a literary corpus, but a corpus of formal texts, like the European Parliament proceedings, will provide far more examples of Phenomenon types 9 and 10, as well as 11 – a complex proposition about the world – and very few of Phenomenon type 1.

5. Who is afraid of what – in the British National Corpus?

Although the BNC is annotated for parts-of-speech and would allow one to find certain syntactic patterns semi-automatically, an exhaustive search with the whole lexicon for the purpose of this paper, would require more time and space than we can afford here. For the analysis of English, we shall therefore concentrate on the main means of expressing FEAR, *fear* as a Senser focused verb and noun, *afraid* and *anxious* as Senser focusing adjectives, and various forms of *frighten* and *terrify* as Phenomenon focusing. These words would seem to be central to FEAR but, as we shall see, their use in context only partly expresses FEAR, and sometimes favours interpretation as REGRET, SYMPATHY and even DESIRE. The more we move from these "central" words to the periphery, the more variable the syntax and mixture of emotions. For example, *worry* and *preocupar-se*, cognitively processed forms of FEAR, use the progressive quite frequently.

Fear/s as a noun produces 9,006 examples, 28% of which appear with *of*, or *fear/s of*, followed, in order of frequency, by *death, God, crime, failure, unemployment, violence, persecution, flying, attack, loss, rape* or *general public* rather than "individual personal" Phenomena; by something more vague as with *the + unknown, dark, consequences*; and by some happening such as *being, losing, falling*. The noun forms are also followed by *that* (10%) and pronouns (6%), indicating complementation by a finite (*that*) clause in which the subject is different from main clause. A further 8% appear coordinated with another noun of emotion or a negative situation, a common occurrence with emotion words, which favour combinations, both negative and positive, as a way of describing "mixed emotions". Behaviour is indicated by the 6% preceded by *in* or *with*.

As a verb, the various forms of *fear* showed the Present tense dominating with 35%, 13% of which were preceded by a pronoun; the infinitive was used in 12% of the cases and the 3rd person singular in 10%; the past tense accounted for 28%, 11% of which were preceded by a pronoun. *Feared* was considered a past participle in 13% of the examples with a significant number of examples such as *it is / was feared*, or "general public" type Subjects. The use of pronoun + *fear*

followed by punctuation was found for 5%, as in *It will be painful, I fear* (BNC), as an expression of polite regret or sympathy.

Interestingly, the BNC also has *feared* classified as an adjective as in *None of the feared Mediterranean gales had sprung up.* (BNC). The search with FEAR* will also bring us *fearsome* (238) and *fearful* (693), although the vast majority, like other similar emotion adjectives, are used for emphasis rather than as independent lexical items.

The Phenomena found with *fear* as a noun cover the whole gradient described above, with a greater or lesser emphasis on cognitive processing depending on the text type. *Fear* as a verb appears largely in more formal texts and favours cognitively complex Phenomena. As a general rule *medo* and *ter medo* will translate all these uses, but *receio* and *recear* will be preferred in more formal situations. An examination of the political or governmental texts in the OPUS corpora will confirm this.

Afraid is by far the most popular FEAR word in the English lexicon, apart from *fear* itself, with 5,558 examples. It appears with 33% of the examples indicating the Senser's FEAR of a wide variety of objects, but also the Senser's own actions, or reluctance to perform these actions. It can be followed by *of + being* (+ a wide variety of verbs in the past participle with negative implications), *asking, losing, getting*, or *to + ask, say, be, tell, come, admit*. In 34% of the examples *afraid* appears before a (*that*) clause, which implies more cognitive processing, particularly if the subject of the (*that*) clause is different from that of the main clause. As Maia (1994) discovered, a (*that*) clause will necessarily include some form of explanation of the cause of fear. However, the meaning of *afraid* here is often diluted and is used more as a politeness routine than to express real fear.

Confirmation of the status of *afraid* as part of a politeness formula can be found in the 25% of the examples that appear at the end of the sentence or clause, as in *He is not coming, I'm afraid*, or *I am afraid (not/so)*. As with the examples above with *fear*, these are polite expressions of regret or sympathy added after an unpleasant fact or opinion has been expressed in conversation, and will rarely be found in texts that are written, except as examples of direct speech in text, or transcribed oral texts, such as those in the BNC.

Anxious, with 2,951 occurrences, appears to be a combination of FEAR and DESIRE when used predicatively, as can be seen from the way *anxious to* (44%) combines largely with *get, see, avoid, be, make, find, have, keep, know, please, do*. However, FEAR is implicit when it is used attributively, as in *anxious + moments, face, parents, eyes, wait, state, expression* (10%).

