Adverbs in Specialized Language:
A Pilot Study

Helmara Febeliana Real de Moraes[1]

Abstract

This research aims at presenting the first results of a contrastive study (English-Portuguese) on the role of adverbs of manner and intensifiers in specialized language, focusing mainly on those ending in *-ly* and *-mente*. Our objective is to show that adverbs do take part in collocational patterns in specific language domains, resulting typical phraseologies that are distinct in the languages studied. We have carried out our investigation in the five comparable corpora which are part of CorTec (Corpus Técnico-Científico): Environment (ecotourism), Information Technology (general), Cardiology (high blood pressure/hypertension), Contract Law (written agreements) and Cooking (cooking recipes). The results show that an adverb ending in *-ly* in English will not necessarily be translated as *-mente* (its equivalent suffix in Portuguese), a morphological aspect which is intrinsically related to the domains studied, thus presenting different phraseologies in each language. To illustrate, we present the patterns of some of the most frequent adverbs in two of the English corpora, as well as their equivalent forms. With this research, we aim at calling the translators' attention to focus on these conventionalized units in specialized language, so that they may produce a more natural and fluent text in the target language.

1. Introduction

As can be seen in the literature available nowadays, adverbs have been generally considered an inconsistent and improperly defined grammar class, without a clearly defined role in a sentence or phrase (Moraes, 2005)[2]. In Portuguese, this situation has been adequately outlined by Maria Helena da Nóbrega in her PhD dissertation (Nóbrega, 2000), called "Análise funcional de advérbios e adverbiais modalizadores no texto jornalístico" (Functional analysis of adverbs and modalizing adverbials in the news[3]). According to her,

> Inconsistencies occur in great number in the Traditional Grammar, but they seem to reach a maximum level of inadequacy concerning adverbs. Maybe that can help us when trying to explain why this term has received an even more concise explanation in grammar books, just a few of them attaining themselves more accurately to the subject. A contrastive study among several grammar books suggest blunt copies from one another, simply repeating the classification of adverbs, including the most fragile explanations. When a problem is pointed out, there's no effort in trying to solve it.
>
> (Nóbrega, 2000: 20)

---

[1] Department of Modern Languages, University of São Paulo
 e-mail: helmara@bighost.com.br
[2] This investigation has been carried out in the following references: Biber et al (1999); Bolinger (1972); Quirk & Greenbaum (1974), for the English language; Bechara, (2001); Cunha & Cintra (1985); Ilari (1996), for Portuguese.
[3] All the translations in this text are mine.

Bomfim has also analysed this grammar class in her book entitled *Advérbios* (Adverbs) (1988), pointing out references that show the many inconsistencies that permeate the definition of this grammar class. She also emphasizes that the adverbs that most legitimately represent this class are those of manner, being the ones ending in *-mente* (in Portuguese) the most numerous (Bomfim, 1988: 9). Although undergoing the same derivational process (all of them derive from adjectives), these adverbs also present semantic differences. In this paper, we are dealing with two of them: they can be modifiers and/or intensifiers, depending on the context. According to the author, the semantic traits of the adjectives from which the latter derive are weakened, so that they simply indicate either some positive or negative intensification, such as in *imensamente feliz, vagamente audível* and *particularmente atento*. There are also cases in which the adverb may express some criticism: *terrivelmente cruel, incrivelmente pálido, hipocritamente amável*, or even limit the meaning of the adjective it refers to, such as in *psicologicamente débeis* and *moralmente fracas*. This situation has also been outlined in English, as presented by Moraes (2005) in her Master's thesis. A group of adverbial collocations - the co-occurrence of adverbs+adjectives and adverbs+verbs (Tagnin, 2005) - was carefully selected and analysed and it has been observed that some adverbs of manner and/or intensifiers present semantic and functional differences when compared to those generally attributed to this grammar class in the literature available. During that study, we randomly came across many adverbial collocations that belong to different technical domains. Therefore, we have decided to start investigating some of them, being Cooking the first one. Our preliminary research questions were: Are the aspects observed in general language also present in specialized language as to adverbial collocations? What is the importance (if any) of adverbs in the phraseology of specialized language? In a contrastive study, does the adverb (considering these chunks of language they are supposedly part of) have the same function in English and in Portuguese? Being an adverb part of a phraseological unit in English, will its literal and generally accepted translation also take part of an equivalent form in Portuguese? These questions have instigated us to start this investigation in the CorTec (Corpus Técnico-Científico)[4], a comparable corpus which covers five different domains which will be discussed below. Besides identifying and analysing some of these so called phraseological units, our objective is to show the translator a linguistic aspect which should be definitely considered when trying to bring more naturalness and fluency to the translated text.

1.2 Phraseological units in specialized language:
searching for a definition

As can be seen in the literature available nowadays, different aspects have been considered when trying to identify a term and/or a phraseological unit. To name few authors who have worked on the subject, we can mention Cabré (1996), Tognini Bonelli (2002), Bevilacqua (2001) and Sinclair (1996:82), who questions "where is the boundary between a relatively independent item and one with such a strongly determining environment that we are tempted to extend the item boundary and recognise a phrase?" First of all, there are some contradictions or, let us say, many terms used to define the concept of "phraseology". Cabré (1996) comments on such difficulties saying that,

> No todos los autores que han reflexionado sobre el concepto de fraseología han utilizado los mismos parámetros: mientras que algunos tienen una visión restringida de los fenómenos propiamente fraseológicos, otros observan una actitud más laxa que permite consignar bajo la etiqueta de fraseología cualquier estructura superior a la palabra.

