Hedging devices in Slovene-English Translation: A Corpus-Based Study

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Abstract
Translating research articles into English is fairly common practice in certain disciplines; however, the translated articles are generally not perceived as translations by the reader. Consequently, the translation of the research article is often invisible. Relatively little data is available on issues arising in this type of translation. The present paper aims to explore one of the issues which arise in translating research articles, namely, the question how hedging devices are translated. The importance of hedging in academic discourse has been established by a number of studies; in addition, considerable cross-cultural variation has been observed in the use of hedging. This raises the question of the effect of this variation on translation. In order to explore this question, a corpus of 90 research articles in geography—30 original Slovene articles, 30 English translations of Slovene articles and 30 comparable original English articles—is analysed. The frequency and form of hedging devices used in translated and original English texts are compared in order to identify the ways in which Slovene-English translations differ from comparable English language originals. The results show considerable differences between the two comparable corpora: only half as many hedging devices are used in the translated texts as in the originals and the variety of hedging devices is considerably more limited in the translations.

1. Introduction

The use of hedging in academic discourse has been extensively studied in recent decades and various theoretical models and definitions of this phenomenon have been proposed (e.g., Markkanen & Schröder 1989; Hyland 1996; Markkanen & Schröder 1997; Mauranen 1997; Hyland 1998; Burrough-Boenisch 2005). In this paper, I follow Hyland's (1998) conceptualisation of hedging; Hyland (1998: 5) states that "hedges are the means by which writers can present a proposition as an opinion rather than a fact: items are only hedges in their epistemic sense, and only when they mark uncertainty." The concept of hedging is presented in more detail in Section 3.

Contrastive studies have established considerable differences between various languages in the frequency, distribution, and function of hedging devices (e.g., Vassileva 2000; Dafouz-Milne 2008). Moreover,

ESL/EFL-oriented research has identified important differences between L1 and L2 writers in their use of hedging (e.g., Hyland & Milton 1997; Hinkel 2005): researchers have shown that L2 writers use hedging in a way that is different from the use of hedging found in L1 writing.

An interesting question that arises in intercultural communication is what happens to hedging in the translation of academic discourse. In the context of research into metadiscourse, the issue of hedging in translation was first addressed by Markkanen and Schröder (1989). Their findings about changes to hedging in self-translation, which is a very specific type of translation, raise new questions about what happens to hedging in situations in which the source text is not translated by its author. In most cases, the translator and the author are two separate individuals involved in the process of text formation, and the presence of the translator creates another variable in the already complicated equation of intercultural communication. In comparison with the L2 writer, the translator may be more proficient linguistically, but may still face problems with hedging because he or she is constrained by the source text.

This paper examines how academic texts translated into English differ from comparable English originals in the use of hedging; for this purpose, a corpus of geography research articles composed of two parts – translations and originals – is analysed with regard to the use of hedging devices. To examine specific differences, the use of *may* and *might* is compared in detail, in terms of frequency and patterns in which the occur. *May* and *might* have been chosen because, as Hyland (1998: 116) points out, they are "often considered to be prototypical hedges". The strategies used in translation are examined by comparing the corpus of translations with the source-language texts.

The corpus of translations consists of geography research articles translated into English from Slovene. Translations from Slovene were chosen for two reasons. The first is that Slovene discourse, including academic writing, has traditionally been heavily influenced by German academic writing. Studies contrastive rhetoric (e.g., Clyne 1987) have established considerable differences between German and Anglo-American rhetorical conventions (for a comprehensive overview of the importance of rhetorical conventions and contrastive rhetoric in general, cf. Connor 1996). Previous research into English and Slovene rhetorical conventions has already established considerable cross-cultural differences between Slovene and English academic writing conventions

(cf. Pisanski Peterlin 2005): Slovene writing seems to be more reader-responsible than English. The second reason is related to systemic differences between the two languages: as a Slavic language, Slovene has a relatively different system of modality from English and consequently uses different types of hedging devices than English. It therefore seems reasonable to expect that problems in translation of hedging may arise due to these two factors.

