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Investigating the Preference of Translators for Recurrent Lexical Patterns: A Corpus-based Study

1 Introduction

Several translation scholars have claimed that translated language is different from non-translated language, in other words, translated texts are said to show some distinctive features which make them different from texts originally produced in the language in question (among others, Even-Zohar 1978, 1990, Toury 1995: 103-105, Baker 1993, 1995, 1996, 2004). These features, Baker explains, are "patterns which are either restricted to translated texts or which occur with a significantly higher or lower frequency in translated texts than they do in originals [non-translated texts]" (Baker 1995: 235). They are usually referred to as *universals of translation* in the sense that they tend to occur in translations in general, irrespective of the source and target languages involved.

A number of studies have therefore been carried out with a view to exploring the nature of translated texts and relevant differences have been found between the lexical and syntactical make up of translated and non-translated texts across various languages. For instance, Mauranen (2000) identifies important differences between translated and non-translated Finnish with respect to their preferences for some unusual combinations of words. Baroni and Bernardini (2003) examine translated and non-translated Italian and look at the co-occurrence of items which are strongly bonded. No fundamental quantitative differences are found between the two collections. However, a qualitative analysis of the most frequent collocations in the two subcorpora indicates that translations show a stronger tendency towards topic-dependent sequences whereas non-translated texts opt for collocations which are not related to the topic of the texts. Baker (2004) examines recurring lexical patterns (such as *in other words*, *at the same time*, etc.) and phrases related to temporal and spatial orientation (*in the middle of*, *for the first time*, etc.) in translated and non-translated English. The results reveal that these types of lexical phrases tend to occur more frequently in translated than in non-translated texts. In terms of distribution across texts, the phrases seem less evenly distributed in the translated in comparison with the non-translated subcorpus. Jantunen (2004) and Nilsson (2004) take a slightly different approach and look at the collocational patterning of specific items. Jantunen (2004) focuses on three synonymous Finnish modifiers (*hyvin*, *kovin* and *oikein*), all roughly translated into English as "very". Nilsson (2004) examines the Swedish grammatical word "*av*" ("of" or "by" in English) in translated and non-translated Swedish fiction. Significant differences are found between the collocational patterns of translated and

non-translated texts. However, some differences may be due to the influence of the source language in the translation process.

The present study focuses on Brazilian Portuguese. A small-scale study is carried out with a view to investigating whether translated texts show a stronger preference for recurring lexical patterns in comparison with non-translated texts of the same language. By recurring lexical patterns I refer to repeated continuous chunks of language which do not allow any significant lexical variation. I shall return to this point later and explain how these patterns are retrieved. What is important to explain here is that this hypothesis assumes that recurring lexical patterns are more frequent than flexible sequences which allow various items within it. This is in line with Sinclair's (1991: 6, 108, 2003: 3) suggestion that words do not occur randomly in a text but are instead closely associated with their surrounding context. Thus, a positive answer to the research question above could be interpreted as a tendency of translators to draw more heavily on standard forms of the language. In other words, it may be an indication that translations tend to "conform to patterns and practices which are typical of the target language" (Baker 1996: 176).

This paper is divided into five sections. The next section presents a brief overview of the corpus from which data has been collected. Section 3 details the methodology adopted here to retrieve recurring lexical patterns. Section 4 explains how the hypothesis is tested and it is followed by a discussion of the results and some concluding remarks. Last but not least, this paper includes two illustrative appendices.

2 The Brazilian Portuguese Comparable Corpus (BPCC)

The data analysed in this paper is drawn from a monolingual comparable corpus of Brazilian Portuguese which consists of two separate subcorpora designed according to the same criteria and specifications, one made up of translated Brazilian Portuguese and the other consisting of non-translated Brazilian Portuguese.

The BPCC (cf. Dayrell 2007 for a more detailed description) was designed to include only books categorised as fiction which have been rated best-sellers in Brazil during the period under analysis (1990 onwards). The main rationale behind this decision is that fiction was one of the most popular genres in Brazil during the period examined and hence more likely to include a reasonable number of translated and non-translated texts. The corpus contains only texts targeted at an adult audience and classified as "romance" in the Brazilian Cataloguing-in-Publication (CIP) categorisation system, which corresponds roughly to the category "novel" in the English system. All books have been cleared for permission by the copyright holders. The texts are included in full, rather than in the form of extracts, and an attempt has been made to diversify the selection of texts as much as possible in terms of authors, translators and publishers.

The translational corpus contains only direct translations from English, that is, translations from texts originally written in English. It includes only texts produced by professional translators whose mother-tongue is Brazilian Portuguese and priority is given to translations whose source text was also published from 1990 onwards.

Table 1 shows the present overall size of the BPCC. A detailed list of all books included in the corpus is presented in Appendix I.

	Number of words (tokens)	Number of books	Number of authors/translators
Translated	545,395	5	5
Non-translated	565,920	8	8

Table 1: Present overall size of the BPCC

An important point to stress here is that, in line with other corpus-based translation studies which are also based on comparable corpora (see, in particular, Olohan 2003; Baker 2004), the translated and the non-translated subcorpora are designed to be of similar size in terms of number of words (tokens) rather than with respect to number of texts and/or number of authors/translators. This means that there is an imbalance in terms of the number of texts in each subcorpus. The translated collection consists of five texts whereas the non-translated collection includes eight texts. I shall refer to this and other limitations of the corpus later and discuss their impact on the results of the analysis. For the time being, what is important to bear in mind is that the primary purpose of this study is to develop a corpus-based methodology for investigating the preference of translators for recurring lexical patterns. Thus, the focus is on the methodological procedures rather than on providing highly reliable findings on the collocational behaviour of translated and non-translated Brazilian Portuguese. Flaws in the corpus design are therefore an issue to be addressed in future studies.