Searches with FRIGHTEN* and TERRIFY* will produce 4,147 and 1,754 examples, respectively. The active verb forms in the present, infinitive, past and "gerund" form account for 18% / 15% of the examples, but a considerable proportion favour *x frightens /terrifies + pronoun*, which focuses the Senser's reaction rather than any agentive action on the part of the Phenomenon. *Frightening* and *terrifying* as adjectives account for 25% / 28% of the examples, *frightened / terrified* as adjectives 47% / 46%, and *frightened / terrified* as a past participle, 10% / 11%. The noun *fright* is not used that frequently and tends to belong to phrases like *take fright* or *give x a fright*, while combining elements of fear with shock or surprise. However, the overall result is for the focus to be on either the Senser's resulting state or his/her perception of the Phenomenon.

This quick analysis of the principal FEAR words in the BNC is based on Maia's approach to analyzing the syntactic patterns that might indicate the psychological reality expressed by Halliday's semantic roles of Senser and Phenomenon. The results would seem to confirm the work done almost 20 years ago, but a thorough analysis would need time and the processing and annotation of English corpora with the FEAR lexicon such as that described in the following section on Portuguese.

6. Who's afraid of what – in Portuguese

This part of our article is able to look at the same aspects of FEAR as those described above with the BNC, but we can use a more varied and morphologically detailed approach because the Linguateca corpora are much larger, some individually and certainly on aggregate, and the linguistic analysis of these corpora is finer-grained. In order to be able to provide the results described below, one must explain that the AC/DC corpora (Santos 2011, 2012) are not only annotated for parts of speech as in the BNC, but have also been parsed automatically by PALAVRAS (Bick 2000), turned into the Linguateca format, and then automatically tagged with the FEAR domain, grouped under the general concept of MEDO. As with other semantic domains, this annotation will be humanly revised at a later stage (see e.g. Santos et al., this volume), but has not yet taken place for FEAR. Until this revision has taken place, it is only natural that certain lexical items that have been included may turn out, on further observation, to be peripheral to FEAR, or simply be homonymous forms (as with *aterrar*, also meaning “to land”).

Maia (1994) followed Ortony et al’s example to exclude words related to behaviour, like *shiver* or *arrepiar* because such physical reactions were not restricted to FEAR. Similarly, concepts like COWARDICE or COURAGE were excluded on the basis that they were felt to describe moral judgment on behaviour, rather than the central emotion itself. Besides, there is no comparable English verb for the Portuguese *acovardar* (cf. *cowardice*), and, although *encourage* or *encorajar* may derive from the same source as *courage* or *coragem*, the relationship to FEAR in context is tenuous.

However, the annotation of the Linguateca corpora to allow for analysis using these areas of the lexicon suggests that there is plenty of room for expansion from the central concept of FEAR.

6.1 General results for FEAR in the corpora and according to genre

The table below describes the 88,605 occurrences of expressions using the FEAR lexicon in all the AC/DC corpora, both in terms of absolute number of occurrences and relative to the size in words of the respective sub-corpora. Although the reader will need to consult the AC/DC site of Linguateca to learn more about each individual corpus, we present below a short description of the genres and variety of the material as included in the “complete corpus”.

Corpus	Fear	Words	Genre	Ratio per 10,000 words
CETEMP o blico	37,297	141,643,293	newspaper	2.633
CHAVE	27,876	104,668,900	newspaper	2.663
VERCIAL	13,021	15,736,845	fiction	8.274
NILC/S o Carlos	2,262	7,176,448	balanced	3.152
FLORESTA	1,824	6,367,935	blogs	2.864
DIACLAV	1,790	6,779,705	newspaper	2.640
CONDIVport	1,789	5,693,970	newspaper	3.142
AVANTE	1,625	6,997,498	newspaper	2.322
ECI-EBR	427	776,928	balanced	5.496
Di o rio do Minho	250	1,816,653	newspaper	1.376
Museu da Pessoa	134	406,492	interviews	3.296
ANCIB	129	1,364,356	mail	0.946
CONE	64	736,216	mail	0.869
AmostRA	58	105,015	balanced	5.523
CDHAREM	47	240,921	div.	1.951
ENPC	38	77,737	fiction	4.888
FrasesPB	8	19,893	div.	4.022

FrasesPP	4	16,976	div.	2.356
ECI-EE	0	28,263	agreement	-

Table 1. AC/DC corpora in a nutshell.