---

[4] Available at http://www.fflch.usp.br/dlm/comet

As to specialized language, Gouadec (1994: 172, *apud* Krieger and Finatto, 2004: 88) points out that specialized phraseologies distinguish from terms as these are referential units, while the former have the function of expressing specialized content that depend on the context in which they occur, thus being subject to the production and interpretation of the texts they are part of. He also postulates that the basic criteria for the identification of these units are stereotyping, i.e., a group of stabilized and recurrent characters in a specific domain, and the frequency in which they occur, also emphasizing that these units have elements that are variable and invariable, bringing some flexibility - the possibility inserting or omitting some elements - to the unit (Gouadec 1994, *apud* Bevilacqua, 2001: 99)

We believe that a word can be part of general language and, depending on the context, be considered part of a phraseological unit in some specific domain, such as *finely*, an adverb which is part of the adverbial collocation *finely chopped*, commonly used in Cooking (recipes). Some other investigation would be necessary to see if *chop* is (or should be) a term in this area, being its so called "protected status" questioned as to the context it belongs to, as Tognini-Bonelli (2002) puts it. According to her and using Sinclair's words, "terms, in spite of their protected status, begin to retain traces of repeated events in their usage, and expectations of events such as collocations arise. The tension between the terminological and the phraseological tendencies is resolved in the communicative situation (…)." (Tognini-Bonelli, 2002)

In this paper, we are trying to point out the necessity of identifying, investigating and including these phraseological units in the terminological references (dictionaries and glossaries) the translator can make use of in specialized areas. If they are produced without these units, what is common in the literature available nowadays, the translator will not have access, for example, to the adverbial collocations in the area, as adverbs do not present the referential function pointed out by Gouadec (1994: 172, *apud* Krieger and Finatto, 2004: 88). The lack of such information will deprive the translator of knowing, for example, that the verb *chop* is commonly used with *finely, roughly* and *coarsely*, and that each of these co-occurrences with the verb may have a different equivalent form in Portuguese. The only bilingual dictionary (English - Portuguese) available in the publishing market in Brazil at the moment presents *chop = Picar* [sic] *com faca* and *chopped = picado*[5], not mentioning any phraseological unit it can be part of. Knowing general language and having access to the terminology in the area will not help the translator in this situation; they need to know how that term is used, i.e., the context and the co-text in which it occurs in that specific area.

This study aims at presenting the first results of a contrastive investigation (Portuguese-English) on the function of adverbs of manner and intensifiers, focusing basically on those ending in *-ly* and *-mente*, thus emphasizing the existence of distinct phraseologies in both languages and in the different domains mentioned above.

2. Adverbial collocations in specialized language: the beginning of our investigation

In order to carry out this investigation, we have made use of Corpus Linguistics, its concepts as a theory and a methodology, as well as its applications to get to extended units of meaning (Tognini-Bonelli, 2001) in specialized language, including adverbial collocations. We have chosen CorTec (Corpus Técnico-Científico), a comparable corpus (English-Portuguese) previously compiled at the University of São Paulo - Brazil. This corpus is part of COMET (Corpus Multilíngüe para Ensino e Tradução), a project being developed in this same university under the coordination of professor Stella Esther Ortweiller Tagnin.

---

[5] MOURA, R. A. (2000) Dicionário de culinária e termos afins. São Paulo: Atheneu.
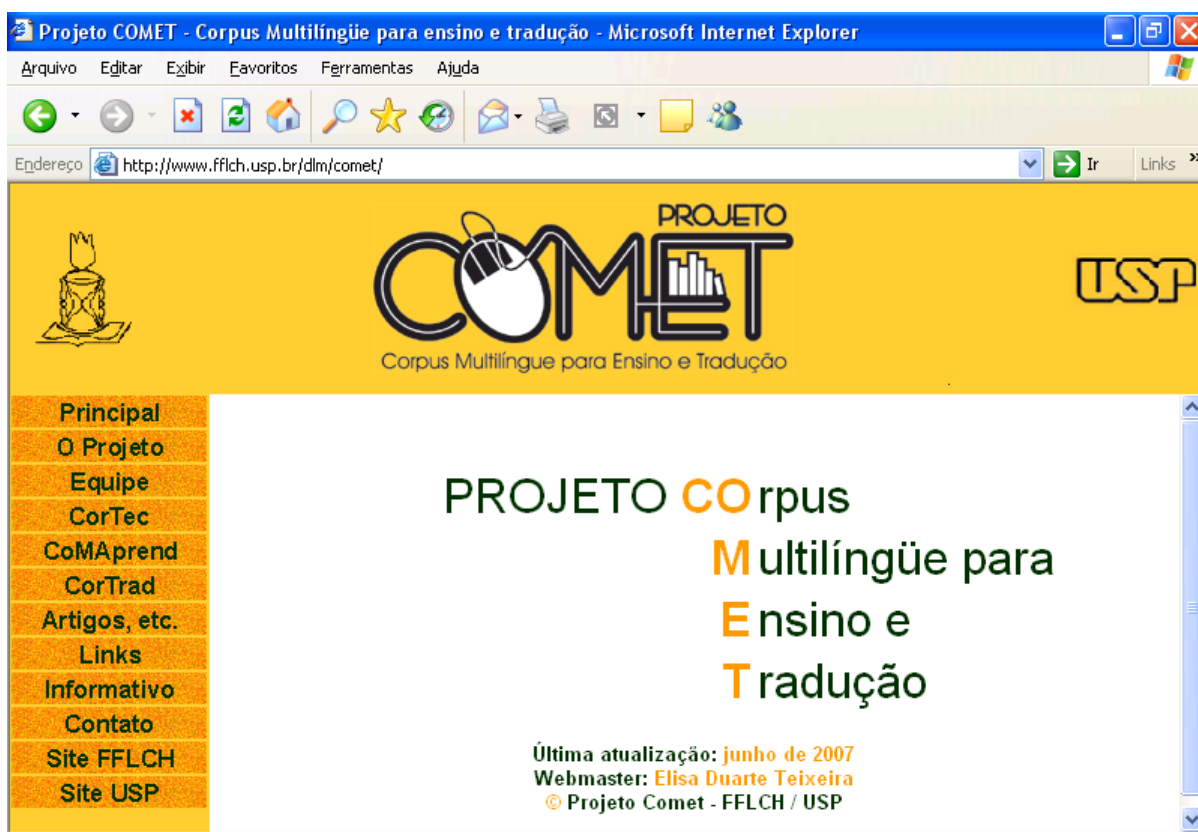
Figure 1: COMET - the access page.

CorTec (link on the left in picture 1) involves five technical areas: Environment (ecotourism), Information Technology (general), Cardiology (high blood pressure/hypertension), Contract Law (written agreements) and Cooking (cooking recipes). These corpora present the following data:

CORPUS	ENGLISH SUBCORPUS		PORTUGUESE SUBCORPUS	
	number of occurrences	token-type ratio	number of occurrences	token-type ratio
Environment	201,826	4.96	200,887	8.93
Information Technology	193,877	6.66	196,604	7.72
Cardiology	453,475	3.93	356,718	6.17
Contract Law	204,249	2.96	200,588	4.83
Cooking	368.227	1.98	252.149	2.84

Table 1: The five corpora in the CorTec

The subcorpus chosen to start this investigation was Cooking. In her Master's thesis, Teixeira (2004) has studied different aspects of translation in this area; she demonstrated that although there has been some growing interest in Cooking in the media, there seems to be some generalized belief (the public in general and the publishing market) that recipes can be easily translated by any person who has some knowledge in both languages, i.e., knowing English and Portuguese is enough to produce a natural and fluent text in the target language. However, as Teixeira points out, Cooking is a technical area that demands, from the translator, not only linguistic, but also translating competence. She found

4

out that one of the major drawbacks in the dictionaries analysed stands in textual production: microtextual (including phraseologies), macrotextual and discourse aspects that characterize the area.