3 Methodology

The methodological procedures for retrieving recurring lexical patterns involve three major steps: (1) selection of the words to be taken as *nodes*, that is, the words to be studied; (2) retrieval of their *collocates*, that is to say, "any word that occurs in the specified environment of the node" (Sinclair 1991: 115); and (3) identification and retrieval of the recurring lexical patterns. All procedures described below are carried out by means of the software package *WordSmith Tools*, version 3.0 (Scott 1999).

It is worth mentioning that, for the purposes of this study, no lemmatisation is applied and all nodes and collocates are selected taking into account individual word forms. Although lemmatisation is usually viewed as a useful procedure in collocational analysis (see, for instance, Stubbs 1995a, Berber-Sardinha 1999, 2000), some scholars (Sinclair 1991: 8, Mason 1997) are critical of the approach and argue that different word forms may manifest different collocational behaviour. I opt therefore to consider lemmatization in future research.

3.1 Selecting Nodes

The present study examines the lexical patterns of 10 nodes which have been selected on the basis of three criteria. The first criterion is a minimum frequency of 200

occurrences in each subcorpus, translated and non-translated. This criterion is adopted for purely methodological convenience, based on the fact that the analysis of repeated patterns, by its very nature, requires a sufficient body of data to yield useful insights.

The second criterion for the selection of nodes is that the frequencies of the item in the translated and non-translated subcorpora should be as similar as possible. Like the first criterion, it is also adopted for purely methodological convenience. It relies on the assumption that the frequency of the node may have an influence on the number of lexical patterns associated with it. The exact range of difference between the frequencies of the item in each subcorpus is defined by the data itself, taking into account the other criteria being adopted in the selection of nodes. I will return to this point shortly, once the third criterion is explained.

The third criterion establishes that nodes should be predominantly nouns. The assignment of nodes to grammatical categories is based on the classification provided by the *Houaiss* (Houaiss 2001) and *Aurélio* (Ferreira 1999) Dictionaries and on a superficial analysis of the collocates and concordance lines of potential nodes. In broad terms, homographs which belong to more than one grammatical class are still considered as long as the item is predominantly a noun. The aim therefore is to select 10 word types which are predominantly nouns, even though I may be including instances in which the node belongs to other grammatical categories.

Going back to the criterion of similarity of frequency in the translated and the non-translated subcorpora, the idea is to manually select, within the range of words with a minimum frequency of 200 occurrences in the translated and the non-translated subcorpora, 10 nouns whose frequencies in the two subcorpora are as similar as possible. Table 2 lists the resulting selection of nodes, ordered by the difference between the node frequencies in the two subcorpora.

	NODES	Frequency in each subcorpus		Difference between the node frequencies
		Translated	Non-translated	
1.	manhã 'morning'	222	223	1
2.	rosto 'face'	385	388	3
3.	trabalho 'work'	209	212	3
4.	tarde 'late'/'afternoon'	284	300	16
5.	mão 'hand'	517	540	23
6.	água 'water'	221	247	26
7.	hora 'hour/time'	245	271	26
8.	verdade 'truth'	323	289	34
9.	quarto 'room'	320	361	41
10.	noite 'night'	593	545	48

Table 2: Selected nodes

3.2 Retrieving Collocates

Three criteria have been established for the selection of collocates. Firstly, preference is given to lexical items. Secondly, potential collocates have to co-occur with the node at least four times in a span of four words to the right and four words to the left (4:4), irrespective of structural boundaries. This is in line with other corpus-based studies which also focus on collocational patterns (see, in particular, Sinclair 1991: 106, 117, Stubbs 1995a,b). The third criterion considers the strength of their association with the node, which is estimated here by means of the mutual information index (hereafter MI) proposed by Church and Hanks (1990) and Church et al. (1991).¹ A minimum MI of five is used as a cut-off point. This threshold is established in order to avoid selecting as collocates very high frequency words such as the verbs *ser/estar* 'to be' and adverbs such as *já* 'already' and *ainda* 'yet', which may yield interesting linguistic patterns but are also likely to co-occur with almost any word in the corpus.

This study focuses on the co-occurrences of 10 selected nodes with their highest frequency collocates in the translated and non-translated subcorpora. For some nodes, the highest frequency collocate is the same in the translated and non-translated subcorpora. For instance, *fazer* 'to do'/'to make' is the most frequent collocate of the node *trabalho* 'work' in both the translated and the non-translated subcorpora. However, for many nodes, the highest frequency collocates in the two subcorpora are different. For example, *noite* 'night' has *meia* 'half' as the most frequent collocate in the translated and *dia* 'day' as the most frequent collocate in the non-translated subcorpus. In these cases, both collocations are examined provided that there are at least four instances of the collocation in each subcorpus. If evidence is scarce in one subcorpus (less than four instances), the collocate is discarded. I have also discarded all collocates with more than 50% of instances in one text only. For instance, the most frequent collocate of the node *quarto* [room] in the translated subcorpus is *hóspedes* 'guests', they co-occur 19 times. However, 18 out of these 19 instances (95%) come from text fntr05. This fourth criterion has been established as an attempt to minimize the influence of one single text on the data retrieved from the corpus, which is only to be expected due to the limited size of the corpus. Thus, when a collocate is discarded, we move downwards in the list of collocates and take the next item as a potential collocate to be further analysed.