The picture that emerges shows clearly that there is a gradient from original fiction > translated fiction > oral interviews > blogs > newspaper text > informative prose and mail.

In [Table 2](#) we describe the distribution in terms of the different lexical items and constructions using a cutoff frequency of 7. [4]

Word	Frequency	Word	Frequency
medo	21,727	temerário	534
receio	10,262	sobressaltar	534
terror	5,790	aterrador	459
assustar	5,087	amedrontar	383
recear	4,848	apavorar	368
pânico	4,094	medroso	353
susto	3,200	apavorado	215
aterrar	2,993	arrepido	181
temor	2,834	amedrontado	154
sobressalto	2,113	co[bv]ardemente	153
assustador	1,744	pusilânime	111
alarmante	1,272	timorato	110
co[bv]arde	1,256	arreçar	54
receoso	1,123	aco[bv]ardar	97
assustado	1,062	temente	43
temível	1,004	medo	29
alarmar	963	antiterror	17
apreensivo	918	terrificar	11
aterrorizar	789	cobardola	8
temeroso	771	temerosamente	8
arrepisar	627	arreço	7

Table 2. FEAR words (lemmas) in Portuguese in decreasing frequency order

In order to investigate more thoroughly the importance of genre in the FEAR domain, we also looked at its distribution in two balanced corpora, namely NILC/São Carlos and ECI-EBR, both containing only Brazilian material. We provide the ratio of FEAR words per 10,000 running words, and the number of different FEAR lemmas in each section.

Genre in NILC	Fear	Words	Ratio (x 10,000)	Lexical variety
newspaper	8,150	29,821,714	2.733	61
fiction	834	921,368	9.512	44

essay	429	2,193,638	1.956	32
magazine	57	153,786	3.706	20
textbook	52	426,766	1.218	14
legal	34	1,111,864	0.306	4
encyclopedia	32	286,559	1.192	17

Table 3. Distribution of FEAR words according to genre in Corpus NILC/S♦o Carlos

It is quite obvious that legal text is different, as it not only shows far fewer cases, but 11 of the FEAR occurrences in legal text corresponded to a technical meaning of *temer♦rio*. Also, as already noted, fiction is at the opposite extreme, with almost one word per thousand words denoting FEAR.

If we look now at ECI-EBR, a much smaller corpus with a very different choice of texts and genres (see Table 4), we see that, again, and rather surprisingly, the oral part does not bring as large a quota of FEAR as expected, probably because it is formal oral text and not colloquial. Although one should not put too much emphasis on data from such a small corpus, one should note that essays are also low in FEAR words, while drama is the highest FEAR-containing material.

Genre in ECI-EBR	Fear	Words	Ratio per 10,000 words
fiction	219	241,171	9.080
drama	123	129,640	9.488
textbook	42	203,436	2.064
news	20	88,946	2.248
unknown	8	16,909	-
political speeches	7	47,588	1.471
parliament debates	4	15,277	2.618
literary criticism	2	15,162	1.319
essay	1	14,150	0.707
interviews	1	3,226	3.100

Table 4. Distribution of FEAR words according to genre in Corpus ECI-EBR

6.2. What is it that people are afraid of in Portuguese?

The Linguateca corpora allow one to count the distribution of the FEAR lexicon in terms of frequency of parts of speech and syntactic patterns. Just like for English, the noun forms of FEAR are more frequent, 50,623 examples, compared with the 27,179 verbs, and 10,763 adjectives. And there was only a very small number of adverbial forms, 16.

In the case of nouns, we can also provide partial counts in terms of the Phenomenon: FEAR of + N or PROP (9,097), FEAR of + infinitive (3,891), and FEAR of *que*-clause (*that*-clause) (1,976). This would confirm a point made earlier that, by using the FEAR lexicon, the speaker or writer has cognitively processed the emotion on a gradient from a specific object, to an action by the Senser, an action by the Phenomenon, or a cognitively analysed situation.

