THE CASES OF NON-EQUIVALENCE BETWEEN ENGLISH AND LITHUANIAN: A CORPUS BASED SOLUTION

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1. Introduction
Machine translation systems, machine-readable dictionaries or other computer-oriented electronic lexical resources present a challenging task in the case of the Lithuanian language. Many of them are related to the problem of non-equivalence resulting from cultural and systemic differences and thus existing on various levels of a language – lexical, morphological and syntactic. This paper focuses on instances of non-equivalence between Lithuanian and English on the morphological level. More specifically, the resolution of non-equivalence problems caused by morphological gaps between English and Lithuanian is investigated. Morphological gaps represent a type of lexical gaps, which are understood as lack of direct lexicalisation for a certain concept.

2. The Aims and the Method
The paper is written with two goals in mind. First, I would like to present the phenomenon of lexical gaps and its subtype, morphological gaps, its relation to translation. Second, I wish to compare how these cases are rendered in bilingual dictionaries and in texts, i.e. in the parallel English-Lithuanian corpus. The comparison leads to certain recommendations for translators, lexicographers and other researchers working on human language technologies.

This contrastive study is corpus based. Corpus linguistics is one of the most popular methods in modern linguistics. Pragmatically it is beneficial to a researcher – in a corpus (monolingual or multilingual) it is possible instantaneously to see numerous examples of a word in use. Quantitative and qualitative analysis of such data allows one to judge the collocational and colligational patterns a word forms, as well as its semantic and prosodic preference (for more about the theoretic postulates of corpus linguistics, see Sinclair 1996, Stubbs 2001). A multilingual corpus (comparative or parallel) provides a linguist with invaluable information about two (or more) languages – interesting similarities and, most importantly, contrasts significant for further language description.
3. A Lexical Gap – the Lack of Lexicalisation

Lexical gaps are instances of lack of lexicalisation detected in a language while comparing two languages. A concept is lexicalised when a language has a lexical item – a single word, a complex word, an idiom or a collocation – to express it. We will assert the existence of a lexical gap only when a concept lacks lexicalisation and is expressed by a free word combination or any other transformation in translation. Thus, a multi-word expression “juvelyriniai dirbiniai” (“jewellery”) or “zoologijos sodas” (“a zoo”) are not lexical gaps, because they are fixed multi-word expressions and are used as single units of meaning. Besides, for the concepts encoded by the expressions mentioned above, Lithuanians have no alternative expressions. Meanwhile, “atleidimas dėl darbo viety mažinimo” (“redundancy”) or “derliaus nuëmimo maðina” (“a harvester”) are lexical gaps, because they are free word combinations, in real language rendered by different techniques – lexical or syntactic modifications. It is important to note that a lexical gap appears only in one of the compared languages. In other words, during translation from English into Lithuanian, we identify a lexical gap only in Lithuanian.

A major group of lexical gaps can be explained by social and cultural differences of source and target language users. A lexical gap in a target language is identified when its users do not know a concept encoded by a source language. For example, Lithuanian food names “vëdarai” or “skilandis” are untranslatable into English, because they represent Lithuanian realia. Another group of lexical gaps could be called paradigmatic due to differences in various paradigms of two languages (for more about paradigms see Lehrer 1974a, 1974b). A subtype of this group is morphological or derivational gaps, originating from word formation differences. For example, “biculturalism” is translated by a free word combination “priklasysmas dvije kultûroms” because of the “bi-”, which had to be explained in Lithuanian, or “undernourishment”, which due to the peculiar combination of the prefix “under-” and “nourishment”, has to be rendered by a free word combination “nepakankama mityba”.

Lehrer (1974b) and Kjellmer (2003) use the term “derivational gaps” and identify them gaps within the limits of one language. According to them, derivational gaps are words produced from partially productive stems and suffixes, which are understandable, but not acceptable in a language. For example, although we understand the meaning of “mistelephone”, “conversate” or “friable”, they do not comply with the norms of the English language (Lehrer 1974b:96-97). In order to make a distinction from the cases indicated above, the term “morphological gaps” will be used in this paper. In this study, the morphological gaps are gaps of the Lithuanian language, i.e. in the target language. Such kind of lexical gaps results from different morphological processes in the source and target languages. The English language has a potential to pack complex concepts into one word because of its rich choice of prefixes, suffixes and stems, most of which have roots in Latin or Greek. Meanwhile, in Lithuanian, only prefixes or suffixes appearing mostly in international words, usually of some specialized areas, correspond to their English counterparts, for example, “metamotyvacija” (“metamotivation”), “parametras” (“parameter”), “socializmas” (“socialism”) or “imunoterapija” (“imunotherapy”). However, in non-specialised vocabulary these prefixes and suffixes are rare. In many cases such complex concepts covered by one English word have to be rendered by several Lithuanian words, usually, a free word combination, e.g., caravanning -
autoturizmas su nameliu-priekaba – (auto-tourism by a house-trailer). “Caravanning” is an especially interesting example, because it shows the complexity of the problem. Not only does it represent a concept that is not common enough to have a fixed lexicalisation in Lithuanian, but in this particular instance it shows the incapability of the language to express an action or its process too. The suffix -ing is rendered by a lexical word “autoturizmas”. Moreover, it could be considered as a micro-transformation, because the lack of direct translation of “caravan” is compensated by shifting the meaning component of “auto” to “auto-turizmas”. It is possible that such translations appear when two problems – cultural/economic and morphological – go hand in hand. This, however, is a question for further studies.