¹ The MI calculation formalises Sinclair's (1987, 1991: 69-70) argument that the comparison between the actual frequency of co-occurrence (observed frequency) and the expected frequency if the items were to co-occur by chance (expected frequency) can indicate how likely the two items are to co-occur. In other words, it can provide a rough measure of the strength of attraction between relevant items. The higher the MI the less likely the co-occurrence between node and collocate is due to chance.

Table 3 presents the 14 collocational patterns selected for investigation.

	Node	Highest Frequency Collocate	Frequency of co-occurrence in each subcorpus	
			Translated	Non-translated
1.	manhã 'morning'	seguinte 'following'	31	12
2.	manhã 'morning'	café 'coffee'	29	12
3.	rosto 'face'	expressão 'expression'	21	4
4.	rosto 'face'	mãos 'hand'	13	16
5.	trabalho 'work'	fazer 'to do'/'make'	10	15
6.	tarde 'late'/'afternoon'	noite 'night'	14	10
7.	tarde 'late'/'afternoon'	fim 'end'	5	14
8.	mão 'hand'	esquerda 'left'	37	21
9.	água 'water'	copo 'glass'	13	14
10.	hora 'hour/time'	meia 'half'	26	28
11.	verdade 'truth'	é 'is'	77	84
12.	quarto 'room'	porta 'door'	11	19
13.	noite 'night'	meia 'half'	37	13
14.	noite 'night'	dia 'day'	22	25

Table 3: Collocations selected for analysis

3.3 Identifying Recurring Lexical Patterns

Once the collocations have been selected, the next step is to retrieve all instances in which node and collocate co-occur in both the translated and non-translated sub-corpora. Recurring lexical patterns are identified by sorting the concordance lines by the different positions in which the collocate occurs and examining the items in the vicinity of the collocation, i.e. the items between the node and the collocate as well as the items on the left and on the right of the pattern.

The analysis starts from the position in which the collocate occurs the highest number of times and the cycle moves from one position to another until all instances have been examined. Any recurring continuous sequence occurring at least three times is taken as a recurring lexical pattern. This means that in order to be regarded as a recurrent pattern, the chunk should occur at least three times in the corpus. Once a given pattern has been identified, we examine the remaining concordance lines and search for instances which may be regarded as slight variants of it. The procedure is carried out in the two subcorpora altogether and repeated as many times as necessary until all instances have been examined.

The collocational patterns of *trabalho* 'work' with *fazer* 'to do'/'to make' are used here to illustrate how recurrent lexical patterns are retrieved. The following notations are used to describe patterns:

- Optional items are indicated between brackets;
- Lemmas are represented in capital letters (TER 'HAVE');
- The position of the collocate in relation to the node is identified by using L or R (left or right respectively), followed by a number which indicates the distance from the node. For example, L1 stands for the first position on the left of the node.

Thus, by sorting the concordance lines by position L2, we find six instances of the sequence *fazer o trabalho* 'to do the work'.

	Concordance Line	Text ²
01	ia. Ainda era cedo <u>para</u> fazer o trabalho . Chicão ligou o	fnnt01
02	o pedira a Abraham <u>para</u> fazer o trabalho sujo que precis	fntr02
03	enhum de confiança <u>para</u> fazer o trabalho . O chefe não quer	fnnt01
04	de Mattos, <u>para</u> a velha fazer o trabalho . Quando chegou	fnnt01
05	va de mim e eu não pude fazer o trabalho direito. Eu sabia	fnnt01
06	formulada: "Ele poderia fazer o trabalho ?" Para Rossini,	fntr03

We also find two lines which indicate that, in addition to the definite article (*o* 'the'), other items may be inserted between the collocate and the node: possessive pronouns (*seu* 'your' and *meu* 'my') and the adverb *bem* 'well'. The item *para* appears on the left of the collocate in 63% of instances (5 out of 8). These eight instances are summarised in the formula *(para) fazer (bem) o (seu/meu) trabalho* '(in order) to do the (your/my) work (well)'.

07	xarei você sozinho <u>para</u> fazer o seu trabalho . Ela deu mei	fntr04
08	a que me preocupa é fazer bem o meu trabalho ." O estômago	fnnt01

Three lines show the indefinite article between the node and the collocate (lines 09-11 below). Line 11 is regarded as a variation of the pattern since, in addition to *um* 'a/an', it also shows the adjective *bom* 'good'. These three lines yield the pattern *fazer um (bom) trabalho* 'to do some (good) work'.

09	de uma cafetina de luxo fazer um trabalho de abutre, com	fnnt01
10	que o crioulo tinha ido fazer um trabalho no apartamento	fnnt01
11	remendo demais para fazer um bom trabalho - e sua filha	fntr04

By sorting the concordance lines by position R2, we find five instances with *a* in position R1 and the lemma TER 'HAVE' on the left of the node. These five lines are summarised in the pattern *TER (um) trabalho a fazer* 'HAVE (some) work to be done'.