2. Hedging and the translation of research articles

The translation of research articles is generally a type of 'covert' translation, defined by House (2002: 100) as "translation which enjoys the status of an original text in the receiving culture. The translation is covert because it is not marked pragmatically as a translation at all, but may, conceivably, have been created in its own right." Because of this, cross-cultural issues require specific treatment in covert translations. House (2002: 100) points out that "the translator must re-create an equivalent speech event" and that this type of translation "often results in a very real cultural distance from the original text, since the original is transmuted in varying degrees." As a result, researchers whose work focuses on the translation of academic texts (e.g., Williams 2004; Siepmann 2006), have argued strongly in favour of adherence to the norms of the target language in translation of academic discourse – or, to use Toury's (1995) basic opposition between 'adequacy' (defined as adherence to the norms of the source culture) and 'acceptability' (defined as adherence to the norms of the target culture), they have highlighted the importance of acceptability.

However, even assuming that acceptability is a basic priority in academic translation, translating hedging devices creates specific problems. Although hedging does not change the content of the text, it conveys the author's position on a given issue, and it seems possible that the translator may feel reluctant to interfere with the writer's commitment to the content by inserting or deleting hedging devices. Markkanen and Schröder (1989) examined translations carried out by writers who translated their own work. In their study, they found that the writers-translators made adjustments to their hedges in the process of translation. This led Markkanen and Schröder (1989: 177) to the observation that the authors whose work they examined were able to

make adjustments to the conventions of the target culture in their translation of hedges (e.g., hedges were omitted or added in the translations, the type of hedging used in the originals differed from the type of hedging used in the corresponding translations) because they knew exactly what their intentions were. However, they questioned whether a "normal" translator would "increase or decrease the amount of hedging used in the original if the conventions of the target culture seem to require this."

In her study of the effects of language editing on hedging, Mauranen (1997) found that the text editors in her study did not make many changes to hedges and "presented this as a deliberate and motivated choice": they felt that hedging was the writer's domain. Mauranen (1997: 131) observes that the editors "seemed willing to maintain the author's voice as far as possible."

Finally, another aspect of hedging and cross-linguistic differences must also be considered: different languages use different linguistic means to express epistemic modality. The issue of translating epistemic modality has been addressed from a contrastive angle by Aijmer (1999), whose study focused on translating epistemic possibility from an English-Swedish contrastive perspective. Aijmer (1999) compared source texts with their corresponding translations to examine the extent to which the epistemic possibility modals found in the source texts were rendered as epistemic modals in the translations. She observes differences between translations from English into Swedish and translations from Swedish into English, where she reports a preference for epistemic modals in translations.

3. Hedging

Hedging is a collective term used to refer to those linguistic elements that express possibility, probability, and uncertainty, thus reducing the degree of the author's commitment to the content of a statement, or as Hyland (1998: 1) defines it in his study "any linguistics means used to indicade either a) a lack of complete commitment to the truth value of the accompanying proposition, or b) a desire not to express that commitment categorically". Various studies have established the importance of hedging in academic discourse. Although hedging is often considered to be a category of metadiscourse (e.g., Hyland 2005; Crismore &

Farnsworth 1990; Vande Kopple 1985), not all researchers use this type of classification. In her model of text reflexivity or metatext, Mauranen's (1993a; 1993b; this volume) narrows the concept to elements of text organisation, thus excluding hedging all together. Ädel's (2006; this volume) model of metadiscourse also excludes hedging; although it recognises certain functional similarities between metadiscourse and what she refers to as "stance" (using the term in the sense of the definition suggested by Biber et al. (1999: 966), i.e. expressing "personal feelings attitudes, value judgements or assessments"), the two categories do not share all functions: Ädel (2006: 40) points out that "unlike metadiscourse, stance is not self-reflexive language" and it does not involve the metalinguistic function.

The present study used Hyland's (1998) model of hedging as the starting point for the analysis. On the basis of Hyland's (1998: 103–155) analysis of the formal aspects of hedging, I included the following categories of hedging devices:

1. Lexical verbs with an epistemic meaning: this category encompasses verbs expressing what Hyland (1998: 120) refers to as "epistemic judgement"; that is, verbs of speculation (e.g., *suggest, believe*) and deduction (e.g., *conclude, infer*), as well as verbs expressing "evidentiary justification" (Hyland 1998: 124–6); that is, quotative verbs, used to report the findings of others and at the same time expressing the degree of the author's commitment to these findings (e.g., *X showed, Y claimed*), verbs of perception (e.g., *seem, appear*), and narrators, (e.g., *seek*, *attempt*), i.e., verbs which contrast the goal of the study with the results achieved; they contribute "to the construction of an identity and a narrative, while relating to evidence by hinting at the fallibility of knowing" (Hyland 1998: 125);