4. Translating Morphological Gaps in Lithuanian

4.1. Negative Prefixes in English and Lithuanian

English is abundant in prefixes of negation or opposition, such as in-, ir-, il-, in-, de-, contra-, dis- and others. Although Lithuanian is a highly inflectional language, which can also encode complex concepts with help of the prefixes, suffixes and inflections, the repertoire of prefixes for a negative aspect of meaning is poor. Lithuanian grammarians mention four prefixes: ne- (un-, non-, not) as in nedarbas (unemployment), nemyli (does/do not love); be- (-less, without, non-) as in bedarbis (unemployed), becukris (sugarfree); nebe- (not any more) as in nebedirba (does not work any more), nebedainuoja (does not sing any more); prieð – (anti-) – as in prieðnuodis (antipoison), antitarybinis (antisoviet). Moreover, only prefix ne- is used productively. It implies that Lithuanian might lack direct equivalents for this variety of negation in English, signalling possible morphological gaps with regards to the English language.

4.2. Identifying Morphological Gaps in a Bilingual Dictionary

First lexicographic data from the bilingual English – Lithuanian dictionary (2000) was analysed. Data analysis has shown that there is a system in the way negative English prefixes are translated into Lithuanian:

1. Some English words with a negative prefix have direct equivalents: disappear – dingti; disparage – peikti, menkinti; degeneration – iðsigimimas. It is interesting to note that the Lithuanian equivalents express the same concepts without a formal negative feature in a word: they denote a negative aspect without specific negative prefixes.

2. Some English negation prefixes are easily transformed into the Lithuanian prefix ne-, for example, dislike – nemëgti; disorder – netvarka.

3. Negative prefixes in international words are transformed into Lithuanian international words with their respective counterparts. In other words, these are the examples of borrowing: disbalance – disbalansas; antibiotic – antibiotikas.

4. Only prefixes are translated by their international counterparts: antimatter – antimedþiaga; antimissile – antiraketa; antiwar – antikarinis.
5. Many English words with negative prefixes are explained through a number of synonyms, for example, *immoderate* – *per didelis, nenuosasikus, nesaikingas, be saiko* (too big, unreasonable, unconscionable, inordinately); *misbecome* – *netikti, nederëti* (misfit, mismatch); *miscarry* – *nepasisekti, žlugti* (fail, collapse).

Needless to say, a dictionary user will be at a loss facing the multitude of equivalents for each word. We get into a kind of “a vicious circle” with groups of synonyms, where words explain or illustrate one another, as if they were equivalent (Usonienë 2006:99). Such synonymic explanation represents two sides of the problem. First, the proposed translations are not equal. Although they do share common meaning components, they are not absolute synonyms to be used in identical contexts. Second, it is not at all clear which (if any) translation equivalent presented without any usage context is closest to the original. Therefore we can claim that such meaning rendering in bilingual dictionaries is not effective.

6. Most English words with negative prefixes are simply glossed by free word combinations: *misadvise* – *duoti blogà/neteisingà patarimà* (to give bad/wrong advice); *miscast* - *skirti aktorui netinkamà vaidmenà*; *miscarry* - *nepasisekti, þlugti* (fail, collapse); *antipersonnel* - *skirtas þmonëms naikinti* (designed/created for killing people); *antipollution* - *apsaugantis aplinkà nuo uþterðimo* (protecting the environment from pollution); *incognizable* - *nepaþinus, negalimas paþinti* (unknowable, impossible to be recognized).