² Texts are identified according to the following structure: fn stands for fiction, tr for translated and nt for non-translated texts. The texts are then numbered so that they can be identified within each subcorpus (see Appendix I).

12	sso paciente. Você <u>tem</u> trabalho a fazer . Eu não o incomoda	fntr03
13	Sé está vazia e <u>temos</u> trabalho a fazer . Claudio Stagni ti	fntr03
14	definidamente. E <u>tenho</u> trabalho a fazer pelas Mães da Praça	fntr03
15	ue sobrávamos <u>tínhamos</u> trabalho a fazer – uma hora para com	fntr04
16	s meninos que <u>tinha</u> um trabalho a fazer e, assim como um	fntr05

The remaining lines are all discarded because they do not yield any recurring lexical pattern. Line 17 is the only instance in which the pattern appears in its uninterrupted form; however, it occurs only once. Lines 18-25 show various items between the node and the collocate.

17	cem contos, para fazer trabalho de responsabilidade com	fnnt01
18	s não tinham se dado o trabalho de fazer Wharton vesti-lo	fntr04
19	não esperava ter tanto trabalho para fazer uma coisa tão s	fnnt01
20	, que se enriquece sem trabalho , para fazer pouco da gente	fnnt04
21	o, que com a cabeça no trabalho que ia fazer prestara pouc	fnnt01
22	as mãos livres para o trabalho que ia fazer . Retirou da m	fnnt01
23	Imaginei ser colega de trabalho daquelas pessoas, fazer pa	fnnt05
24	deixando o fio livre, trabalho de quem sabe fazer . – Poi	fnnt03
25	fazer uma avaliação do trabalho que denominava "a miss	fnnt01

Once patterns have been identified, the next step is to count the number of instances that patterns appear in each subcorpus, translated and non-translated. Table 4 summarises the patterns yielded by the collocations of *trabalho* 'work' with *fazer* 'to do/'to make', ordered by number of instances in the translated subcorpus.

	Recurring Lexical Patterns	Number of instances in each subcorpus	
		Translated	Non-Translated
i	TER (um) trabalho a fazer 'HAVE (some) work to be done'	5	0
ii	(para) fazer (bem) o (seu/meu) trabalho '(in order) to do the (your/my) work (well)'	3	5
iii	fazer um (bom) trabalho 'to do a/some (good) work'	1	2
	Total	9	7

Table 4: Number of recurring lexical patterns realised by *trabalho* 'work' and *fazer* 'to do/'to make' in the translated and the non-translated subcorpora

A relevant point to stress here is that lexical patterns may vary in a wide range of ways. There may be cases in which it is by no means easy to decide whether to treat a given instance as a separate pattern or as a variation of a given pattern. Thus, some criteria have been established in order to introduce an element of consistency in the categorisation of patterns. First, different lexical items are not grouped by grammatical

class or semantic category unless there are at least three different items of the category in a particular position within the pattern. For instance, if we look at pattern ii in table 4, we notice that the possessive pronouns *seu/meu* 'your/'my' are represented as individual lexical items. By contrast, in the co-occurrences of *rosto* 'face' and *expressão* 'expression' (concordance lines below), we find various adjectives between the node and the collocate which are grouped together as a grammatical class (ADJ). These instances are summarised in the formula *expressão (bem) (ADJ) em o/meu/seu rosto* 'expression (very) (ADJ) on the/my/his face'.

01	m uma expressão <u>maligna</u> no rosto , "na minha op	fntr02	'evil'
02	m uma expressão <u>atônita</u> no rosto , e eu estava	fntr02	'astonished'
03	uma expressão <u>assustada</u> no rosto . Mais um pedi	fntr02	'shocked'
04	ma expressão <u>preocupada</u> no rosto . "Melhor o se	fntr02	'worried'
05	os e uma expressão <u>dura</u> no rosto . O cliente an	fnnt05	'stern'
06	com uma expressão <u>séria</u> no rosto : – O que est	fnnt05	'serious'
07	expressão <u>sardônica</u> constante no rosto . A prim	fntr02	'sardonic'
08	ma expressão bem <u>alegre</u> no rosto ; aliás, enqua	fntr02	'happy'
09	surdo, é?" A expressão no rosto de Lambajan	fntr02	
10	lembrei-me da expressão no rosto de Vasco no di	fntr02	
11	nou foi a expressão no seu rosto . Havia tranqü	fntr04	
12	ao ver a expressão em meu rosto , quanto fui vi	fntr02	
13	a expressão <u>esperta</u> em seu rosto . Ou de noite,	fntr01	'smart'

There are other cases in which different lexical items are grouped semantically. For instance, within the pattern PASSAR *da meia-noite* 'it was after mid-night', we may find words which refer to how much time has gone by (*muito* 'a lot', *bastante* 'very much', *alguns minutos* 'some minutes'). These items are represented under the semantic category "time" – PASSAR "time" *da meia-noite* 'it was "time" after mid-night'.

01	nde delicadeza. Passava de meia-noite . Os convidados não	fntr01
02	de ontem. Dois Passava da meia-noite quando Luca Rossin	fntr03
03	os acompanhar." Passava da meia-noite quando chegaram ao	fnnt01
04	ociedade. Passava muito da meia-noite quando ele acordou	fntr01
05	ndo. Já passava bastante da meia-noite . Ela estava deitad	fntr01
06	Passavam alguns minutos da meia-noite quando Chico pediu	fnnt01

For the purposes of this paper, I have discarded all patterns which show regularity in terms of grammatical or semantic categories. Here, the focus is on repeated continuous chunks of language which do not allow significant lexical variation.