2. Modal verbs used epistemically (e.g., *may*, *might*, *must, should*);

3. Modal adverbs (e.g., *probably, possibly, potentially, apparently*), including so-called "downtoners" (e.g., *quite, fairly*) (cf. Hyland 2005: 135);

4. Modal adjectives (e.g., possible, potential, likely, unlikely, apparent) and nouns (e.g., possibility).

4. Corpus and procedure
The corpus used in this analysis contains approximately 500,000 words. It comprises 90 research articles published between 1999 and 2006. The corpus contains a parallel[1] corpus of Slovene source texts, SlovC, and their corresponding translations, TransC, as well as a comparable corpus of English originals, OrigC. SlovC, TransC and Orig C comprise 30 texts each. The texts of the parallel corpus (SlovC and TransC) were published in *Acta Geographica Slovenica,* a Slovene geography journal dedicated mainly to Slovene geography. Most of the translated texts were translated by native English speakers, although a few texts were translated by native Slovene speakers. The texts of the comparable OrigC corpus were published in *Applied Geography,* an international geography journal "devoted to the publication of research which uses geographical theory and methodology to resolve those human problems that have a geographical dimension" (Applied Geography home). All of the original English texts were written by native English speakers. As the analysis focused mainly on the differences between original and translated English texts, it was carried out on the TransC and OrigC corpora, while the SlovC corpus was only analysed where it was necessary to examine some of the source-text hedging devices in order to gain a better understanding of the translation strategies used.

The first part of the study was to perform a quantitative analysis of the corpus. The corpus was searched electronically using WordSmith Tools 4.0 (Scott 1996); for the electronic search, a list of hedging devices was compiled based on Hyland's (1998: 103–155) discussion of surface features of hedging. The hedging devices were divided into five categories: modal verbs, modal adjectives, modal adverbs, modal nouns, and lexical verbs. These categories are described in more detail in section 3. The electronic search was followed by a manual examination of the output: all the instances in which the expressions were not used as hedging devices were removed. The mean values per article for the individual categories in the translated and original texts were compared with Student's *t*-test.

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[1] The terms 'parallel corpus' and 'comparable corpus' are used here in the research tradition of translation studies (cf. Malmkjaer 1998; Granger 2003).

In the second part, the focus of the study was narrowed down to two hedging devices, *may* and *might*, to gain a better understanding of the differences between the two comparable corpora and the reasons for their emergence: a detailed comparison of all the occurrences of *may* and *might* in the two English-language corpora was used to determine whether any specific features of translations can be observed. Finally, the occurrences of *may* and *might* in the translated texts were compared to the corresponding passages in the source texts to determine which hedging devices were used in the originals and what had occurred in the process of translation.

5. Results

Table 1 presents the results of the first part of analysis: the frequency of hedging is compared in the translated texts (TransC) and in comparable English originals (OrigC).

Table 1. Frequency of hedging in translated and original texts

	TransC			**OrigC**		
	F^1 (F^2)	%[3]	Mean/ $\pm$ SD[4]	F^1 (F^2)	%[3]	Mean/ $\pm$ SD[4]
Lexical verbs	237 (16)	29%	7.9/ 5.4	861 (43)	36%	28.7/ 14.6
Modal verbs	150 (10)	19%	5.0/ 5.1	824 (41)	35%	27.5/ 18.2
Modal adverbs	324 (22)	40%	10.8/ 5.5	411 (21)	17%	13.7/ 5.6
M. adj.+ nouns	95 (6)	12%	3.2/ 3.4	283 (14)	12%	9.4/ 6.9
Total	**806 (54)**	**100%**		**2,379 (119)**	**100%**	

1 F^1: Raw frequency (30 texts)
2 F^2: Frequency per 10,000 words (30 texts)
3 Percentage of the individual categories
4 Mean value per article/standard deviation per article

The hedging devices are classified into five categories (modal verbs, modal adjectives, modal adverbs, modal nouns, and lexical verbs). In addition to the raw number of items in the first column, the results are

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also presented as the number of occurrences per 10,000 words in the second column, while the third column presents the ratio for each category relative to the total number of items identified. To provide information on dispersion, the results are also presented in terms of the mean value per article and standard deviation (± SD), in the fourth and fifth columns.

Table 2 presents quantitative results which formed the basis for the second part of the analysis: the frequency of *may* and *might* used as hedging devices is compared in the translated texts (TransC) and in comparable English originals (OrigC).