Meaning explanations like above are often difficult to use in real language situations or translation. Their incorporation into a sentence by a machine translation system would produce awkward and unnatural structure, thus transformations in cases like these are inevitable. Instances like in 6 (see above) are obvious indications to morphological gaps in Lithuanian, because they are free word combinations originating due to the inability of the language to pack a complex of concept into one word, like it is done in English. In case of 5, a lexicographer is not able to give one precise equivalent, therefore leaves the decision to the user as to the appropriateness of a multitude of synonyms provided for her/him. It is not at all clear whether at least one of the equivalents mirrors the concept denoted by the English word.

7. It is also important that even in cases when a direct equivalent for an English word exists, additional information concerning usage is provided in parenthesis. For example, *ineligible* 1. *neturintis teisës; negalintis bûti renkamas/iðrinktas* (not having the right, unable to be elected); 2. *nepageidaujamas (apie jauniká, jaunàjà ir pan.) – undesirable (about a groom, a bride, etc.); 3. *netinkamas (ypaè karo tarnybai) – unfit (especially for military service).*

The provided context helps to disambiguate the equivalent that as an individual word would not be clear. However, such layout of lexicographic data implies that translation units should be expanded, providing most common phrases the word appears in as well as its possible contexts. In other words, dictionary entries should be based on corpus material, preferably parallel corpora. Thus the rest of this article is devoted to analysis of translations of some English words with negative prefixes in the English – Lithuanian parallel corpus.
4.3. Translating Morphological Gaps in Texts

4.3.1. The Data – the Parallel English - Lithuanian Corpus

A parallel corpus, i.e. a collection of aligned source and target language texts, can be a solution to many translation questions arising from mismatches of different nature between two languages. A parallel corpus not only provides translation equivalents that are in actual language use, but also offers data on language variation (when a source language unit can be translated by several target language units) due to conceptual, contextual or stylistic differences, thus more options for a linguist or a translator using the data. Moreover, a parallel corpus can show a strategy employed by a translator in case of non-equivalence; whereas a bilingual dictionary offers a mere gloss of a meaning captured by a source language unit.

The Parallel English – Lithuanian Corpus has become publicly available in the autumn of 2005 and is still in its initial stage in regard to its size. The Corpus is still not big enough to arrive at substantial generalizations – today it contains 35505 aligned English – Lithuanian sentences. Although one can already study translations of frequent words, it is hard to perform a reliable research on rare words. Lexical gaps, unfortunately, usually represent rare words. This is related to the nature of the phenomenon – rare concepts are not salient enough to be lexicalised by a large number of language users. Nevertheless, all translations of English words starting with negative prefixes were analysed. Some instances of translation were striking because they showed different translation equivalents from those provided in the bilingual dictionary. They also strongly supported the idea that dictionary translations have to be based on corpus data, especially in case of problematic instances – and lexical gaps are indeed problematic.

Translations from the Corpus were compared with bilingual dictionary data. We will provide parallel source and target language sentences (with back translations done by the author of the article) coupled with equivalents from the bilingual dictionary. Due to the limitations of space, only a few examples will be discussed and illustrated in the tables.

It should be admitted that many English words with negative prefixes are translated by single word counterparts (as it was shown in lexicographic data analysis, too). These instances are not analysed here, because we are interested in transformations, which indicate mismatches between the two languages. Thus examples of translation by a multiword expression and by a different part speech (with subsequent syntactic changes in the translated sentence) are presented. The opposite phenomenon, when longer units of translation are treated as single units and translated by a single word, is also discussed. Finally, a few examples of source language multiword expression transference into the target language multiword expression are given.

4.3.2. Translating One Word to a Multiword Expression

As was mentioned before, one way in which lexical gaps are often filled is through the use of free word combinations. Table 1 gives examples with single words translated by multiword Lithuanian expressions.

We can see that the noun “untouchables” and the adjective “undirected” are expressed by phrases both in the dictionary and the text translation. In case of “untouchables”, the lexicographer...
resorted to the descriptive translation because the concept is not relevant to the Lithuanian society. The translator, in his turn, had to expand the noun phrase into an adjective + noun phrase. The adjective "discredited" is not even translated in the dictionary. If we look at the equivalents of the verb "to discredit", we see that two equivalents out of three are international words ("diskredituoti" and "kompromituoti"), while "griauti pasitikėjimą" (to ruin trust) is a phrase.

4.3.3. Translating by a Different Part of Speech

Translating by a different part of speech can also indicate some lexicalization differences between two languages. Table 2 contains several examples of 1) nouns translated into verbs, 2) nouns translated into adjectives, 3) adjectives translated into verbs and 4) adjectives translated into adverbs.