It is also worth mentioning that we may find more than one recurring item in the vicinity of the collocation. For instance, in the co-occurrences of *hora* 'hour' with *meia* 'half', the pattern *meia hora* 'half an hour' can be followed by *depois* 'after', *antes*

'before' or *mais tarde* 'later'. *Manhã seguinte* 'following morning' may be preceded by *na* 'in the', *da* 'of the' or *até a* 'until the'. In these cases, each variation is treated as a separate pattern irrespective of whether the item is lexical or grammatical. The only condition is that it should appear at least three times in the corpus. Appendix II lists the recurring lexical patterns realised by all 14 collocations analysed in this paper.

4 Testing the Hypothesis

Since the number of times node and collocate co-occur in each subcorpus may be different, the hypothesis is tested by taking into consideration the overall percentage of recurring lexical patterns in each subcorpus, rather than the raw number of patterns. In the example above, *fazer* collocates with *trabalho* 10 times in the translated subcorpus and 15 times in the non-translated subcorpus (table 5).

	Overall number of instances	Overall number of recurring lexical patterns	% of recurring lexical patterns
Translated	10	9	90%
Non-Translated	15	7	47%

Table 5: Overall number and percentage of recurring lexical patterns realised by the collocations of *trabalho* 'work' and *fazer* 'to do'/'to make' in the translated and the non-translated subcorpora

Nine out of the 10 instances in the translated subcorpus (90%) are recurring lexical patterns whereas, in the non-translated subcorpus, only seven out of the 15 instances (47%) are recurring lexical patterns. The patterns of *trabalho* and *fazer* therefore confirm the hypothesis that translated texts show stronger a preference overall for recurring lexical patterns in comparison with non-translated texts.

Table 6 summarises the findings for all 14 collocations analysed in this study. For each pair of words, it shows the overall frequency of collocation, the number of recurring lexical patterns and the percentage of recurring patterns in relation to the overall number of times node and collocate co-occur in each subcorpus. Difference refers to the difference between the percentages of recurring lexical patterns in the two subcorpora, expressed in percentage points (pp).

	Collocation	Translated			Non-translated			Differ- ence
		Frequency of collocation	Number and % of recurring lexical patterns	%	Frequency of collocation	Number and % of recurring lexical patterns	%	
1.	manhã & seguinte 'morning' & 'following'	31	31	100%	12	9	75%	25pp
2.	manhã & café 'morning' & 'coffee'	29	27	93%	12	10	83%	10pp
3.	rosto & expressão 'face' & 'expression'	21	0	0%	4	0	0%	0pp
4.	rosto & mãos 'face' 'hand'	13	5	38%	16	4	25%	13pp
5.	trabalho & fazer 'work' & 'to do'/'to make'	10	9	90%	15	7	47%	43pp
6.	tarde & noite 'late'/'afternoon' & 'night'	14	11	79%	10	5	50%	29pp
7.	tarde & fim 'late/ afternoon' & 'end'	5	4	80%	14	14	100%	20pp
8.	mão & esquerda 'hand' & 'left'	37	35	95%	21	18	86%	9pp
9.	água & copo 'water' & 'glass'	13	12	92%	14	11	76%	16pp
10.	hora & meia 'hour/time' & 'half'	26	22	85%	28	27	96%	11pp
11.	verdade & é 'truth' & 'is'	77	52	68%	84	69	82%	14pp
12.	quarto & porta 'room' & 'door'	11	6	55%	19	13	68%	13pp
13.	noite & meia 'night' & 'half'	37	29	78%	13	11	85%	7pp
14.	noite & dia 'night' & 'day'	22	13	59%	25	13	52%	7pp
Totals		346	256	74%	287	211	74%	0pp

Table 6: Overall number and percentage of recurring lexical patterns realised by all collocations in the translated and non-translated subcorpora

As can be seen in table 6, no difference is found between the overall percentages of recurring lexical patterns in the two subcorpora – 74% in both. However, the preference of translators for recurring lexical patterns becomes evident when we examine individual collocations. For 57% of the collocations (8 out of 14), translated texts show a stronger preference overall for recurring lexical patterns in comparison with non-translated texts. For 36% of the collocations (5 out of 14), the preference for recurring lexical patterns is stronger in the non-translated subcorpus. One collocation (#3) reveals a similar proportion of recurring lexical patterns in the two subcorpora. I have regarded as "similar" all those cases in which the difference between the percentages of recurring lexical patterns in the two subcorpora is no higher than five percentage points. Table 7 summarises these findings.

Preference for Recurring Lexical Patterns	Number of Collocational Patterns
TRANSLATED texts show a stronger preference for recurring lexical patterns	8 (57%)
NON-TRANSLATED texts show a stronger preference for recurring lexical patterns	5 (36%)
Similar proportion of recurring lexical patterns in BOTH subcorpora	1 (7%)
Total	14 (100%)

Table 7: Preference for recurring lexical patterns

If we leave the collocations which show a similar proportion of recurring lexical patterns in the two subcorpora out of this calculation, the percentage of collocations where translated texts show a stronger preference for recurring lexical patterns rises to 62% (8 out of 13).