Table 2. Frequency of *may* and *might* used as hedging devices in translated and original texts

	TransC			OrigC		
	F^1 (F^2)	$\%^3$	Mean/ ± SD^4	F^1 (F^2)	$\%^3$	Mean/ ± SD^4
may	22 (1.5)	2.8%	0.7/ 1.6	287 (14.4)	12.1%	9.6 / 7.8
might	2 (0.1)	0.2%	0.1 / 0.3	36 (1.8)	1.5%	1.2 / 1.4
may + might	**24 (1.6)**	**3.0%**		**323 (16.2)**	**13.6%**	

1 F^1: Raw frequency (30 texts)
2 F^2: Frequency per 10,000 words (30 texts)
3 Percentage of the individual categories
4 Mean value per article/standard deviation per article

The frequencies of the individual categories in the translated and original texts were compared with Student's *t*-test. The two data sets were characterised by their mean values, standard deviations and the number of data points (30), and the *t*-test was used to determine whether the means of the two data sets were distinct for each of the categories. Using a significance level $P < 0.01$, Student's *t*-test showed a statistically significant difference between the translations and the originals for lexical verbs ($P = 8.5 \times 10^{-10}$), modal verbs ($P = 1.9 \times 10^{-8}$), adjectives + nouns ($P = 4.5 \times 10^{-5}$), *may* ($P = 8.3 \times 10^{-8}$) and *might* ($P = 6.7 \times 10^{-5}$), whereas the difference was not significant for adverbs ($P = 0.048$).

6. Discussion
The results of the analysis presented in Section 5 are examined in more detail below, both in terms of the overall frequency of hedging devices and the frequency of various subcategories and specific expressions used as hedging devices. Finally, the use of *may* and *might* is discussed.

6.1 Differences in overall frequency
The results in Table 1 show that there are considerable differences in the frequency of hedging between the two comparable corpora. Whereas 119.1 hedging devices per 10,000 words are used in the English originals, only half as many, or 53.7 per 10,000 words, are found in the translations: this suggests that the ideas in the original English research articles tend to be expressed more tentatively, while the translated texts favour more categorical statements and place less emphasis on expressing the degree of possibility. It is possible to draw a parallel between the results of the present analysis and the findings of studies of the use of hedging in L1 and L2 writing: thus, for instance, Hyland and Milton (1997) observed a similar difference in student essays in English: L2 students used hedges considerably less frequently than L1 students and consequently expressed stronger commitment than L1 writers.

To further explore the reasons for the difference in the overall frequency of hedging between the two English-language corpora, the differences in the frequency of the individual lexico-grammatical categories of hedging devices are presented in the next section.

6.2 Differences in the frequency of subcategories and expressions
When the relative frequencies of individual subcategories of hedging devices in Table 1 are compared, it becomes apparent that the types of hedging devices used most frequently in the two comparable corpora differ considerably. Whereas the original English texts rely heavily on verbal hedges, the translated texts employ adverbial hedges above all.

6.2.1 Lexical verbs
Lexical verbs with an epistemic meaning are the most frequently used grammatical category of hedging devices in the original English texts, constituting 36.2% of all the hedging devices in the OrigC corpus. Proportionally, they are used somewhat less frequently in the translations, constituting 29.4% of all the hedging devices in the TransC

corpus. The difference in terms of frequency per 10,000 words is quite pronounced, with 43.1 lexical verbs occurring in the originals and only 15.8 in the translations; Student's *t*-test has furthermore confirmed the statistical significance of the difference between the mean values per article between the two sets of data.

If we compare the lexical verbs used as hedging devices in the two English-language corpora, we observe that whereas the verbs *assume, suggest, propose, seem, appear, report, note, seek, indicate,* and *attempt* used in the function of hedging devices occur quite frequently in the original texts[2], they are all used much less frequently in the corpus of translations (none of the verbs occur more than 11 times).