As adverbs have been frequently identified in the corpus in English thus calling the researcher's attention, we have decided to investigate its function in that language and, in a contrastive study, how it would be used in our native language (Portuguese).

In the following section, we present the methodology applied to study the most frequent adverbial collocations (and the phraseological units they may be part of) in the Cooking and Contract Law corpora, our main focus in this investigation.

3. Methodology

In order to manipulate the five corpora mentioned above, CorTec presents the researcher with some tools. In this study, we have used the concordancer and the frequency counters.
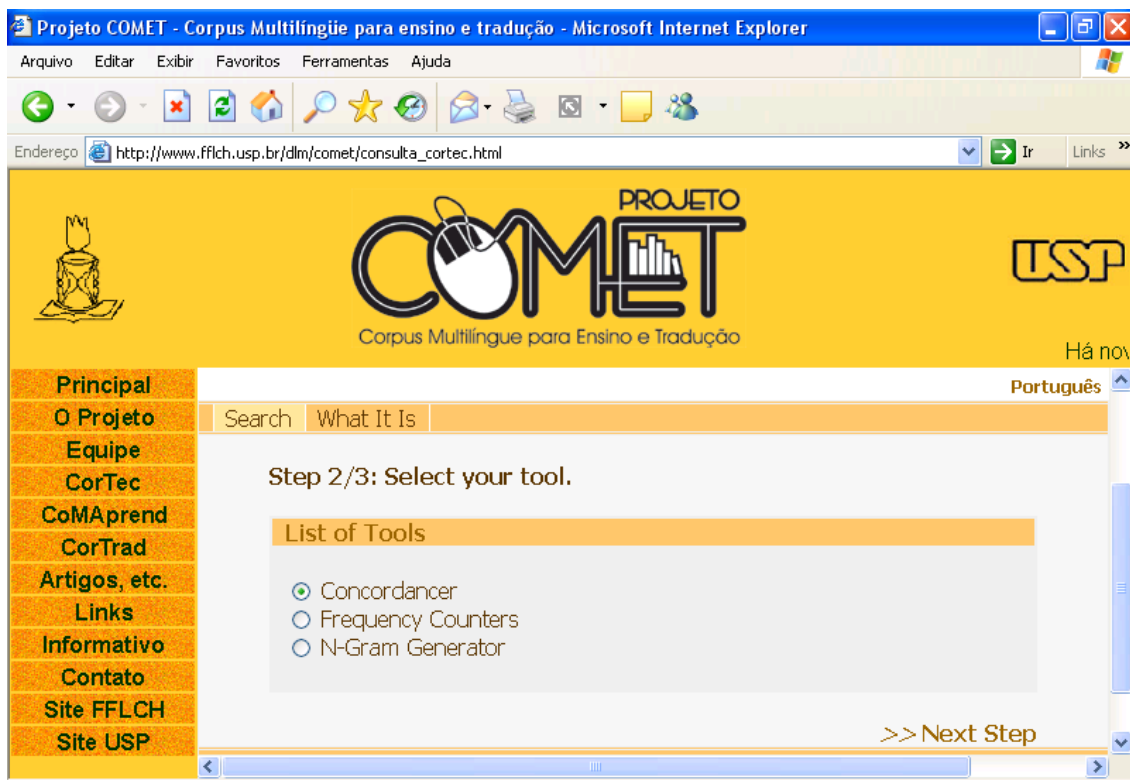

Figure 2: Tools available in the CorTec

After downloading the frequency lists (in English and in Portuguese), we selected the first five most frequent adverbs finishing in -*ly* and in -*mente* and generated the concordance lines in order to analyse the contexts in which they occurred. When necessary, WordSmith Tools (3.0 version)[6] was used to investigate these lines. The following aspects were observed:

---

[6] This software has been developed by Mike Scott and it is available at http://www.lexically.net/wordsmith.

- the patterns these adverbs were mostly part of;
- the most frequent collocational and colligational co-occurrences;
- possible equivalent forms.

After identifying some patterns in English, our next step was searching for their equivalent forms in Portuguese. As we had already concluded that a literal translation of the adverb would not necessarily lead us to a pragmatically possible equivalent form, we started our investigation searching for the translation of the verb or adjective the adverb modified in the Portuguese corpus. Then, we would be able to analyse their co-occurrences and the patterns in which they frequently occur in Portuguese, including (or not) adverbials. In case it did not work, we would try our search with the noun the adjective or verb referred to. A good example for this procedure is the unit *freshly ground black pepper*. If we search for the noun *pimenta* in Portuguese we can get to its equivalent form, *pimenta-do-reino moída na hora*, a unit which does not include an adverb ending in *-mente*.

Being this methodology quite simple and difficult to deal with great amounts of data, our intention is, in the future, to use some automatic software to tag and identify the adverbs, not only the ones ending in *-ly* and *-mente*.

Statistically speaking, we also intend to submit the units found to the Mutual Information and T-Score significance tests with the calculator developed by professor Tony Berber Sardinha, available at http://www2.lael.pucsp.br/corpora/association/calc.htm. In case equivalent forms are not found in the Portuguese corpus, our strategy to find these units is searching the web as a corpus and following the same steps described above.

4. Results

In this paper, our intention is to present some of the results obtained so far, attaining ourselves basically to the Cooking and Contract Law corpora. In the future, we plan to expand this study analysing more adverbs and covering the other corpora properly.

4.1 The Cooking corpus - some instigating results

Following the methodology described above, we downloaded the frequency lists for each corpus (English and Portuguese) and the most frequent adverbs ending in *-ly/-mente* were:

ENGLISH			PORTUGUESE		
adverb	position in the corpus	number of occurrences	adverb	position in the corpus	number of occurrences
2- gently	86	648	3- aproximandamente	146	240
3- finely	107	538	5- levemente	227	148
4- lightly	126	445	8- imediatamente	275	117
6- freshly	147	396	9- novamente	283	111
7- gradually	244	216	10- ligeiramente	314	96
Total:		**2,476**	**Total:**		**712**

Table 2: The most frequent adverbs in the Cooking corpus. The number before each adverb refers to the sequence in which it was found in the frequency list. Ex.: *gently* was the second most frequent adverb found in English, but the first most frequent one ending in *-ly*. The number of occurrences refers to the corpus in general.