The Phenomena found with *temer*, (*ar*)*recear* would seem to be similar to those described as “public” for the English *fear of*, as can be seen from the list in Table 5:

What is feared	Gloss	Frequency	What is feared	Gloss	Frequency
----------------	-------	-----------	----------------	-------	-----------

mau	bad/evil	248	agravamento	worsening	37
represália	reprisal	170	perigo	danger	36
efeito	effect	137	fim	end	35
consequência	consequence	110	problema	problem	35
ataque	attack	83	nada	nothing	31
concorrência	competition	81	intervenções	intervention	30
aumento	increase	69	repercussão	bad consequence	29
perda	loss	63	vitória	victory	29
futuro	future	63	reações	reaction	28
invasão	invasion	58	impacto	impact	26
morte	death	57	resultado	result	26
confronto	confrontation	55	atentado	attack	25
ameaça	threat	50	comparação	comparison	25
reações	reaction	48	poder	power	25
repetições	repetition	48	ocorrência	occurrence	24
coações	coercion	44	pressão	pressure	24
regresso	return	43	vaga	wave	24
subida	raise	40	guerra	war	24
explosão	explosion	40	mudança	change	24
risco	risk	40	violência	violence	23
retaliações	retaliation	39	falta	lack	23
possibilidade	possibility	39			

Table 5. Distribution of objects of FEAR verbs in Portuguese

Similarly, Phenomena following a support verb with *medo* or *receio* are displayed in [Table 6](#).

What is feared	Gloss	Frequency	What is feared	Gloss	Frequency
represália	reprisal	253	doença	illness	30
morte	death	204	autoridade	authority	30
intervenções	intervention	126	ataque	attack	29
subida	raise/increase	66	coisa	thing	29
população	population	61	sida	aids	28
polícia	police	60	inflação	inflation	28
retaliações	retaliation	58	mulher	woman/wife	28
guerra	war	52	pressão	pressure	27
consequência	consequence	49	verdade	truth	26

reação	reaction	48	perseguição	persecution/chase /harassment	26
violência	violence	47	assalto	assault	26
aumento	raise/increase	47	eleição	election	26
concorrência	competition	42	água	water	25
perda	loss	42	explosão	explosion	23
união	union	39	invasão	invasion	23
crise	crisis	39	falar	talk	22
mudança	change	39	confronto	confrontation	20
atentado	attack	38	derrota	defeat	20
palavra	word	38	corte	cut	20
pessoa	person	37	agravamento	worsening	19
vida	life	34	vingança	revenge	19
ameaça	threat	31			

Table 6. Distribution of objects of nouns of FEAR in Portuguese

Note that these numbers were not subject to human screening, and the actual pattern in structures such as noun phrases with *de* may produce both reference to the Senser or the Phenomenon as in (3) opposed to (4):

- (3) Um diplomata ocidental comentou que os consumidores têm razão para ter **medo** da inflação, porque ainda guardam na memória os tempos em que passaram fome.
 ‘A Western diplomat commented that consumers are right to be afraid of inflation (have “fear of inflation”), because they can still remember times when they went hungry.’
- (4) A frase, proferida ontem por Ieltsin no penúltimo dia do Congresso dos Deputados do Povo, marcou um dos momentos altos da sessão, ao tranquilizar muitos **receios** das vizinhas repúblicas.
 ‘Yeltsin’s statement, during one of the last days of the Congress of the People’s Representatives, was one of the high points of the session, and calmed the fears of neighbouring republics.’

Interestingly, *receio* shows a much higher proportion of cognitively processed Phenomena than *medo*, and *susto de* behaves similarly to *fright* (see above). Also, *de*, like *of* in similar circumstances, may signal still other constituents, such as temporal qualification, as illustrated by examples (5) and (6). *De* can also indicate the kind of fear, as in examples (7) and (8).

- (5) Na passada quinta-feira, dia 24, apanhou, com toda a certeza, **um dos maiores sustos da sua vida**.
 ‘Last Thursday, on the 24th, he got what was certainly the greatest fright of his life’
- (6) O escocês, recomposto do **susto da véspera** – foi desclassificado.
 ‘The Scot, having recovered from the fright of the day before, was ...’
- (7) Pacheco Pereira apanhou um **susto de morte** quando soube do naufrágio do

Estônia, ao largo da Finlândia.

'Pacheco Pereira had a (deathly fear) terrible fright when he heard of the shipwreck of the Estonia, off the coast of Finland.'

(8) Mas foi **susto de pouco fôlego**.

'But the fear was unfounded. (*little breath fear)'

We can also find examples following *medo* similar to those with the English *fear of* and *afraid of*, that indicate fear of an action, expressed by a verb, as shown in [Table 7](#).