An overview of the collocates shows that in the original English texts, most of the verbs were used in a greater variety of patterns (e.g., *X appears, this appears to be, this appears to have been, it appears that,* and so on) than in the translations, which, in general, showed less flexibility and contained more variations of similar patterns (e.g., *it appears that, X appears*). It must be noted that the patterns which prevailed in the translated texts are fairly literal translations of the grammatical patterns from the source language (e.g., *zdi se, da, X se zdi*). Similar observations with regard to the features which are found in the target language but not in the source language have already been made by researchers focusing on the characteristics of translated language (e.g., Mauranen 2000; Eskola 2004). On the basis of her study of three non-finite structures in translated and untranslated Finnish, Eskola (2004: 96) observes that "there are choices, but the variance in the way they are taken advantage of is smaller in translations than in original texts", concluding that "/t/ranslations tend to under-represent target-language-specific, unique linguistic features and over-represent features that have straightforward translation equivalents which are frequently used in the source language (functioning as some kind of stimuli in the source text)." In the context of the present study, this means that the preference for similar patterns of the lexical verbs with an epistemic meaning in the translations seems to be directly related to the lack of stimulus in the

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[2] There are considerable differences in the number of occurrences for the individual verbs, but they all occur with a frequency in a range of 20 and 140 times.

source texts (resulting, of course, from the fact that only a limited number of patterns with these verbs exists the source language).

The limited uses of lexical verbs with an epistemic meaning in the translations may also partly reflect the fact that the range of similar verbs is more restricted in the source language (and consequently also in the source texts), with a single Slovene verb often corresponding to two or more English verbs; for example, *zdeti se*, which may be translated as *seem* or *appear*. Furthermore, a few English lexical verbs with a speculative meaning (e.g., *suggest*, *propose*) have no single corresponding lexical verb in Slovene in this sense (although translation equivalents exist for their other meanings). Thus a phrase such as *this suggests that…* has no direct equivalent in Slovene and could best be translated as *iz tega bi lahko sklepali, da…* 'from this we might conclude that…', in which the equivalent of a verb of speculation is a phrase with a verb of deduction. Examples (1) and (2) below illustrate this type of usage in the two comparable corpora.

(1) From this we can <u>conclude</u> that 65 cm of sediment represents a time span of at least about 6000 years, and that the last 14–16 cm correspond to the last hundred years. (TransC)

(2) These results <u>suggest</u> that the method presented here would be applicable to other forest types, although further studies in hardwood stands dominated by species other than aspen and in conifer stands are needed to confirm this. (OrigC)

The limited selection of speculative verbs in the source texts (which is a consequence of the more limited selection of speculative verbs available in the source language) may result in a strong reliance on verbs of deduction (i.e., *conclude, infer,* and *deduce*) in the translations: the results show that verbs of deduction are in fact the only category of lexical verbs with an epistemic meaning that occur more frequently in the translations (35 cases) than in the originals (17 cases).

Once again, it is possible to draw a parallel with Eskola's (2004) observations about the absence of a source-language stimulus reducing the likelihood of using certain constructions in translation while the existence of such a stimulus raises this likelihood. Tirkkonen-Condit (2004) suggests that the under-representation of unique items in translated language can be explained by the translation process. In her analysis of two types of unique items (verbs of sufficiency and clitic pragmatic particles) in the Corpus of Translated Finnish, Tirkkonen-

Condit (2004) found that the items in question were under-represented in translated language. She suggests that translators failed to use the items because of the Unique Items Hypothesis, i.e., because the items are "not obvious equivalents for any particular items in the source text" (Tirkkonen-Condit 2004: 180). She claims that "/t/he reason why the linguistic phenomena tend to be under-represented in translated language may be found in a (potentially universal) tendency of the translating process to proceed literally to a certain extent. This means that the translator picks out lexical items, syntactic patterns and idiomatic expressions from his bilingual mental dictionary, and this is what happens" (Tirkkonen-Condit 2004: 181).

6.2.2 Modal verbs

In the translation, modal verbs are used relatively infrequently as compared to the originals: 41.2 modal verbs are used as hedging devices per 10,000 words in the originals, whereas only 10 modal verbs per 10,000 words were identified in the translations. The fact that the difference is significant has also been confirmed by Student's *t*-test. Furthermore, comparing the relative frequencies of different types of hedging devices shows that modal verbs constitute 34.6% of all the hedging devices in the OrigC corpus, but only 18.6% of the hedging devices in the TransC corpus.