An initial analysis of the total list indicates that adverbs play a significant role in the area. Considering the above data, we can come to some initial observations:

- adverbs ending in *-ly* are significantly more frequent in English than the ones ending in *-mente* in Portuguese. Based on these results we may consider that simple units are more used in English in the Cooking area; in Portuguese we may have more complex co-occurrences to express the same linguistic aspect in this domain;
- adverbs seem to play a more decisive role in the text typology studied (recipes) in English than in Portuguese, considering both wordlists;
- in Portuguese, we may find other phraseological units besides the ones including adverbs that finish in *-mente*;
- based on the hypotheses above, we can say that adjectives and verbs may present different semantic traits in the languages involved.

Considering the most frequent adverbs in English, we decided to analyse the concordance lines for *finely* and *gently*. The results obtained can be checked below.

4.1.1 FINELY - 836 entries (results presented by WordSmith Tools)

Finely is followed by a verb in the past participle form in 740 occurrences, 710 of them in the ingredients list and 30 in the method. The colligational patterns found were:

- chop the+noun+(adv.)+*finely* - 8 occurrences. Ex.: *chop the onions very finely; chop the prawns very finely; chop the coriander leaves finely*;
- noun (vegetable or spices) - number, *finely*+verb in the past participle form - 125 occurrences. Ex.: *white cabbage - 900g (2lb), finely shredded; onion - 2 tbsp, finely chopped; spring onions - 12, finely sliced*.

Other units (probable collocations and colligations), making up patterns that vary from two to six words[7], were:

---

[7] The ~ symbol will be used to substitute for the adverb being analysed. The number in parentheses refers to the total frequency of that pattern in the corpus.

two-word patterns	three-word patterns	four-word patterns	five-word patterns
~ chopped (595)	~ chopped+spices (104):	verb (participle form) + ~ + verb (participle form) (42):	associated to spices (19):
~ chop (12)	~ chopped garlic (37)	peeled and ~ chopped (15)	~ chopped fresh coriander leaves (9)
chop ~ (5)	~ chopped onions (23)	peeled and ~ grated (5)	
~ sliced (57)	~ chopped onion (17)	cored and ~ chopped (4)	~ chopped fresh sage leaves (3)
~ grated (37)	~ chopped parsley (11)	cored and ~ sliced (4)	
~ shredded (26)	~ chopped curry (6)	deseeded and ~ chopped (4)	peeled and ~ chopped garlic (4)
~ shred (2)	~ chopped chives (5)	seeded and ~ chopped (4)	
~ diced (23)	~ chopped shallots (5)	peeled and ~ diced (3)	peeled and ~ diced onions (3)
~ dice (1)		trimmed and ~ chopped (3)	
~ deseeded (12)	~ sliced onions (4)		
~ seeded (11)	~ diced onions (3)	~ chopped and cooked (3)	~ chopped hard boiled egg (6)
butter ~ (9)		~ chopped and dried (3)	
unpeeled ~ (6)	~ chopped+vegetables (72):		peeled and ~ chopped leeks (4)
peeled ~ (4)	~ chopped celery (15)	~ chopped+NP (spices) (59):	
shelled ~ (5)	~ chopped mushrooms (14)	~ chopped fresh parsley (15)	~ chopped fresh ginger root (3)
~ ground (3)	~ chopped carrot (11)	~ chopped red pepper (9)	
~ snipped (3)	~ chopped carrots (3)	~ chopped fresh thyme (9)	~ chopped and cooked beef (3)
~ dry (3)	~ chopped potatoes (8)	~ chopped fresh ginger (7)	
	~ chopped cauliflower (6)	~ chopped green pepper (6)	
	~ chopped courgettes (6)	~ chopped green chilli (5)	and process until ~ chopped (3)
	~ chopped peas (5)	~ chopped garlic cloves (4)	
	~ chopped leeks (4)	~ chopped vegetable stock (4)	
	~ chopped vegetable (4)	~ chopped+NP (fruit/vegetable) (14):	
		~ chopped sweet gherkins (5)	
	~ shredded carrot (3)	~ chopped button mushrooms (3)	
	~ sliced carrots (3)	~ chopped green tomatoes (3)	
	~ diced potatoes (3)	~ chopped yellow pepper (3)	
	~ chopped+fruits (24):	~ + verb + NP (meat/poultry) (9):	
	~ chopped sultanas (8)	~ chopped lamb's kidneys (3)	
	~ chopped apples (7)	~ grated smoked bacon (3)	
	~ chopped dates (5)	~ sliced cooked chicken (3)	
	~ chopped lemon (4)		
	very ~ chopped (20)		
	~ chopped egg (8)		
	~ chopped eggs (4)		
	~ chopped anchovy (4)		
	~ shredded polenta (3)		

Table 3: Patterns with the adverb *finely*.

With six words, we have found only *trimmed and ~ chopped lamb's kidneys*, with three occurrences. Analysing this adverb in detail, we could observe that:

- it generally co-occurs with verbs in the semantic field of *cutting*: *chop, slice, grate, dice, grind, shred* and *mince*.
- it frequently modifies verbs in the past participle form, that can be used either as an adjective or in the passive voice.

- *finely grated* is generally used with cheese (13 occurrences). Ex.: parmesan cheese - 25g (1 oz), *finely grated*), co-occurring with different kinds of cheese: *Parmesan cheese, Cheddar cheese, Gruyere cheese, Red Cheshire cheese, Wensleydale cheese.*
- when it co-occurs with the noun *slices*, the verb mostly used is *shredded* (fresh ginger - 2 slices, *finely shredded*).When the noun is *tbsp*, on the other hand, the verb is *chopped* (fresh ginger+ numeral+ tbsp, *finely chopped*).
- the only verb that co-occurs with *finely* and does not belong to this semantic field is *rub*, always followed by the noun *butter* (rub the butter *finely* - 9 oc.).

4.1.2 FINELY: equivalent forms for some of the most frequent adverbial collocations

At this point of our study, we have decided to investigate the equivalent forms for the most frequent adverbial collocations (with *finely*) in English to observe how they would be pragmatically used in Portuguese and if an adverb ending in *-mente* would be part of it. First of all, we considered the literal translation for *finely*[8]: *finamente; excelentemente; elegantemente; delicadamente; minuciosamente; sutilmente*, to see if it would be used in any of the equivalent forms.