What is feared	Gloss	Frequency	What is feared	Gloss	Frequency
ser	be	657	falhar	fail	34
perder	lose	414	poder	be able, unadvertently	33
ver	see	157	cair	fall	32
morrer	die	140	tomar	take	32
ficar	stay/become	121	mostrar	show	31
ter	have	117	arriscar	risk	28
ir	go	111	passar	go through/spend /cross	28
fazer	do	90	jogar	play	27
falar	speak	85	levar	take	25
sair	go out/resign	79	mudar	change	24
vir	come	74	sofrer	suffer	22
dizer	say	64	encontrar	find	21
estar	be	64	ofender	offend	18
errar	err	61	contrair	incur/develop (disease)	18
enfrentar	face	60	discutir	discuss/argue	18
dar	give	59	comprometer	compromise	17
entrar	enter	52	ouvir	hear	17
conseguir	manage/succeed	48	tocar	play (music)/touch /raise (issue)	16
voltar	return	46	ferir	hurt	15
assumir	assume/accept responsibility	39	voar	fly	15
viver	live	39	ganhar	win	15
andar	go/walk	38	chegar	arrive	15
deixar	leave/stop	37			

Table 7. Distribution of verbal objects of nouns of FEAR in Portuguese

As mentioned [above](#), *ser*, *estar* and *ficar* act as copulas or passive auxiliaries, and allow for a finer distinction than the English *be*. The verbs in the passive following a FEAR verb and these auxiliaries, as in *tenho medo de ser preso* ("I fear being arrested") are shown in [Table 8](#) below. [5]

What is feared*	Gloss	Frequency	What is feared	Gloss	Frequency
preso	arrested	30	isolado	isolated	6
acusado	accused	29	esmagado	crushed	6
morto	killed	25	punido	punished	6
atacado	attacked	21	roubado	stolen	6
descoberto	discovered	18	excluído	excluded	6
assassinado	murdered	17	esquecido	forgotten	6
visto	seen	16	contagiado	contaminated	6
apanhado	caught	15	responsabilizado	made responsible	5
chamado	called	12	espancado	beaten up	5
assaltado	assaulted	11	sequestrado	kidnapped	5
atingido	hit	11	envenenado	poisoned	5
obrigado	forced	10	julgado	judged	5
expulso	expelled	9	confrontado	confronted	5
contaminado	contaminated	9	confundido	confused	5
considerado	considered	9	criticado	criticized	5
despedido	fired	8	conhecido	known	5
prejudicado	damaged/hurt	8	reconhecido	recognized	5
ultrapassado	overcome	8	estigmatizado	stigmatized	4
posto	put	8	conotado	associated	4
surpreendido	surprised	7	deportado	deported	4
agredido	hit/beaten	7	engolido	swallowed	4
interpretado	interpreted	7	enganado	cheated	4
identificado	identified	7			

Table 8. Distribution of verbal (passive) objects of nouns or verbs of FEAR in Portuguese
 * The past participles are given in their masculine singular form.

This list is longer and the structure appears to be far more common in Portuguese than similar situations with *be* in the BNC (see section 5). This may be due to the larger corpora, but the extra auxiliaries and their related meanings may contribute to more explicit descriptions of the situations.

The parsed AC/DC corpora allow one to search for nouns acting as both the Subject of the sentence and the Phenomenon, as with verbs such as *assustar* and *sobressaltar*, and this produced a small number of examples such as those in Table 9.

What frightens	Gloss	Frequency	What frightens	Gloss	Frequency
fogo	fire	7	voz	voice	3
explosão	explosion	6	gente	people	2
tiro	shot	5	declaração	declaration	2
preço	price	5	notícia	news	2
sismo	earthquake	4	estatística	statistics	2
incidente	incident	4	ideia	idea	2

incêndio	fire	4	população	population	2
violência	violence	4	conservador	conservative	2
número	number	4	resultado	result	2
futuro	future	4	perspectiva	perspective	2
propano	propane	3	possibilidade	possibility	2
tiroteio	shooting	3	situação	situation	2
chuva	rain	3	criança	child	2
exame	exam	3	pessoa	person	2

Table 9. Distribution of subjects of verbs of active FEAR in Portuguese

If we enlarge the possible search candidates (and therefore accept some noise in the 2,133 occurrences, as opposed to the previous 140) we obtain the set given in Table 10. It is interesting to see that Portuguese displays a considerable number of abstract nouns as fear-inspiring Phenomena, just as would be predicted by the Romance languages' preference for abstract as opposed to concrete descriptions, as pointed out by Vinay and Darbelnet (1958) for French vs. English, see also Santos (2004).