We can see from the table that words explained in the dictionary by phrases ("dissent", "deprecating") and thus candidates to represent lexical gaps in Lithuanian, have to be expressed by the other part of speech in texts. Besides, the meaning of "dissent" is lost in translation. We can draw a conclusion that not only translating by multi-word expressions, but, also by a different part of speech could be an indicator of a lexical gap. The noun "disreputability", which has no dictionary equivalent, is translated by an adjective. Therefore, the third and quite obvious indicator of a lexical gap could be the absence of translation in dictionaries.

It should be emphasized that not all examples in this table represent lexical gaps. Some words, such as "delusion", "malignant", etc., have direct equivalents, nevertheless are transformed into the other part of speech. It is difficult to say why this translation technique is employed. One of the explanations can be that translators working on a literary translation had to conform to Lithuanian language norms avoiding unnatural structures if dictionary counterparts were used.

<table>
<thead>
<tr>
<th>Source language text</th>
<th>Target language text</th>
<th>Equivalent in a bilingual dictionary</th>
</tr>
</thead>
<tbody>
<tr>
<td>But also they were outlaws, enemies, <strong>untouchables</strong>, doomed with absolute certainty</td>
<td>Bet jie buvo įstatymo atstumtijie, priešai,</td>
<td>Asmuo iš neliečiamų jų kastos</td>
</tr>
<tr>
<td>with absolute certainty to extinction within a year or two.</td>
<td>neliečiamųjų kasta, be jokios abejonės, pasmarkta išnaikinimu per metus ar dvejus.</td>
<td>A person from a caste of untouchable</td>
</tr>
<tr>
<td></td>
<td>Caste of untouchables</td>
<td></td>
</tr>
<tr>
<td>And yet the rage that one felt was an abstract, <strong>undirected</strong> emotion which</td>
<td>Bet tas įniršis būdavo abstraktus, į</td>
<td>nenukreptas, be vadovavimo; nekryptingas</td>
</tr>
<tr>
<td>could be switched from one object to another like the flame of a blowlamp.</td>
<td>niekų konkrečią nenukreiptas, ji galedavai</td>
<td></td>
</tr>
<tr>
<td></td>
<td>perkelti nuo vieno objekto prie kito kaip</td>
<td></td>
</tr>
<tr>
<td></td>
<td>liūtavimo lempos liepsną.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Undirected specifically to anything</td>
<td>Undirected, without guidance, unfocused</td>
</tr>
<tr>
<td>The old, <strong>discredited</strong> leaders of the Party had been used to gather there</td>
<td>Joje, prieš galūną sutiraškimai, mėgo rinktis</td>
<td>No equivalent for the adjective in the</td>
</tr>
<tr>
<td>before they were finally purged.</td>
<td>seni reputacijos netekę partijos vadai.</td>
<td>dictionary.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>To discredit - diskredituoti, griauti</td>
</tr>
<tr>
<td></td>
<td></td>
<td>pasitikėjimą; kompromituoti</td>
</tr>
<tr>
<td></td>
<td></td>
<td>With lost reputation</td>
</tr>
</tbody>
</table>

Table 1. Translating a single word by a multiword expression
implies that although concepts encoded by the English words in the examples can be expressed in the language system, i.e. in dictionaries, a more extensive analysis might show that such expressions or systemic equivalents are ignored in language use and are rendered by transforming the whole sentence.

### 4.3.4. Towards the Extended Unit of Translation

The problems of dictionary translations (when the meaning is explained by descriptive translation, circular synonymic groups or no translation is provided) would be reduced if corpus data were included in dictionary entries. It is natural that all the contextual information from the corpus cannot fit into a paper dictionary, however, makers of electronic dictionaries and translators themselves could consult this invaluable lexical resource. Moreover, longer stretches of text, i.e., extended units of translation should be considered. As it was shown in Table 1, unknown or unclear concepts tend to be translated by multiword expressions. Table 3 provides the opposite phenomenon – translation of a multiword expression into a single word, which only supports the idea that the process of translation occurs on a higher level than that of a single word.