---

[8] HOUAISS, Antonio (ed.) (1982) Webster's dicionário inglês-português. Rio de Janeiro: Record.

ADVERBIAL COLLOCATIONS	EQUIVALENT FORMS
finely chopped (595)	NP PICADINHO (112) bem PICADO (91) NP PICADO (bem) FINO (19) finamente PICADO (14) PICADO finamente (7) PICADO bem miúdo (4) NP bem PICADINHO (4) NP PICADO bem fininho (3)
finely sliced (57)	em fatias finas (34) – generally followed by the verb *cortar* em fatiazinhas bem finas (1) em tiras finas (1) corte NP em fatias bem finas (5) FATIADO finamente (9) FATIADO (bem) fino (6)
finely grated (37)	finamente ralada (1) ralado bem fino (1) ralado fino (2) In Portuguese, we do not have a morphosintactically equivalent collocation. The term used is only *ralado* (and always referring to cheese). The distinction is made when the recipe asks for *ralado grosso*.
finely shredded (generally referring to *cabbage*) (26)	V em tirinhas (21) CORTADO em tirinhas (17) CORTADO em tiras finas (16) V em tiras finas (9) cortado finamente em tiras (1)
finely diced (23)	NP (ingr) em cubinhos (47) NP (em cubinhos) (4) CORTADO em cubinhos (46) NP em cubos pequenos (18) V em cubos pequenos (4)

Table 4: The most frequent adverbial collocations which *finely* is part of and their equivalent forms in Portuguese. The words in capital letters are lemmatized and the following abbreviations have been used: NP=noun phrase; V=verb.

As can be observed in the data above, we rarely have an adverb ending in *-mente* in Portuguese. Exception is made only to the adverb *finamente*, which occurs more frequently as part of the equivalent forms for *finely chopped*. In many occurrences, the diminutive suffixes *-inho(s)* and *-inha(s)* have been used. In Portuguese, they are added to nouns, verbs or adjectives to show smallness and, in some cases (not necessarily in the occurrences above) to express affection. It can also be observed that sometimes not even a verb is used in the equivalent form - *cf. finely diced*, whose most frequent equivalent is a noun phrase followed by *em cubinhos*, a preposition+a noun with its diminutive suffix. In some cases, just an adjective is used to stand for the adverb, such as in *CORTADO em fatias finas*. In others, we have another adverb (not ending in *-ly*), as we can observe in *bem PICADO*. Therefore, and now considering the literal translations for *finely*, we can conclude that they do not help the translator in the Cooking area; they need to know the characteristics of this text typology in Portuguese.

Here are some concordance lines in Portuguese that show how some of the phraseological units found are used:

```
184 pa) de óleo 1/2 xíc. (chá) de cebola picada 1 dente de alho picadinho 1/2   xíc. (chá)
de milho em lata 1/2 xíc. (chá) de ervi
rinha de rosca para empanar 5 ovos 1 pimenta-malagueta bem picada 2 tomates   picados 2
dentes de alho amassados 1 col.
1 xícara de repolho picado bem fino 1 xícara de salsão picadinho 1 xícara de maç

 moída temperada a gosto 50 g de toucinho defumado, cortado em fatias finas Modo de preparo
Seque o peito de peru com
rigideira o azeite de oliva, aqueça e acrescente as cebolas fatiadas finamente, refogue em
fogo baixo, assim que estivere

Sal e alho a gosto 1/2 litro de água 1 pimentão cortado em tirinhas 1   ramo de manjericão
3 colheres (sopa) de vinho

 2 xíc. (chá) de ervilha em lata 1/2 xíc. (chá) de mussarela em cubinhos 1/2   xíc. (chá)
de presunto em cubinhos 1/3 xíc.
```

4.1.3 GENTLY - 732 entries (results presented by WordSmith Tools)

Initially, we have observed that *gently* is more frequent in the method in the recipes. Observing the collocates list, we noticed a great number of grammatical patterns that are part of more extended units. These grammatical patterns are: ~ for (235); ~ until (99); ~ without (12); ~ over (10); ~ with (5); ~ but (5); ~ before (5); ~ into (4).

   When the verb is in the imperative form, the adverb is mostly used after it, such as in *simmer gently* (173) and *gently simmer* (7); *heat gently* (139) and *gently heat* (36).

   In terms of collocational and colligational patterns, they vary from two to seven words, as described in the tables below.

two-word patterns	three-word patterns	four-word patterns	five-word patterns
Semantic field: applying heat to change the characteristics of the food (483):	With the connector *until* (76)	verb (before or after the adv.) + ~ + until+adj. (11):	simmer+ ~ +for+ numeral+minutes (60)
simmer ~ (157)	heat ~ until (30)	simmer ~ until soft (4)	cook ~ for+numeral+ minutes (40)
heat ~ (93)	~ heat until (5)	heat ~ until dissolved (4)	cook ~ for a few minutes (4)
cook ~ (92)	simmer ~ until (19)	~ heat until dissolved (3)	
reheat ~ (37)	cook ~ until (12)		
~ heat (26)	fry ~ until (7)	cover and simmer ~ (45)	
~ fry (22)	stir ~ until (3)	reheat ~ without boiling (10)	
fry ~ (21)		boil and simmer ~ (10)	
boil ~ (19)	~ fold in (16)	heat and simmer ~ (10)	
~ sauté (9)	~ fold into (4)	cover and cook ~ (9)	
~ simmer (4)	~ simmering water (5)	let it cook ~ (6)	
~ melt (3)		flour and cook ~ (5)	
		cover and poach ~ (3)	
Semantic field: mixing (54):			
~ fold (24)			
stir ~ (8)			
~ stir (7)			
stirring ~ (6)			
~ pour (3)			
~ roll (3)			
knead ~ (3)			

six-word patterns	seven-word patterns
add+the+noun+and+verb (12):	cover and simmer ~ for+numeral+minutes (20)
add the butter and heat ~ (3)	cover and simmer ~ for+numeral+hour/hours (7)
add the flour and cook ~ (3)	bring to the boil and simmer ~ (7)
add the water and cook ~ (3)	boil and simmer ~ for+numeral+minutes (6)
add the water and heat ~ (3)	bring to the boil and boil ~ (6)
	fry vegetables ~ in butter for+numeral+minutes (6)
	cover the pan and simmer ~ for (5)
	heat and simmer ~ for+numeral+minutes (4)
	cover and poach ~ for about+numeral (3)
	lower the heat and simmer ~ for (3)
	reduce the heat and simmer ~ for (3)

Table 5: Patterns with the adverb *gently*.