5 Discussion

The results of the analysis seem to indicate that translated Brazilian Portuguese does exhibit a more marked preference for recurring lexical patterns than non-translated Brazilian Portuguese. This tendency is even clearer when we look at the difference between the percentages of recurring lexical patterns in the two subcorpora (table 6). We find three cases in which the percentage of recurring lexical patterns is at least 25pp higher in the translated collection (#1, 5, 6). When the non-translated collection shows a stronger preference for recurring lexical patterns, the difference is no higher than 20pp (#7, 10-13).

One possible reason to explain this phenomenon is the influence of one single text on the overall number of recurring lexical patterns yielded by a given collocation. However, by taking into consideration the three collocations with a considerably higher percentage of recurring lexical patterns in the translated subcorpus (#1, 5, 6) and examining the distribution of instances across texts, we find that this is not the case. For collocation #1, the highest percentage of recurring lexical patterns in one single text is 29% in text fntr05. For collocation #5, 44% of instances come from text fntr03; however, in the non-translated subcorpus, 100% of the instances (all 7 instances) occur in one single text (fnnt01). For collocation #6, 36% of instances appear in text fntr02.

Another point worth commenting on is that 16 recurring lexical patterns occur in one subcorpus only. Ten patterns (63%) appear in the translated and show no evidence in the non-translated subcorpus while six patterns (37%) occur in the non-translated but not in the translated subcorpus. These figures reinforce the suggestion that translated texts tend to draw more heavily on recurring lexical patterns than non-translated texts.

Although the findings seem to confirm the hypothesis I put forward earlier, there are a number of points which deserve further discussion and clarification. For instance, one could argue that there may be cases in which the higher percentage of recurring lexical patterns is simply reflecting a higher frequency of collocation. The collocations of *tarde* 'late/' 'afternoon' and *noite* 'night' can serve as an example to illustrate this point (table 6). In the translated subcorpus, the two items co-occur 14 times and 79% of these instances (11 occurrences) are recurring lexical patterns. In the non-translated subcorpus, they collocate 10 times and 50% of these instances (5 occurrences) are recurring lexical patterns. If our assumption that recurring lexical patterns are more frequent than flexible sequences holds true, a higher frequency of collocation may be expected to enhance the chance of yielding recurrent lexical patterns. I therefore further examine all collocations whose frequency in one subcorpus is at least 20% higher than its frequency in the other subcorpus (table 8). For example, *trabalho* 'work' collocates with *fazer* 'to do/' 'to make' 10 times in the translated subcorpus. The number of instances is 50% higher in the non-translated subcorpus (15 instances). The threshold of 20% has been chosen arbitrarily and it is used to assure a reasonable difference between the frequencies of collocations in the two subcorpora.

We notice that, for 60% of these collocations, the subcorpus with a higher frequency of collocation also displays a higher percentage of recurring lexical patterns (#1, 2, 6, 7, 8, 12 – table 6). This could be interpreted as an indication that it is not entirely incorrect to say that the higher percentage of recurring may be simply reflecting a higher frequency of collocation. It is interesting to notice that four out of these six collocations refer to the translated subcorpus. However, if we examine the remaining four collocations, we find that two collocations are more frequent in the non-translated but show a higher percentage of recurring lexical patterns in the translated subcorpus (#4, 5). These two cases reveal a clear tendency of translated texts to display a more pronounced preference for recurring lexical patterns. Two collocations are more frequent in the translated subcorpus; however, only one exhibits a higher percentage of recurring lexical patterns in the non-translated subcorpus (#10). The other collocation does not yield any recurring lexical pattern (#3) and the number of instances in the translated subcorpus is more than four times the number of instances in the non-translated subcorpus. This suggests that a higher frequency of collocation does not necessarily mean a higher proportion of recurring lexical patterns.

	Collocations	Frequency in each subcorpus		Difference	Subcorpus with higher % of recurring lexical patterns
		Translated	Non-translated		
1.	manhã & seguinte 'morning' & 'following'	31	12	158%	TR
2.	manhã & café 'morning' & 'coffee'	29	12	141%	TR
3.	rosto & expressão 'face' & 'expression'	21	4	425%	SAME PROPORTION
4.	rosto & mãos 'face' & 'hand'	13	16	23%	TR
5.	trabalho & fazer 'work' & 'to do'/'to make'	10	15	50%	TR
6.	tarde & noite 'late'/'afternoon' & 'night'	14	10	40%	TR
7.	tarde & fim 'late'/'afternoon' & 'end'	5	14	180%	NON-TR
8.	mão & esquerda 'hand' & 'left'	37	21	76%	TR
9.	quarto & porta 'room' & 'door'	11	19	72%	NON-TR
10.	noite & meia 'night' & 'half'	37	13	184%	NON-TR

Table 8: Collocations whose frequency in one subcorpus is at least 20% higher than its frequency in the other subcorpus

Another point to bear in mind when interpreting the results is that the analysis is based on a very restricted number of collocational patterns. The investigation of a higher number of collocations may however yield different results. It is also important to stress that this study has focused on the collocational patterns of individual word forms, both node and collocate. It would be interesting to examine whether the analysis of all variants of the same lemma would yield the same results. One may also wish to take flexible patterns into account, such as the cases discussed earlier which allow lexical variants of a given grammatical or semantic category. Translated and non-translated text may display different preferences with respect to their tendency to use flexible sequences. Further achievements could also result from examining the consequences of assigning different values to frequency of co-occurrence and window size in the selection of collocates. Other statistical calculations, such as the log-likelihood ratio (Dunning 1993) or t-score test (Church et al. 1991), could also be adopted to estimate the strength of association between node and collocate.