### Table 2. Translating by a different part of speech

<table>
<thead>
<tr>
<th>Source language text</th>
<th>Target language text</th>
<th>Equivalent in a bilingual dictionary</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A noun → a verb</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;ss&gt;Some years ago you had a very serious delusion indeed.&lt;/s&gt;</td>
<td>&lt;ss&gt;Prieš keletą metų jūs labai rimtai klydėt.&lt;/s&gt;</td>
<td>klydimas; apgaulė, iliuzija</td>
</tr>
<tr>
<td>Back translation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;p&gt;&lt;p&gt;He felt her shoulders give a wriggle of dissent.&lt;/p&gt;</td>
<td>&lt;p&gt;&lt;p&gt;Jis pajuto, kaip jos pečiai krūpolėjo.&lt;/p&gt;</td>
<td>nuomonų skirtumas; nesutikimas</td>
</tr>
<tr>
<td>Back translation</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>A noun → a adjective</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;ss&gt;Yet a faint air of disreputability always clung to him.&lt;/s&gt;</td>
<td>&lt;ss&gt;Bet vis dėl to jis atrodo kažkoks nepatikimas.&lt;/s&gt;</td>
<td>No translation in the dictionary</td>
</tr>
<tr>
<td>Back translation</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>An adjective → a verb</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;p&gt;&lt;p&gt;&quot;It just occurred to me you might be interested,” he would say with a deprecating little laugh whenever he produced a new fragment.&lt;/p&gt;</td>
<td>&lt;p&gt;&lt;p&gt;Padeklamavęs kokį naują posmeli, tyliai lyg atsiprašydamas nusijuokdavo ir sakydavo: &lt;/p&gt;&lt;/p&gt;</td>
<td>Žadinantis gailėtį, keliantis pasigailėjimą</td>
</tr>
<tr>
<td>Back translation</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>An adjective → a adverb</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;ss&gt;He started to his feet with a malignant glance at Winston, whom he evidently suspected of having tripped him up.&lt;/s&gt;</td>
<td>&lt;ss&gt;Jis atsistojo, piktaiv žvelgdamas į Vinstoną, matyt, įtariu jį pakistus koją.&lt;/s&gt;</td>
<td>piktas, pagiežingas</td>
</tr>
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<td>Back translation</td>
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implies that although concepts encoded by the English words in the examples can be expressed in the language system, i.e. in dictionaries, a more extensive analysis might show that such expressions or systemic equivalents are ignored in language use and are rendered by transforming the whole sentence.

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We see that not only is a part of speech transformed (Verb + Adverb → Verb, Adverb + Adjective → Adjective) but also, longer units of translation are translated, for example, “continued inexorably” – “netilo”, “inexhaustibly interesting” – “įdomiausia”. Such instances could be treated as omissions,
because adverbs disappear in translation or as implications to extended unit of translation, when several words of the source text are treated as one. In Table 4 we can see instances of multiword expressions transferred into Lithuanian multiword expressions.

In the first sentence we have a problematic word “deflated”, which does not have any equivalents in the dictionary. Fortunately, the word forms quite a strong collocation with “feeling” (in the BNC corpus, “feeling” is the second content word in the frequency list of collocates with “deflated”), thus a translator avoids literal translation and transforms the English phrase into another Lithuanian phrase of a similar meaning. “A deflated feeling” is rendered by a metaphoric expression “liko tik kvapas” (only the air/smell remained). On the other hand, “inarticulate” in the second sentence has direct Lithuanian equivalents, but is treated in unity with “horror”. The Lithuanian “siaubas”
does not co-occur with “bežadis”, “nebylus” or “tylus”, rather, it is “neapsakomas” (“indescribable”). Hence, minding collocational restrictions of a word and recording them in lexicographic resources would improve their quality and would help translators and other language users.

5. Conclusion

The article presents the phenomenon of lexical gaps and its subtype – morphological gaps. Analysis of morphological gaps resulting from certain English words with negative prefixes shows how such lack of lexicalisation of a concept affects translation, i.e., how gaps are rendered in a target language. First, translations in the bilingual dictionary are investigated. In cases of morphological gaps, lexicographers employ the following translation techniques: providing a group of synonyms and descriptive translation, i.e., translating by multiword expressions. The problems of such meaning representations are discussed. Second, dictionary translations are compared to translations in texts.

The analysis of dictionary and text translations has shown certain indicators of lexical gaps: no dictionary equivalent, translating by a group of synonyms (“a vicious circle” technique) and descriptive translation. Examples from the corpus disclosed that translation by a different part of speech could also be an indicator of lexical gaps.

The main criterion for selecting examples for the article was the number of translated words. For this reason, we were able to see the whole scope of translations in this respect: a single word translated by a multiword expression, a multiword expression translated by a single word and a multiword expression – by a multiword expression. Moreover, the degree of stability of multiword expressions increased in the same direction, i.e., more stable English multiword expressions were rendered by other more fixed Lithuanian multiword expressions. Thus the analysis of the corpus data and dictionary translations carries strong implications about the shape of present day lexicographic data. In order to improve the quality of translations and to help translators and other dictionary users, corpus should become the primary source of information for both lexicographers and translators.

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Santrauka

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