We have also found a pattern with thirteen words: *in a saucepan fry vegetables gently in butter for+numeral+minutes without browning*, with six occurrences.

As can be observed in the two-word patterns, *gently* is significantly used in two semantic fields: applying heat to change the characteristics of the food and mixing. Besides being frequent in the method of the recipe, *gently* is also commonly used with liquids and food that can be heated. In terms of translation, this adverb presents peculiarities which were observed with *finely*, as presented below.

4.1.4 GENTLY: equivalent forms for some of the most frequent adverbial collocations

With this adverb, the literally translated form is *gentilmente*, found only twice in the whole corpus. The equivalent forms for the most frequent adverbial collocations were:

ADVERBIAL COLLOCATIONS	EQUIVALENT FORMS
simmer gently (157)	COZINHAR em fogo brando (41) COZINHAR em fogo baixo (34) deixe cozinhar lentamente (7)
heat gently (93)	aqueça (NP) em fogo baixo (2) aqueça ligeiramente (2) aqueça (NP) em temperatura moderada (1) aqueça sem ferver (1) aqueça suavemente (1)
cook gently (92)	*cf.* simmer gently – in the literature available, the option *ferver em fogo brando* was found only once in the corpus.
gently fold (24)	MISTURAR (NP) delicadamente (24) MISTURAR+(prep)+(NP) cuidadosamente (15) MISTURAR suavemente (4) MISTURAR levemente (4) MISTURAR ligeiramente (3)
stir gently (8)	stir in – misturar (*cf.* gently fold) MEXER delicadamente (12) MEXER cuidadosamente (8) mexa com cuidado (7) MEXER suavemente (2)
knead gently (3)	amasse gentilmente (2) amasse delicadamente, ligeiramente (1 each)

Table 6: The most frequent adverbial collocations which *gently* is part of and their equivalent forms in Portuguese. The words in capital letters are lemmatized and the following abbreviation has been used: NP=noun phrase.

In the case of *gently*, we can observe that other adverbs ending in *-mente* are used in the equivalent forms: *lentamente, ligeiramente, delicadamente, suavemente, cuidadosamente*. However, they are not the literal translation for *gently*, thus implying that the translator needs to be aware of the phraseology that should be used in the target language. Another interesting point is the presence of expressions with other adverbials (without an adverb ending in *-mente*), as in *COZINHAR em fogo brando* and *aqueça +NP+ em fogo baixo*.

4.2 The Contract Law corpus: differences when searching for equivalent forms

Following the methodology applied to the Cooking corpus, we downloaded the frequency lists for each language (English and Portuguese) and started searching for the most frequent adverbs ending in *-ly/-mente*. The five most frequent ones are:

ENGLISH			PORTUGUESE		
adverb	position in the corpus	number of occurrences	adverb	position in the corpus	number of occurrences
reasonably	138	157	devidamente	202	115
duly	206	119	somente	261	92
promptly	251	100	expressamente	285	86
immediately	262	97	independentemente	328	77
directly	305	84	imediatamente	345	73
Total:		**557**	**Total:**		**443**

Table 7: The most frequent adverbs in the Contract Law corpus. The number of occurrences refers to the corpus in general.

As can be observed in a first contact with the data, the numbers obtained in both languages are much more balanced than in the Cooking Corpus. We cannot initially say that adverbs ending in -*ly* are much more frequent than those ending in -*mente* in this domain, maybe indicating the presence of more literal translations or some formulaicity that may permeate this specialized language.

In order to illustrate that a different approach will be needed to analyse the adverbs in this corpus, we present the results obtained with the first one in the list: *reasonably*.

4.2.1. REASONABLY - 157 entries (results presented by WordSmith Tools)

Initially, we could observe that *reasonably* occurs within many grammatical patterns, as will be shown in the examples below. Another interesting fact is that, in this case, we needed to access the whole corpus to analyse the use of this adverb, as it appeared to be part of units that extended more than the number of characters presented by the downloaded concordance lines. That way, we contacted the researcher who had compiled the corpus and had access to the whole data. For the analysis, we used WordSmith Tools. The results obtained so far (with the number of occurrences) will be presented individually, as many extended units of meaning have been identified.

➢ **modal (affirmative or negative)+*reasonably* be expected to+verb** - 37 occurrences, with the following variations[9]:
- could/could not *reasonably* be expected to have, individually or in the aggregate a Company/Parent Material Adverse Effect - 28 oc.;
- except as would/could not *reasonably* be expected, individually or in the aggregate, to have Company/Parent Material Adverse Effect - 5 oc.;
- could not *reasonably* be expected to prevent or materially delay the consummation of the transactions contemplated by this Agreement. - 4 oc.

➢ *reasonably* **acceptable to somebody (a person or institution)** - 8 oc.
In this case, an extended unit was found, with two occurrences: *Prior to closing, a person selected by the Company and reasonably acceptable to Parent shall be appointed as* + something (nominee, marketing agent).
We have also observed that *reasonably accepted to* also co-occurs with "selected by" (passive voice) five times, generating the expression "X selected by Y *reasonably acceptable to…*".

---

[9] In each unit, there are other variations that have been underlined.

➢ *reasonably* **adequate** - 2 oc.

In this case, what called our attention is that in both examples the collocation was part of a much longer stretch of language, thus making it difficult to establish the boundaries of the phraseological unit, some difficulty that starts delineating itself in these preliminary results of our investigation in this corpus.

N	Concordance
9	Board. (f) Certain Tax Matters. (i) the Guarantor and its Subsidiaries have (a) made or filed all material federal, state, local and foreign income and all other material Tax returns, reports and declarations required by any jurisdiction to which any of them is subject or properly filed for and received extensions with respect thereto which are still in full force and effect and which have been fully complied with in all material respects, (b) paid all Taxes and other governmental assessments and charges shown or determined to be due on such returns, reports and declarations, except those being contested in good faith by appropriate proceedings and for which adequate reserves, to the extent required by GAAP, have been established and (c) to the extent required by GAAP, set aside on their books provisions *reasonably* **adequate** for the payment of all estimated taxes for periods subsequent to the periods to which such returns, reports or declarations apply. There are no unpaid Taxes in any material amount claimed to be due by the taxing authority of any jurisdiction, and the officers of the Guarantor know of no basis for any such claim other than Taxes that the Guarantor and its Subsidiaries are contesting in good faith through appropriate proceedings and for which appropriate reserves, to the extent required by GAAP, have been established. (ii)Except as set forth in Schedule 7.1 (f) of Schedule II hereto, no material sales, use, excise, transfer or other Tax, fee or imposition shall result from the sale, transfer or purchase of the Partnership Interests,. except such material Taxes, fees or impositions that have been paid in full or are insured as to payment in full by the Title Company. (g) Liens. Except as set forth on Item 7.1 (g) of