More importantly, one cannot afford to ignore that the corpus from which data is retrieved has a number of limitations. Firstly, the BPC is very limited in size and in number of publications. In addition, the translated and the non-translated subcorpora are not balanced in terms of the number of texts in each component. The translated subcorpus consists of five texts whereas the non-translated subcorpus includes eight texts. This inevitably implies that the non-translated component is more diverse with

respect to topics and authors than the translated subcorpus. Such mismatch cannot be ruled out as a potential reason to justify the differences in the collocational patterns of the two subcorpora. Another limitation of the corpus is that it comprises one text genre only (fiction) and hence it does not enable the researcher to determine whether the differences identified are genre-dependent. Moreover, the translational subcorpus includes translations from English only, which raises the issue of whether the choices made by translators had been influenced by source-language patterns. Some differences identified here may be related to specific features of the languages involved, in this case, English and Portuguese. In short, in order to be able to identify features which are specific to translated texts irrespective of the source language influence or preferences of individual translators, we would need access to a robust comparable corpus, consisting of a wide range of authors and translators as well as diverse source languages and genres.

6 Concluding Remarks

This paper has indicated that translated texts exhibit a more marked preference overall for recurring lexical patterns in comparison with non-translated texts of the same language. This finding may be related to the tendency of translators to produce "uniform" texts and resort to patterns which are frequently used in the target language. It provides evidence to support the suggestion that translations in general, irrespective of the source and target languages involved, tend to conform to typical and standard forms of language.

However, as in any corpus-based research, the data retrieved from the corpus is influenced by the selection of texts. Thus, it is crucial to interpret the results according to the composition and balance of the corpus. Here, a note of caution was added regarding the various limitations of the BPCC, which do not allow the researcher to reach firmer conclusions on the lexical patterning of translated and non-translated Brazilian Portuguese. It is also important to stress that the analysis is based on a very restricted number of collocational patterns. Even more importantly, the present study focused on Brazilian Portuguese specifically and only includes translations from English source texts. In fact, some differences identified here may not be due to the universal features of translated texts but instead they may be specific to the English-Portuguese language pair. This means that valid conclusions on the impact of the translation process on the language produced by translators can only be drawn if similar studies are carried out across different languages. This paper is therefore an initial step and this is why I have attempted to describe the methodology in as much detail as possible so that other researchers are able to support or refute the tendencies displayed here.

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Appendix I

This appendix presents the details of all books included in the Brazilian Portuguese Comparable Corpus (BPCC).

Translated Fiction

File name	Translation Title	English Title	Author	Translator	Date	Ed.	Publisher	Number of words
fntr01	O Paciente Inglês	The English patient	Michael Ondaatje	Rubens Figueredo	1994	10th	Editora 34	86,571
fntr02	O Último Suspiro do Mouro	The moor's last sigh	Salman Rushdie	Paulo Henriques Britto	1996	1st	Cia das Letras	161,435
fntr03	A Eminência	Eminence	Morris West	Maria dos Anjos Rouch	1999	1st	Record	97,949
fntr04	A Espera de um Milagre	The green mile	Stephen King	Marcos H. C. Côrtes	2000	1st	Objetiva	140,836
fntr05	Klone e Eu	The klone and I	Danielle Steel	Heitor Pitombo	2000	1st	Record	58,604
Total								545,395

Non-translated Fiction

File name	Title	Author	Date	Ed.	Publisher	Number of words
fnnt01	Agosto	Rubem Fonseca	2002	2nd	Cia das Letras	92,264
fnnt02	O Xangô de Baker Street	Jô Soares	1995	1st	Cia das Letras	66,242
fnnt03	Saraminda	José Sarney	2000	1st	Siciliano	60,097
fnnt04	A Muralha	Dinah Silveira Queiroz	2000	1st	Record	113,681
fnnt05	Bala na Agulha	Marcelo Rubens Paiva	2001	9th	Siciliano	41,374
fnnt06	Inferno	Patrícia Melo	2001	1st	Cia das Letras	103,325
fnnt07	Rapina	Ivan Sant'Anna	1996	1st	Record	51,713
fnnt08	Benjamim	Chico Buarque	1995	1st	Cia das Letras	37,224
Total						565,920

Appendix II

This appendix lists all recurring lexical patterns realised by the collocations analysed in this paper. TR stands for translated subcorpus and NON-TR for non-translated subcorpus.