What is feared	Gloss	frequency	What is feared	Gloss	frequency
pessoa	people/person	48	crescimento	growth	12
fa(c)to	fact	34	pai	father	12
população	population	30	mulher	wife/woman	12
número	number	28	morte	death	12
presidente	president	22	habitante	inhabitant	11
governo	government	21	ideia	idea	11
notícia	news	19	violência	violence	11
ministro	minister	19	resultado	result	11
incêndio	fire	18	perspectiva	perspective	11
coisa	thing	18	português	Portuguese	11
situação	situation	17	preço	price	11
homem	man	16	líder	leader	10
ameaça	threat	15	verdade	truth	10
gente	people	15	fogo	fire	9
hipótese	hypothesis	15	tiro	shot	9
crise	crisis	15	aumento	raise/increase	9
possibilidade	possibility	15	trabalho	work	9
questão	question	14	caso	case	9
problema	problem	14	criança	child	9
nome	name	13	fantasma	ghost	9
explosão	explosion	12	fuga	escape	8

Table 10. Distribution of subjects of verbs of active FEAR in Portuguese: what inspires fear

Although one can understand the danger implicit in most of these words, none of them can be seen as seriously agentive and, in context, it is natural that the Senser will take the focus of the FEAR. However, the numbers also indicate a greater possibility in Portuguese of allowing the Phenomenon to be the Subject of the sentence, which confirms a cultural tendency to place responsibility on something external rather than on the individual (see Maia 1994). This aspect can also be noticed in other linguistic structures that we cannot discuss here.

When a search is made for who is frightened (the Senser as Object), the results are quantitatively higher, as Table 11 shows. Note that subjects like *avião* (airplane), *helicóptero*, *piloto* and *aparelho* (engine) are obviously traces of the other meaning of *aterrar* (land), and testify the need for human revision of the data presented here.

Who is frightened	Gloss	Frequency	Who is frightened	Gloss	Frequency
peessoa	people/person	93	comunidade	community	9
gente	people	52	classe	class	9
população	population	43	empresário	businessman	9
investidor	investor	35	presidente	president	9
adversário	opponent	27	técnico	technician	9
morador	householder/resident	24	turista	tourist	9
país	country	23	aparelho	engine	8
avião	airplane	22	menino	boy	8
governo	government	22	candidato	candidate	8
mercado	market	19	mulher	woman	8
criança	child	19	cliente	customer	8
inimigo	enemy	16	consumidor	consumer	7
vizinho	neighbour	15	torcida	supporter team	7
helicóptero	helicopter	14	piloto	pilot	7
povo	people	13	família	family	7
homem	man	12	brasileiro	Brazilian	7
eleitorado	electorate	11	responsável	responsible	7
eleitor	elector	11	grupo	group	7
opinião	opinion	10	português	Portuguese	7
equipa	team	9	munido	world	7
elite	elite	9	comprador	buyer	7
dirigente	leader	9	direita	right (parties)	7

Table 11. Distribution of patients of verbs of active FEAR in Portuguese; who is frightened

The last case we will address is interesting in that *assustar o medo* (frightening fear) is possible in Portuguese, meaning avoiding or preventing it. However, when the actual examples were inspected

in Portuguese, we observed a different phenomenon. They were wrongly caught by a wider query, but showed a different situation, probably even more interesting in itself: the common repetition or reinstatement of fear in adjacent clauses, or the description of several fears and counter-fears, such as the following examples (9) and (10) (out of 23) illustrate:

- (9) **Receando**, por^om, **assustar** Teresa e privar-se da entrevista, escreveu nova carta, em que n^o transluzia **medo** de ser atacado, nem sequer **receio** de marear-lhe a fama.
 ‘Therefore, afraid of frightening Teresa and missing the interview, he wrote another letter in which there was no sign of any fear of being attacked, or even of being worried about affecting her fame’
- (10) Eu me **assustei**, fiquei com **medo**, mas ele foi t^oo veemente, que acabei fazendo.
 ‘I was frightened and afraid, but he was so insistent that I ended up doing what I was told.’

The BNC will also render similar examples as in (11).