N	Concordance
10	t of 1939, as amended (h) Certain Tax Matters. Each of the Lessor and its Affiliates has (a) made or filed all material federal, state, local and foreign income and all other material Tax returns, reports and declarations required by any jurisdiction to which it is subject or properly filed for and received extensions with respect thereto which are still in full force and effect and which have been fully complied with in all material respects, (b) paid all Taxes and other governmental assessments and charges shown or determined to be due on such returns, reports and declarations, except those being contested in good faith by appropriate proceedings and for which adequate reserves, to the extent required by GAAP, have been established and (c) to the extent required by GAAP, set aside on their books provisions *reasonably* **adequate** for the payment of all estimated taxes for periods subsequent to the periods to which such returns, reports or declarations apply. There are no unpaid Taxes in any material amount claimed to be due by the taxing authority of any jurisdiction, and the officers of the Lessor know of no basis for any such claim other than Taxes that the Lessor and/or its Affiliates are contesting in good faith through appropriate proceedings and for which appropriate reserves, to the extent required by GAAP, have been established. Notwithstanding the foregoing, the Lessor shall not be deemed to have breached any of the representations contained herein made as to its Affiliates unless such breach would have a material adverse effect on the Property or the Lessor Parties' security interest, Liens or other rights in the Property and the Collateral. Section 7.6 Representations and Warranties of each Tranche B Ban

In the extracts above, we can observe that the variables are minimum, the most significant ones being the word **Guarantor**, which is substituted for **Lessor** in the second extract. The other difference is **and its Subsidiaries**, that in the second extract is substituted for **and/or its Affiliates**.

For the researcher or even the translator who is a lay person in the area, it is quite difficult to establish the boundaries of a unit. As to the adverb, our suggestion is that *set aside on something reasonably adequate for something* should be considered.

Other units that include probable adverbial collocations are:
- may/shall *reasonably* request - 17 oc.;
- *reasonably* satisfactory to somebody or something - 15 oc.;
- *reasonably* requested by - 9 oc.;
- *reasonably* necessary - 8 oc.;
- *reasonably* DETERMINE - 7 oc.;
- *reasonably* INCUR - 6 oc.;
- *reasonably* likely to+verb - 6 oc.;
- *reasonably* necessary to+verb - 4 oc.;
- all *reasonably* necessary+noun (repairs, action, equipment) - 3 oc.;
- may/shall *reasonably* require - 3 oc.;
- *reasonably* in good faith - 2 oc.;
- *reasonably* informed of developments and of Client's address - 2 oc..

4.2.2 REASONABLY: difficulties in establishing an equivalent form

Our first suggestion was trying to find its literal translation. Surprisingly, *razoavelmente* was found only once in the whole corpus, indicating that other units - not necessarily including an adverb or even forming a phraseology in this semantic field - had been used. This only occurrence is: "A REPRESENTANTE prestará ao consumidor de qualquer dos PRODUTOS toda a assistência que a REPRESENTADA *razoavelmente* determinar."

Then we started searching for the translation of the adjective/verb of the adverbial collocations found, being *reasonably acceptable* the first to be investigated. Again, we were surprised when we did not find any occurrence for *aceitável*, a common translation for *acceptable*. Our next step was searching for *aceit**[10]. Considering the context in which *reasonably acceptable* was found in English, the equivalent form we could identify in Portuguese was "ficando desde já aceito", with 19 occurrences. Another option would be using only the word "aceito", as no adverbial was found in the whole corpus modifying this verb that would fit the context. In total, "aceito" was identified 26 times in the concordance lines.

The next pattern investigated was *modal (affirmative or negative form)+reasonably be expected to+verb*, with 37 occurrences. Considering the context, such as "115   and (ii) where failure to obtain such consents, approvals, authorizations or permits, or to make such filings or notifications, has not had, and could not *reasonably* be expected to have, individually or in the aggregate, a Company Material Adverse Effect, and could not *reasonably* be expected to prevent or materially delay the consummation of the transactions contemplated by this Agreement.", we would suggest the following translations: "(…) e que possam vir, individual ou conjuntamente, a apresentar um efeito (…)" and "(…) e que não possam evitar ou retardar o fim das transações contempladas por este

---

[10] In WordSmith Tools, the asterisk can be used to search for any word that begins with *aceit* and has a different ending, such as *aceito, aceita, aceitos, aceitas, aceitável, aceitáveis*.

Acordo." However, as these suggestions were not found in the Portuguese corpus, they still need to be investigated in other sources.

Another drawback came up when investigating *reasonably* DETERMINE; only one occurrence with *razoavelmente* and *determinar* was found: "9.1. A REPRESENTANTE prestará ao consumidor de qualquer dos PRODUTOS toda a assistência que a REPRESENTADA razoavelmente determinar." Other suggestions found in the corpus were "determinando o que for necessário" (2 oc.) and "vier a determinar" (1 oc.), but further investigations are also necessary.

Two other units which can clearly exemplify how difficult it is to establish equivalent forms in this area are *reasonably likely to+verb* and *reasonably necessary*.

For the first co-occurrence, we started our search with *provável* and *propenso a*, but no results were found. With *reasonably necessary*, we came to the conclusion that the translation may be restricted only to the adjective *necessário*. Let us take a look at two examples in English and some possibilities in Portuguese:

"Parent shall take all *reasonably necessary* action to permit, expedite and facilitate such sale, whether through the public market or a private placement, (…)."

"The Guarantor and the Lessee shall take or cause to be taken from time to time all action *reasonably necessary* to assure that the intent of the parties pursuant to the Operative Documents is given effect as (…)."

Maybe the following expressions are useful when trying to find some adequate translation:
- "na medida necessária" (1 oc.);
- "que se FIZER NECESSÁRIO" (13 oc.);
- "que FOR NECESSÁRIO" (9 oc.);
- "que JULGAR NECESSÁRIO" (8 oc.);
- "que se tornem necessárias" (1 oc.);
- "que sejam necessárias" (1 oc.).

As can be observed above, this semantic domain is quite problematic for the translator, especially if they have never had any or just some basic contact in the area. They need to know the vocabulary and phraseologies used in detail, preferably keeping in touch with a lawyer. Otherwise, they will not be able to produce a natural and fluent text in the target language.