1. Collocations of *manhã* 'morning' and *seguinte* 'following'

Recurring Lexical Patterns	Number of instances in each subcorpus	
	TR	NON-TR
i na manhã seguinte 'in the following morning'	23	9
ii da manhã seguinte 'of the following morning'	5	0
iii até a manhã seguinte 'until the following morning'	3	0
Total	31	9

2. Collocations of *manhã* 'morning' and *café* 'coffee'

Recurring Lexical Patterns	Number of instances in each subcorpus	
	TR	NON-TR
i no café da manhã 'breakfast'	8	3
ii de (o) café da manhã 'breakfast'	7	0
iii (o) café da manhã 'breakfast'	5	4
iv TOMAR (o) café da manhã 'HAVE breakfast'	4	2
v para (o) café da manhã 'breakfast'	3	1
Total	27	10

3. Collocations of *rosto* 'face' and *expressão* 'expression'

No recurring lexical patterns

4. Collocations of *rosto* 'face' and *mãos* 'hand'

Recurring Lexical Patterns	Number of instances in each subcorpus	
	TR	NON-TR
i COBRIR o rosto com as mãos 'COVER the face with the hands'	3	1
ii o rosto em as/suas mãos 'the face in the/your hands'	2	3
Total	5	4

5. Collocations of *trabalho* 'work' and *fazer* 'to do'

Recurring Lexical Patterns	Number of instances in each subcorpus	
	TR	NON-TR
i TER (um) trabalho a fazer 'HAVE (some) work to be done'	5	0
ii (para) fazer (bem) o (seu/meu) trabalho '(in order) to do the (your/ my) work (well)'	3	5
iii fazer um (bom) trabalho 'to do a/some (good) work'	1	2
Total	9	7

6. Collocations of *tarde* 'late/'afternoon' and *noite* 'night'

Recurring Lexical Patterns	Number of instances in each subcorpus	
	TR	NON-TR
i tarde da noite 'late at night'	5	4
ii mais tarde naquela/nessa noite 'later that night'	4	0
iii até tarde da noite 'until late at night'	2	1
Total	11	5

7. Collocations of *tarde* 'late/'afternoon' and *fim* 'end'

Recurring Lexical Patterns	Number of instances in each subcorpus	
	TR	NON-TR
i no fim da/daquela tarde 'in the end of the/that afternoon'	2	5
ii fim da tarde 'end of the afternoon'	2	1
iii fim de tarde 'late afternoon'	0	8
Total	4	14

8. Collocations of *mão* 'hand' and *esquerda* 'left'

Recurring Lexical Patterns	Number of instances in each subcorpus	
	TR	NON-TR
i a mão esquerda 'the left hand'	11	5
ii minha/sua mão esquerda 'my/your left hand'	8	0
iii com a mão esquerda 'with the left hand'	7	6
iv da mão esquerda 'of the left hand'	6	3
v dedos da mão esquerda 'fingers of the left hand'	3	1
vi na mão esquerda 'on the left hand'	0	3
Total	35	18

9. Collocations of *água* 'water' and *copo* 'glass'

Recurring Lexical Patterns	Number of instances in each subcorpus	
	TR	NON-TR
i (um) copo (cheio) de água '(a) glass (full) of water'	7	7
ii um copo d'água 'a glass of water'	5	4
Total	12	11

10. Collocations of *hora* 'hour'/'time' and *meia* 'half'

Recurring Lexical Patterns	Number of instances in each subcorpus	
	TR	NON-TR
i meia hora 'half an hour'	9	9
ii meia hora depois 'half an hour after'	5	7
iii meia hora antes 'half an hour before'	1	2
iv meia hora mais tarde 'half an hour later'	3	1
v por (mais) meia hora 'for (more) half an hour'	3	1
vi daqui/dali a (aproximadamente) meia hora 'in (approximately) half an hour'	0	5
vii (uma) hora e meia '(an) hour and half'	1	2
Total	22	27

11. Collocations of *verdade* 'truth' and *é* 'is'

Recurring Lexical Patterns	Number of instances in each subcorpus	
	TR	NON-TR
i é verdade 'it is true'	12	30
ii a verdade é (que) 'the truth is (that)'	10	14
iii é a (pura) verdade 'it is the (plain) truth'	8	2
iv é bem/mesmo verdade (que) 'is actually/indeed true (that)'	7	1
v não é verdade 'it is not true'	5	10
vi isso (só) é verdade 'this is (only) true'	4	0
vii é verdade que 'it is true that'	3	8
viii é na verdade 'it is in fact'	3	0
ix é (bem) verdade (ou não) o que 'it is (actually) true (or not) what'	0	4
Total	52	69

12. Collocations of *quarto* 'room' and *é porta* 'door'

Recurring Lexical Patterns	Number of instances in each subcorpus	
	TR	NON-TR
i a porta (fechada) do (seu) quarto 'the (closed) door of the (his) room'	3	8
ii à porta do quarto 'at the door of the room'	3	1
iii na porta do quarto 'on the door of the room'	0	4
Total	6	13

13. Collocations of *noite* 'night' and *é meia* 'half'

Recurring Lexical Patterns	Number of instances in each subcorpus	
	TR	NON-TR
i à meia-noite 'at midnight'	9	0
ii meia-noite 'midnight'	6	1
iii depois de(a) meia-noite 'after midnight'	5	5
iv por volta da meia-noite 'before midnight'	3	1
v a meia-noite 'midnight'	3	0
vi da meia-noite 'midnight'	2	2
vii antes da meia-noite 'before midnight'	1	2
Total	29	11

14. Collocations of *noite* 'night' and *é dia* 'day'

Recurring Lexical Patterns	Number of instances in each subcorpus	
	TR	NON-TR
i dia e noite 'day and night'	6	4
ii da noite pro/para o dia 'overnight'	5	1
iii (de) o dia e/ou (de) a noite '(of) the day and/or (of) the night'	1	3
iv noite e dia 'night and day'	1	2
v um/o dia e uma/a noite 'a/the day and a/the night'	0	3
Total	13	13

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