- (11) All her little **fears** were burned away in the great **fear**, the **fear** of ceasing to be.
 (BNC)

These examples draw attention to the point sometimes made that clusters of synonyms tend to occur in text for reasons related to context and emphasis, or, to use Halliday and Hasan’s (1976) term, “lexical cohesion”. For example, the BNC shows that *fear* collocates frequently with *anger*, *pain* and *anxiety*. If the Linguateca corpora are later annotated with other emotions, such as REGRET, SYMPATHY OR DESIRE, we may be able to follow up the point made above of combinations of emotion words to suggest “mixed emotions” or even, using more sophisticated searches, explore Hoey’s (2005) notion of lexical priming. For the moment we can say that there are 3,304 sentences in the Portuguese resources where more than one FEAR word is present.

6.3 The negation of FEAR and courage – an interesting subject for future development

The AC/DC corpora were searched for negation of FEAR. There are only 2,951 cases of negation, compared to the 27,113 cases of verbal FEAR, and it is interesting to check whether the negated proportion was higher with any of the verbs. Table 12 presents, for all verbal lemmata, the relevant frequencies, and the percentage of the cases they were negated in the material.

Verb	negated	total	%
temer	1,268	9,785	12.9
assustar	842	4,514	18.6
recear	562	4,634	12.1
aterrar	56	2,905	1.9
alarmar	51	921	5.5
amedrontar	48	355	13.5
arrepia	28	555	4.04
sobressaltar	21	517	4.06
arrepear	13	54	24.1
apavorar	13	341	3.8
aterrorizar	11	770	1.42
acobardar	19	77	24.7

Table 12. Negation of verbal FEAR

It appears that there are wide differences between the verbs, with *acobardar*, *assustar* and *arreçar* much more prone to negation than *apavorar* or *aterrorizar*.

As far as FEAR in the noun form is concerned, 2,841 negated cases were found as opposed to 14,664 of support expressions with a FEAR noun. There are also 2,274 cases of *sem* (without) followed by a FEAR word in the material, as presented in [Table 13](#).

After <i>sem</i>	Frequency
medo	788
receio	482
sobressalto	475
temor	124
temer	111
susto	87
recear	28
terror	18
pânico	13
assustar	8

Table 13. FEAR words after the preposition *sem* (without)

These examples “without FEAR” bring up the question of the status of courage in relation to the FEAR lexicon. There is no doubt among psychologists or cognitive scientists that courage is a value and not a feeling or sensation, and we do not want to quarrel with that. However, as noted above, the FEAR lexicon is sometimes used to express different emotions such as regret and shock, and overlaps with meanings like politeness that are outside the actual FEAR domain. Few lexical or conceptual domains are “watertight” and, in certain cultures, it is clear that fear and courage will be linked on a moral level. This makes it all the more interesting to note that in the Portuguese language courage and fear are similar, in the sense that they are expressed with the same grammatical operators and using the same metaphors, as the parallel expressions in [Table 14](#) show.

Involving courage	Involving fear	English gloss
Enchi-me de coragem	Enchi-me de medo.	fill oneself with courage/ fear
Cheia de coragem	Cheia de medo	full of courage/ fear
Não tem coragem = tem medo	Não tem medo = tem coragem	NEG has courage/ fear = has courage/ fear
Destemida (=corajosa)	Desencorajada (=sem coragem)	with/ without courage/ fear
Infundir coragem	Infundir medo	inflict courage/ fear

Table 14. Parallel expressions for fear and courage in Portuguese

It would be interesting to pursue this matter with expressions in other languages, particularly from the moral point of view.

The English *courage*, for example, is decidedly positive in context, whereas *fearless*, although generally positive, can co-occur with less positive notions like aggressive. Also *temerário* is usually *rash* or *reckless* which is not even courage, but more of a judgment on an action as unnecessarily dangerous and stupid. While this is the same in Portuguese, it is undeniable that it is a derived form from *temer*.

Temente is also an interesting case of a fear-denoting adjective because it is mostly positive, and mainly used in the collocation *temente a Deus* (“God fearing”). It includes respect in its meaning, so it is interesting also to see that it can also be used negatively (and creatively) as in *temente PIDE* (political police) to convey the impression of oppression equated with (the official) religion, as in example (12).

(12) Entre o fogão e o telefone descreve o Portugal dos Pequeninos – rural, atrasado, obediente e **temente PIDE** --, onde o “modernismo” e a “eficiência” eram palavras vindas da América que, tal como a Coca-Cola, deveriam ser proibidos

‘Between the kitchen and the telephone, she describes Portugal for Children – rural, backward, and afraid of PIDE – where “modernism” and “efficiency” are dirty words from America that, like Coca-Cola, should be forbidden.’