In this preliminary study, although we could not bring any more accurate results when investigating the Contract Law corpus, we can clearly state that the translation of an adverb ending in *-ly* in English for an adverb ending in *-mente* in Portuguese does not apply.

4.3 Environment, Cardiology and Information Technology

These are the domains that will be investigated in sequence. Up to now, we have downloaded the frequency lists and identified the most frequent adverbs ending in *-ly* and *-mente*. The results are described in the tables below.

4.3.1 Environment

ENGLISH			PORTUGUESE		
adverb	position in the corpus	number of occurrences	adverb	position in the corpus	number of occurrences
environmentally	289	88	principalmente	234	81
especially	294	87	atualmente	314	65
particularly	419	62	aproximadamente	357	60
Directly	468	55	ambientalmente	662	35
Likely	534	49	somente	730	31
Total:		**341**	**Total:**		**272**

Table 8: The most frequent adverbs in the Environment corpus. The number of occurrences refers to the corpus in general.

Generally speaking, we can observe that there are not great differences in the number of occurrences in both languages, indicating that we may have more stable results in terms of adverbs. We can also observe that both *environmentally* and *ambientalmente* (probable equivalent forms) are among the five most frequent adverbs in both lists. The other adverbs are frequently used in general language, thus needing some further investigation to see their function in this domain.

4.3.2 Cardiology

ENGLISH			PORTUGUESE		
Adverb	position in the corpus	number of occurrences	adverb	position in the corpus	number of occurrences
Significantly	77	543	principalmente	319	157
Only	89	454	somente	422	129
Respectively	154	315	respectivamente	473	117
Previously	230	229	provavelmente	613	92
Early	274	198	significativamente	629	90
Total:		**1,739**	**Total:**		**585**

Table 9: The most frequent adverbs in the Cardiology corpus. The number of occurrences refers to the corpus in general.

In this corpus, we can primarily observe a great difference in the number of occurrences in both languages, which may indicate that adverbs ending in *-ly* are much more frequent in this domain in English. Another interesting point is that three of the most frequent adverbs present their literal translation: *significativamente*, which stands for *significantly*, *somente*, an equivalent for *only*, and *respectivamente*, which can be translated as *respectively*. However, future investigations will say if these forms will be preserved in the contexts they are used, maybe presenting different phraseologies in both languages.

4.3.3 Information Technology

ENGLISH			PORTUGUESE		
adverb	position in the corpus	number of occurrences	adverb	position in the corpus	number of occurrences
Only	78	186	somente	395	66
Really	242	75	normalmente	422	63
Easily	423	47	praticamente	442	61
Likely	459	45	diretamente	597	46
especially	488	43	realmente	616	45
Total:		**396**	**Total:**		**281**

Table 10: The most frequent adverbs in the Information Technology corpus. The number of occurrences refers to the corpus in general.

As can be observed, there are not great differences in the number of occurrences in both languages. Again, we can observe that both lists present equivalent forms: *only/somente* and *really/realmente*.

5. Conclusion

Observing all the data presented above, we can say that Corpus Linguistics has been playing a key role in linguistic studies, either in general language or in specialized domains. With this new opportunity for language analysis, the researcher and the translator have the chance of manipulating great amounts of data which were carefully compiled, thus coming to results that will certainly make their texts more natural and fluent in the target language. Another point that should be emphasized is the problems faced when establishing the equivalent forms, even considering this a pilot study: it seems each domain needs special attention and a different methodology for the identification of its specific units, an aspect that can only be defined after some contact of the researcher/translator with texts that were originally produced in that area.

With this paper, we hope to have brought some light to future research in the area, besides bringing some results in the semantic fields analysed.

References

Bechara, E. (2001) Moderna gramática portuguesa. Rio de Janeiro: Editora Lucerna.

Bevilacqua, C. R. (2001) Do domínio jurídico-ambiental: proposta de critérios para seleção e tratamento de unidades fraseológicas, in Krieger, M. G. and A. M. B. Maciel (org.) Temas de terminologia, pp. 98–105. Porto Alegre/São Paulo: Ed. Universidade/UFRGS/Humanitas/USP.

Biber, D. *et al.* (1999) Longman Grammar of Spoken and Written English. Essex: Longman.

Bolinger, D. (1972) Degree Words. The Hague/Paris: Mouton.

Bomfim, E. (1988) Advérbios. São Paulo: Ática.

Cabré, M. T. *et al.* (1996) Terminología y fraseología. *Actas del V Simposio Iberoamericano de terminología RITerm, 1996*. Available on-line from http://www.riterm.net/actes/5simposio/cabre5.htm (accessed: 30 December 2005)

CorTec. Available at <http://www.fflch.usp.br/dlm/comet/>.

Cunha, C. and Lindley Cintra (1985) Nova gramática do português contemporâneo. Rio de Janeiro: Nova Fronteira.

Ilari, Rodolfo *et al*. (1996) Considerações sobre a posição dos advérbios. in A. T. Castilho (org.). Gramática do português falado. pp. 65–141. Campinas: Editora da UNICAMP.

Krieger, M. G. and M. J. B. Finatto (2004) Introdução à Terminologia: teoria e prática. São Paulo: Contexto.

Moraes, H. F. R. (2005) O tradutor pode estar redondamente enganado: um estudo contrastivo de colocações adverbiais (inglês-português) sob o enfoque da Lingüística de Corpus. Master's Thesis. FFLCH/USP.

Nóbrega, M. H. (2000) Análise funcional de advérbios e adverbiais modalizadores no texto jornalístico. Doctor's Dissertation. FFLCH/USP.

Quirk, R. and Greenbaum. (1974) A University Grammar of English. London: Longman.

Sinclair, John (1996) "The search for units of meaning" in *TEXTUS* IX, 75–106

Tagnin, S. E. O. (2005) O jeito que a gente diz – expressões convencionais e idiomáticas (inglês e português). São Paulo: Disal.

Teixeira, E. D. (2004) Receita qualquer um traduz. Será? - a Culinária como área técnica de tradução. Master's Thesis. FFLCH/USP.

Tognini-Bonelli, E. (2001) Corpus Linguistics at work. Amsterdam/Philadelphia: John Benjamins.

Tognini-Bonelli E. (2002) Between Phraseology and Terminology in the Language of Economics, in Nuccorini, S. (ed.) Phrases and Phraseology: Data and Descriptions, Bern: Peter Lang.