In both English-language corpora, the most frequent modal verbs used as hedging devices are *may*, *would* and *could*; the use of *might*, on the other hand, is more restricted. It is interesting that *should* and *must* in the epistemic sense occur only in a few cases, but they are found in both comparable corpora. This is similar to the findings of Hyland's (1998) study in which he established that *must*, the modal of inferential certainty, was used very infrequently to express hedging in his RA corpus. Hyland proposes that "/t/he relative infrequency of must in scientific research discourse, where there is often a need to make deductions from known facts, may suggest writers are reluctant to express even weak convictions concerning the truth of their propositions." (Hyland 1998: 108-9). The use of *must* in the epistemic sense is illustrated by examples (3) and (4):

> (3) The average size of scar was small (Table 1) and most of the sheep scars except for the larger ones, most if not all the bare patches in heather, as well as the hoof prints and dead tussocks <u>must</u> have become overgrown. (OrigC)

(4) For red-brown clay to occur, a very large amount of rock <u>must</u> have been dissolved. (TransC)

The pronounced difference between the two English-language corpora in terms of the frequency of use of modal verbs in the function of hedging is quite likely to be directly related to the fact that the range of epistemic modal verbs in Slovene is limited to two verbs – *utegniti* corresponding to 'could' and 'might', and *moči*, which may only be used in the negative form in the sense of 'cannot' – whereas the necessity modal verb *morati* 'must' can also used in the epistemic sense (cf. Roeder & Hansen 2007). The difference between the two comparable corpora suggests that there may also be a considerable difference between the source language and the target language in the frequency with which modal verbs are used as hedges, although a contrastive study of epistemic modality would be needed to confirm this hypothesis.

Because epistemic modal verbs are among the most central hedging devices in English, a detailed analysis of *may* and *might,* often considered "the prototypical hedges" (Hyland 1998: 116), is presented in section 6.3.

6.2.3 Modal adverbs

Unlike the two verbal categories of hedges discussed above, modal adverbs show a different tendency: in terms of frequency per 10,000 words, the difference between the use modal adverbs in the originals and in the translations is negligible and Student's *t*-test reveals that the difference between two sets of data is not statistically significant. In relative terms, however, the difference between the two sets of data is quite pronounced: modal are play a far more important role in the TransC corpus, where they amount to 40.2% of all the hedging devices, than in the OrigC corpus, where they amount to only 17.3% of the hedging devices. Considering the much more limited use of hedging in the translations, this means that modal adverbs are the most frequently used hedging devices in the translated texts.

Focusing on the category of modal adverbs, it is interesting to observe that the range of adverbs is quite limited in the translations, where a single modal adverb, *probably*, is used very frequently (e.g., (5) below), whereas only single instances of other modal adverbs are found. In the originals, a variety of adverbs (*perhaps*, *probably, potentially*, *evidently,* and *essentially*). However, in this case, the restricted range

cannot be attributed to the source language. In fact, a wide range of modal adverbs, such as *morda, mogoče, nemara, morebiti, možno, lahko, domnevno*, *verjetno,* and so on, is used in Slovene to convey the various nuances of epistemic possibility in various grammatical patterns in fairly formal contexts. Numerous instances of each of the modal adverbs listed above were found in the source texts. The fact that, by contrast, a single adverb, *probably,* prevailed in the translations seems to point to a tendency towards a type of simplification[3], in which subcategories tend to have fewer members or one highly prominent member. The choice of a single English translation equivalent for epistemic modal adverbs also suggests that *probably* may be considered what Gellerstam (1986: 92) has labelled a "standard – or 'press-the-button' translation". According to Gellerstam (1986), a standard translation is found in wordlists and dictionaries and taught at school and is therefore considered to be the 'right' way of translating an expression.

> (5) One of the reasons for its formation is <u>probably</u> the presence of underlying flysch rocks, which lie rather close to the surface. (TransC)

For downtoners, a type of subjuncts which "have a generally lowering effect on the force of the verb of predication" (Quirk et al. 1992: 597), e.g. *quite*, no important differences between the two English-language corpora emerged in terms of frequencies, variety, and usage.

6.2.4 Modal adjectives and nouns
In terms of overall frequency, there is an important difference between the originals and the translations with respect to modal adjectives and nouns: whereas 14.2 modal adjectives and nouns per 10,000 words occur in the OrigC corpus, only 6.3 instances per 10,000 words are identified in the TransC corpus; Student's *t*-test has shown that the difference between the mean values per article between the two sets of data is statistically significant. However, in terms of relative frequency, the results for the two comparable corpora are very similar: modal adjectives and nouns

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[3] Simplification has been suggested as a potential translation universal; however, the simplification hypothesis has not been generally supported or refuted (cf. Mauranen 2007: 39–40).

constitute 11.9% of all the hedging devices in the OrigC corpus, and 11.8% of hedging devices in the TransC corpus.