There is also a negative version of COURAGE expressed in Portuguese by colloquial *lata*, *impertinência*, *audácia*, and also in English by the colloquial *cheek* or *nerve*, *dare* and *audacity*, which shows that this would be an interesting area to explore further. [6]

7. Conclusions and suggestions

We have only started to scratch the surface of this fascinating area. Although we know that a lot has been written about the language of emotion over the last two decades (not least in the field of polarity detection, sentiment analysis and so on, see Pang & Lee (2008) for an overview), we believe that using corpora annotated with all the information described in this article can only help to deepen our knowledge of languages in general and individual languages as well.

The data we have examined here draws attention to the way the human condition contributes to some sort of universal semantic structure in the language of emotion. It would make psychological sense if at least most languages in the Western world shared the tendency to focus on the Senser, or individual, that is common to English and Portuguese. One wonders whether the languages of cultures that give primacy to the social group do the same, and whether they also use FEAR words in politeness strategies.

We are dealing with two European languages with similar cultures so, even given the human condition underlying emotion, we cannot presume to use these data towards proving any language universals. However, perhaps we can use them to speculate about a certain European mindset, or to use this as a basis in which to study European languages in the past, to see if these tendencies have developed over time, in the way Deutscher (2010) describes in relation to colour terms.

Whatever differences exist will be in the details, and we have seen a few. Do we feel it is different to *be afraid* and or to *ter medo* (have fear)? Is there a difference of recognition of “selfhood” in *O João assustou-se*, or of temporary and imperfective state in *O João estava assustado*, or of the resulting aspect of *O João ficou assustado*? All of these can be translated into English as *John was frightened*, with the extra semantic traces only being retrievable from a larger context, if at all. We could discuss the relationship between *be* and the Portuguese *ser*, *estar* and *ficar*, and whether they are copulas or passive auxiliaries with emotion adjectives or past participles. We could create carefully controlled corpora in specific genres to see whether FEAR is more focused on the Senser or the Phenomenon. Maia (1994) showed, based on comparable corpora, that English was slightly

more Senser focused than Portuguese, and results in the last section of this paper suggest the same. And we have not even started on the problem of the different lexical realizations of FEAR in both languages.

Further study is needed and could, no doubt, benefit from going from monolingual corpora to parallel ones in different languages as well. Linguateca provides the COMPARA (Frankenberg-Garcia and Santos 2003) and CorTRad (Tagnin et al. 2010) parallel corpora for this type of work, and the OPUS corpora (Tiedemann 2009) could provide interesting material for these purposes too. We hope to continue this study of FEAR and also identify related words that implicitly convey fear, such as *fugir de* in Portuguese or *flee* in English.

There are other emotions to study and they will help to remind us how inventive we are with language. Philosophical and linguistic knowledge suggest we cannot give orders on emotion, so why is Bobby McFerrin's *Be happy* enduringly popular? And do we translate it with *ser* or *estar* in Portuguese?

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Notes

[1] It is perhaps relevant to indicate that the two authors do not necessarily share every opinions – and especially not research history. Maia was interested in the relation of emotion to cognition. Santos's interest in emotions was basically aroused by her interest in evaluation in language and her realization of its prime importance in natural language, as argued by Ellis (1993). If *good* is one of the most basic adjectives in language, emotional aspects of human evaluation are also essential for the understanding of how language works.

[2] 476. We should distinguish between the object of fear and the cause of fear. Thus a face which inspires fear or delight (the object of fear or delight), is not on that account its cause, but – one might say – its target.

477. "Why do you believe that you will burn yourself on the hot-plate?" – Have you reasons for this belief; and do you need reasons? (Wittgenstein 1953)

[3] Afraid – Online Etymology Dictionary early 14c., originally pp. of *afray* "frighten," from Anglo-Fr. *afroyer*, from O.Fr. *esfreer* (see *affray* (n)). A rare case of an English adjective that never stands before a noun. Because it was used in A.V Bible, it acquired independent standing and thrived while *affray* faded, chasing out the once more common *afeared*.

[4] We have not attempted to translate these words into English because their meaning will often change considerably according to context.

[5] While in both languages in the passive the main verb is in the past participle (and thus the past participle in the English translation), in Portuguese there are four forms of the past participle, since it agrees in gender and number with the subject, so we chose to display the infinitive of the verb instead.

[6] Interested readers can do it in the AC/DC corpora by looking for [sema="coragem"], or, compare both domains with [sema="medo|coragem"] (and select "Distribui♦♦o por campo sem♦ntico (sema)" in the Resultado field).

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