In the corpus examined here, modal nouns are used very infrequently to convey hedging; it is impossible to draw any noteworthy conclusions on the basis of the few examples found in the two English-language corpora. It must be pointed out here, that other researchers also report relatively low frequencies of modal nouns (e.g., Hyland 1998: 104; Aijmer 1999: 302).

Modal adjectives also occur relatively rarely; however, the number of occurrences is high enough in both comparable corpora to allow a comparison. In the original texts, the variety of modal adjectives used as hedging devices is greater than in the translations which once again points to a type of simplification. The scope of hedging expressed by modal adjectives varies: they may hedge the proposition (e.g., *it is possible that…*) or only the NP, when used attributively (e.g., *a possible explanation*); however, no important differences between the two English-language corpora emerged in terms of this variation.

6.3 May *and* might

While the quantitative results for the individual subcategories have shown a significant difference between the use of hedging devices in OrigC and TransC, a step beyond the formal aspects of hedging is necessary to gain a better understanding of these differences. For this purpose, two relatively central hedging devices, *may* and *might*, are analysed below in more detail.

The results in Table 2 show that there are considerable differences between the two comparable corpora in the frequency of use of *may* and *might*. In the original English texts, the two modal verbs are used more than ten times as frequently as hedging devices compared to the translated English texts; in the originals they amount to 13.6% of all the hedging devices, whereas they only constitute 3% of the hedging devices in the translated texts. This difference is far more pronounced than the difference in the overall frequencies for modal verbs.

An analysis of *may* and *might* in OrigC and TransC revealed important differences when the patterns in which the two modal verbs occurred were compared. Two particularly strong differences in the patterns were identified: the first one is the use of *may* and *might* in negative sentences, and the second the use of *may* and *might* with the

perfective aspect. Both patterns occur quite regularly in the originals but are not found in the translations.

The *may/might + not* pattern is used in approximately 10% of the instances of *may* and *might* identified as hedging devices in the OrigC corpus; example (6) below illustrates this. The fact that no such occurrences were found in the translations may be a direct consequence of the fact that one of the two modal verbs of possibility in Slovene, *utegniti*, is generally not used in the negative form in the function of hedging, while the use of the other modal verb of possibility, *moči*, in the sense of hedging is quite restricted. Hedging is, however, typically expressed by modal adverbs in Slovene: this issue is examined in more detail below.

> (6) One confounding factor is that the per capita measures rely on population census data that <u>may not</u> be concurrent in time or correspond to the same geographic units as the LU/LCC data. (OrigC)

May and *might* with the perfective aspect (this type of usage is illustrated by example (7) below) also occur in approximately 10% of the cases of *may* and *might* in the original English texts. Although this pattern never occurs with *may* and *might* in the translations, sporadic cases of other modal verbs with the perfective aspect do occur in the TransC corpus (such patterns occur in approximately 5% of the instances of hedging expressed by modal verbs).

> (7) Due partly to the proximity of the cereal cultivation to the channel, this <u>may have increased</u> the likelihood of surface runoff production that is able to contribute to channel flow. (OrigC)

The next part of the of analysis involved comparing the instances of *may* and *might* identified as hedging devices in the TransC corpus with the corresponding passages in the source texts to identify which hedging devices were used in the original Slovene texts and to shed more light on the translation process. For each instance of *may* and *might* found in the translated English texts, the corresponding Slovene source texts were scanned manually for potential matching forms of hedging.

The comparison showed that, although two epistemic modal verbs, *utegniti* and *moči*, exist in Slovene, none of the instances of *may* and *might* were translations of these two modal verbs. In fact, in two-thirds of the cases, *may* and *might* were translations of Slovene modal adverbs, in

most cases, the polyfunctional modal adverb *lahko*[4] (12), but also *morda* (2), *nemara* (1) and *mogoče* (1).

In the remaining one-third of cases, no hedging device was used in the corresponding passage in the source texts: the translators had inserted a hedging device in the form of *may* and *might* in the English translation. An instance of such an insertion is example (8a); the corresponding sentence from the source text (8b) contains no hedging device.

(8a) …and depending on the type of soil and the circumstances, some remediation measures <u>may</u> be necessary. (TransC)

(8b) … in je v določenih primerih tudi potrebno ukrepanje (sprememba rabe, remediacija). '…and in certain cases measures are also necessary (change of use, remediation).' (SlovC)

The relatively large proportion of insertions of *may* and *might* found in several texts suggests that several translators felt it was necessary to tone down the categorical assertions found in the source texts by explicitly modifying the degree of commitment. In doing so, they may have attempted to improve the acceptability of the article and apparently felt that they were not jeopardizing its adequacy. However, the overall differences between the translations and the comparable target-language originals in terms of the frequency of use of hedging devices clearly show that the impact of insertions was negligible.

The insertions of hedging devices also suggest that at least some of the translators may have felt that the source texts contained considerably less hedging than comparable target-language originals. It must be pointed out, however, that because the present study focuses on the differences between the use of hedging in translations and comparable target-language originals, it does not cover contrastive aspects. Therefore, a study carried out on a representative comparable corpus of original Slovene and English research articles from various disciplines comparing the use of hedging in the two languages would be necessary

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[4] The importance of the Slovene adverb *lahko* in expressing various modal meanings, including epistemic modality, has been recognised by Roeder and Hansen (2007), who even suggest that it could be considered an auxiliary (an intermediate stage between a content word and a grammatical inflection).

to assess whether this is a general difference between the rhetorical conventions in the two languages.

7. Conclusion

The study presented in this paper examined how the use of hedging in research articles translated into English differs from that of comparable English originals. Important differences emerged in the frequency of hedging devices: the results showed that only half as many hedging devices were used in the translated texts as in the originals. As a consequence, the translations conveyed stronger commitment and less tentativeness than the comparable target-language originals. This is similar to the findings reported in studies of hedging in L2 writing (e.g., Hyland & Milton 1997). Considerable differences in the form of hedging devices between the two English-language corpora were also observed: a strong reliance on the use of modal adverbs was particularly noticeable in the translations. Furthermore, there were significant differences in the range of hedging expressions used. The variety of hedging expressions was considerably more limited in the translations: forms of hedging devices which exist in the target language but not in the source language were generally under-represented in the translations. This is similar to the observations about under-representation of unique items in translated language made by Tirkkonen-Condit (2004) and Eskola (2004).

The reliance on the source text may indicate that perhaps not all of the translators were sufficiently familiar with cross-cultural differences in rhetorical conventions. On the other hand, it is also possible that the translators were reluctant to make changes to hedging, possibly because of a lack of understanding of the function of hedging in academic discourse or because they did not wish to interefere with the author's voice (cf. Mauranen 1997).

A further consideration that needs to be taken into account is the fact that some of the translators did attempt to improve the acceptability of the translations. The comparison between the cases of *may* and *might* in the translated texts and the corresponding passages in the source texts revealed that hedges were inserted in 30% of the cases. This suggests

that the translators in question may have been intuitively[5] aware of the rhetorical differences between Slovene and English; nevertheless, the effect of their attempts to make the target text more acceptable—in terms of its adherence to Anglo-American rhetorical conventions—was negligible.

Although it has been argued that acceptability should be viewed as a priority in the translation of academic discourse (e.g., Williams 2004), the findings of this study have shown that the translations analysed did not adhere to the target-language conventions in terms of hedging. Further research focusing on the process of translation (e.g., thinking-aloud, retrospection) would be necessary to gain a better understanding of the underlying causes for the differences between the translated texts and the comparable originals.

Finally, we must consider some limitation of the present study. The corpus used was relatively limited in size due to the small number of translated texts available for analysis. Furthermore, the corpus consists of texts from a single discipline (once again because of the limited availability of translations of this genre): as research has shown important differences in the use of hedging among various disciplines (cf. Hyland 2005: 144–147), this certainly limits the scope of the present findings. Finally, potential differences between the two journals from which the texts were taken must also be considered. Both journals are peer-reviewed and indexed in relevant international databases; nevertheless, their scopes and audiences inevitably differ to some extent.

The results of the analysis presented here have identified a need for raising the awareness of rhetorical conventions, including the impact of hedging, among translators engaged in translation of academic discourse. In the context of translator training, this means that sufficient attention should be dedicated to issues such as rhetorical conventions, including metadiscourse and hedging, in LSP courses offered to trainee translators.

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[5] So far, no cross-cultural contrastive study of English and Slovene has focused hedging. In fact, the issue of hedging in Slovene has received very little attention, with the notable exception of Mikolič (2007), who examined the role of hedging in the context of argumentation in academic texts.

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